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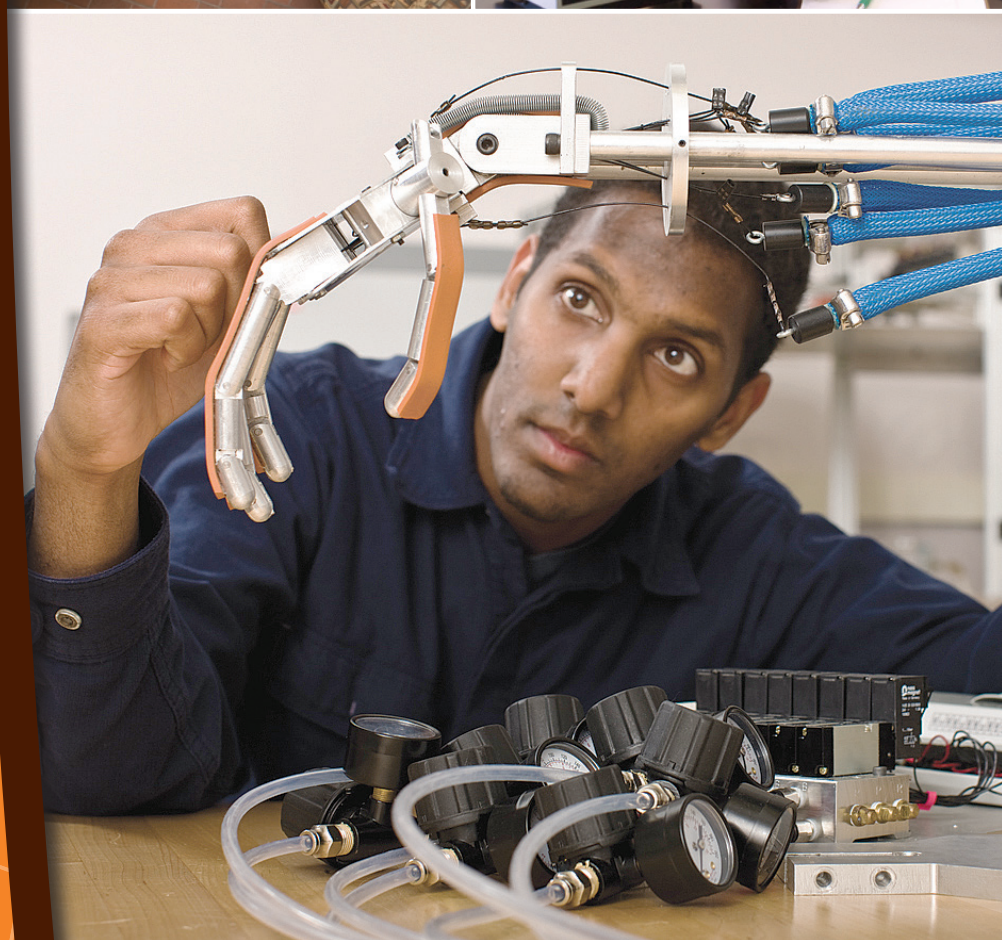

UNDERGRADUATE BULLETIN

2014-2015

Rochester Institute of Technology
2014–15 Academic Calendar

† *The Add/Drop period is the first six class days, excluding Saturdays, Sundays, and holidays of the fall and spring semesters.*

* *Friday of the 12th week of classes*

** *Friday of the 8th week of classes*

RIT does not discriminate. RIT promotes and values diversity within its workforce and provides equal opportunity to all qualified individuals regardless of race, color, creed, age, marital status, sex, gender, religion, sexual orientation, gender identity, gender expression, national origin, veteran status, or disability.

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Fall Semester (2141)

August 19 - 24
New Student Orientation (tentative)

August 25
Day, evening, and online classes begin
First day of 6-day Add/Drop period†

August 30
Saturday classes begin

September 1
Labor Day (no classes);
University offices closed

September 2
Last day of 6-day Add/Drop period†

September 3
First day to drop from classes with a grade of W

October 13
Columbus Day (no classes);
University offices open

November 14
Last day to drop from classes with a grade of W*

November 26
No classes;
University offices open

November 27 - 28
Thanksgiving Holiday (no classes);
University offices closed

November 29
No Saturday classes

December 1
Day, evening, and online classes resume

December 6
Saturday classes resume

December 10
Last day, evening, and online classes

December 11
Reading Day (prepare for exams)

December 13
Last Saturday classes

Dec. 12, 15, 16, 17, 18
Final exams

December 19
Residence halls close

Dec. 19 - Jan. 2
Holiday break;
University closed

Intersession (2143)

January 5
Day, evening, and online classes begin
First day of 3-day Add/Drop period†

January 7
Last day of 3-day Add/Drop†

January 8
First day to drop from classes with a grade of W

January 12
Last day to drop from classes with a grade of W

January 22
Last day of classes

January 23
Final exams

January 24 - 25
Break between Intersession and spring semester

Spring Semester (2145)

January 19
Residence halls open

January 26
Day, evening, and online classes begin
First day of 6-day Add/Drop period†

January 31
Saturday classes begin

February 2
Last day of 6-day Add/Drop period†

February 3
First day to drop from classes with a grade of W

March 23 - 27
No classes (spring break);
University offices open

March 28
No Saturday classes

March 30
Day, evening, and online classes resume

April 24
Last day to drop from classes with a grade of W*

May 13
Last day, evening, and online classes

May 14
Reading Day (prepare for exams)

May 16
Last Saturday classes

May 15, 18, 19, 20, 21
Final exams

May 22
Convocation and
Commencement ceremonies

May 23
Commencement ceremonies

May 25
Memorial Day; University closed

May 26
Final grades due

May 26 - 29
Break between spring semester and summer terms

Summer Sessions

10-week Summer Session (2148)

June 1
Day, evening, and online classes begin
First day of 6-day Add/Drop period†

June 6
Saturday classes begin

June 8
Last day to Add/Drop classes†

June 9
First day to drop from classes with a grade of W

July 3
Independence Day celebrated (no classes);
University closed

July 24
Last day to drop from classes with a grade of W**

August 7
Last day, evening, and online classes

August 8
Last Saturday classes

August 12
Reading Day (prepare for exams)

August 10, 11, 13, 14
Final exams

August 17
Final grades due

August 17 - 21
Summer/Fall break

5-week Summer Session I (2148)

June 1
Day, evening, and online classes begin
First day of 6-day Add/Drop period†

June 6
Saturday classes begin

June 8
Last day to Add/Drop classes†

June 9
First day to drop from classes with a grade of W

June 19
Last day to drop from classes with a grade of W (4 weeks)

July 2
Last day of classes (final exams held)

July 6
Final grades due

5-week Summer Session II (2148)

July 6
Day, evening, and online classes begin
First day of 6-day Add/Drop period†

July 11
Saturday classes begin

July 13
Last day to Add/Drop classes†

July 14
First day to drop from classes with a grade of W

July 31
Last day to drop from classes with a grade of W (4 weeks)

August 7
Last day of classes (final exams)

August 10
Final grades due

Rochester Institute of Technology

About this Bulletin

The academic programs, course curricula, policies, and standards described in this *Undergraduate Bulletin* are in effect for students admitted to RIT during the 2014–2015 academic year. This bulletin provides students with a comprehensive source of information to use in planning their undergraduate education.

Descriptions of all undergraduate courses offered at RIT are available in the *Undergraduate Course Descriptions* book, which can be obtained from each college's academic advising office or the Undergraduate Admissions Office.

The *Undergraduate Bulletin* does not constitute a contract between the university and its students on either a collective or individual basis. It represents RIT's best academic, social, and financial planning at the time of publication. Course and curriculum changes; modification of tuition, fees, dormitory, meal plan, or other charges; and unforeseen changes in other aspects of RIT sometimes occur after the bulletin has been printed, but before the changes can be incorporated in a later edition. Because of this, RIT does not assume a contractual obligation with its students for the contents of this *Undergraduate Bulletin*.

RIT does not discriminate. RIT promotes and values diversity within its workforce and provides equal opportunity to all qualified individuals regardless of race, color, creed, age, marital status, sex, gender, religion, sexual orientation, gender identity, gender expression, national origin, veteran status, or disability.

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Table of Contents

University Calendar . . . . . inside front cover
An Introduction to RIT 2
Academic Programs of Study (HEGIS chart) 4
Graduation Requirements 6
RIT's Colleges and degree-granting entities 9
College of *Applied Science and Technology* 10
Saunders College of *Business* 30
B. Thomas Golisano College of *Computing and Information Sciences* 38
Kate Gleason College of *Engineering* 52
College of *Health Sciences and Technology* 74
College of *Imaging Arts and Sciences* 82
College of *Liberal Arts* 108
National Technical Institute for the Deaf 130
College of *Science* 160
Academic Affairs *176*
Innovative Learning Institute
Center for Multidisciplinary Studies
University Studies
Minors 181
Immersions 208
Academic Enrichment 222
Academic Policies and Procedures 225
Student Services 228
The RIT Community 239
Undergraduate Admission 249
University Costs 256
Financial Aid and Scholarships 259
Administration 272
Directory 277
Index 278
Campus Map . . . . . inside back cover

An Introduction to Rochester Institute of Technology

Respected internationally as a world leader in career-oriented, technological education, Rochester Institute of Technology has been setting an innovative pace since 1829, when Colonel Nathaniel Rochester became the first president of the Rochester Athenaeum. In 1891, the Athenaeum merged with Mechanics Institute, which had been founded by a group of businessmen to instruct in "drawing and such other branches of studies as are most important for industrial pursuits." In 1944, recognizing the increasingly specialized professional nature of its programs, the university adopted the name it holds today.

A private, coeducational university in upstate New York, RIT offers academic programs that combine outstanding teaching, a strong foundation in the liberal arts and sciences, modern classroom facilities, and work experience gained through the university's cooperative education program, internships, and other opportunities.

Few universities provide RIT's variety of career-oriented studies. Our 10 degree-granting entities offer outstanding programs in business, engineering, art and design, science and mathematics, the liberal arts, photography, computing, hospitality management, and many other areas.

More than 200 programs—including such distinctive offerings as microelectronic and software engineering, imaging science, film and animation, biotechnology and molecular bioscience, physician assistant, new media, international business, telecommunications, and the programs of RIT's School for American Crafts and National Technical Institute for the Deaf (NTID)—draw students from all 50 states and more than 100 foreign countries.

As a major university, RIT offers academic opportunities that extend far beyond science and technology, including more liberal arts courses and faculty than are found at most liberal arts colleges. With a strong foundation in the humanities and social sciences, RIT graduates understand both technological developments and the larger philosophical and ethical issues presented by technology.

Approximately 14,750 undergraduate students and 2,900 graduate students attend RIT. More than 106,000 alumni can be found around the globe.

Almost one-third of our undergraduates are transfer students from two-year colleges or other four-year institutions, and adult students make up a significant portion of the total enrollment. Our full-time undergraduate student body includes more than 1,300 deaf and hard-of-hearing students who share the same residence halls and classes on campus.

RIT's cooperative education program is the fourth-oldest and one of the largest in the world. We place more than 3,500 students in co-op work positions with approximately 2,000 employers every year. In addition, more than 600 companies visit RIT to conduct employment interviews on campus.

The world in which RIT graduates live and work is composed of people from many backgrounds, lifestyles, and cultures. Therefore, RIT encourages the appreciation of diversity through a variety of liberal arts courses, campus events, and special programs, including the annual International Banquet, Black History Month, Martin Luther King Jr. celebration, and Hispanic Heritage Week.

RIT has been recognized by *U.S. News & World Report* magazine as one of the nation's leading comprehensive universities and one of America's Best College Values. Many college guidebooks have ranked RIT among the nation's top schools, including "Kaplan's Unbiased Guide to the 320 Most Interesting Colleges" and "The Princeton Review's Best 345 Colleges."

Accreditation

Rochester Institute of Technology is accredited by the Middle States Commission on Higher Education, 3624 Market Street, Philadelphia, PA 19014, (267) 284-5000. The Middle States Commission on Higher Education is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.

RIT's colleges and degree-granting entities

The College of **Applied Science and Technology** houses its programs in two schools. The School of Engineering Technology offers bachelor of science degrees in civil engineering technology; computer engineering technology; electrical engineering technology; electrical mechanical engineering technology; environmental sustainability, health and safety; manufacturing engineering technology, mechanical engineering technology; and packaging science. The School of International Hospitality and Service Innovation offers a BS degree in international hospitality and service management. A wide variety of courses are offered during the day and evening, and via online learning. Many of the college's programs are also offered as master's degrees. Certificates are offered in several areas and are especially appropriate for part-time adult students looking for convenience, quality, and practicality. All of the college's engineering technology programs have received accreditation by the Engineering Technology Accreditation Commission (ETAC) of (ABET).

Saunders College of **Business** offers seven majors leading to the bachelor of science degree: accounting, finance, international business, management, management information systems, marketing, and new media marketing. With an emphasis on innovation, the commercialization of technology, and a global focus, these programs combine specialized courses in a major, along with courses in the liberal arts and sciences. All majors require cooperative education. The college is consistently ranked in *U.S. News & World Report's* Top Undergraduate Business Programs and also is accredited by the Association to Advance Collegiate Schools of Business (AACSB International). Saunders College also awards MBA and MS degrees. An accelerated BS/MBA option offers outstanding undergraduates the opportunity to complete both degrees in five years.

The B. Thomas Golisano College of **Computing and Information Sciences** is one of the largest and most comprehensive colleges in the nation devoted to the study of computing and information sciences. Seven bachelor of science degree programs are available in computer science, computing security, information technology, game design and development, new media interactive development, networking and systems administration, and software engineering. In addition, the college offers a computing exploration option that enables students to explore different computing disciplines prior to selecting a major and without losing any time on their path toward graduation. The college awards BS and MS degrees in a variety of computer disciplines as well as a doctoral degree in computing and information sciences. All of the college's BS degrees require cooperative education.

The Kate Gleason College of **Engineering** offers BS degrees in biomedical, chemical, computer, electrical, industrial, mechanical, and microelectronic engineering. Students with a particular interest may choose to focus their technical electives in areas such as aerospace, automotive, bioengineering, clean and renewable energy, computer vision and signal processing, embedded systems and control, energy and the environment, ergonomics, Lean Six-Sigma, nanoscale circuit systems, networks and security, robotics, supply-chain management, and wireless communication. For those who need time to decide on a particular major, the college offers an engineering exploration option in the first year. Students in all engineering majors are required to participate in the cooperative education program. The college offers a number of accelerated dual degree options (combined BS/MS or BS/MEng degrees) and two doctorate degrees: the nation's only doctoral program in microsystems engineering and a doctorate program in engineering.

The College of **Health Sciences and Technology** was created to respond to the growing need for well-educated professionals in the health care field. The college provides a focused, interdisciplinary, and systems approach to innovative health care education with undergraduate degrees offered in the following majors: biomedical sciences, diagnostic medical sonography (ultrasound), nutrition management, and physician assistant.

The College of **Imaging Arts and Sciences** includes the schools of American Crafts, Art, Design, Film and Animation, Media Sciences, and Photographic Arts and Sciences. Specialized labs and darkrooms, studios, computer facilities, photo and graphic design archives, and a broad range of high-tech equipment are provided for students. RIT is recognized as one of the nation's top-ranked universities for glass, design, media sciences, and the study of photography.

The College of **Liberal Arts** offers bachelor of science degrees in advertising and public relations, communication, criminal justice, economics, international and global studies, journalism, museum studies, philosophy, political science, psychology, public policy, and sociology and anthropology. The college also offers five master of science degrees. Liberal Arts Exploration, a two-year undeclared option, is available for students who wish to pursue a liberal arts degree but are undecided about which major to pursue. All of the degree programs offer opportunities for students to gain career-oriented experience through cooperative education, internships, or study abroad. The college also provides RIT's general education, a comprehensive curriculum of liberal arts education that is the foundation for all RIT students' educational experience.

The **National Technical Institute for the Deaf** provides technical and professional programs for approximately 670 deaf and hard-of-hearing students enrolled in associate degree programs. The college also provides extensive educational access services for approximately 570 deaf students who are pursuing bachelor's or master's degrees or taking courses in RIT's other colleges. Within NTID, students may pursue either career-focused associate degree programs leading directly to employment or associate degree programs designed to facilitate seamless transition to RIT's baccalaureate programs. Students choose from a variety of associate degree options/concentrations in accounting technology, administrative support technology, applied computer technology, applied liberal arts, applied mechanical technology, arts and imaging studies, business, business technology, computer aided drafting technology, computer integrated machining technology, hospitality and service management, and laboratory science technology. The college also enrolls hearing students in its ASL-English interpretation programs.

The College of **Science** emphasizes the practical aspects of science and mathematics along with applied research opportunities for undergraduate and graduate students. The college offers a variety of degree programs in the sciences; mathematics and statistics; imaging science; biotechnology and molecular bioscience; bioinformatics; and other unique programs. A general science exploration option is popular with students who want more time to decide on their major. Many of the college's bachelor of science degree programs offer an optional cooperative education program. The college awards bachelor of science and master of science degrees. Doctoral degrees are awarded in astrophysical sciences and technology, color science, and imaging science.

The Division of **Academic Affairs** includes three entities: the Innovative Learning Institute (which includes the Center for Multidisciplinary Studies, RIT Online, and the Teaching and Learning Studio), the University Studies program, and the University Writing program.

The *Innovative Learning Institute* encourages innovative teaching and learning projects in all RIT colleges; and advances online learning at RIT. In the future, ILI will offer individualized, multidisciplinary degrees and certificate programs. *The Center for Multidisciplinary Studie*s offers degree programs, including a bachelor of science degree in applied arts and sciences, which allow students to tailor their curriculum around specific career goals and objectives. The *University Studies Program* allows students up to one year to explore RIT's undergraduate degree programs before selecting a major.

Undergraduate Programs of Study		Degree and HEGIS Code							
		Cert.	Diploma	AOS	AS	AAS	BFA	BS	Page #
Art, Crafts, Design, and Graphic Communications									
3D Digital Design	Imaging Arts and Sciences						1009		92
Advertising and Public Relations	Liberal Arts							0604	109
Arts and Imaging Studies	National Technical Institute for the Deaf			5012		5012			144
Ceramics	Imaging Arts and Sciences						1009		85
Film and Animation	Imaging Arts and Sciences						1010		96
Fine Arts Studio	Imaging Arts and Sciences						1002		90
Furniture Design	Imaging Arts and Sciences			5317			1009		86
Glass	Imaging Arts and Sciences						1009		87
Graphic Design	Imaging Arts and Sciences						1009		93
Illustration	Imaging Arts and Sciences						1002		89
Industrial Design	Imaging Arts and Sciences						1009		94
Interior Design	Imaging Arts and Sciences						1009		95
Media Arts and Technology	Imaging Arts and Sciences							0605	98
Medical Illustration	Imaging Arts and Sciences						1299		91
Metals and Jewelry Design	Imaging Arts and Sciences						1009		88
Motion Picture Science	Imaging Arts and Sciences							1010	98
New Media Design	Imaging Arts and Sciences						0605		95
New Media Interactive Development	Computing and Information Sciences							0699	46
New Media Marketing	Business							0509	35
Photographic and Imaging Arts	Imaging Arts and Sciences						1011		99
Photographic and Imaging Technologies	Imaging Arts and Sciences							1217	103
Business, Management, and Communication									
Accounting	Business							0502	31
Accounting Technology	National Technical Institute for the Deaf					5002			139
Administrative Support Technology	National Technical Institute for the Deaf					5005			139
Business	National Technical Institute for the Deaf				5001				146
Business Technology	National Technical Institute for the Deaf			5004					147
Communication	Liberal Arts							0601	110
Economics	Liberal Arts							2204	113
Finance	Business							0504	32
Health Systems Administration † ‡	Health Sciences and Technology	5299							80
Hospitality and Service Management	National Technical Institute for the Deaf				5011				150
International Business	Business							0513	32
International Hospitality and Service Management	Applied Science and Technology							0510.10	23
Management †	Business							0506	33
Management Information Systems	Business							0599	34
Marketing	Business							0509	34
New Media Marketing	Business							0509	35
Nutrition Management	Health Sciences and Technology							1306	78
Computing and Information Sciences									
3D Digital Design	Imaging Arts and Sciences						1009		92
Applied Computer Technology	National Technical Institute for the Deaf			5101	0799	5101			140
Bioinformatics *	Science							0499	164
Computational Mathematics *	Science							1703	170
Computer Science *	Computing and Information Sciences							0701	40
Computing Security	Computing and Information Sciences							0799	41
Game Design and Development	Computing and Information Sciences							0799	45
Information Technology	Computing and Information Sciences							0699	42
Management Information Systems	Business							0599	34
Medical Informatics §	Computing and Information Sciences							1217	43
Networking and Systems Administration	Computing and Information Sciences							0702	44
New Media Interactive Development	Computing and Information Sciences							0699	46
Software Engineering	Computing and Information Sciences							0999	47
Engineering and Engineering Technology									
Applied Computer Technology	National Technical Institute for the Deaf			5101	0799	5101			140
Applied Mechanical Technology	National Technical Institute for the Deaf					5315			143
Biomedical Engineering	Engineering							0905	54
Chemical Engineering *	Engineering							0906	56
Civil Engineering Technology	Applied Science and Technology							0925	12
Computer Aided Drafting Technology	National Technical Institute for the Deaf			5303		5303			148
Computer Engineering *	Engineering							0999	58
Computer Engineering Technology *	Applied Science and Technology							0925	14
Computer Integrated Machining Technology	National Technical Institute for the Deaf			5312					149
Electrical Engineering *	Engineering							0909	59
Electrical Engineering Technology	Applied Science and Technology							0925	15
Electrical/Mechanical Engineering Technology *	Applied Science and Technology							0925	16
Industrial Engineering *	Engineering							0913	61

* Accelerated dual degree (BS/MS) option available.
† Evening option available.
‡ Online option available.
§ Effective fall 2014, the bachelor's degree in medical informatics will no longer accept new students. This change will not affect currently matriculated students.

Undergraduate Programs of Study		Degree and HEGIS Code							
		Cert.	Diploma	AOS	AS	AAS	BFA	BS	Page #
Integrated Electronics	Engineering	5311							70
Manufacturing Engineering Technology *	Applied Science and Technology							0925	19
Mechanical Engineering *	Engineering							0910	65
Mechanical Engineering Technology *	Applied Science and Technology							0925	21
Microelectronic Engineering *	Engineering							0999	68
Packaging Science	Applied Science and Technology							4999	22
Software Engineering	Computing and Information Sciences							0999	47
Health Sciences									
Biomedical Sciences	Health Sciences and Technology							0499	75
Diagnostic Medical Sonography	Health Sciences and Technology	5299						1299	76
Echocardiography	Health Sciences and Technology	5217							77
Exercise Science	Health Sciences and Technology	5299.3							80
Health Systems Administration † ‡	Health Sciences and Technology	5299							80
Medical Illustration	Imaging Arts and Sciences						1299		91
Medical Informatics §	Computing and Information Sciences							1217	43
Nutrition Management	Health Sciences and Technology							1306	78
Physician Assistant *	Health Sciences and Technology							1299.10	79
Multidisciplinary									
Applied Arts and Science † ‡	Academic Affairs/Center for Multidisciplinary Studies		5699			5699		4999	178
Science, Mathematics, and Imaging Science									
Applied Mathematics *	Science							1703	168
Applied Statistics *	Science							1702	169
Biochemistry	Science							0414	162
Bioinformatics *	Science							0499	164
Biology	Science							0401	166
Biomedical Engineering	Engineering							0905	54
Biomedical Sciences	Health Sciences and Technology							0499	75
Biotechnology and Molecular Bioscience	Science							0499	166
Chemical Engineering *	Engineering							0906	56
Chemistry *	Science							1905	162
Computational Mathematics *	Science							1703	170
Diagnostic Medical Sonography	Health Sciences and Technology	5299						1299	76
Environmental Science *	Science							0420	167
Exercise Science	Health Sciences and Technology	5299.3							80
Imaging Science	Science							1999.20	164
Laboratory Science Technology	National Technical Institute for the Deaf			5407		5407			151
Photographic and Imaging Technologies	Imaging Arts and Sciences							1217	103
Physician Assistant *	Health Sciences and Technology							1299.10	79
Physics *	Science							1902	171
Social Sciences, Humanities, and Education									
Applied Arts and Science † ‡	Academic Affairs/Center for Multidisciplinary Studies		5699			5699		4999	178
Applied Liberal Arts	National Technical Institute for the Deaf				5699				143
ASL-English Interpretation	National Technical Institute for the Deaf					5506		1199	137
Communication	Liberal Arts							0601	110
Criminal Justice	Liberal Arts							2105	112
Deaf Cultural Studies-American Sign Language	National Technical Institute for the Deaf	5506							152
Environmental Science *	Science							0420	167
Environmental Sustainability, Health and Safety *	Applied Science and Technology							0420	17
International and Global Studies	Liberal Arts							2210	114
Journalism	Liberal Arts							0604	115
Museum Studies	Liberal Arts							1099	116
Performing Arts	National Technical Institute for the Deaf	5610							153
Philosophy	Liberal Arts							1509	117
Political Science	Liberal Arts							2207	119
Psychology	Liberal Arts							2001	120
Public Policy *	Liberal Arts							2102	121
Sociology and Anthropology	Liberal Arts							2214.00	123

* Accelerated dual degree (BS/MS) option available.
† Evening option available.
‡ Online option available.
§ Effective fall 2014, the bachelor's degree in medical informatics will no longer accept new students. This change will not affect currently matriculated students.

Graduation Requirements

To earn an academic credential from RIT, students must satisfy a number of graduation requirements, which may vary significantly from program to program. All students should seek out and use the academic advising resources within their colleges to assist them in planning their academic program of study. In general, students should expect to satisfy the following requirements before they can graduate from RIT:

A. Completion of academic curricula

I. Students must satisfactorily complete all of the courses in their academic program. General education requirements and specific course requirements for each program are identified in the following pages. This bulletin, and careful consultation with an academic adviser, provide the best resources for planning and completing all of the requirements necessary for graduation.

II. Program curricula may include several types of courses, including cooperative education, field experience, practicum, thesis, research, and wellness. Most students will need to satisfy a wellness requirement, and many academic programs require one or more quarters of experiential learning, including cooperative education or internships.

III. The curriculum in effect at the time of admission into a program will normally be the curriculum one must complete in order to graduate. Occasionally, with departmental approval, course substitutions and other minor curricular modifications may occur. Although there is no time limit within which students must complete their course requirements, the curriculum under which a student is certified to graduate must be no more than seven years old.

B. Grade-point average standard

I. Successful candidates for an undergraduate degree, diploma, or certificate must have a program cumulative grade-point average of at least 2.0. The physician assistant program requires a program cumulative grade-point average of 2.8 or higher.

II. Graduation honors are conferred on associate and bachelor's degree recipients who achieve a 3.40 or higher cumulative program GPA.

C. Residency and minimum earned hours

At least 30 of the credit hours used toward a degree program must be earned by successfully completing RIT courses. In addition, at least 20 of the final 30 credit hours of any program must be earned through RIT courses. Credit earned through transfer, credit by exam/experience, College-Level Examination Program (CLEP), Advanced Placement (AP), International Baccalaureate (IB), or audit is excluded from these residency calculations. RIT academic programs vary as to the total number of credit hours required; however, under no circumstances will a student be allowed to graduate with a bachelor's degree with fewer than 120 cumulative earned hours (60 hours for associate degrees). Cumulative earned hours include RIT courses, transfer credit, credit by exam/experience, CLEP, AP, and IB credits.

D. Developing writing excellence

Following university policy, all students are required to complete three writing intensive (WI) courses before they graduate:

- one First Year Writing course, to be taken in the first year;
- one Programmatic WI course, year taken as required by the particular degree program; and
- a third WI course, preferably within General Education but may be a second program WI course, to be taken in the second or third year is recommended.

First Year Writing is a General Education Foundations course that plays an essential role in students' academic transition to the university. In FYW, students learn about the social and intellectual aspects of university writing, and develop critical literacy practices required for academic success. There are currently three FYW courses that fulfill this requirement:

- FYW: Writing Seminar (UWRT-150)
- FYW: The Future of Writing (ENGL-150)
- FYW: Ethics in Computing (ISTE-110)

General Education Writing Intensive (WI) courses reinforce the knowledge and practices introduced in FYW. These courses are located throughout the perspective, immersion, and elective course categories on the General Education curriculum and use writing to engage students in course content.

Program Writing Intensive courses (identified on the typical course sequence charts with the designation "WI") are located in disciplinary contexts and apprentice students in specific forms of writing. These courses reinforce the knowledge and practices introduced in FYW, and students gain mastery of written forms specific to the student's major area of study.

E. Fulfillment of financial obligations

Students must fulfill all financial obligations to RIT before they can be certified to graduate.

General Education Curriculum– Liberal Arts and Sciences

RIT's framework for general education provides students with courses that meet specific university approved general education learning outcomes and New York State Education Department liberal arts and sciences requirements. Students in all bachelor of science degree programs are required to complete a minimum of 60 credit hours in General Education; students in all bachelor of fine arts degree programs are required to complete a minimum of 30 credit hours in General Education. The general education framework intentionally moves through three educational phases designed to give students a strong foundation, an introduction to fundamentals of liberal arts and sciences disciplines, and the opportunity for deeper study and integrative learning through immersion in a cluster of related courses.

The general education curriculum consists of the following requirements:

1. Foundation courses—two courses in the first year that introduce students to the intellectual life of the university, and provide a focus on communication skills to prepare students for future coursework and life-long learning.

a. LAS Foundation 1: First Year Seminar

b. LAS Foundation 2: UWRT-150, ENGL-150, ISTE-101

2. Perspectives—eight courses designed to introduce students to seven key areas of inquiry that develop ways of knowing the world. The perspective courses introduce students to fundamentals of a liberal arts and sciences discipline (methods, concepts, and theories) while addressing specific general education learning outcomes.

a. Perspective 1 (ethical): Courses focus on ethical aspects of decision-making and argument, whether at the individual, group, national, or international level. These courses provide students with an understanding of how ethical problems and questions can be conceived and resolved, and how ethical forms of reasoning emerge and are applied to such challenges.

b. Perspective 2 (artistic): Courses focus on the analysis of forms of artistic expression in the context of the societies and cultures that produced and sustained them. These courses provide insight into the creative process, the nature of aesthetic experience, the fundamentals of criticism and aesthetic discrimination, and the ways in which societies and cultures express their values through their art.

c. Perspective 3 (global): Courses in this category encourage students to see life from a perspective wider than their own and to understand the diversity of human cultures within an interconnected global society. Courses explore the interconnectedness of the local and the global in today's world or in historical examples, and encourage students to see how global forces reverberate at the local level.

d. Perspective 4 (social): Courses focus on the analysis of human behavior within the context of social systems and institutions. Because RIT recognizes that student success depends on the ability to understand how social groups function and operate, these courses provide insight into the workings of social institutions' processes.

e. Perspective 5 (natural science inquiry): Science is more than a collection of facts and theories, so students are expected to understand and participate in the process of science inquiry. Courses focus on the basic principles and concepts of one of the natural sciences. In these classes, students apply methods of scientific inquiry and problem solving in a laboratory or field experience.

f. Perspective 6 (scientific principles): Courses focus on the foundational principles of a natural science or provide an opportunity to apply methods of scientific inquiry in the natural or social sciences. Courses may or may not include a laboratory experience.

g. Perspective 7A, 7B (mathematical): Courses focus on identifying and understanding the role that mathematics plays in the world. In these courses, students comprehend and evaluate mathematical or statistical information and perform college level mathematical operations on quantitative data.

3. Immersion—a series of three related general education courses that further broaden a student's judgment and understanding within a specific area through deeper learning.

4. General Education electives—The remaining general education elective credits may be specified by the academic programs in order for students to fulfill supporting requirements (e.g. math or science, foreign languages, etc.). Some of these credits will be free general education electives that can be chosen by the students themselves. Credits in the perspectives category that exceed the minimum requirement will be applied toward the elective credits.

Wellness Education Requirement

RIT recognizes the need for wellness education in today's society and offers specifically designed courses to help students develop and maintain a well-balanced healthy lifestyle. The wellness education requirement is designed to assist students in making healthy decisions to support their academic and social interactions in college and beyond. The wellness curriculum provides learning experiences that are an integral part of the educational experience at RIT.

Students seeking a bachelor's degree: Students seeking a bachelor's degree must successfully complete two different wellness activity courses. *(Important note: Different courses would include different levels of and/or forms of a course that may have the same course number (e.g., pilates and advanced pilates would count as two different activity courses).*

Students seeking an associate degree: Students seeking an associate degree must successfully complete one wellness activity course.

Transfer students: Transfer students may apply course work successfully completed at a previous institution. The student's home department will determine and make decisions regarding transfer of health, wellness, or activity courses. The Center for Intercollegiate Athletics and Recreation is available for consultation.

Exemption Scenarios

Age: Students who are 25 or older *at the date of matriculation* are exempt from the wellness education requirement but may enroll in any course on a space-available basis.

Club sports participation: Students participating in an RIT-recognized club sport may be granted one activity course credit for the year of participation. Participation on the same club team for multiple seasons (e.g., four seasons) can be counted only one time for activity course credit toward the graduation requirement. Students must see the club sports adviser before the end of the spring quarter add/drop period to facilitate the credit process.

Credit by experience: Retroactive credit *may* be granted for certain independent activities if completed within one year before matriculation at RIT. A formal written request must be submitted that clearly outlines the activity that is being considered for wellness education credit along with all documentation of the experience (e.g., signatures of instructors, copy of certificates, receipt from a course or seminar completion). A minimum of 16 hours of a previous activity is required. Formal requests should be submitted to the director of the Wellness Instructional Program.

Intercollegiate athletics: Students participating in the university's intercollegiate athletic program will be granted wellness activity course credit for the season(s) of participation.

Intramural participation: No credit is granted for intramural sports participation.

Medical excuse: A medical excuse may exempt students from participation in the activity segment of the graduation requirement, but they must still enroll in First-Year Enrichment (during their freshman year). The exemption will be granted only by a college dean with input from the associate director of wellness for the Center for Intercollegiate Athletics and Recreation. One copy of the medical excuse (signed physician's memo) should be filed with the Center for Intercollegiate Athletics and Recreation and the other copy taken to students' academic department.

Military duty: Students who have completed six months or more of active military duty are not required to complete the wellness education program but are encouraged to enroll in any wellness course on a space-available basis.

Nonmatriculated status: Nonmatriculated students are exempt from the wellness education requirement but are encouraged to enroll in any wellness course on a space-available basis.

Prior bachelor's degree: Students who have acquired a bachelor's degree are exempt from the wellness education requirement.

Colleges of RIT

Students will choose one college as their home, where they will concentrate on an in-depth degree program (major), but their course work could draw from the strengths and interactions of all 10 of RIT's colleges and degree-granting entities.

RIT's colleges and degree-granting entities

- College of Applied Science and Technology
- Saunders College of Business
- B. Thomas Golisano College of Computing and Information Sciences
- Kate Gleason College of Engineering
- College of Health Sciences and Technology
- College of Imaging Arts and Sciences
- College of Liberal Arts
- National Technical Institute for the Deaf
- College of Science
- Academic Affairs

College of Applied Science and Technology

H. Fred Walker, Dean
rit.edu/cast

Programs of study

	Bachelor of Science degrees in:	Page
	Civil Engineering Technology *Options available in construction management, structural design, and water resources.*	12
#	Computer Engineering Technology *Options available in audio and telecommunications.*	14
#	Electrical Engineering Technology *Options available in audio and telecommunications.*	15
	Electrical Mechanical Engineering Technology	16
#	Environmental Sustainability, Health and Safety *Options available in alternative energy, environmental microbiology, ecological principles and conservation, and occupational health and safety.*	17
	International Hospitality and Service Management *Concentrations available in entertainment and event management, food and beverage management, international food marketing and distribution, and international hotel and resort management.*	23
#	Manufacturing Engineering Technology	19
#	Mechanical Engineering Technology	21
	Packaging Science	22

	Reserve Officer's Training Corps (ROTC):	
	Army	25
	Air Force	26

Accelerated BS/MS option available.

The College of Applied Science and Technology, comprised of two schools–the School of Engineering Technology and the School of International Hospitality and Service Innovation–provides programs that stress technology in a variety of environments, enhance customer satisfaction in the service sector, and improve the careers of traditional and nontraditional students. Modern technology, whether in the development, integration, or implementation stages, is a focal point in each of the college's programs. This technology may be used to provide productive manufacturing and distribution of durable and consumable goods, the proper flow of information worldwide, the protection of the environment, or the enhancement of customer satisfaction in the service sector.

Through its dynamic program offerings, the college is committed to preparing graduates to be innovative, technologically advanced, and entrepreneurial. Degree programs are offered at the baccalaureate and master's degree levels. A number of minors are available. The college also includes the departments of military science (Army ROTC) and aerospace studies (Air Force ROTC), and the Center for Electronic Manufacturing Assembly (CEMA).

Admission requirements

For information on undergraduate admission, including freshman and transfer admission guidelines, please refer to the Undergraduate Admission section of this bulletin.

Financial aid and scholarships

Please refer to the Financial Aid and Scholarships section of this bulletin for information regarding financial aid, scholarships, loans, and grants.

Faculty

Faculty members in the college have considerable experience in their respective industrial fields, teaching experience from two- and four-year colleges, and have completed graduate programs in their various specialties. While teaching is a primary concern, they are also researchers who maintain current knowledge in their fields. They are committed to student growth and development.

Facilities and resources

- The college's newest building supports RIT's commitment to environmentally sustainable design. It is LEED (Leadership in Energy and Environmental Design) certified and houses the department of civil engineering technology, environmental management and safety (CETEMS); the department of electrical, computer, and telecommunications engineering technology; the CETEMS Environmental Laboratory; the CETEMS Digital Design Laboratory; the CETEMS Soils Laboratory; the William G. McGowan Student Commons; the American Packaging Corporation Center for Packaging Innovation; Center for Sustainable Packaging; the William G. McGowan Center for Telecommunications, Innovation, and Collaborative Research; and the REDCOM Telecommunications Systems Laboratory.

- Another building houses the department of manufacturing and mechanical engineering technology/packaging science; administrative, advising, and faculty offices; a student project area; and mechanical systems, materials, and product innovation laboratories.
- Additional laboratories include state-of-the-art labs in CAD/CAM systems, electronics manufacturing, instrumentation, packaging testing, and sustainability.
- Henry's, the college's student-run kitchen and restaurant, which is part of the School of International Hospitality and Service Innovation, showcases some of the most sophisticated service equipment and computing resources in the country.
- Newly remodeled food product development laboratories allow students to create menu items for classes that pertain to the growing food service industry.
- Computing information laboratories provide data that enable students to assess the supply and demand for food commodities throughout the world.

Cooperative education

All full-time engineering technology majors and the BS programs in environmental sustainability, health and safety; packaging science; and international hospitality and service management require students to complete three semesters of cooperative education before they can be awarded a bachelor of science degree. All part-time programs also require either cooperative education or its equivalent. Students who work full time and are enrolled part time in an engineering technology program may be able to apply a portion of their full-time employment toward cooperative education. Professional responsibilities and how they pertain to each degree program must be reviewed to determine if co-op credit may be awarded.

Programs require an official approval and registration for co-op, with cooperative education listed on the student's transcript. Part-time students in the electrical and computer engineering technology programs have the same cooperative education requirements as full-time students. As part of the graduation requirement for a BS in mechanical engineering technology, electrical/mechanical engineering technology, and manufacturing engineering technology, the department requires that the work experience of all part-time and distance students must total at least 48 weeks of documented full-time work experience relevant to their major.

Co-op provides an opportunity for students to apply techniques, skills, and the latest developments in their fields in a professional environment. Students learn the day-to-day operations of an industry environment while they gain valuable experience that hones their skills and makes them more marketable upon graduation. Co-op also can provide an income that may help defray a portion of the student's educational expenses.

Accreditation

The following degree programs are accredited by the Engineering Technology Accreditation Commission (ETAC) of ABET (abet.org): civil engineering technology, computer engineering technology, electrical engineering technology, electrical/mechanical engineering technology, manufacturing engineering technology, and mechanical engineering technology.

Advising

The college provides advising services to support students throughout their academic careers. A faculty adviser, co-op adviser, professional adviser, and staff in the departmental offices all participate in the student's academic experience. A faculty adviser is uniquely prepared to offer career counseling in each student's major field of study. The Office of Cooperative Education and Career Services assigns each co-op student an adviser who assists in the placement process. In the departmental offices, all students are assured of administrative support to effectively deal with registration, records, and scheduling. Professional advisers assist in academic planning and problem solving. Each of these advisers will also help identify appropriate support services for specific student needs.

Academic enrichment

The Honors Program: Students who demonstrate a high level of achievement at the high school level may be invited to join the Honors program. These students will participate in Honors course work throughout their program of study and experiential learning activities under the guidance of a faculty mentor. Honors students will be selected during the admissions process.

Minors: Students may choose from more than 80 minors to enhance their academic program or further develop a personal area of interest. For a detailed list of minors, including courses, please refer to the Minors section of this bulletin.

Study abroad: RIT encourages all students to consider a study abroad program to enhance their understanding of globalization and other cultures. Students may study full time at a variety of host schools and are able to select both major and liberal arts classes. The Study Abroad Office has information about foreign study options and opportunities. Academic advisers will work with students to schedule study abroad experiences into planning and course selection.

Professional student organizations: The college maintains memberships in the following professional organizations: American Society of Civil Engineers; Women in Technology; Institute of Electrical and Electronics Engineers; Students Innovating Technology; Institute of Packaging Professionals; Society for Manufacturing Engineers; BAJA SAE Team; American Society of Heating, Refrigerating and Air-Conditioning Engineers; and the Student Environmental Action League.

Special opportunities

Accelerated dual degree programs: Some programs offer accelerated, five-year dual BS/MS degree options. These degrees offer students the opportunity to earn a bachelor's degree and a master's degree in less time than pursuing each degree individually. Please refer to individual programs for information on BS/MS options.

Graduate study: The College of Applied Science and Technology offers graduate programs and advanced certificates in a number of areas related to technology, the environment, facility management, service management and hospitality, human resource management, and manufacturing. For a complete list of programs and their curricula please refer to the *Graduate Bulletin*.

Part-time/Evening/Online options: Several of the college's programs may be completed on a part-time, evening, or online basis. Please refer to the Office of Part-time and Graduate Enrollment or the college's website for more information.

School of Engineering Technology

RIT is a leader in the development of bachelor's and master's degrees in engineering technology, packaging science, and environmental sustainability that are designed to meet the growing needs of business and industry.

Degree programs

The school offers the following academic majors:

- civil engineering technology
- computer engineering technology
- electrical engineering technology
- electrical mechanical engineering technology
- environmental sustainability, health and safety
- manufacturing engineering technology
- mechanical engineering technology
- mechanical technology
- packaging science

Many students choose to transfer from similar engineering technology fields to continue study in a particular engineering technology specialization typically entering as upper division students. Each major consists of a balance of professional studies, liberal arts, mathematics, and cooperative education. With the selection of technical electives, students can tailor their major to enhance previous knowledge and work experience.

Upper division: Part-time study in the upper-division of all engineering technology majors is available during the day. Some programs offer some courses in the evenings (except civil engineering technology) and some courses are available in an online format.

The requirements for part-time study and for graduation are consistent with those for the electrical, computer, and telecommunications engineering technology full-time day programs requiring co-op experience. The part-time mechanical, electrical/mechanical, and manufacturing engineering technology programs do not require cooperative education.

Certificate programs are available during the evening and through online learning. For more information, visit the Part-time and Graduate Enrollment Services website at rit.edu/ptgrad.

Engineering Technology, Undeclared

rit.edu/mmet

S. Manian Ramkumar, Undeclared Program Coordinator
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Program overview

Students interested in the fields of engineering technology or packaging science but undecided about selecting a specific major should consider the undeclared engineering technology option. Students spend up to one year exploring these majors while earning course credit that can be applied to any of the programs.

Curriculum

During the first semester, students complete basic technical skills courses in the electrical and mechanical disciplines. They also participate in Undeclared Engineering Technology Seminar (ENGT-110), a course that explores the unique characteristics of each engineering technology discipline. After the first semester, students are expected to select a major or begin focusing their studies on a particular discipline (e.g.: civil, computer, electrical, electrical mechanical, environmental management and safety, mechanical, manufacturing, or packaging science). Students in the undeclared option will take courses at different times than the students who declared their major in their first year. However, in most cases, students will begin their third year on track with other students in their major.

Undeclared engineering technology, typical course sequence

COURSE		SEMESTER CREDIT HOURS
Fall Semester		
ENGT-110	Undeclared Engineering Technology Seminar	1
EEET-111	DC Circuits	3
EEET-112	DC Circuits Lab	1
MCET-101	Fundamentals of Engineering	3
MFET-105	Machine Tools Lab	1
	LAS Foundation 2: First Year Writing	3
	LAS Perspective	3
	Year One	0
	Wellness Education*	0
Spring Semester		
Choose two courses from the following majors:		
	Electrical Engineering Technology	
	Mechanical Engineering Technology	
	Electrical/Mechanical Engineering Technology	
	Computer Engineering Technology	
	Civil Engineering Technology	
	Environmental Sustainability, Health and Safety	
	Packaging Science	
	LAS Perspectives	3
Choose one of the following:		4
MATH-171	Calculus A	
	Math Sequence	
PHYS-111	LAS: College Physics I	4
Total Semester Credit Hours		**32**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirements for more information. Students completing bachelor's degrees are required to complete two Wellness courses.

Civil Engineering Technology, BS

rit.edu/cetems

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Program overview

The civil engineering technology major prepares students for employment in the fields of civil engineering, construction management, and other closely related professions. Students learn civil engineering technology fundamentals from faculty members who have years of practical, professional, on-the-job experience. The major stresses applied engineering, where students work in various laboratory settings to learn about theory, how design parameters are determined, and how to best utilize state-of-the-art equipment and engineering software. In addition, students learn the skills necessary to pursue additional education, certification, or professional licensure. Course work and extracurricular activities are designed to broaden students' involvement in organizations within and outside their profession. These objectives are achieved through a broad-based curriculum that offers students a choice of five elective paths that meet specific career interests.

Program goal

The goal of the civil engineering technology major is to provide an academically demanding education to meet the needs of students and employers by properly preparing them for a successful career after graduation.

Accreditation

The civil engineering technology major is accredited by the Engineering Technology Accreditation Commission (ETAC) of ABET, abet.org.

Curriculum

Students develop skills in courses that explore the fundamental areas of civil engineering, including structural, hydraulic, transportation, geotechnical, and environmental engineering. The major includes two technical electives and two free electives that can be used to gain additional depth or breadth in civil engineering or construction management. In addition, students may choose to utilize electives to pursue a minor outside of the civil engineering technology major or a professional option within the major. Options are not required, but students may choose to complete an option in construction management, structural design, or water resources to gain a deep understanding of these particular topics and how they impact civil engineering.

Civil engineering technology, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
CVET-140, 141	Materials of Construction and Lab	3
	LAS Foundation 1: First Year Seminar†	3
MATH-111	LAS Perspective 7A: Pre-Calculus	3
PHYS-111, 112	LAS Perspective 6: Physics I, II	8
	LAS Perspective 1	3
CVET-210	Statics	3
CVET-150	Computer Aided Design and Drafting	2
MATH-171	LAS Perspective 7B: Calculus A	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
CVET-160, 161	Surveying and Lab	4
CVET-180, 181	Civil Engineering Graphics and Lab	3
CVET-220	Strength of Materials	4
	LAS Perspective 2	3
MATH-172	Calculus B	3
CVET-170	Elements of Building Construction	3
CVET-230	Elementary Structures	3
CVET-240, 241	Elementary Soil Mechanics and Lab	4
MATH-211	Elements of Multivariable Calculus and Differential Equations	3
CHMG-141, 145	LAS Perspective 5: General and Analytical Chemistry I and Lab	4
Third Year		
CVET-250, 251	Hydraulics and Lab	4
CVET-300	Land Development Computer Applications	2
CVET-332	Structural Analysis with STAAD	4
	LAS Perspective 3	3
COMM-203	Effective Technical Communication	3
ENGT-299	Cooperative Education Preparation	0
CVET-499	Cooperative Education	Co-op
Fourth Year		
CVET-440	Foundation Engineering	3
CVET-431 or 432	Structural Design Elective	3
	Free Elective	3
CHMG-122	Chemistry of Water and Wastewater	3
	LAS Immersion 1, 2	6
	Technical Elective	
CVET-450	Principles of Water and Wastewater Treatment	3
CVET-400, 401	Transportation Engineering and Lab	3
	LAS Perspective 4	3
CVET-437	Dynamics in Civil Engineering Technology	2
CVET-499	Cooperative Education	Co-op
Fifth Year		
CVET-499	Cooperative Education	Co-op
CVET-500	Civil Engineering Technology Capstone (WI)	3
	Technical Elective	3
	Free Elective	3
	LAS Math or Science Elective	3
	LAS Immersion 3	3
Total Semester Credit Hours		**128**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Professional options

Students may choose to pursue one of three professional options in construction management, structural design, or water resources. Professional options consist of three courses.

Construction management

The construction management option is ideal for students who have an interest in courses related to the business, management, and technical aspects related to construction.

CVET-461	Construction Cost Estimating I
CVET-462	Construction Project Management
CVET-464	Construction Planning, Scheduling and Control
CVET-465	Contracts and Specifications
CVET-505	Sustainable Building Design and Construction

Structural design

The structural design option provides a focus in structural design and the use of different types of structures and materials. It also introduces related design codes.

CVET-431, 432	Structural Design Elective
CVET-433	Structural Timber Design
CVET-434	Design of Highway Bridges
CVET-435	Pre-stressed Concrete
CVET-436	Masonry Structures

Water resources

The water resources option is for students who have an interest in courses related to water treatment, wastewater treatment, hydrology, and the environment.

CVET-423	Geospatial Information Systems for CETEMS
CVET-451	Design of Water and Wastewater Treatment
CVET-452	Groundwater Hydraulics
CVET-453	Stormwater Management

Additional information

Graduates

Our graduates can be found working in consulting engineering firms; construction and construction management companies; and government agencies at the local, regional, and national level. Initial job titles may include junior engineer, project manager, project engineer, estimator, junior structural engineer, construction inspector, project coordinator, or superintendent. Many graduates pursue advanced degrees, and a large number have gained registration in several states as professional engineers. Some manage their own consulting firms.

Industrial Advisory Board

The Industrial Advisory Board is comprised of local and regional industry leaders from consulting, construction, and the municipal market. These advisory board members share their professional and technical expertise to enhance the engineering technology program and strengthen its development.

Computer Engineering Technology, BS

rit.edu/ectet

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Program overview

Embedded systems are at the heart of devices and systems used every day. Computer engineers design embedded systems for medical diagnostic equipment, digital cameras, missile guidance systems, anti-lock braking systems, scanners, copiers, switches, routers, and cell phones. The embedded systems designer requires knowledge of computer hardware and software.

The computer engineering technology major is designed to meet industry's ever-increasing need for engineers with an in-depth knowledge of hardware and software design and development. The curriculum bridges the gap between these two disciplines by providing a solid foundation in each and integrating them with intensive classroom and laboratory experiences.

From a software perspective, students gain a strong background in cutting-edge development with programming languages currently used in industry. Students learn industry standard approaches to application software development as well as state-of-the-art problem-solving techniques. Students learn techniques for developing applications code and firmware, and they understand and appreciate the difference. Embedded "C" and assembly language programming are performed in numerous courses.

The hardware focus of the curriculum is on digital systems design and development. From low-level gate design to high-end microprocessors and current bus standards, students gain an architectural understanding of computer systems. The curriculum includes in-depth design and analysis of combinational logic, sequential logic and state machines, micro-controller systems, microprocessor systems, and state-of-the-art computer technology. Students perform schematic entry timing analysis and FPGA development in VHDL using industry standard computer-aided engineering tools.

A capstone experience in the fifth year enables students to integrate their hardware and software expertise in a semester-long project course.

The emphasis on hardware and software design, along with a solid foundation in math, science, and the liberal arts, produces graduates who are well-prepared to enter the work force as design engineers or to pursue advanced degrees. Students will gain depth of knowledge and breadth of experience that will inspire them to pursue successful careers in their chosen professional field and embark on a path of lifelong learning.

Cooperative education

The program requires students to complete approximately 50 weeks of cooperative education. Students may begin their co-op experience in the third year of the program. Co-ops may be completed during the academic year or during the summer. Each student is assigned a co-op adviser to assist in identifying and applying to opportunities.

Accreditation

The computer engineering technology major is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology ABET, abet.org.

Curriculum

Computer engineering technology, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MATH-171	LAS Perspective 7A: Calculus A	3
EEET-111, 112	DC Circuits and Lab	4
CPET-141, 142	Digital Fundamentals and Lab	3
	LAS Perspective 1, 2	6
	LAS Foundation 1: First Year Seminar†	3
MATH-172	LAS Perspective 7B: Calculus B	3
EEET-121, 122	AC Circuits and Lab	4
CPET-121	Computational Problem Solving I	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
MATH-173	Calculus C	3
EEET-211, 212	Electronics I and Lab	4
CPET-201, 202	Microcontroller Systems and Lab	3
	LAS Perspective 3, 4	6
CHMG-141, 145	LAS Perspective 5: General and Analytical Chemistry I and Lab	4
MATH-211	Calculus and DEQ	3
EEET-221, 222	Electronics II and Lab	3
CPET-241, 242	Digital Systems Design and Lab	4
STAT-145	Introduction to Statistics I	3
Third Year		
PHYS-111	LAS Perspective 6: College Physics I	4
EEET-321	Signals Systems and Transforms	4
CPET-341, 342	Hardware Description Language and Lab	3
CPET-321	Computational Problem Solving II	3
	LAS Immersion 1	3
EEET-299	Career Orientation	0
CPET-499	Cooperative Education	Co-op
Fourth Year		
CPET-481	Networking Technologies	3
EEET-425	Digital Signal Processing	4
EEET-421	Design and Innovation (WI)	3
	LAS Immersion 2, 3	6
	Technical Electives	6
MFET-436	Engineering Economics	3
CPET-561	Embedded Systems Design I	4
CPET-461	Real Time Operating Systems	3
CPET-499	Cooperative Education	Co-op
Fifth Year		
CPET-499	Cooperative Education	Co-op
CPET-563	Embedded Systems Design II	3
	General Education Electives	5
	Free Electives	6
Total Semester Credit Hours		**127**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Options

Students may elect to use the two technical electives and the two free electives to complete an option in audio or telecommunications. Each option consists of four courses.

Audio

EEET-261	Fundamentals of Audio Engineering
EEET-361	Modern Audio Production
EEET-461	Introduction to Acoustics
EEET-531	Audio Power Amplifier

Telecommunications

CPET-481	Network Technologies
EEET-311	Communications Elective with Lab
EEET-525	Wireless RF Systems
EEET-531	Fiber Optics Technology

Accelerated dual degree option

The program, in conjunction with the department of computer science in the B. Thomas Golisano College of Computing and Information Sciences, offers an accelerated dual degree option that combines the bachelor's degree in computer engineering technology and a master's degree in computer science.

Computer engineering technology, BS degree/Computer science, MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MATH-171	LAS Perspective 7A: Calculus A	3
EEET-111, 112	DC Circuits and Lab	4
CPET-141, 142	Digital Fundamentals and Lab	3
	LAS Perspective 1, 2	6
	LAS Foundation 1: First Year Seminar†	3
MATH-172	LAS Perspective 7B: Calculus B	3
EEET-121, 122	AC Circuits and Lab	4
CPET-121	Computational Problem Solving I	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
MATH-173	Calculus C	3
EEET-211, 212	Electronics I and Lab	4
CPET-201, 202	Microcontroller Systems and Lab	3
	LAS Perspective 3, 4	6
CHMG-141, 145	LAS Perspective 5: General and Analytical Chemistry I and Lab	4
MATH-211	Calculus and DEQ	3
EEET-221, 222	Electronics II and Lab	3
CPET-241, 242	Digital Systems Design and Lab	4
STAT-251	Probability and Statistics I	3
Third Year		
MATH-190	Discrete Math for Computing	3
EEET-321	Signals Systems and Transforms	4
CPET-341, 342	Hardware Description Language and Lab	3
CPET-321	Computational Problem Solving II	3
	LAS Immersion 1	3
EEET-299	Career Orientation	0
CPET-499	Cooperative Education (spring and summer)	Co-op
Fourth Year		
CSCI-262	Introduction to Computer Science Theory	3
PHYS-111	LAS Perspective 6: College Physics I	4
EEET-421	Design Innovation (WI)	3
	LAS Immersion 2	3
MFET-436	Engineering Economics	3
CPET-561	Embedded Systems Design I	4
CPET-461	Real Time Operating Systems	3
CSCI-605	Advanced Java Programming	3
CPET-499	Cooperative Education (summer)	Co-op
Fifth Year		
CSCI-620	Data Exploration and Management	3
CPET-481	Networking Technologies	3
EEET-425	Digital Signal Processing	4
CSCI-665	Foundations of Algorithms	3
CPET-563	Embedded Systems Design II	3
CSCI-720	Data Mining	3
CSCI-622	Secure Data Management	3
	LAS Immersion 3	3
Sixth Year		
CSCI-687	Graduate Research Seminar	3
CSCI-631	Foundations of Computer Vision	3
Choose one of the following:		3
CSCI-663	Computability	
CSCI-664	Computational Complexity	
CSCI-799	Computer Science Graduate Independent Study	3
CSCI-790	Computer Science Thesis	6
Total Semester Credit Hours		**150**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Electrical Engineering Technology, BS

rit.edu/ectet
Michael Eastman, Department Chair
(585) 475-7787, mgeiee@rit.edu

Program overview

The bachelor of science degree in electrical engineering technology provides students with a foundation in circuits, analog and digital electronics, physics, calculus, and the liberal arts. The third and fourth years expand on the fundamental courses with more advanced course work in applied differential equations, advanced circuits and electronics, transform methods, control systems, analog and digital electronics, mechanical engineering technology, and additional liberal arts courses. Students choose free electives or mechanical/manufacturing and professional electives to round out the major. Professional electives include courses in electric power systems, electronic communications, embedded systems, telecommunications, networking, and optics. Several electives also are available from other technical disciplines, and the student's academic adviser can assist in determining the best choices for career goals and objectives. The upper division of the major provides a viable option for students who have completed their associate degree and wish to continue their education in engineering technology.

Cooperative education

The degree is a five-year major that requires approximately 15 months of cooperative education experience for full-time students. Students may begin their co-op experiences in the third year. Co-ops may be completed during the academic year and during the summer. A co-op adviser is assigned to each student to assist them in identifying and applying to opportunities.

Accreditation

The electrical engineering technology major is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology ABET, abet.org.

Curriculum

Electrical engineering technology, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MATH-171	LAS Perspective 7A: Calculus A	3
EEET-111, 112	DC Circuits and Lab	4
CPET-141, 142	Digital Fundamentals and Lab	3
	LAS Perspective 1, 2	6
	LAS Foundation 1: First Year Seminar†	3
MATH-172	LAS Perspective 7B: Calculus B	3
EEET-121, 122	AC Circuits and Lab	4
CPET-121	Computational Problem Solving I	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
MATH-173	Calculus C	3
EEET-211, 212	Electronics I and Lab	4
CPET-201, 202	Microcontroller Systems and Lab	3
	LAS Perspective 3, 4	6
CHMG-141, 145	LAS Perspective 5: General and Analytical Chemistry I and Lab	4
MATH-211	Elements of Multivariable Calculus and Differential Equations	3
EEET-221, 222	Electronics II and Lab	3
CPET-241, 242	Digital System Design and Lab	4
EEET-241, 242	Electrical Machines and Transformers and Lab	3

COURSE		SEMESTER CREDIT HOURS
Third Year		
PHYS-111	LAS Perspective 6: College Physics I	4
EEET-321	Signals, Systems and Transforms	4
EEET-311, 312	Communications Electronics and Lab	3
STAT-145	Introduction to Statistics I	3
	LAS Immersion 1	3
EEET-299	Career Orientation	0
EEET-499	Cooperative Education	Co-op
Fourth Year		
EEET-425	Digital Signal Processing	4
EEET-421	Design and Innovation (WI)	3
	LAS Immersion 2, 3	6
	Technical Elective or Program Option	6
	General Education Elective	3
MFET-436	Engineering Economics	3
EEET-427	Control Systems	4
	Mechanical/Manufacturing Engineering Technology Elective	3
EEET-499	Cooperative Education	Co-op
Fifth Year		
EEET-499	Cooperative Education	Co-op
EEET-431, 432	Transmission Lines and Lab	3
	Free Electives	6
	Technical Electives or Program Option	4
Total Semester Credit Hours		**127**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Options

Students may elect to use the two technical electives and the two free electives to complete an option in audio or telecommunications. Each option consists of four courses.

Audio

EEET-261	Fundamentals of Audio Engineering
EEET-361	Modern Audio Production
EEET-461	Introduction to Acoustics
EEET-531	Audio Power Amplifier

Telecommunications

CPET-481	Network Technologies
EEET-311	Communications Elective with Lab
EEET-525	Wireless RF Systems
EEET-531	Fiber Optics Technology

Additional information

Graduates

Graduates are well-prepared to pursue careers in a number of fields related to electrical engineering technology. They enter positions in not only design and development but related disciplines, including manufacturing, research, sales and marketing, applications engineering, and education.

Electrical Mechanical Engineering Technology, BS

rit.edu/mmet

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Program overview

With the increased complexity of products and production design, which includes the integration of electronics with mechanical and electrical components, there is a growing need for professionals who have a strong foundation in the electrical, mechanical, and manufacturing disciplines. The electrical mechanical engineering technology major prepares students for professional careers in the broad field of engineering technology, where an integration of mechanical, electrical, and manufacturing disciplines is important. Core courses cover electricity, electronics, microprocessors, mechanics, materials, thermal science, solid modeling, and manufacturing processes. In addition, students take general education courses in mathematics, physics, chemistry, communications, programming, and the liberal arts. The major provides the maximum amount of flexibility in transfer from other RIT programs and a variety of two-year programs, including engineering science and engineering technology.

Accreditation

The electrical mechanical engineering technology major is accredited by the Engineering Technology Accreditation Commission (ETAC) of ABET, abet.org.

Curriculum

Electrical mechanical engineering technology, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MCET-101	Fundamentals of Engineering	3
MFET-105	Machine Tools Lab	1
MFET-120	Manufacturing Processes	3
MATH-171	LAS Perspective 7A: Calculus A	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
MCET-110, 111	Foundations of Metals and Characterization of Metals and Lab	3
EEET-111, 112	DC Circuits and Lab	4
MCET-150	Engineering Communications and Tolerancing	3
PHYS-111	LAS Perspective 5: College Physics	4
MATH-172	LAS Perspective 7B: Calculus B	3
	YearOne	0
	Wellness Education*	0
Second Year		
MCET-220	Principles of Statics	3
COMM-203	Effective Technical Communication	3
MFET-120	Manufacturing Processes	3
MATH-211	Elements of Multivariable Calculus and Differential Equations	3
PHYS-112	College Physics II	4
EEET-121, 122	AC Circuits and Lab	4
EMET-290	Mechanics for Electrical Mechanical Engineering Technology	3
EEET-225, 226	Electronic Amplifiers and Lab	3
STAT-145	Introduction to Statistics I	3
CPET-121	Computational Problem Solving I	3
	LAS Perspective 1	3
Third Year		
STAT-146	Introduction to Statistics II	4
MFET-340, 341	Automation Control Systems and Lab	3
MCET-210, 211	Foundations of Non-Metallic Materials and Characterization of Non-Metallic Materials Lab	3
EEET-247, 248	Microprocessors and Digital Systems and Lab	3
	LAS Perspective 2	3
EMET-299	Cooperative Education Preparation	0
EMET-499	Cooperative Education (spring, summer)	Co-op

COURSE		SEMESTER CREDIT HOURS
Fourth Year		
EEET-241, 242	Electric Machines and Transformers and Lab	3
MCET-430, 530	Thermal Fluid Systems I, II	6
	LAS Immersion 1, 2	6
MFET-436	Engineering Economics	3
CHMG-131	LAS Perspective 6: General Chemistry for Engineers	3
EMET-419	Experimental Methods for Electrical Mechanical Engineering Technology (WI)	3
EEET-435	Process Control and Instrumentation	3
	LAS Perspective 3	3
EMET-499	Cooperative Education (summer)	Co-op
Fifth Year		
EMET-499	Cooperative Education (fall)	Co-op
	LAS Perspective 4	3
	LAS Immersion 3	3
	Free Elective 1, 2	6
	Technical Elective 1	3
MCET-535	Thermal Fluid Systems Project	2
Total Semester Credit Hours		**128**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Accelerated dual degree option

An accelerated dual degree option allows students to earn a BS in electrical mechanical engineering technology and an MS in manufacturing and mechanical systems integration in five years.

Electrical mechanical engineering technology, BS degree/ Manufacturing and Mechanical Systems Integration, MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MCET-101	Fundamentals of Engineering	3
MFET-105	Machine Tools Lab	1
MFET-120	Manufacturing Processes	3
MATH-171	LAS Perspective 7A: Calculus A	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
MCET-110, 111	Foundations of Metals and Characterization of Metals Lab	3
EEET-111, 112	DC Circuits and Lab	4
MCET-150	Engineering Communications and Tolerancing	3
PHYS-111	LAS Perspective 5: College Physics	4
MATH-172	LAS Perspective 7B: Calculus B	3
	YearOne	0
	Wellness Education*	0
Second Year		
MCET-220	Principles of Statics	3
COMM-203	Effective Technical Communications	3
MFET-120	Manufacturing Processes	3
MATH-211	Elements of Multivariable Calculus and Differential Equations	3
PHYS-112	College Physics II	4
EEET-121, 122	AC Circuits and Lab	4
EMET-290	Mechanics for Electrical Mechanical Engineering Technology	3
EEET-225, 226	Electronic Amplifiers and Lab	3
STAT-145	Introduction to Statistics I	3
CPET-121	Computational Problem Solving I	3
	LAS Perspective 1	3
EMET-299	Co-op Preparation	0
EMET-499	Cooperative Education (summer)	Co-op
Third Year		
STAT-146	Introduction to Statistics II	4
MCET-430	Thermal Fluid Systems I	3
MCET-210, 211	Foundations of Non-Metallic Materials and Lab	3
EEET-247, 248	Microprocessors and Digital Systems and Lab	3
MFET-650	Manufacturing and Mechanical Systems Fundamentals	3
EMET-419	Experimental Methods (WI)	3
MCET-530	Thermal Fluid Systems II	3
	LAS Perspective 2	3
CQAS-682	Six Sigma Fundamentals	3
	Graduate Concentration Course	3
EMET-499	Cooperative Education (summer)	Co-op

COURSE		SEMESTER CREDIT HOURS
Fourth Year		
MFET-340, 341	Automation Control Systems and Lab	3
EEET-241, 242	Electric Machines and Transformers and Lab	3
MFET-436	Engineering Ergonomics	3
CHMG-131	LAS Perspective 6: General Chemistry for Engineers	3
CQAS-670	Designing Experiments for Process	3
EEET-435	Process Control and Instrumentation	3
MCET-535	Thermal Fluid Systems Lab	2
	LAS Perspective 3	3
	LAS Immersion 1	3
	Graduate Concentration Course	3
GRCS-701	Research Methods	3
EMET-499	Cooperative Education (spring, summer)	Co-op
Fifth Year		
GRCS-702	Graduate Writing Strategies	3
DECS-744	Project Management	3
	Graduate Concentration Course	3
ACCT-703	Accounting for Decision Makers	3
Choose one of the following:		3
MFET-788	Thesis Prep	
	Elective	
Choose one of the following:		3
	Capstone Project	
	Thesis	
	Comprehensive Exam	
	LAS Immersion 2, 3	6
	LAS Perspective 4	3
Total Semester Credit Hours		**155**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Additional information

Part-time study

Students who are employed full time may pursue the major on a part-time basis by taking the upper-division portion of the curriculum during day or evening hours. It is recommended that students take one to two courses per semester. Students also may elect certain courses from other engineering technology majors, with department approval.

Environmental Sustainability, Health and Safety, BS

rit.edu/cetems

Todd Dunn, Department Chair
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Program overview

The environmental sustainability, health, and safety major is focused on social responsibility for our activities and being good stewards of the products we make and the services we provide. The major prepares students to work as environmental sustainability, health, and safety professionals in both industry and government. Students gain a strong foundation in science; applied environmental, health and safety science and technology; and environmental sustainability and social responsibility.

Students are prepared to eliminate, reduce, and control the release of pollutants into the environment and to manage health and safety hazards associated with an organization's activities, products, and services. The major emphasizes globally sustainable and socially responsible approaches and prepares professionals to lead various industries toward a more sustainable and socially responsible future.

Cooperative education

One year of cooperative education is required. Students may begin their first co-op in the spring of their third year. Co-op provides students with the opportunity to apply their skills in multiple, real-world situations before they graduate. Co-op students are especially valuable to organizations because they are well-qualified and well-prepared to take on the many interesting environmental projects organizations have difficulty completing without additional staff. Co-ops range from field research to office work, and employers range from government to industry.

Curriculum

Environmental sustainability, health and safety, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
ESHS-100	Environmental Sustainability Health and Safety Seminar	3
	LAS Foundation 1: First Year Seminar†	3
MATH-161	LAS Perspective 7A: Applied Calculus	4
CHMG-111, 112	LAS Perspective 5: General-Organic Biochemistry I, II	8
	LAS Perspective 1, 2	6
ESHS-150	Principles of Environmental Sustainability Health and Safety	3
PHYS-111	LAS Perspective 6: College Physics I w/lab	4
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
ESHS-200	Environmental Geology	3
ESHS-201, 251	Environmental Monitoring and Measurement I, II	4
PHYS-112	College Physics II w/lab	3
BIOL-101, 103	General Biology I and Lab	4
TCOM-327	Environmental Health and Safety Communication	3
ESHS-250	Introduction to Hydrology	3
ESHS-310	Solid and Hazardous Waste Management	3
BIOL-102, 104	General Biology II and Lab	4
ESHS-320	Occupational Safety	3
Third Year		
ESHS-330	Industrial Wastewater Management	3
	LAS Perspective 3	3
ESHS-511, 512	Occupational Health and Lab	4
	LAS Immersion 1	3
STAT-145	Introduction to Statistics I	3
ESHS-299	Cooperative Education Preparation	0
ESHS-499	Cooperative Education (spring, summer)	Co-op
Fourth Year		
ESHS-460	Environmental Health and Safety Accident Causation and Prevention	3
ESHS-500	Social Responsibility and Environmental Sustainability (WI)	3
	Professional Elective	3
	Free Elective	3
	LAS Immersion 2, 3	6
ESHS-225	Construction Safety	3
ESHS-480	Environmental Health and Safety Law	3
ESHS-525	Air Emissions Management	3
MGMT-215	Organizational Behavior	3
ESHS-499	Cooperative Education (summer)	Co-op
Fifth Year		
ESHS-499	Cooperative Education (fall)	Co-op
ESHS-515	Corporate Environmental Health and Safety Management	3
ESHS-590	Capstone Project	3
	Professional Elective	3
	LAS Perspective 4	3
	Free Elective	3
Total Semester Credit Hours		**126**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Options

Students may choose to use elective courses to pursue one of four options in alternative energy, environmental microbiology, ecological principles and conservation, or occupational safety and health.

Alternative energy

Alternative energy resources are important components of a more environmentally sustainable future. A group of three courses and corresponding labs provide a strong background in the most promising forms of alternative energy systems.

EEET-251	Clean Energy Power Systems
EEET-252	Clean Energy Power Systems Lab
EEET-351	Solar Photovoltaic Applications
EEET-352	Solar Photovoltaic Applications Lab
EEET-353	Fuel Cell Systems
EEET-354	Fuel Cell Systems Lab

Environmental microbiology

Microbiological processes are major contributors to the ecological services we depend upon. Understanding the microbiology of natural systems is necessary to design efficient and sustainable systems to help us move forward to a more sustainable future.

BIOL-307	Microbiology of Wastewater
BIOL-310	Bioenergy: Microbial Production
BIOL-380	Bioremediation

Ecological principles and conservation

Loss of habitat and destruction of natural resources are important concerns for environmental professionals. This option helps students understand ecology and the preservation, enhancement, and use of ecological resources.

BIOL-371	Freshwater Ecology
BIOL-455	Biogeography
BIOL-218	Biology of Plants
BIOL-473	Marine Biology
BIOL-110	Field Biology

Occupational health and safety

Although the Environmental Protection Agency regulates the environment and the Occupational Safety & Health Administration regulates workplaces, roughly one-third of EPA and OSHA regulations have an overlap of responsibility. Many corporations now have a strong commitment to both the environment and to worker safety, and have combined their environmental, health and safety functions into a single unit. This option provides students with an opportunity to learn more about keeping workers safe from chemical and physical hazards.

ESHS-225	Construction Safety
ESHS-501	Fire Protection
ESHS-530	Mechanical and Electrical I Safeguarding
ESHS-550	Project Management
ESHS-465	Product Stewardship
ESHS-570	EHS Risk Assessment, Management and Communication

Accelerated dual degree option

Students may pursue an accelerated dual degree (BS/MS) option, resulting in the simultaneous award of BS and MS degrees in environmental sustainability, health and safety management. This option requires the completion of 150 semester credit hours, plus three blocks of cooperative education experience. The program is for students who are already enrolled in the BS degree in environmental sustainability, health and safety, have completed at least three semesters of undergraduate study, and have a minimum cumulative GPA of 3.2.

Environmental health and safety management, BS/MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
ESHS-100	ESHS Seminar	3
	LAS Foundation 1: First Year Seminar†	3
MATH-161	LAS Perspective 7A: Applied Calculus	4
CHMG-111	LAS Perspective 5: General Organic Biochemistry I w/ lab	4
	LAS Perspective 1, 2	6
ESHS-150	Principles of ESHS	3
PHYS-111	LAS Perspective 6: College Physics I w/ lab	4
CHMG-112	General Organic Biochemistry II w/ lab	4
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
ESHS-200	Environmental Geology	3
ESHS-201, 251	Environmental Monitoring and Measurement I, II	4
PHYS-112	College Physics II w/lab	4
BIOL-101, 103	General Biology I and Lab	4
TCOM-327	EHS Communication	3
ESHS-250	Introduction to Hydrology	3
ESHS-310	Solid and Hazardous Waste Management	3
BIOL-102	General Biology II and Lab	4
ESHS-320	Occupational Safety	3
Third Year		
ESHS-330	Industrial Wastewater Management	3
	LAS Perspective 3	3
ESHS-511	Occupational Health	3
ESHS-512	Occupational Health Lab	1
	LAS Immersion 1, 2	6
STAT-145	LAS Perspective 7B: Introduction to Statistics I	3
	Professional Elective	3
ESHS-480	EHS Law	3
ESHS-525	Air Emissions Management	3
	Professional Elective	3
Fourth Year		
ESHS-460	EHS Accident Causation and Prevention	3
ESHS-720	EHS Management	3
	Professional Elective	3
GRCS-701	Research Methods	3
	LAS Immersion 3	3
ESHS-515	Corporate EHS Management	3
GRCS-702	Graduate Writing Strategies	3
	LAS Perspective 4	3
	Free Elective	6
Fifth Year		
ESHS-780	EHS Systems Review and Auditing	3
	Professional Electives (Graduate)	9
ESHS-755	Corporate Social Responsibility	3
ESHS-760	Integrating EHS Management	3
ESHS-740	EHS Systems Design	3
ESHS-797	Graduate Project	3
Total Semester Credit Hours		**150**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Manufacturing Engineering Technology, BS

rit.edu/mmet

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Program overview

The present shortage of qualified manufacturing engineers is between 50,000 and 100,000. Combined with innovations in industrial productivity and technology, the demand for well-prepared manufacturing engineers is only increasing. Manufacturing engineers are retiring faster than graduates are produced, resulting in outstanding employment opportunities. The manufacturing engineering technology major prepares students to meet the demand for personnel well-versed in advanced manufacturing technologies, which include computer-aided design, computer numerical control, microprocessor controls, robotics, computer-aided manufacturing, flexible manufacturing systems, assembly automation, and electronics manufacturing.

Goals

The goal of the major is to prepare individuals for professional employment in the fields of production systems design, development, and manufacturing. Designed to provide the skills necessary for applying emerging manufacturing technologies, the major develops well rounded manufacturing engineers who are lifelong learners with the ability to adapt, grow, and succeed in a highly competitive workplace. A cooperative education program enhances these skills by allowing students to gain valuable experience working in the manufacturing industries.

Accreditation

The manufacturing engineering technology major is accredited by the Engineering Technology Accreditation Commission (ETAC) of ABET, abet.org.

Curriculum

The curriculum is designed with the aid and consultation of professionals in the field and emphasizes computer-integrated manufacturing and production system development. Courses cover traditional and nontraditional manufacturing processes, fundamentals of electronics and microprocessors, computer-aided design and manufacturing, computer numerical control, robotics, materials requirements planning, design for manufacturing and assembly, surface-mount electronics manufacturing and assembly, flexible manufacturing systems, quality control, engineering economics, plastics manufacturing, manufacturing management, and lean manufacturing.

Manufacturing engineering technology, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MCET-101	Fundamentals of Engineering	3
MFET-105	Machine Tools Lab	1
MFET-120	Manufacturing Processes	3
	LAS Perspective 1	3
MATH-171, 172	LAS Perspective 7A, 7B: Calculus A, B	6
	LAS Foundation 1: First Year Seminar†	3
MCET-110, 111	Foundations of Metals and Characterization of Metals Lab	3
MCET-150	Engineering Communications and Tolerancing	3
PHYS-111	LAS Perspective 5: College Physics 1	4
	LAS Foundation 1: First Year Writing	3
	YearOne	0
	Wellness Education*	0

COURSE		SEMESTER CREDIT HOURS
Second Year		
MCET-220	Principles of Statics	3
	LAS Perspective 2	3
MATH-211	Multivariable Calculus and Differential Equations	3
PHYS-112	College Physics II	4
MCET-210, 211	Foundations of Non-Metallic Materials and Characterization of Non-Metallic Materials Lab	3
MCET-221	Strength of Materials	4
EEET-215, 216	Circuits and Electronics and Lab	3
STAT-145	Introduction to Statistics I	3
COMM-203	Effective Technical Communication	3
	LAS Perspective 3	3
Third Year		
STAT-146	Introduction to Statistics II	4
MFET-340, 341	Automation Control Systems and Lab	3
MFET-345, 346	Electronics Manufacturing and Lab	3
	LAS Immersion 1	3
	Free Elective	3
MFET-299	Cooperative Education Preparation	0
MFET-499	Cooperative Education (spring, summer)	Co-op
Fourth Year		
MFET-420	Quality Engineering Principles	3
MFET-445, 446	Robotics and Automation (WI) and Lab	3
MFET-436	Engineering Economics	3
CHMG-131	LAS Perspective 6: General Chemistry for Engineers	3
	LAS Immersion 2, 3	6
MFET-450	Lean Production and Supply Chain Operations	3
MFET-460	Integrated Design for Manufacture and Assembly	3
	Technical Elective	3
	LAS Perspectives 4	3
MFET-499	Cooperative Education (summer)	Co-op
Fifth Year		
MFET-499	Cooperative Education (fall)	Co-op
MFET-580	Production Systems Design	3
MFET-590	Production Systems Development	3
	Free Elective	3
	LAS Elective	3
	Technical Elective	3
Total Semester Credit Hours		**125**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Accelerated dual degree option

An accelerated dual degree option allows students to earn a BS in manufacturing engineering technology and an MS in manufacturing and mechanical systems integration in five years.

Manufacturing engineering technology, BS degree/Mechanical systems integration, MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MCET-101	Fundamentals of Engineering	3
MFET-105	Machine Tools Lab	1
MFET-120	Manufacturing Processes	3
	LAS Perspective 1	3
MATH-171	LAS Perspective 7A: Calculus A	3
	LAS Foundation 1: First Year Seminar†	3
MCET-110, 111	Foundations of Metals and Characterization of Metals Lab	3
MCET-150	Engineering Communications and Tolerancing	3
PHYS-111	LAS Perspective 5: College Physics 1	4
MATH-172	LAS Perspective 7B: Calculus B	3
	LAS Foundation 1: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
MCET-220	Principles of Statics	3
	LAS Perspective 2	3
MATH-211	Multivariable Calculus and Differential Equations	3
PHYS-112	College Physics II	4
MCET-210, 211	Foundations of Non-Metallic Materials and Characterization of Non-Metallic Materials Lab	3
MCET-221	Strength of Materials	4
EEET-215, 216	Circuits and Electronics and Lab	3
STAT-145	Introduction to Statistics I	3
COMM-203	Effective Technical Communications	3
	LAS Perspective 3	3
	Co-op Preparation	0
MCET-499	Cooperative Education (summer)	Co-op
Third Year		
STAT-146	Introduction to Statistics II	4
MCET-320	Mechanical Dynamics with Applications	3
	LAS Perspective 4	3
MCET-430, 530	Thermal Fluid Systems I, II	6
MFET-650	Manufacturing and Mechanical Systems Fundamentals	3
	LAS Immersion 1	3
	Concentration Course	3
CQAS-682	Six Sigma Fundamentals	3
MCET-499	Cooperative Education (summer)	Co-op
Fourth Year		
MCET-330	Fluid Mechanics and Fluid Power	3
MCET-450	Mechanical Analysis and Design I	3
MCET-400	Experimental Methods	3
CQAS-670	Designing Experiments for Process Improvement	3
CHMG-131	LAS Perspective 5: General Chemistry for Engineers	3
MCET-550, 551	Mechanical Analysis and Design II and Lab	4
MCET-535	Thermal Fluid Systems Project	2
	LAS Immersion 2	3
	Concentration Course	3
GRCS-701	Research Methods	3
MFET-499	Cooperative Education (summer)	Co-op
Fifth Year		
	LAS Immersion 3	3
	Free Electives	6
	Technical Elective	3
GRCS-702	Graduate Writing Strategies	3
DECS-744	Project Management	3
	Concentration Course	3
ACCT-703	Accounting for Decisions Makers	3
Choose one of the following:		3
MFET-788	Thesis Preparation	
	Program Elective	
Choose one of the following:		3
	Capstone Project or Thesis	
	Program Elective and Comprehensive Exam	
Total Semester Credit Hours		**152**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Additional information

Part-time study

Students who are employed full time may pursue the major on a part-time basis by taking the upper-division portion of the curriculum during day or evening hours. It is recommended that students take one to two courses per semester. Students also may elect certain courses from other engineering technology majors, with department approval.

Mechanical Engineering Technology, BS

rit.edu/mmet

William Leonard, Program Chair
(585) 475-5813, wmlast@rit.edu

Program overview

Understanding how products and machinery work and how to design, make, or use them is the focus of the mechanical engineering technology major. From consumer products to high-performance automobiles, air-conditioned environments, and jet aircraft, mechanical engineering technology has an enormous influence on our society.

Students study the foundations of mechanics, materials, and energy; acquire technical skills such as computer-aided design and computer-aided engineering; and learn how to test materials and make parts. Through lab work and design projects students apply these principles and skills to the various fields (product and machine design, power generation, utilities, manufacturing) of mechanical engineering technology. The required cooperative education requirement gives students valuable, hands-on industrial experience.

Goals

The goal of the major is to develop well rounded engineers as lifelong learners with the ability to adapt, grow, and succeed in a highly competitive workplace. The cooperative education experience enables students to be well-prepared to step into professional positions after graduation and be immediately productive in jobs that include product development, machine design and analysis, alternative energy, thermofluids engineering, or HVAC (heating, ventilation and air conditioning).

Accreditation

The mechanical engineering technology major is accredited by the Engineering Technology Accreditation Commission (ETAC) of ABET, abet.org.

Curriculum

Students develop skills in courses that explore the fundamentals of mechanics, mathematics, materials technology, and computer-aided engineering and design. Later, course work focuses on both mechanical design and applied thermofluid engineering. The major includes four technical electives and two free electives. These courses can be used to create a specialization in such areas as product design, machine design, alternative energy, air conditioning, thermal power, plastics processing, or manufacturing.

A substantial amount of laboratory and product work is required. Teamwork, technical writing, and computer use are emphasized throughout the curriculum, which includes the presentation of team projects that are relevant to industry.

Concentrations

Students select a concentration in one of the following areas: product development, machine design and analysis, alternative energy, materials engineering, thermofluids engineering, or heating/ventilating/air conditioning (HVAC). Some students may wish to customize their own concentration based on their career objectives or personal interests.

Mechanical engineering technology, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MCET-101	Fundamentals of Engineering	3
MFET-105	Machine Tools Lab	1
MFET-120	Manufacturing Processes	3
	LAS Perspective 1	3
MATH-171	LAS Perspective 7A: Calculus A	3
	LAS Foundation 1: First Year Seminar†	3
MCET-110	Foundations of Metals	2
MCET-111	Characterizations of Metals Lab	1
MCET-150	Engineering Communications and Tolerancing	3
PHYS-111	LAS Perspective 5: College Physics I	4
MATH-172	LAS Perspective 7B: Calculus B	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
MCET-220	Principles of Statics	3
	LAS Perspective 2, 3	6
MATH-211	Multivariable Calculus and Differential Equations	3
PHYS-112	College Physics II	4
MCET-210	Foundations of Non-Metallic Materials	2
MCET-211	Characterizations of Non-Metallic Materials Lab	1
MCET-221	Strength of Materials	4
EEET-215	Circuits and Electronics	2
EEET-216	Circuits and Electronics Lab	1
STAT-145	Introduction to Statistics I	3
COMM-203	Effective Technical Communications	3
Third Year		
STAT-146	Introduction to Statistics II	4
MCET-320	Mechanical Dynamics w/ Applications	3
CHEM-131	LAS Perspective 5: General Chemistry for Engineers	3
	LAS Perspective 4	3
MCET-330	Fluid Mechanics and Fluid Power	3
MCET-299	Career Seminar	0
MCET-499	Cooperative Education (spring, summer)	0
Fourth Year		
MCET-450	Mechanical Analysis and Design I	3
MCET-400	Experimental Methods	3
MCET-430	Thermal Fluid Systems I	3
	LAS Immersion 1, 2	6
	Technical Electives	6
MCET-550	Mechanical Analysis and Design II	3
MCET-551	Mechanical Analysis and Design II Lab	1
MCET-530	Thermal Fluid Systems II	3
	LAS Perspective 4	3
MCET-499	Cooperative Education (summer)	Co-op
Fifth Year		
MCET-499	Cooperative Education (fall)	Co-op
	Technical Electives	6
	Free Electives	6
	LAS Immersion 3	3
MCET-535	Thermal Fluid Systems Lab	2
Total Semester Credit Hours		**128**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Accelerated dual degree option

An accelerated dual degree option allows students to earn a BS in mechanical engineering technology and an MS in manufacturing and mechanical systems integration in five years.

Mechanical engineering technology, BS degree/Manufacturing and mechanical systems integration, MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MCET-101	Fundamentals of Engineering	3
MFET-105	Machine Tools Lab	1
MFET-120	Manufacturing Processes	3
	LAS Perspective 1	3
MATH-171	LAS Perspective 7A: Calculus A	3
	LAS Foundation 1: First Year Seminar†	3
MCET-110	Foundations of Metals	2
MCET-111	Characterization of Metals Lab	1
MCET-150	Engineering Communication and Tolerancing	3
PHYS-111	LAS Perspective 5: College Physics I	4
MATH-172	LAS Perspective 7B: Calculus B	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
MCET-220	Principles of Statics	3
	LAS Perspective 2, 3	6
MATH-211	Multivariable Calculus and Differential Equations	3
PHYS-112	College Physics II	4
MCET-210	Foundations of Non-Metallic Materials	2
MCET-211	Characterization of Non-Metallic Materials Lab	1
MCET-221	Strength of Materials	4
EEET-215	Circuits and Electronics	2
EEET-216	Circuits and Electronics Lab	1
STAT-145	Introduction to Statistics I	3
COMM-203	Effective Technical Communications	3
MCET-299	Career Seminar	0
MCET-499	Cooperative Education (summer)	Co-op
Third Year		
STAT-146	Introduction to Statistics II	4
MCET-320	Mechanical Dynamics w/ Applications	3
CHEM-131	LAS Perspective 5: General Chemistry for Engineers	3
	LAS Perspective 4	3
MCET-430	Thermal Fluid Systems I	3
MFET-650	Manufacturing and Mechanical Systems Fundamentals	3
MCET-530	Thermal Fluid Systems II	3
	Concentration Course	3
CQAS-682	Six Sigma Fundamentals	3
MCET-499	Cooperative Education (summer)	Co-op
Fourth Year		
CHEM-131	LAS Perspective 5: General Chemistry and Engineers	3
MCET-330	Fluid Mechanics and Fluid Power	3
MCET-450	Mechanical Analysis and Design I	3
MCET-400	Experimental Methods	3
CQAS-670	Designing Experiments for Process Improvement	3
MCET-550	Mechanical Analysis and Design II	3
MCET-551	Mechanical Analysis and Design II Lab	1
MCET-535	Thermal Fluid Systems Lab	2
	LAS Immersion 2	3
	Concentration Course	3
GRCS-701	Research Methods	3
MCET-499	Cooperative Education (summer)	Co-op
Fifth Year		
GRCS-702	Graduate Writing Strategies	3
DECS-744	Project Management	3
	Concentration Course	3
	Technical Electives	6
	Free Electives	6
	LAS Immersion 3	3
ACCT-703	Accounting for Decision Makers	3
Choose one of the following:		3
	Technical Elective	
MFET-788	Thesis Preparation	
Choose one of the following:		3
	Capstone or Thesis	
	Technical Elective and Comprehensive Exam	
Total Semester Credit Hours		**155**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Additional information

Part-time study

Students who are employed full time may pursue the major on a part-time basis by taking the upper-division portion of the curriculum during day or evening hours. It is recommended that students take one to two courses per semester. Students also may elect certain courses from other engineering technology majors, with department approval.

Packaging Science, BS

rit.edu/packaging
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Program overview

Packaging is increasingly related to total marketing concepts. It has even greater dependence on new developments in materials and processes. Therefore, the industry requires management personnel with creativity and a strong background in business, engineering, and science.

The packaging science major prepares students for employment in areas such as package development, sales, purchasing, structural design, production, research, and marketing. The major was developed as a result of a close and long-established relationship between the packaging industry and RIT. This multi-billion-dollar industry exhibits dynamic growth and provides employment for thousands of professionals with wide-ranging skills and expertise.

Cooperative education

The packaging science major requires two blocks of cooperative education in addition to course work.

Curriculum

Packaging science, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
	LAS Foundation 2: First Year Writing	3
MATH-171	LAS Perspective 7A: Calculus	3
CHMG-121	Chemical Principles and Applications	3
PACK-101	Introduction to Packaging	1
PACK-151	Packaging Design I	3
	LAS Foundation 1: First Year Seminar†	3
MATH-172	LAS Perspective 7B: Calculus	3
CHMG-123	Chemistry of Materials	3
	LAS Perspective 1	3
PACK-152	Packaging Design II	3
	YearOne	0
	Wellness Education*	0
Second Year		
	LAS Perspective 2, 3	6
CHMG-201	Introduction to Organic Polymer Technology	3
PHYS-111	LAS Perspective 5: College Physics 1	4
PACK-211	Packaging Metals and Plastics	3
PACK-212	Packaging Paper and Glass	3
STAT-145	Introduction to Statistics I	3
PHYS-112	College Physics II	4
PACK-311, 312	Containers I, II	6
	Cooperative Education (summer)	Co-op

COURSE		SEMESTER CREDIT HOURS
Third Year		
	LAS Perspective 4	3
MEDG-106	LAS Perspective 6: Microbiology in Health and Disease	3
STAT-146	Introduction to Statistics II	4
MKTG-230	Principles of Marketing	3
PACK-421	Packaging for Distribution	3
	LAS Immersion 1	3
PACK-430	Packaging Regulations	3
PACK-422	Dynamics and Protective Packaging	3
PACK-420	Technical Communications	3
	Packaging Elective	3
	Cooperative Education (summer)	Co-op
Fourth Year		
	LAS Immersion 2, 3	6
	Free Electives	6
PACK-470	Food Packaging	3
PACK-451	Packaging Development	3
	Packaging Electives	6
PACK-481	Packaging for Marketing and End Use	3
PACK-471	Packaging Supply Chain	3
Total Semester Credit Hours		**121**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Additional information

Industry Advisory Board

The Industry Advisory Board contributes professional and technical expertise to the packaging science major, which strengthens and develops the curriculum to reflect the dynamics and growth of the industry.

School of International Hospitality and Service Innovation

rit.edu/hsm

The School of International Hospitality and Service Innovation offers a bachelor of science degree in international hospitality and service management.

Faculty

Faculty members have outstanding academic credentials and industry experience. They serve in professional and trade associations at the national level, are frequent guest speakers, and consult in their fields of expertise: travel, food marketing, hospitality operations, nutrition, human resources, and health care, to name a few.

Industry Advisory board

An Industry Advisory Board comprised of local, regional and national leaders contributes professional and technical expertise to undergraduate programs to strengthen their development.

International programs in Croatia

RIT Croatia, located in Dubrovnik and Zagreb, Republic of Croatia, enrolls approximately 600 undergraduate students. The college offers associate of applied science and bachelor of science degrees in international hospitality and service management. Both campuses provide an exchange opportunity for Rochester campus students who may wish to spend a semester studying abroad. Classes are taught by a combination of RIT faculty members and European instructors.

Facilities

Commercial equipment and laboratories enhance the educational experience of all students in our hospitality program. Henry's, a full-service, licensed restaurant, provides an excellent training environment for students, who manage the restaurant during regular dining hours, special luncheons, and dinners. The food lab is commercially equipped for developing, testing, and evaluating new food products and equipment.

Information management is a critical element in the service industry. A computer laboratory and training studio allow students to prepare for the technology they will encounter on the job. Database, spreadsheet, and numerous other types of software are used in conjunction with classroom activities.

International Hospitality and Service Management, BS

rit.edu/htm/undergraduate/ihsm
Carol B. Whitlock, Chair
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Program overview

The international hospitality and service management major prepares students for a wide variety of careers in food and beverage management, hotel/resort management, travel management, food marketing and distribution, and event management.

The major offers concentrations that provide broad-based views of the service management, hospitality, and tourism disciplines through a common core of courses, which promote an understanding of the interrelationships among the food, lodging, travel, and event management industries based on the underlying concept of quality service management. This approach allows students to retain the flexibility to switch concentrations or jobs if their career goals change. All of these diverse and specialized fields require creative problem solving, technical knowledge, communication skills, and leadership. Students can customize the degree program with a variety of electives, concentrations, and minors.

RIT's program is recognized by *Forbes*, *Travel Weekly*, *Nation's Restaurant News*, and *Corporate Travel* magazines. Our alumni come from around the United States and from more than 38 countries.

Curriculum

The major is rigorous and challenging, providing opportunities for students to develop their full potential in a managerial environment. The curriculum is integrated, encompassing a broad base of competencies defined in partnership with faculty, students, and industry. Students take courses that build a strong concept of the industry as a whole by studying global hospitality, accounting, marketing, finance, economics, quality assessment, leadership, human resource development, food preparation, food production and food and beverage management beverage, hotel/resort operations and development, event and venue management, and tourism-related topics. Students select one concentration to develop a specialty in a particular area of hospitality and service management. In addition to established concentrations, students may create a custom concentration with approval. Students who enter as freshmen may use their electives to select a second concentration or fulfill a minor with department approval.

Cooperative education

The major requires each student to combine 1,200 hours of practical cooperative education experience with classroom theory. In co-op placements, students are introduced to hands-on learning in the hospitality industry. Co-op usually is completed in the summer following the freshman and sophomore years and during any semester in the junior and senior years, except the final semester of the senior year, when students are required to be in residence on campus. Co-op is planned, monitored, and evaluated by the student, the co-op counselor, the faculty adviser, and the employing firm.

International hospitality and service management, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
HSPT-181	Principles of Food Hotel and Tourism Operations	3
	Concentration Courses	6
	LAS Perspective 1, 2	6
	LAS Foundation 1: First Year Seminar†	3
HSPT-284	Hospitality Industry Sales and Marketing	3
MATH-101	LAS Perspective 7A: College Algebra	3
ECON-101	LAS Perspective 4: Principles of Microeconomics	3
	LAS Foundation 2: First Year Writing	3
	Wellness Education*	0
	YearOne	0
HSPT-499	Cooperative Education (summer)	Co-op
Second Year		
ACCT-110	Financial Accounting	3
HSPT-281	Service Management in a Global Economy	3
	Program Elective	3
	LAS Perspective 3, 5	6
	LAS General Education Elective	3
STAT-145	LAS Perspective 7B: Introduction to Statistics I	3
	Concentration Course	3
	LAS Electives	6
HSPT-499	Cooperative Education	Co-op
Third Year		
HSPT-384	Financial Concepts For Hospitality Managers	3
HSPT-381	Technology in Service Systems	3
	Program Elective	3
	Concentration Courses	6
	LAS Immersion 1, 2	6
HRDE-386	Human Resources Development	3
HSPT-383	Assessing and Improving Service Quality	3
	LAS Elective	3
HSPT-499	Cooperative Education	Co-op
Fourth Year		
HSPT-481	Leadership Innovation in Service Industries	3
	LAS Immersion 3	3
	Free Electives	6
	LAS Electives	9
HSPT-490	Senior Project (WI)	3
	LAS Perspective 6	3
	Program Elective	3
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Concentrations

Students choose one concentration to further explore their career interests and goals. Some students may opt to create a customized concentration based upon their career objectives or personal interests.

Food and beverage management

A wide range of knowledge is needed to manage the daily operations of restaurants (from full-service to cafeteria, quick-service, and specialty chain operations); hotel fine dining and catering; clubs; and contract services for business, manufacturing, recreation and sports centers, education, health care, retail stores, government agencies, and food vending.

The food and beverage management concentration prepares students for management positions through lab experience in Henry's, a full-service, beverage-licensed restaurant located on campus and open to the public. Students learn essential principles and procedures for quality in food production and presentation, sanitation, nutrition, menu planning and merchandising, purchasing, innovative food product development, cost control, and service management. In addition, students develop competencies in problem solving and decision making through individual and team-based class projects, computerized exercises, electives, special events, and industry-related activities.

A student chapter of the New York State Restaurant Association, which works with the Student Hospitality Association, fosters the exchange of ideas between industry professionals and students. The organization supports professional growth in organizational and social skills, and offers a place for students to network with professionals to establish industry contacts. Students in their junior year are encouraged to attend the annual National Restaurant Association show in Chicago.

FOOD-121	Principles of Food Production
FOOD-123	Sanitation and Safety
FOOD-223	Food and Beverage Management
FOOD-224	Serving Alcohol Safely
FOOD-226	Restaurant Operations
FOOD-325	Food Innovation and Development

International food marketing and distribution

This concentration prepares students for industry positions in food marketing, sales, and distribution. In particular, they gain an understanding of a variety of issues, including food service operations and food marketing, food processing and integrity distribution, and packaging.

FOOD-123	Sanitation and Safety
FOOD-151	International Food Distribution
FOOD-153	Foods of the World
FOOD-251	Commodity Market Analysis
FOOD-325	Food Innovation and Development
FOOD-454	Food Processing, Quality and Integrity
PACK-301	Packaging Materials

Entertainment and event management

The entertainment and event management concentration extends the hospitality educational experience to the various venues where special events, meetings, and conventions take place, such as country clubs, marinas, sports stadiums, convention centers, and casinos. Designing dynamic events and providing client satisfaction while managing risk and finances are critical skills developed through the curriculum. Students organize and execute the annual Puttin' on the RITz, a black-tie dinner event, and are often offered opportunities to participate in off-campus special events.

HSPT-244	Meeting and Event Management
HSPT-246	Casino Management
HSPT-248	Project Management for Events
HSPT-345	Venue Management
Choose one of the following:	
HSPT-234	Negotiation and Conflict Resolution
HSPT-336	International Risk Assessment and Hospitality Law

International hotel and resort management

This concentration prepares students for the management and operation of hotel, resort, leisure, and tourism-related enterprises. Students understand the physical characteristics of specific properties and gain the business expertise to manage and market them. Students evaluate various technologies and service strategies in order to familiarize themselves with the industry's best practices.

HSPT-131	Hotel Management Operations
HSPT-232	Hospitality Real Estate and Facilities Management
HSPT-325	International Destinations
HSPT-334	International Resort Management
Choose one of the following:	
HSPT-234	Negotiation and Conflict Resolution
HSPT-336	International Risk Assessment and Hospitality Law

Department of Military Science

Reserve Officers' Training Corps (ROTC)—ARMY

rit.edu/armyrotc

LTC Edward Whitaker, Professor of Military Science

The Army Reserve Officers' Training Corps prepares students for leadership in a civilian or military career. ROTC is a campus-based program that consists of classroom instruction, physical training, and practical-application laboratories designed to enhance organizational leadership, decision making, and problem-solving skills.

ROTC classes are open to all students with the approval of the professor of military science. No military obligation is required unless a student has received an ROTC scholarship or contract. Upon graduation, and the successful completion of Army ROTC, Cadets are commissioned as second lieutenants and may serve in the active Army, the Army Reserve, or the Army National Guard. Veterans and members of the Army Reserve or National Guard may be eligible for advanced placement in the program.

Those who enroll in Army ROTC become cadets in a dynamic and challenging program. Throughout the year, the program offers a variety of fun activities that reinforce leadership skills, teamwork, and confidence. Cadets are able to participate in events unique to the military such as Dining Out, a military dinner steeped in tradition. They also have the opportunity to participate in high-adventure training weekends on U.S. military installations, where they learn skills such as navigating with a map and compass, rappelling as part of mountaineering instruction, or completing a high ropes or confidence course. Students may join the Ranger Challenge Team, an ROTC Inter-collegiate competition that competes in military skills and physical stamina competitions with other colleges throughout the Northeast. Army ROTC has a marksmanship team and the Pershing Rifle organization. ROTC members also conduct community activities and provide color guard and drill teams to campus, community, and athletic events.

Financial aid and scholarships

Please refer to the Financial Aid and Scholarships section of this bulletin for information regarding financial aid, scholarships, loans, and grants. Army ROTC awards multi-year scholarships to assist in covering tuition, fees, books, and housing. A four-year ROTC scholarship currently covers tuition and fees, and room and board. Visit the Cadet Command website for additional information. High school students and enlisted soldiers may apply for Army ROTC scholarships by using the online application process on the Army ROTC website (armyrotc.com). Current college students can apply for campus-based scholarships through the ROTC department.

Basic course

The Army ROTC program is a four-year program divided into two components: the Basic Course and the Advanced Course. The Basic Course occurs during the first two years of the program (normally the freshman and sophomore years) and emphasizes the development of academic and life skills to increase students' potential as future army officers or leaders in tomorrow's dynamic business environment. During the Basic Course, students learn time management and study skills, basic military organization, military customs and courtesies, small-unit leadership, and problem solving. Students register for a class (and its lab requirement) and Army Conditioning Drills, which fulfills the wellness education credit while meeting the ROTC physical fitness requirements. Students may enroll in Basic Course classes at any time during their first two years of college. Upon completion of the Basic Course, eligible students can progress to the Advanced Course. Eligible Basic Course cadets also can compete to attend off-campus army training opportunities such as Army Airborne School or Air Assault School.

Advanced course

The Advanced Course is for students entering their last two academic years of college (co-op excluded). The Advanced Course is similar to the Basic Course in organization and style, but its focus is more heavily on organizational leadership, decision-making, and professional skills. Although instruction in military tactics is an integral part of the Advanced Course, it is designed to serve as a vehicle for enabling cadets to apply the full range of leadership skills they are learning in the classroom. Planning, organizing, and leading others through various training activities is emphasized. Upon entering their last year in the program, Advanced Course cadets are ranked against their peers in academics, performance at the Leader Development and Assessment Course (the required summer program after year three), and general on-campus performance. Based on these factors, the Army makes duty placement and job selections for each cadet. Advanced Course cadets also have the opportunity to participate in a variety of off-campus Army training opportunities such as Army Airborne School, Air Assault School, Northern Warfare, and Mountain Warfare training courses. After completing Advanced Camp, cadets also may participate in the Cadet Troop Leadership Training Program, a paid, practical leadership experience where they are assigned for up to three weeks to serve as leaders in an active army unit in the United States or elsewhere around the world.

Leader's training course

The Leader's Training Course is an option for students who are considering the Army ROTC program, but have not completed the Basic Course requirements and are entering their last two academic years (co-op excluded). LTC is a 28-day course held at Fort Knox, Kentucky, where students obtain the necessary skills and training to qualify for entry into the last two years of the Army ROTC program. Students learn basic military skills that emphasize leadership development. Those who successfully complete this course are offered the opportunity to formally contract into the Advanced Course for their last two years of college (co-op excluded). Interested students should contact the Army ROTC office as soon as possible, but no later than the beginning of spring quarter.

Veterans

Qualified students with prior military service and members of the Army Reserve or National Guard who have attended Basic Training may enroll directly into the Advanced Course. However, they must have two years of academic work remaining. Those who have more than two years of academic work remaining, but wish to participate in the Army ROTC program, are encouraged to enroll in any of the Basic Course classes. Interested students should visit the department for more information.

Cadet Summer Training (CST)

The Advanced Course includes attendance at the ROTC Cadet Summer Training, at Fort Knox, Kentucky, which normally occurs in the summer between the third and fourth years of college. During this course, Army ROTC cadets from across the nation gather for five weeks to demonstrate their leadership skills and potential. They are repeatedly placed in leadership positions and face problem-solving challenges that bring together all of the classroom and practical instruction they received on campus. Participants might be assigned to lead a 120-person cadet company as they

prepare for training or to plan and lead a 10-person squad on a tactical night patrol. Regardless of the task, participants have the opportunity to demonstrate their leadership potential to their army evaluators. Attendees' travel expenses are paid for and students earn a salary for participating in this challenging and greatly rewarding experience.

Army ROTC

COURSE		SEMESTER CREDIT HOURS
ARMY-101	Introduction to Leadership	2
ARMY-102	Introduction to Tactical Leadership	2
ARMY-201	Innovative Team Leadership	2
ARMY-202	Foundations of Tactical Leadership	2
ARMY-301	Adaptive Team Leadership	2
ARMY-302	Applied Team Leadership	2
ARMY-401	Adaptive Team Leadership II	2
ARMY-402	Leadership in a Complex World	2
ARMY-340	Army Leadership Lab	1
WMIL-018	Army Conditioning Drills	0

Please note: Army Leadership Lab (ARMY-340), which is conducted on a weekly basis for two hours, and Army Conditioning Drills (WMIL-018) are an integral part of each course listed in the course chart.

Department of Aerospace Studies—Air Force

Reserve Officer's Training Corps (ROTC)—Air Force

rit.edu/afrotc

Lt Col Ann M. Curtis, Professor of Aerospace Studies

Participation in Air Force Reserve Officers' Training Corps provides students a firsthand view of the Air Force while attending college. The program allows students to join the cadet corps and participate in varied activities, including classroom academics, leadership training, base visits, summer professional development, and physical fitness training.

Air Force ROTC classes are open to all students with the approval of the professor of aerospace studies. No military obligation is required unless a student has activated an AFROTC scholarship or contract. At graduation, with the successful completion of AFROTC, cadets are commissioned as second lieutenants and serve somewhere in the world, as full-time in the active Air Force. Veterans and members of the Air Force Reserve or Air National Guard may be eligible for advanced placement in the program.

Characteristics

The department of aerospace studies curriculum is compatible with both four- and five-year cooperative education plans offered by most of the university's academic programs. The curriculum will develop well-rounded individuals fully prepared to enter into their chosen career fields and become future leaders in the armed forces and society. ROTC classes are open to all students with the permission of the professor of aerospace studies.

Four-year program

The program has three distinct parts: the General Military Course, Summer Field Training, and the Professional Officer Course.

The General Military Course is for students entering the program directly from high school but not later than their sophomore, or second year of college. As freshmen and sophomores, students will study Air Force Doctrine, Mission and Organization, the nature of conflict, and the development and evolution of air and space power.

Every cadet must complete a four-week Summer Field Training Course, offered during the summer between their sophomore and junior years. The field training curriculum includes leadership training, drill and ceremony (marching and parades), a confidence course, tactical skills and small-unit operations, and physical fitness training. Field training evaluates a student's leadership potential and qualifies the cadet for entry into the Professional Officer Course and a contract with the US Air Force for a potential commission as a second lieutenant upon graduation.

The Professional Officer Course is an advanced aerospace studies curriculum conducted during their junior (third and or fourth) and senior (last) years. This curriculum prepares cadets for entry into the Air Force as second lieutenants by teaching them the fundamentals of leadership and management, ethics, staff planning and coordination, national security affairs, foreign policy and preparation for entry into active duty.

Leadership and management experience is gained through a series of leadership laboratories, conducted in both fall and spring semesters throughout their four- and or five-year college curricula. The lab is managed by the cadet corps staff with a detachment officer overseeing all activities. Practical command and staff leadership experience, drill and ceremonies, customs and courtesies, group leadership problem solving, and career decision making are all part of the curriculum.

Other programs

Several other programs are offered to cadets. During the academic year cadets have the opportunity to attend Air Force base visits and participate in extracurricular activities such as the drill team, honor guard, or become a member of the Arnold Air Society or Silver Wings (both are community service organizations). Throughout the summer, cadets may also volunteer to attend many professional development programs such as free-fall parachute school, Space Orientation, National Reconnaissance office internships, Advanced Cyber Experience, travel to foreign countries for language immersion with project Global Officer, or shadow agents with the AF Office of Special Investigations.

Wellness education requirement

The physical training course satisfies RIT's Wellness Education requirement. Students must be enrolled in AFROTC to participate in the program.

Qualification and selection procedure

To qualify for AFROTC, students must, complete a physical exam and a fitness test, as well as maintain a high moral and ethical standard (no drug use or excessive civil involvements). Cadets must pass the Air Force Officer Qualifying Test before the end of their third year. Please contact the AFROTC office at (585) 475-5197 for complete details.

Financial aid and scholarships

Please refer to the Financial Aid and Scholarships section of this bulletin for information regarding financial aid, scholarships, loans, and grants. AFROTC offers multi-year scholarships predominantly in technical fields with some limited opportunity for positions in non-technical areas. Competition is highly selective, and the needs of the Air Force dictate which scholarships are offered yearly to college students. High school students apply online at afrotc.com for scholarships through a national board process. Every scholarship cadet and all Professional Officer Course cadets receive a tax-free stipend between $250–$400 monthly as well as $600 annually for textbooks.

Minor in military studies and leadership

Students completing the entire four-year AFROTC program may earn a minor in military studies and leadership. Refer to the Minors section of this bulletin for more information.

Air Force ROTC, typical course sequence*

COURSE		SEMESTER CREDIT HOURS
First Year		
AERO-101, 102	Air Force Today I, II	1
WMIL-006	Air Force Leadership Lab†	0
WMIL-001	Air Force Physical Training‡	0
Second Year		
AERO-201, 202	History of Air Power I, II	1
WMIL-006	Air Force Leadership Lab†	0
WMIL-001	Air Force Physical Training‡	0
Third Year		
AERO-301, 302	Air Force Leadership and Management	3
WMIL-006	Air Force Leadership Lab†	0
WMIL-001	Air Force Physical Training‡	0
Fourth Year		
AERO-401, 402	National Security Affairs	3
WMIL-006	Air Force Leadership Lab†	0
WMIL-001	Air Force Physical Training‡	0
Total Semester Credit Hours		**16**

* NOTE: This course sequence chart is based on a typical four-year major, but junior- and senior-level academic courses can be taken in years three and five or years four and five. Five-year AFROTC students enrolled at RIT, but not taking Air Force junior- or senior-level courses, must be enrolled in Air Force Leadership Lab (WMIL-006) and Air Force Physical Training (WMIL-001).

† Air Force Leadership Lab (WMIL-006) is conducted on a weekly basis for two hours.

‡ Air Force Physical Training (WMIL-001) is an integral part of each year and must be completed to remain in the ROTC program.

H. Fred Walker, BS, MBA, California State University; MS, Ph.D., Iowa State University—Dean; Professor

Linda A. Tolan, BS, State University College at Geneseo; MS, Rochester Institute of Technology; Ph.D., Andrews University; NCC—Senior Associate Dean, Professor

Maureen S. Valentine, BSCE, Tufts University; MECE, Virginia Polytechnic Institute; PE—Associate Dean; Professor

Sean T. Bennett, BS, Clarkson University; M.Ed., State University College at Brockport; Ed.M., Harvard University—Assistant Dean

School of Engineering Technology

Civil Engineering Technology

Amanda Bao, BS, MS, Tianjin University (China); Ph.D., University of Colorado at Boulder—Assistant Professor

Harry G. Cooke, BS, Northwestern University; MSCE, University of Texas; Ph.D., Virginia Polytechnic Institute; PE—Associate Professor

G. Todd Dunn, BS, Dartmouth College; MSCE, University of California; PE—Department Chair, Associate Professor

Robert H. Easton, BS, United States Military Academy; MSCE, Iowa State University; PE—Professor Emeritus

Abdullah Faruque, B.Sc., Bangladesh University of Engineering and Technology (India); M.A.Sc., Ph.D., University of Windsor (Canada); PE—Assistant Professor

Frank Hanna, B.Sc., M.Sc., University of Baghdad (Iraq); Ph.D., University of Wales College of Cardiff (United Kingdom)—Associate Professor

William C. Larsen, BS, MSCE, Dartmouth College; PE—Professor Emeritus

Robert E. McGrath Jr., BCE, Rensselaer Polytechnic Institute; MSCE, Syracuse University; PE—Professor Emeritus

Mark Piterman, MCE, Odessa Marine Engineers Institute (Ukraine)—Professor Emeritus

Scott B. Wolcott, BS, MS, State University of New York at Buffalo; PE—Undergraduate Program Coordinator; Professor

Teresa Wolcott, BS, State University of New York at Buffalo; MS, Rochester Institute of Technology—Lecturer

Environmental Sustainability, Health and Safety

J. Grant Esler, BS, Boston University; MPH, University of Michigan—Lecturer

Josh Goldowitz, BS, State University of New York at Binghamton; MS, University of Arizona—Professor

Lisa Greenwood, BS, Rochester Institute of Technology; MS, University of New Haven—Lecturer

John Morelli, BS, Syracuse University; MS, Ph.D., State University of New York College of Environmental Science and Forestry; PE—Professor

Joseph M. Rosenbeck, CSP, MS, BS, Central Missouri State University—Graduate Program Coordinator; Professor

Jennifer L. Schneider, CIH, BA, Roberts Wesleyan College; MS, University of Rochester; Ph.D., University of Massachusetts—Professor

Gretchen L. Wainwright, BS, M.Eng., Rensselaer Polytechnic Institute—Lecturer

Facility Management

Jeffrey Rogers, PE, CPE, BS, Virginia Polytechnic Institute and State University; MS, University of Florida; ME, Old Dominion University; Ph.D., University of Virginia—Associate Professor

Electrical, Computer, and Telecommunications Engineering Technology

W. David Baker, BSEE, Monmouth College; MS, Rochester Institute of Technology—Professor Emeritus

Miguel Bazdresch, BE, Western Institute of Technology and Higher Studies (Mexico); ME, National Polytechnic Institute (Mexico); Ph.D., National Higher School of Telecommunications (France)

Jeanne Christman, BS, Clarkson University; MS, University of Texas at Dallas—Associate Professor

Richard C. Cliver, BS, Rochester Institute of Technology; MSEE, University of Rochester—Associate Professor

Steven A. Ciccarelli, BS, MS, Rochester Institute of Technology—Electrical Engineering Technology Program Chair; Associate Professor

Thomas Dingman, BS, MS, Rochester Institute of Technology—Professor Emeritus

Michael Eastman, BS, MSCS, Rochester Institute of Technology—Department Chair; Professor

Ronald Fulle, BA, State University College at Oswego; MS, University of Colorado at Boulder—Associate Professor

Clark Hochgraf, BS, State University of New York at Buffalo; Ph.D., University of Wisconsin at Madison—Associate Professor

James J. Hurny, BSEE, Carnegie Institute of Technology; MBA, MS, Rochester Institute of Technology; Ed.D., St. John Fisher College—Associate Professor

Mark J. Indelicato, BEEE, Manhattan College; MS, Polytechnic University—Associate Professor

William P. Johnson, BA, Kings College; BSEE, MSEE, Syracuse University; JD, University at Buffalo Law School—Professor

Sungyoung Kim, BE, Sogang University (Korea); MM, Ph.D., McGill University (Canada)

Warren L. G. Koontz, BSEE, University of Maryland; MSEE, Massachusetts Institute of Technology; Ph.D., Purdue University—Professor Emeritus

David Krispinsky, BE, MSE, Youngstown State University—Associate Professor

Eldred L. Majors, BS, Rochester Institute of Technology—Lecturer

Drew Maywar, BS, MS, Ph.D., University of Rochester—Assistant Professor

David M. Orlicki, BS, Michigan State University; MS, Rochester Institute of Technology; Ph.D., Massachusetts Institute of Technology—Lecturer

Carol Richardson, BSEE, University of Wyoming; MSEE, Union College—Professor Emerita

Jacob Schanker, BEE, MEE, City College of the City University of New York, PE—Lecturer

George H. Zion, BS, MS, Rochester Institute of Technology—Professor

Manufacturing and Mechanical Engineering Technology

Ronald F. Amberger, BME, Rensselaer Polytechnic Institute; ME, Pennsylvania State University; PE—Professor Emeritus

Martin Anselm, BS, State University College at Geneseo; MS, Clarkson University; Ph.D., Binghamton University—Assistant Professor

Beth A. Carle, BSE, University of Pittsburgh; MS, Ph.D., University of Illinois; EIT Professional Certification—Associate Professor

Elizabeth M. Dell, BSME, General Motors Institute; MS, University of Michigan—Mill Chair; Associate Professor

Robert D. Garrick, BSEE, GMI Engineering and Management Institute; MBA, Rochester Institute of Technology; MS, University of Rochester; Ph.D., University of South Carolina—Associate Professor

Martin Gordon, BSME, MSME, MBA, State University of New York at Buffalo; PE—Associate Professor

Spencer H. Kim, BS, Hanyang University (South Korea); MS, Ph.D., University of Illinois—Associate Professor

James H. Lee, BS, California Polytechnic State University; MS, Ph.D., Texas A&M; PE—Assistant Professor

William Leonard, AAS, State University College at Canton; BS, MS, Rochester Institute of Technology—Mechanical Engineering Technology Program Chair; Associate Professor

Ti-Lin Liu, MS, Tsinghua University (China)—Associate Professor

Carl A. Lundgren, BS, Rensselaer Polytechnic Institute; MBA, University of Rochester—Professor

Michael P. Medlar, BS, MS, Rochester Institute of Technology—Lecturer

Robert A. Merrill, BS, Clarkson College; MS, Northeastern University; PE—Professor Emeritus

Mark W. Olles, AAS, Monroe Community College; BS, Rochester Institute of Technology; Ph.D., University of Tennessee—Assistant Professor

Michael J. Parthum Sr., BS, MS, Rochester Institute of Technology—Electrical/Mechanical Engineering Technology Program Chair; Associate Professor

Alan D. Raisanen, BS, Drake University; Ph.D., University of Minnesota—Assistant Professor

S. Manian Ramkumar, BE, PSG, College of Technology-Bharathiar (India); ME, Rochester Institute of Technology; Ph.D., State University of New York at Binghamton—Department Chair, Professor

Michael J. Slifka, AAS, Niagara County Community College; BS, MS, Rochester Institute of Technology—Senior Lecturer

John A. Stratton, BS, Rochester Institute of Technology; MS, Rensselaer Polytechnic Institute; PE—Professor Emeritus

Larry A. Villasmil, BSME, Universidad del Tachira (Venezuela); MSME, Ph.D., Texas A&M University—Assistant Professor

Packaging Science

Carlos A. Diaz-Acosta, BS, MS, Universidad de los Andes (Colombia); Ph.D., Michigan State University—Assistant Professor

Changfeng Ge, BSME, MSME, Tongji University (China); Ph.D., University of Dortmund (Germany)—Associate Professor

Daniel L. Goodwin, BS, MS, Ph.D., Michigan State University—Professor

Deanna M. Jacobs, BS, State University College at Plattsburgh; MA, State University College at Geneseo; MS, Rochester Institute of Technology—Professor

Daniel P. Johnson, BS, MS, Rochester Institute of Technology—Department Chair; Professor

Thomas Kausch, BS, MS, Rochester Institute of Technology—Instructor

Karen L. Proctor, BS, Michigan State University; MBA, Rochester Institute of Technology—Professor

School of International Hospitality and Service Innovation

Department of Hospitality and Tourism Management

David H. Crumb, BS, Florida State University; MBA, Michigan State University—Professor Emeritus

Edward Ganster, BS, MS Rochester Institute of Technology—Lecturer

Jennifer DiGaetano, BS, MS, Rochester Institute of Technology—Lecturer

Lorraine E. Hems, BS, Nazareth College of Rochester; MS, Rochester Institute of Technology; CS, CWE—Lecturer

Muhammet Kesgin, BSc, MSc, Akdeniz University (Turkey), Ph.D., Coventry University, (United Kingdom)—Assistant Professor

Richard M. Lagiewski, BS, MS, Rochester Institute of Technology—Senior Lecturer

Carol B. Whitlock, RD, BS, MS, Pennsylvania State University; Ph.D., University of Massachusetts—Department Chair; Professor, CDN, CFS

Department of Service Systems

James Jacobs Jr., BA, Purdue University; MS, Troy State University; Ph.D., State University of New York at Buffalo—Senior Lecturer

Linda Underhill, RD, BS, MS, Rochester Institute of Technology; Ph.D., State University of New York at Buffalo—Department Chair; Associate Professor

Reserve Officer's Training Corps

Army ROTC

Lt. Col. Edward Whitaker, BS, Norwich University; MA, University of Maryland University College—Professor

Sgt. First Class Dennis Doyle, Training NCO—Instructor

Patrick Geiger, BS, U.S. Military Academy at West Point—Assistant Professor

Maj. Nicholas Graham, BS, U.S. Military Academy at West Point—Assistant Professor

Master Sgt. Christopher Hall, AS, Jefferson Community College—Instructor

Donald C. Powell, BA, State University College at Geneseo; MA, State University College at Brockport—Recruiting Operations Officer; Assistant Professor

Air Force ROTC

Lt. Col. Ann M. Gallucci, BA, Political Science, Kean College of New Jersey; MBA, North Central University—Professor

Capt. Harold J. Gotwald, BS, Industrial Engineering, Wright State University; MBA, Liberty University—Assistant Professor

Technical Sergeant Veronica Williams, AA, Community College of the Air Force—Non-Commissioned Officer-in-Charge

Distinguished Professorships

Russell C. McCarthy Professorship in Engineering Technology

Established: 1979

Donor: The Russell C. McCarthy endowed chair was created in 1980 by a group of six donors to augment the creation of the RIT School of Applied Industrial Studies. The endowed chair now resides in the College of Applied Science and Technology and reports to the college dean.

Purpose: To build relationships between the college and industrial and professional communities worldwide that share the college's interests, goals, and values.

Held by: Jennifer L. Schneider

Paul & Francena Miller Chair in International Education

Purpose: The College of Applied Science and Technology is a 2013-14 recipient of the Paul and Francena Miller Chair in International Education (one of two endowed university level chairs). During the period of appointment as a Miller Chair, a faculty member in the designated college is given the opportunity to help advance their college's goals for international education and new international opportunities for their students.

Held by: Clark Hochgraf

Saunders College of Business

Jacqueline Reynolds Mozrall, Interim Dean
saunders.rit.edu

Programs of study

Bachelor of Science degrees in:	Page
Accounting	31
Finance	32
International Business	32
Management	33
Management Information Systems	34
Marketing	34
New Media Marketing	35

Success in today's business environment requires leadership and management attuned to rapid changes in technology and increasingly vigorous global competition. Saunders College of Business offers a portfolio of comprehensive, rigorous programs of study. Our curriculum produces graduates who are able to convert managerial learning into pragmatic business applications.

To achieve these educational aims, Saunders College offers academic programs comprised of four components: business core courses, a program of study, required liberal arts courses, and cooperative education experience. The liberal arts component includes courses in the humanities, mathematics, science, and social sciences. Students are expected to display proficiency in oral and written forms of communication, and to choose a liberal arts concentration or minor.

All students in Saunders College must complete a set of required business core courses that provide a foundation for their program of study as well as an understanding of all facets of business. These courses serve as a platform for advanced study in a specific area of interest.

The required foundation courses are:
ACCT-110 Financial Accounting
ACCT-210 Management Accounting
COMM-253 Communication
DESC-310 Operations Management
ECON-101 Principles of Microeconomics
ECON-201 Principles of Macroeconomics
FINC-220 Corporate Finance
INTB-225 Global Business Environment
MATH-161 Applied Calculus
MGIS-101 Computer-based Analysis
MGIS-102 Business 2: Technology-enabled Launch
MGMT-101 Business 1: Ideas and Business Planning
MGMT-215 Organizational Behavior
MGMT-340 Business Ethics & Corporate Social Responsibility
MGMT-560 Strategy and Innovation
MKTG-230 Principles of Marketing
STAT-145 Introduction to Statistics I
STAT-146 Introduction to Statistics II

Admission requirements

For more information on undergraduate admission, including freshman and transfer admission guidelines, please refer to the Undergraduate Admission section of this bulletin.

Financial aid and scholarships

Please refer to the Financial Aid and Scholarships section of this bulletin for information regarding financial aid, scholarships, loans, and grants.

Faculty

The college's faculty members are actively involved in applied research and many are consultants to the business community, which enables them to bring real-world experience into the classroom. More than 45 full-time teaching professionals ensure that the educational experience is dynamic and relevant. In the classroom, faculty and students engage in case studies, problem set analyses, experiential exercises, lectures, group discussions, and team presentations.

Facilities and resources

RIT is a national leader when it comes to incorporating computer technology into the classroom. Saunders College students have access to extensive resources and utilize the same business software used by Fortune 100 companies worldwide. The college's classrooms and study areas feature the technology that has built RIT's reputation as among the most connected campuses in the country.

Cooperative education

Cooperative education is an integral part of the college's curriculum. Students obtain paid, practical work experience in an area related to their chosen field of interest. Co-op is part of each student's career exploration and helps relate their classroom studies to the world of business.

Students are required to successfully complete one semester (or two summers) of cooperative education. These work blocks take place during the junior or senior year. While RIT and Saunders College cannot guarantee cooperative education placement, the Office of Cooperative Education and Career Services is a valuable resource in assisting students in their co-op and job search efforts, and offers each Saunders student a dedicated career and co-op adviser.

Accreditation
Saunders College is accredited by the nationally recognized Association to Advance Collegiate Schools of Business (AACSB International), the premier accrediting agency for schools of business in the U.S.

Advising
The college's Student Services Office offers students dedicated academic advisers who provide administrative support to assist with course selection and registration, career guidance, student records, and course scheduling. In addition, the administrative staff provides students with information on additional support services within RIT. Students also are assigned an individual faculty adviser, who becomes an integral part of their advising network.

Academic enrichment
Honors Program: Students who demonstrate a high level of achievement at the high school level may be invited to join the Honors program. These students will participate in Honors course work throughout their program of study and experiential learning activities under the guidance of a mentor. Honors students will be selected during the admission process.

Study Abroad: RIT encourages all students to consider a study abroad program to enhance their understanding of global business and other cultures. Students may study full time at a variety of host schools and are able to select both business and liberal arts classes. The Study Abroad Office has information about foreign study options and opportunities. All business majors may request a study abroad experience to replace one of their required cooperative education work blocks.

Minors: Students may choose from more than 80 minors to enhance their academic program or further develop a personal area of interest. For a detailed list of minors, including courses, please refer to the Minors section of this bulletin.

Special opportunities
Accelerated dual degree option: Undergraduate business students may consider the 4+1 MBA program, an accelerated dual degree program that allows students to complete both the BS and MBA degrees in five years. Please refer to the *Graduate Bulletin* or the college's website for more information.

Graduate study: The college offers the following graduate degree programs: traditional MBA, MBA-accounting (which meets the New York state education requirements for CPA examination candidacy), executive MBA, online executive MBA, and MS degrees in entrepreneurship and innovative ventures, finance, and management. Please refer to the *Graduate Bulletin* or the college's website for more information.

Accounting, BS

saunders.rit.edu/undergraduate/accounting

Program overview
The accounting major provides broad exposure to the liberal arts as well as science and management concepts. Beyond this core, students choose an option that best fits their career interests. Students planning a career in public accounting may select undergraduate course work preparing them to enter RIT's MBA-accounting program. Completion of both the BS and MBA-accounting degrees satisfies the New York state CPA education requirements (see electives). Students may tailor the major to meet diverse career opportunities in commercial, government, and not-for-profit sectors.

Curriculum

Accounting, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MGMT-101	Business 1: Ideas and Business Planning	3
MGIS-101	Computer-based Analysis	1
ECON-101	LAS Perspective 4: Principles of Microeconomics	3
COMM-253	Communication	3
STAT-145, 146	LAS Perspective 7A, 7B: Introduction to Statistics I, II	7
MGIS-102	Business 2: Technology-enabled Launch	2
	LAS Foundation 2: First Year Writing	3
ECON-201	LAS Perspective 3: Principles of Macroeconomics	3
ACCT-110	Financial Accounting	3
	LAS Foundation 1: First Year Seminar†	3
ACSC-010	YearOne	0
	Wellness Education*	0
Second Year		
ACCT-210	Management Accounting	3
MKTG-230	Principles of Marketing	3
FINC-220	Corporate Finance	3
	LAS Perspective 1, 2	6
ACCT-445	Accounting Information Systems	3
MGMT-215	Organizational Behavior	3
BLEG-200	Business Law I	3
INTB-225	Global Business Environment	3
MATH-161	Applied Calculus	4
Third Year		
MGMT-340	Business Ethics and Corporate Social Responsibility	3
ACCT-360	Intermediate Financial Accounting I	3
ACCT-420	Personal and Small Business Taxation	3
	LAS Perspective 5, 6	6
	LAS Immersion 1, 2	6
DECS-310	Operations Management	3
ACCT-365	Intermediate Financial Accounting II	3
	LAS Elective	3
	Cooperative Education	Co-op
Fourth Year		
	LAS Immersion 3	3
	Free Electives	9
	LAS Electives	9
ACCT-430	Cost Accounting (WI)	3
MGMT-560	Strategy and Innovation	3
	Accounting Elective	3
Total Semester Credit Hours		**122**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Electives
The major includes four free electives. Students planning to pursue an MBA-accounting degree and a career in public accounting should consult an accounting professor or accounting academic adviser and take the following electives: Advanced Taxation (ACCT-440), Auditing (ACCT-490), Advanced Accounting (ACCT-540), and Business Law II (BLEG-300).

Finance, BS

saunders.rit.edu/undergraduate/finance

Program overview

The finance major prepares students for management positions in financial, commercial, industrial, and governmental organizations. Students are taught the principles of financial decision making and build an understanding of the economic, legal, and financial environment in which they will operate. Career options exist in government, industry, service, and not-for-profit organizations.

Cooperative education

Finance majors are required to complete six months of cooperative education during the last two years of study. Co-op is the best way for students to immerse themselves in the real world and apply what they have learned in the classroom to real-world situations.

Curriculum

Finance, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MGMT-101	Business 1: Ideas and Business Planning	3
MGIS-101	Computer-based Analysis	1
ECON-101	LAS Perspective 4: Principles of Microeconomics	3
COMM-253	Communication	3
STAT-145, 146	LAS Perspective 7A, 7B: Introduction to Statistics I, II	7
MGIS-102	Business 2: Technology-enabled Launch	2
	LAS Foundation 2: First Year Writing	3
ECON-201	LAS Perspective 3: Principles of Macroeconomics	3
ACCT-110	Financial Accounting	3
	LAS Foundation 1: First Year Seminar†	3
ACSC-010	YearOne	0
	Wellness Education*	0
Second Year		
ACCT-210	Management Accounting	3
MKTG-230	Principles of Marketing	3
FINC-220	Corporate Finance	3
	LAS Perspective 1, 2	6
FINC-352	Managing Assets and Liabilities	3
MGMT-215	Organizational Behavior	3
	Free Elective	3
INTB-225	Global Business Environment	3
MATH-161	Applied Calculus	4
Third Year		
MGMT-340	Business Ethics and Corporate Social Responsibility	3
FINC-460	Financial Analysis and Modeling	3
FINC-362	Intermediate Investments	3
	LAS Immersion 1, 2	6
	LAS Perspective 5, 6	6
DECS-310	Operations Management	3
FINC-420	Finance in a Global Environment (WI)	3
	Finance Elective	3
	Cooperative Education	Co-op
Fourth Year		
	Finance Elective	3
	Free Electives	9
	Immersion 3	3
	LAS Electives	12
MGMT-560	Strategy and Innovation	3
Total Semester Credit Hours		**122**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

International Business, BS

saunders.rit.edu/undergraduate/international_business

Program overview

Students in the international business major develop the foundation necessary to understand business as well as political and cultural diversity. Proficiency in a foreign language is an integral part of the major. A co-major is chosen in one of the following areas: accounting, finance, management, management information systems, or marketing. This secondary area of interest provides students with the functional tools needed in their career.

International business positions include substantial personal and professional benefits. Overseas assignments typically bring long hours and hard work, yet the reward of upward mobility within the corporate world continues to lure young executives to global assignments.

Curriculum

International business, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MGMT-101	Business 1: Ideas and Business Planning	3
MGIS-101	Computer-based Analysis	1
ECON-101	LAS Perspective 4: Principles of Microeconomics	3
COMM-253	Communication	3
STAT-145, 146	LAS Perspective 7A, 7B: Introduction to Statistics I, II	7
MGIS-102	Business 2: Technology-enabled Launch	2
	LAS Foundation 2: First Year Writing	3
ECON-201	LAS Perspective 3: Principles of Macroeconomics	3
ACCT-110	Financial Accounting	3
	LAS Foundation 1: First Year Seminar†	3
ACSC-010	YearOne	0
	Wellness Education*	0
Second Year		
ACCT-210	Management Accounting	3
MKTG-230	Principles of Marketing	3
FINC-220	Corporate Finance	3
	LAS Perspective 1, 2	6
	LAS Immersion 1	3
MGMT-215	Organizational Behavior	3
	Free Elective	3
INTB-225	Global Business Environment	3
MATH-161	Applied Calculus	4
Third Year		
MGMT-340	Business Ethics and Corporate Social Responsibility	3
	Co-major Electives	6
INTB-310	Regional Business Studies	3
	LAS Immersion 2, 3	6
	LAS Electives	6
DECS-310	Operations Management	3
	International Business Elective	3
	Cooperative Education	Co-op
Fourth Year		
INTB-550	Global Entry and Competition Strategies	3
	International Business Elective	3
	Co-major Courses	6
	LAS Perspective 5, 6	6
	LAS Electives	6
MGMT-560	Strategy and Innovation	3
	Free Elective	3
Total Semester Credit Hours		**122**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Additional Information

Foreign language requirement

Fluency in a foreign language offered by RIT is a requirement of the major. Entering students with fluency in one foreign language are encouraged to take at least three semesters of instruction in a second language.

Cooperative education

Students are required to complete six months of cooperative education, one of which must have an international component. Many students study abroad to solidify their understanding of a foreign language and gain experience living in another culture. They follow their study abroad experience with a co-op in a multinational corporation in the United States, or in an international company overseas, to acquire comprehensive experience.

Management, BS

saunders.rit.edu/undergraduate/management

Program overview

The management major prepares students for management and specialist careers in a variety of enterprises and organizations. Students develop the skills and concepts needed to become effective leaders, ethical decision makers, and creative innovators. The management curriculum provides both depth and flexibility in its offerings so that students may maximize their educational experience.

Cooperative education

Students are required to complete six months of cooperative education. Co-op allows students to practice and expand their management skills in real-world settings. These paid, full-time positions gives students a chance to gain valuable job-related experience while completing their degree.

Curriculum

Management, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MGMT-101	Business 1: Ideas and Business Planning	3
MGIS-101	Computer-based Analysis	1
ECON-101	LAS Perspective 4: Principles of Microeconomics	3
COMM-253	Communication	3
STAT-145, 146	LAS Perspective 7A: Introduction to Statistics I, II	7
MGIS-102	Business 2: Technology-enabled Launch	2
	LAS Foundation 2: First Year Writing	3
ECON-201	LAS Perspective 3: Principles of Macroeconomics	3
ACCT-110	Financial Accounting	3
	LAS Foundation 1: First Year Seminar†	3
ACSC-010	YearOne	0
	Wellness Education*	0
Second Year		
ACCT-210	Management Accounting	3
MKTG-230	Principles of Marketing	3
FINC-220	Corporate Finance	3
	LAS Perspective 1, 2	6
MGMT-215	Organizational Behavior	3
	Free Electives	6
INTB-225	Global Business Environment	3
MATH-161	Applied Calculus	4
Third Year		
MGMT-340	Business Ethics and Corporate Social Responsibility	3
	Management Electives	6
MGMT-310	Leadership in Organizations	3
	LAS Immersion 1, 2	6
	LAS Perspective 5, 6	6
DECS-310	Operations Management	3
MGMT-320	Managerial Skills	3
	Cooperative Education	Co-op
Fourth Year		
Choose one of the following:		3
MGMT-450	Negotiations	
MGMT-380	Human Resource Management	
	Free Electives	6
	LAS Immersion 3	3
	LAS Electives	12
MGMT-560	Strategy and Innovation	3
	Management Elective	3
Total Semester Credit Hours		**122**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Management Information Systems, BS

saunders.rit.edu/undergraduate/mis

Program overview

The management information systems major prepares students for careers involving leading-edge enterprise technologies and the analysis, design, and management of computer-based information systems. The curriculum provides students with the opportunity to analyze existing business processes and learn to utilize digital technologies to improve and/or design new models. As a result students are able to apply the concepts of enterprise resource planning and work with sophisticated enterprise systems to help companies achieve their goals. Students also are able to design systems that are usable, practical, and cost-effective. Major career directions for graduates include business analysis, enterprise resource planning analysis and consulting, database application development and administration, network design and administration, website development and administration, and the management of information systems projects.

Curriculum

Management information systems, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MGMT-101	Business 1: Ideas and Business Planning	3
MGIS-101	Computer-based Analysis	1
ECON-101	LAS Perspective 4: Principles of Microeconomics	3
COMM-253	Communication	3
STAT-145, 146	LAS Perspective 7A, 7B: Introduction to Statistics I, II	7
MGIS-102	Business 2: Technology-enabled Launch	2
	LAS Foundation 2: First Year Writing	3
ECON-302	LAS Perspective 3: Principles of Macroeconomics	3
ACCT-110	Financial Accounting	3
	LAS Foundation 1: First Year Seminar†	3
ACSC-010	YearOne	0
	Wellness Education*	0
Second Year		
ACCT-210	Management Accounting	3
MKTG-230	Principles of Marketing	3
FINC-220	Corporate Finance	3
	LAS Perspective 1, 2	6
MGIS-320	Database Management Systems	3
MGMT-215	Organizational Behavior	3
	LAS Elective	3
INTB-225	Global Business Environment	3
MATH-161	Applied Calculus	4
Third Year		
MGMT-340	Business Ethics and Corporate Social Responsibility	3
MGIS-330	Systems Analysis and Design	3
MGIS-340	Emerging Business Technologies	3
	LAS Immersion 1, 2	6
	LAS Perspective 5, 6	6
DECS-310	Operations Management	3
	MGIS Electives	6
	Cooperative Education	Co-op
Fourth Year		
MGIS-550	MIS Capstone (WI)	3
	Free Electives	12
	LAS Immersion 3	3
	LAS Electives	6
MGMT-560	Strategy and Innovation	3
Total Semester Credit Hours		**122**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Marketing, BS

saunders.rit.edu/undergraduate/marketing

Program overview

Marketing is a critical element in the success of modern business operations. The overall process of entering markets, creating value for customers, and developing profits is the fundamental challenge for the contemporary marketing manager. These marketing basics apply to governmental agencies, not-for-profit organizations, service organizations, and for-profit firms.

In the marketing major, students learn theory and gain practical experience by creating tactically enabled strategic marketing plans. Through projects, they learn to work independently and in teams to achieve organizational objectives. Marketing majors develop leadership and communication skills through classroom experiences and their work on real and simulated business challenges. Students gain proficiency in analyzing and understanding buyers, developing and delivering professional sales presentations, and designing and implementing marketing research projects. Students graduate with the ability to create and critically evaluate strategic marketing plans.

Curriculum

Marketing, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MGMT-101	Business 1: Ideas and Business Planning	3
MGIS-101	Computer-based Analysis	1
ECON-101	LAS Perspective 4: Principles of Microeconomics	3
COMM-253	Communication	3
STAT-145, 146	LAS Perspective 7A, 7B: Introduction to Statistics I, II	7
MGIS-102	Business 2: Technology-enabled Launch	2
	LAS Foundation 2: First Year Writing	3
ECON-201	LAS Perspective 3: Principles of Macroeconomics	3
ACCT-110	Financial Accounting	3
	LAS Foundation 1: First Year Seminar†	3
ACSC-010	YearOne	0
	Wellness Education*	0
Second Year		
ACCT-210	Management Accounting	3
MKTG-230	Principles of Marketing	3
FINC-220	Corporate Finance	3
	LAS Perspective 1, 2	6
	Marketing Elective	3
MGMT-215	Organizational Behavior	3
	Free Elective	3
INTB-225	Global Business Environment	3
MATH-161	Applied Calculus	4
Third Year		
MGMT-340	Business Ethics and Corporate Social Responsibility	3
MKTG-551	Marketing Metrics and Research	3
	LAS Immersion 1, 2	6
	LAS Perspective 5, 6	6
DECS-310	Operations Management	3
	Marketing Electives	9
	Cooperative Education	Co-op
Fourth Year		
MKTG-550	Marketing Management (WI)	3
	Free Electives	9
	LAS Immersion 3	3
	LAS Perspective 5	3
	LAS Electives	9
MGMT-560	Strategy and Innovation	3
Total Semester Credit Hours		**122**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

New Media Marketing, BS

saunders.rit.edu/undergraduate/new_media_marketing

Program overview

The new media marketing major is an interdisciplinary major with a curriculum that covers marketing, imaging, graphic arts, information systems, and management. The major provides an overall assessment of the current and future state of the graphic communication industry and is designed to meet industry's need for broadly educated marketing, new media, and management professionals.

Curriculum

New media marketing, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MGMT-101	Business 1: Ideas and Business Planning	3
MGIS-101	Computer-based Analysis	1
ECON-101	LAS Perspective 4: Principles of Microeconomics	3
COMM-253	Communication	3
STAT-145, 146	LAS Perspective 7A, 7B: Introduction to Statistics I, II	7
MGIS-102	Business 2: Technology-enabled Launch	2
	LAS Foundation 2: First Year Writing	3
ECON-201	LAS Perspective 3: Principles of Macroeconomics	3
ACCT-110	Financial Accounting	3
	LAS Foundation 1: First Year Seminar†	3
ACSC-010	YearOne	0
	Wellness Education*	0
Second Year		
ACCT-210	Management Accounting	3
MKTG-230	Principles of Marketing	3
FINC-220	Corporate Finance	3
	LAS Perspective 1, 2	6
	LAS Immersion 1	3
MGMT-215	Organizational Behavior	3
	New Media Marketing Elective	3
INTB-225	Global Business Environment	3
MATH-161	Applied Calculus	4
Third Year		
MGMT-340	Business Ethics and Corporate Social Responsibility	3
MKTG-320	Internet Marketing	3
	LAS Electives	6
	LAS Immersion 2, 3	6
	LAS Perspective 5, 6	6
DECS-310	Operations Management	3
	New Media Marketing Elective	3
	Cooperative Education	Co-op
Fourth Year		
	New Media Marketing Elective	3
MKTG-410	Search Engine Marketing and Analytics	3
	Free Electives	12
	LAS Electives	6
MGMT-560	Strategy and Innovation	3
MKTG-420	Advanced Internet Marketing	3
Total Semester Credit Hours		**122**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Business, Undeclared

Program overview

For students interested in pursuing a career in business, but are uncertain as to which major best fits their personal and professional objectives, the undeclared business option provides students with up to a year and a half to declare a major. During this time, students complete liberal arts and sciences courses as well as business core courses, which provide an understanding of all facets of business and serve as a foundation for advanced study in a specific area of interest. Advisers provide guidance throughout the option and assist students in selecting a major.

Curriculum

Undeclared business, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
ACCT-110	Financial Accounting	3
MGMT-101	Business 1: Ideas and Business Planning	3
MGIS-101	Computer-based Analysis	1
MGIS-102	Business 2: Technology-enabled Launch	2
ACCT-210	Management Accounting	3
MGMT-215	Organizational Behavior	3
FINC-220	Corporate Finance	3
MKTG-230	Principles of Marketing	3
INTB-225	Global Business Environment	3
DESC-310	Operations Management	3
MGMT-560	Strategy and Innovation	3
	Wellness Education*	0
	YearOne	0
Total Semester Credit Hours		**30**

* Please see Wellness Education Requirements for more information. Students completing bachelor's degrees are required to complete two Wellness courses.

Jacqueline Reynolds Mozrall, BS, Rochester Institute of Technology; MS, North Carolina State University; Ph.D., University at Buffalo—Interim Dean; Professor

Qiang (John) Tu, BS, MS, Xi'an Jiaotong University (China); Ph.D., University of Toledo—Associate Dean; Professor

Lisa Boice, BA, MBA, Long Island University; JD, Hofstra University School of Law—Assistant Dean for Student Services

Accounting

William H. Dresnack, BS, Long Island University; MS, State University of New York at Binghamton; JD, University of Buffalo—Department Head; Professor

R. Mithu Dey, BBA, Howard University; MBA, Ph.D., George Washington University; CPA, Maryland—Associate Professor

William T. Evans, BS, Rensselaer Polytechnic Institute; MBA, University of Rochester—Senior Lecturer

Philip C. Gelsomino, II, BS, Rochester Institute of Technology; CPA, New York—Visiting Lecturer

Roberta L. Klein, BS, State University College at Brockport; MBA, Rochester Institute of Technology; CPA, New York—Lecturer

Qian Song, B.Sc., M.Sc., Qingdao University (China); Ph.D., Washington State University—Assistant Professor

Daniel D. Tessoni, BBA, St. John Fisher College; MS, Clarkson College of Technology; Ph.D., Syracuse University; CPA, New York—Assistant Professor

Ke-an Wu, BS, Jiangxi University of Finance and Economics (China); MS, Catholic University Leuven (Belgium); Ph.D., University of Oregon—Assistant Professor

Rong Yang, BS, MS, Tianjin University of Finance and Economics (China); MBA, Ph.D., Rutgers University—Associate Professor

Decision Sciences

Victor J. Perotti, BS, MA, MS, Ph.D., The Ohio State University—Department Head; Professor

John E. Ettlie, BS, MS, Ph.D., Northwestern University—Benjamin Forman Chair for Research; Professor

A. Erhan Mergen, BS, Middle East Technical University (Turkey); MS, Ph.D., Union College—Professor

William J. Stevenson, BSIE, MBA, Ph.D., Syracuse University—Associate Professor

Finance and Economics

William H. Dresnack, BS, Long Island University; MS, State University of New York at Binghamton; JD, University of Buffalo—Department Head; Professor

Steven C. Gold, BA, BS, Rutgers University; MA, Ph.D., State University of New York at Binghamton—Professor

Chun-Kueng (Stan) Hoi, BA, MS, North Texas State University; Ph.D., Arizona State University—Professor

Archana Jain, B.Comm., M.Comm., University of Rajasthan (India); MBA, Ph.D., University of Memphis—Assistant Professor

Stephen LaGrou, BA, State University College at Geneseo; MBA, State University of New York at Buffalo; JD, City University of New York School of Law—Senior Lecturer

Ashok J. Robin, B.Comm, University of Madras (India); MBA, Ph.D., State University of New York at Buffalo—Madelon and Richard Rosett Chair for Research; Professor

Hao Zhang, BA, MA, Xiamen University (China); Ph.D., State University of New York at Buffalo—Assistant Professor

Management and International Business

Robert J. Barbato, BA, Le Moyne College; Ph.D., Michigan State University—Department Head; Professor

Darline Augustine, BS, Hamilton College; MSc, M.Phil., Ph.D., London School of Economics and Political Science (United Kingdom) —Assistant Professor

Richard DeMartino, BA, Roanoke College; MPA, Ph.D., University of Virginia—Simone Chair for Innovation and Entrepreneurship; Associate Professor

Clyde E. Hull, BA, Yale University; MB, MBA, Ph.D., Indiana University—Head of Accreditation and Curriculum Improvement; Associate Professor

Shalini Khazanchi, BS, South Gujarat University (India); MBA, University of Pune (India); Ph.D., University of Cincinnati—Associate Professor

Martin Lawlor, BA, State University of New York at Buffalo; MBA, Rochester Institute of Technology—Director, Online EMBA; Senior Lecturer

Chih I. Liu, BA, University of California, Berkeley; Ph.D., University of Illinois at Urbana-Champaign—Assistant Professor

Stephen Luxmore, BA, MA, University of Guelph (Canada); Ph.D.; University of Toronto (Canada)—Senior Lecturer

dt ogilvie, BA, Oberlin College; MBA, Southern Methodist University; Ph.D., University of Texas at Austin—Distinguished Professor of Urban Entrepreneurship; Professor

Joy Olabisi, BS, Georgia Institute of Technology; MS, Ph.D., University of Michigan—Assistant Professor

Michael E. Palanski, BS, Grove City College; MA, Covenant Theological Studies; Ph.D., Binghamton University— Assistant Professor

Sandra L. Rothenberg, BS, Syracuse University; MS, Ph.D., Massachusetts Institute of Technology—Director, Saunders College Institute of Business Ethics; Professor

Delmonize Smith, BBA, Faulkner University; MS, Troy University; Ph.D., University of Alabama—Associate Professor

Zhi Tang, BA, Shandorun University (China); MA, Fudon University (China); Ph.D., University of Alabama—Associate Professor

Donald O. Wilson, BS, Oklahoma State University; MS, MPA, University of Southern California; Ph.D., University of California at Irvine—Director, EMBA Program; Assistant Professor

Management Information Systems

Victor J. Perotti, BS, MA, MS, Ph.D., The Ohio State University—Department Head; Professor

Sean William Hansen, BA, Harvard University; MBA, Ph.D., Case Western Reserve University—Assistant Professor

Manlu Liu, BS, Jiangsu University (China); MS, Zhejiang University; MBA, The Hong Kong University of Science & Technology (Hong Kong); Ph.D., University of Arizona—Assistant Professor

Qiang (John) Tu, BS, MS, Xi'an Jiaotong University (China); Ph.D., University of Toledo—Associate Dean; Professor

Yang Yu, BS, MS, Ph.D., Beijing University of Aeronautics & Astronautics (China); Ph.D., Texas Tech University—Assistant Professor

Marketing

Victor J. Perotti, BS, MA, MS, Ph.D., The Ohio State University—Department Head; Professor

Robert B. Boehner, BA, MA, Siena College; JD, University of North Carolina at Chapel Hill—Senior Lecturer

Adriana M. Bóveda-Lambie, BS, University of Maryland at College Park; MA, University of Texas at Austin; Ph.D., University of Rhode Island—Assistant Professor

Deborah Colton, BA, State University of New York at Buffalo; MBA, Rochester Institute of Technology; Ph.D., University of South Carolina—Associate Professor

Laurie Dwyer, BS, St. Lawrence University; MBA, Rochester Institute of Technology—Senior Lecturer

Neil Hair, BS, University of Wales (United Kingdom); MS, Sheffield Hallam University (United Kingdom); Ph.D., Cranfield University (United Kingdom)—Associate Professor

V. Myles Landers, BS, Berry College; Ph.D., The University of Alabama—Assistant Professor

Joseph C. Miller, BA, Grand Valley State University; MBA, Wayne State University; Ph.D., Michigan State University—Assistant Professor

Rajendran Sriramachandra Murthy, BE, University of Madras (India); MBA, Ph.D., Southern Illinois University—Assistant Professor

Weidong Rong, BBS, Massey University (New Zealand); MACC, Ph.D., Saint Louis University—Visiting Assistant Professor

John D. Ward, BS, Georgia Institute of Technology; MS, Purdue University—Senior Lecturer

Distinguished Professorships

Eugene Fram Chair in Critical Thinking

Established: 2012

Donor: Anonymous

Purpose: Designed to provide campus-wide leadership in cross-disciplinary approaches to critical thinking.

Held by: Clarence Burton Sheffield Jr., Ph.D.

J. Warren McClure Research Professorship in Marketing

Established: 1977

Donor: Mr. and Mrs. J. Warren McClure

Purpose: To perpetuate Mr. McClure's professional interest in the field of marketing

Held by: open

Madelon and Richard Rosett Chair

Established: 2000

Donor: Madelon and Richard Rosett

Purpose: To support a professorship of a nationally prominent scholar in any field of business

Held by: Ashok Robin, Ph.D.

Benjamin Forman Chair for Research

Established: 2008

Donor: Maurice Foreman in honor of his father, Benjamin Forman

Purpose: To support a professorship of a nationally prominent scholar in Research, Teaching, or Collaboration

Held by: John Ettlie, Ph.D.

B. Thomas Golisano College of Computing and Information Sciences

Andrew L. Sears, Dean
rit.edu/gccis

Programs of study

	Bachelor of Science degrees in:	Page
#	Computer Science	40
#	Computing Security	41
#	Game Design and Development	45
	Information Technology	42
	Medical Informatics*	43
	Networking and System Administration	44
	New Media Interactive Development	46
#	Software Engineering	47

* Effective fall 2014, the bachelor's degree in medical informatics will no longer accept new students. This change will not affect currently matriculated students.

Accelerated BS/MS option available.

The B. Thomas Golisano College of Computing and Information Sciences is one of the most comprehensive computing colleges in the United States. The college offers 16 baccalaureate and master's degrees in a variety of computing disciplines, as well as a Ph.D. in computing and information sciences. With its focus on interdepartmental and intercollege cooperation, the college directs its energy and effort toward discovering new, innovative methods and research opportunities in solving complex, present-day, and future computing challenges.

The college's programs address the growing need for experts in the fields of computational science, human-computer interaction and accessibility, gaming, simulation, computing security, edutainment, management of complex information technology infrastructures, and software engineering. These programs offer the most current thinking in computing and information sciences and technology, and are supported by extensive laboratory facilities and outstanding faculty.

Admission requirements

For more information on undergraduate admission, including freshman and transfer admission guidelines, please see the Undergraduate Admission section of this bulletin.

Financial aid and scholarships

Please refer to the Financial Aid and Scholarships section of this bulletin for information regarding financial aid, scholarships, loans, and grants.

Faculty

The college's faculty is a dedicated group of teacher-scholars performing use-inspired research with an emphasis on student involvement and career preparation. Faculty members provide leadership by implementing innovative teaching techniques while anticipating and meeting the needs of students and our industrial partners. Many have significant industrial experience in addition to outstanding academic credentials.

Facilities

The college features more than 2,000 workstations and more than 50 classrooms, labs, and studio labs offering access to the study of every major computing platform. Labs are available to students for 16- to 18-hours-a-day. The college's dedicated Security Lab is isolated from the rest of the campus's networks to allow the in-depth study of viruses, firewalls, and other computer vulnerabilities. Additional labs include an entertainment lab for 3D modeling, game, and interactive media development; a mobile computing and robotics lab for the research and development of portable devices; and an artificial intelligence lab dedicated to the understanding of

human reactions and processing. Each academic program has extensive laboratories dedicated to undergraduate education. These labs contain powerful PCs and workstations as well as appropriate, up-to-date software. The labs are available to students 16–18 hours a day, except during designated class times. High-speed Internet access, along with a wireless network, is available to ensure our students have the tools necessary to complete their assignments and projects.

Accreditation

The bachelor of science degree programs in computer science and software engineering are fully accredited by the Computing Accreditation Commission of ABET, abet.org.

Cooperative education

All programs in the Golisano College have a cooperative education requirement. Co-op generally starts after completing two years of the program and ends so that the last semester attended is in residence. Co-ops may be one or two semesters in length and at any company that satisfies the program's requirements. Please refer to each program for specific information regarding cooperative education requirements. Academic advisers also can provide students with information concerning the co-op experience.

Advising

As part of its commitment to student success, the Golisano College provides both academic advising and career counseling. Students have access to their program chairperson, a faculty adviser, a full-time academic adviser, the academic advising office in the College of Liberal Arts, and program coordinators from the Office of Cooperative Education and Career Services. In addition, office staff provides support for registration and help with records and scheduling. Part-time and evening students can arrange for these services at night by appointment.

Academic enrichment

Honors Program: Students who demonstrate a high level of achievement at the high school level may be invited to join the Honors program. These students will participate in Honors course work throughout their program of study and experiential learning activities under the guidance of a faculty mentor. Honors students will be selected during the admissions process.

Study Abroad: RIT encourages all students to consider a study abroad program. Students may study full time at a variety of host schools and are able to select courses that fulfill requirements in their academic field of study and/or liberal arts general education requirements. The Study Abroad Office has information about foreign study options and opportunities.

Minors: RIT offers students more than 80 minors to choose from to enhance their academic program or further develop a personal area of interest. For a detailed list of minors, including courses, please refer to the Minors section of this bulletin.

Special opportunities

Accelerated dual degree option: Some programs offer accelerated, five-year dual BS/MS degree options. These degrees offer students the opportunity to earn a bachelor's degree and a master's degree in less time than pursuing each degree individually. Please refer to individual programs, the *Graduate Bulletin,* or the college's website for more information.

Double majors: The college offers a number of double majors to assist students in obtaining two areas of expertise. Please refer to individual programs or the college's website for more information. Graduate study: The college offers a doctorate program in computing and information sciences; master of science degrees in computer science, computing security, game design and development, human-computer interaction, information sciences and technologies, medical informatics, networking and systems administration, and software engineering; and advanced certificates in information assurance, network planning and design, and web development. Please refer to the Graduate Bulletin or the college's website for more information.

Computing Exploration, Undeclared

Michael Yacci, Associate Dean and Computing Exploration Coordinator
(585) 475-5416, mayici@rit.edu

Program overview

The computing exploration option provides students with the opportunity to explore six of the college's undergraduate computing majors—computer science, computing security, information technology, medical informatics, networking and systems administration, and software engineering. Students complete courses in computer science, information security, and Web development. They may also take additional courses in the other two computing majors (game design and development, new media interactive development) as they decide on which major bests fits their career goals and aspirations.

Students may stay in the exploration option for up to two semesters (one academic year). Each student has an assigned academic adviser who provides guidance on the requirements of each major, course selection, minors, and career options. All courses taken in the exploration option are accepted by the six computing majors; all credits earned are applicable to a student's chosen major and maintain the student's track toward graduation.

Curriculum

Computing exploration, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MATH-181, 182	Project-based Calculus I, II	8
CSCI-141, 142	Computer Science I, II	8
CSES-101	Fundamentals of Information Security	3
ISTE-140	Web I	3
CINT-101	Computing Exploration Seminar	1
MATH-190	Discrete Math for Computing	3
	YearOne	0
	LAS Foundation 2: First Year Writing	3
Choose one of the following:		3
SWEN-250	Personal Software Engineering	
NSSA-101	Networking Fundamentals	
MEDI-130	Computers in Medicine	
	Wellness Education†	0
Total Semester Credit Hours		**32**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
† Please see Wellness Education Requirements for more information. Students completing bachelor's degrees are required to complete two Wellness courses.

Department of Computer Science

Computer Science, BS

cs.rit.edu
Mohan Kumar, Chair
(585) 475-4583, mjk@cs.rit.edu

Program overview

The computer science major attracts students who are interested in both the mathematical theory and technical applications of computer science. Most employers look for students who are good computer scientists but also understand the tools and techniques of mathematics, science, and industry, and are able to communicate effectively. The BS program is for the mathematically adept student who wishes to become a computing professional with knowledge of relevant applications areas. The major also attracts students transferring to RIT with an associate degree in computer science with course work in mathematics and science.

Computer science covers a wide spectrum of areas within the field of computing, ranging from the theoretical to the practical. A computer scientist can specialize in areas such as intelligent systems (i.e., artificial intelligence), computer graphics, computer theory, data management, distributed and parallel computing, systems software, or computer security. Programming is necessary, but computer scientists also must be adaptable as well as adept at problem solving and analytical reasoning, able to understand design principles, and fluent in using computers.

Students take a core of computer science courses that provide a solid foundation for advanced work. Building on this base, students explore a variety of specializations in their third, fourth, and fifth years. In addition, students develop a broad appreciation for computer applications and the affect of computers on society via program electives, general education courses, and various free electives, which can be used to complete a minor.

Experiential education

The demands of industry and government require college graduates to master both the fundamentals and the applied aspects of their profession. To meet this requirement, two applied educational experiences are woven into the major. Students are required to complete a cooperative educational experience as well as an extensive set of laboratory and small-group experiences, many as members of a team. These activities are typically held in a setting involving 15 to 20 students each, providing a venue for significant student-faculty interaction.

Accreditation

The BS degree in computer science is accredited by the Computing Accreditation Commission of ABET, abet.org.

Curriculum

Computer science, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
ACSC-101	YearOne	0
CSCI-141	Computer Science I	4
MATH-181, 182	LAS Perspective 7A, 7B: Project-based Calculus I, II	8
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 2, 3, 4	9
CSCI-142	Computer Science II	4
MATH-190	Discrete Mathematics for Computing	3
	LAS Foundation 2: First Year Writing	3
	Wellness Education*	0
Second Year		
CSCI-243	The Mechanics of Programming	3
Choose one of the following:		3
CSCI-262	Introduction to Computer Science Theory	
CSCI-263	Honors Introduction to Computer Science Theory	
MATH-251	Probability and Statistics I	3
	LAS Perspective 1, 5‡, 6‡	10
CSCI-250	Concepts of Computer Systems	3
SWEN-261	Introduction to Software Engineering	3
MATH-241	Linear Algebra	3
	LAS Elective‡	4
	Cooperative Education (summer)	Co-op
Third Year		
CSCI-251	Concepts of Parallel and Distributed Systems	3
CSCI-320	Principles of Data Management	3
	CS Elective§	3
	LAS Elective§	3
	LAS Immersion 1	3
	Cooperative Education (spring)	Co-op
Fourth Year		
CSCI-261	Analysis of Algorithms	3
	CS Electives§	6
CSCI-344	Programming Language Concepts	3
	Free Electives	6
CSCI-471	Professional Communications (WI)	3
CSCI-331	Introduction to Intelligent Systems	3
	LAS Elective‡	3
	LAS Immersion 2	3
Fifth Year		
	Cooperative Education (fall)	Co-op
	CS Elective§	3
	LAS Immersion 3	3
	LAS Elective	3
	Free Electives	6
Total Semester Credit Hours		**126**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students must complete one of the following lab science sequences: (a) University Physics I, II (PHYS-211, 212), (b) General and Analytical Chemistry I, II and Labs (CHMG-141, 142, 145, 146) or (c) General Biology I, II, and Labs (BIOL-101, 102, 103, 104). Students are free to choose from approved science electives that either extend or complement their lab science selection.
§ Two computer science elective courses must come from the same CS cluster.

Accelerated dual degree option

An accelerated dual degree option is available for outstanding undergraduate students who wish to earn both a bachelor's and a master's degree in approximately six years.

Computer science, BS/MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
ACSC-101	YearOne	0
CSCI-141	Computer Science I	4
MATH-181, 182	LAS Perspective 7A, 7B: Project-based Calculus I, II	8
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 2, 3, 4	9
CSCI-142	Computer Science II	4
MATH-190	Discrete Mathematics for Computing	3
	LAS Foundation 2: First Year Writing	3
	Wellness Education*	0
Second Year		
CSCI-243	The Mechanics of Programming	3
Choose one of following:		3
CSCI-262	Introduction to Computer Science Theory	
CSCI-263	Honors Introduction to Computer Science Theory	
MATH-251	Probability and Statistics I	3
	LAS Perspective 5‡	4
	LAS Perspective 1	3
CSCI-250	Concepts of Computer Systems	3
SWEN-261	Introduction to Software Engineering	3
MATH-241	Linear Algebra	3
	LAS Elective‡	4
	LAS Perspective 6‡	3
	Cooperative Education (summer)	Co-op
Third Year		
CSCI-251	Concepts of Parallel and Distributed Systems	3
CSCI-320	Principles of Data Management	3
	CS Elective	3
	LAS Elective†	3
	LAS Immersion 1	3
	Cooperative Education (spring)	Co-op
Fourth Year		
CSCI-261	Analysis of Algorithms	3
CSCI-344	Programming Language Concepts	3
	Free Electives	6
CSCI-471	Professional Communications (WI)	3
CSCI-331	Introduction to Intelligent Systems	3
	Graduate Electives§	6
	LAS Elective†	3
	LAS Immersion 2	3
Fifth Year		
	Cooperative Education (fall)	Co-op
	Graduate Elective	3
	LAS Immersion 3	3
	LAS Elective	3
	Free Electives	6
Sixth Year		
CSCI-665	Foundations of Algorithms	3
	Cluster Courses§	9
	Graduate Electives**	15 or 12
Choose one of the following:		3 or 6
CSCI-788	MS Project	
CSCI-790	MS Thesis	
Total Semester Credit Hours		**156††**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students must complete one of the following lab science sequences: (a) University Physics I, II (PHYS-211, 212), (b) General and Analytical Chemistry I, II and Labs (CHMG-141, 142, 145, 146) or (c) General Biology I, II, and Labs (BIOL-101, 102, 103, 104). Students are free to choose from approved science electives that either extend or complement their lab science selection.
§ Two computer science elective courses must come from the same CS cluster.
** Students who complete the MS Project take one more graduate elective than those who complete the MS Thesis.
†† The BS degree requires 126 semester hours; the MS degree requires 30 semester hours; students use 9 semester hours of computer science graduate electives toward both degrees.

Evening program

The computer science major may be completed on a part-time basis. Degree requirements are identical to those taken by full-time students. Students are encouraged to work with an academic adviser for planning and course selection.

Department of Computing Security

Computing Security, BS

csec.rit.edu
Bo Tuan, Chair
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Program overview

The scope of computer networks and the span of these systems increases in organizations every day. At the same time, industry and society's dependence on these technologies is growing, as is the creation of damaging software that attacks computing systems and networks. Therefore, security has become a major concern. The result is an increased need for people and technologies that can secure and protect from attack the data assets of an organization as well as the hardware and software infrastructures that house the information.

The BS degree in computing security produces professionals who understand people and processes that impact information security. In addition to possessing state-of-the-art knowledge in the preservation of information assets, students become experts in the identification of computer security vulnerabilities. Students also understand the forensic requirements needed to prove an attack occurred, identify its origin, assess the extent of the damage or loss of information, and design strategies that ensure data can be recovered.

An important goal is to provide students with a level of specialization in computing security beyond what is provided by more general majors offered in information systems or information technology. This is accomplished by providing a foundation that includes a breadth of computing disciplines and then allows the student to focus on a particular area of security such as forensics, mobile device forensics, or network or computing system security. Favoring depth over breadth, students are allowed sufficient time to explore the issues and technologies of computer and network security.

Curriculum

Students are required to complete 126 semester credit hours of core courses, advanced courses, and cooperative education. Core courses include a programming sequence, an ethics course, a computer networking and system administration sequence, and foundation courses in computer and network security. Advanced courses allow students to design the focus of their information security course work.

Advanced electives

Students complete five advanced security electives that expand students' knowledge in one of several disciplines of security, including system security, network security, forensics, malware, secure software development, database and application security, security evaluation, or theory.

Computing security, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
CSEC-101	Fundamentals of Computing Security	3
CSCI-141, 142	Computer Science I, II	8
	LAS Foundation 1: First Year Seminar†	3
MATH-181, 182	Project-based Calculus I, II	8
	LAS Perspective 1, 3	6
	LAS Foundation 2: First Year Writing	3
MATH-190	Discrete Mathematics for Computing	3
	YearOne	0
	Wellness Education*	0

COURSE		SEMESTER CREDIT HOURS
Second Year		
CSCI-243	The Mechanics of Programming	3
MATH-251	Probability and Statistics I	3
ISTE-230	Introduction to Database and Data Modeling	3
CSCI-250	Concepts of Computer Systems	3
NSSA-221	System Administration	3
MATH-241	Linear Algebra	3
PHYS-211, 212	LAS Perspective 6: University Physics I, II	8
NSSA-220	Introduction to Scripting	3
	LAS Perspective 2	3
	Cooperative Education (summer)	Co-op
Third Year		
CSCI-462	Introduction to Cryptography	3
CSEC-363	Cyber Security Policy and Law	3
NSSA-241	Networking I	3
	LAS Perspective 4, 5	6
	LAS Immersion 1 (WI)	3
CSEC-472	Authentication and Security Models	3
	Program Electives	6
	Free Elective	3
	Cooperative Education (summer)	Co-op
Fourth Year		
	Program Electives	12
	LAS Immersion 2, 3	6
	Free Electives	9
CSEC-490	Capstone in Computing Security	3
Total Semester Credit Hours		**126**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Accelerated dual degree option

An accelerated dual degree option is available for outstanding undergraduate students who wish to earn both a bachelor's and a master's degree in approximately six years.

Computing security, BS/MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
CSEC-101	Fundamentals of Computing Security	3
CSCI-141, 142	Computer Science I, II	8
	LAS Foundation 1: First Year Seminar†	3
MATH-181, 182	Project-based Calculus I, II	8
	LAS Perspective 1, 3	6
	LAS Foundation 2: First Year Writing	3
MATH-190	Discrete Mathematics for Computing	3
	YearOne	0
	Wellness Education*	0
Second Year		
CSCI-243	The Mechanics of Programming	3
MATH-251	Probability and Statistics I	3
CSCI-250	Concepts of Computer Systems	3
	Introduction to Routing and Switching	3
MATH-241	Linear Algebra	3
PHYS-211, 212	LAS Perspective 6: University Physics I, II	8
NSSA-221	System Administration	3
NSSA-220	Task Automation Using Interpretive Languages	3
	LAS Perspective 2	3
	Cooperative Education (summer)	Co-op
Third Year		
CSCI-462	Introduction to Cryptography	3
CSEC-363	Cyber Security Policy and Law	3
NSSA-241	Introduction to Database and Data Modeling	3
	LAS Perspective 4, 5	6
	LAS Immersion I (WI)	3
CSEC-472	Authentication and Security Models	3
	Program Elective	3
	Free Elective	3
	Graduate Elective	3
	Cooperative Education (summer)	Co-op
Fourth Year		
	Program Electives	6
	LAS Immersion 2, 3	6
	Free Electives	9
CSEC-490	Capstone in Computing Security	3
	Graduate Electives	6
Fifth Year		
CSEC-601	Research Methods and Proposal Development	3
CSEC-603	Enterprise Security and Forensics	3
CSEC-604	Cryptography and Authentication	3
	Graduate Electives	6
	CSEC Thesis	6
Total Semester Credit Hours		**156§**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
§ The BS degree requires 126 semester hours. The MS degree requires 30 semester hours. Students use 9 semester hours of computing security graduate electives toward both degrees.

Additional information

Cooperative education

Cooperative education is a required component of the major. Co-op enables students to work in a variety of organizations, from small- or medium-sized businesses to large international companies or law enforcement organizations, that require computer systems or computer networks. These may be security-centric businesses (law enforcement agencies, security auditors) to users of information technology (manufacturing companies, school districts, health care). Co-ops provide real-world experience and a competitive edge when applying for jobs after graduation. Typically, the first co-op occurs during the summer following the second year. The remaining co-ops may occur during the student's third year or the following summer. Students must complete the co-op requirement prior to completing their course work.

Part-time study

The major is available on a part-time basis. Courses can be completed during the day and in the evening to accommodate those who work, regardless of their schedules. Please refer to the Part-time Study website for more information on this option.

Department of Information Sciences and Technology

Information Technology, BS

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Program overview

The role of an IT professional, or information technologist, is diverse and multifaceted. To develop and maintain truly effective systems, information technologists need core competencies in four essential areas: Web and mobile application development and design; database, programming, and application development; secure computer networking and system administration; and technology integration and deployment in user communities, including needs assessment, user-centered design, and ongoing support.

The fourth competency area, bringing in the human element, is the defining expertise for information technology professionals. To design and develop the best possible systems, IT professionals must see the world through the users' eyes and learn what user communities need in order to effectively contribute to an organization's goals and success. This requires skills in information gathering, user-centered design, and effective deployment practices for devices ranging from wearable technology to the traditional desktop, as well as strong communication and people skills.

Curriculum

The core competencies provide a foundation for developing greater depth in specialized concentration areas. Students choose one of the following concentrations: enterprise Web application development, enterprise database development, mobile application development, or enterprise application development. In addition, with department permission, students can create a special-topics sequence.

Cooperative education

The major requires students to complete two blocks of cooperative education. Students may begin their co-op requirement after completing their second year of study.

Information technology, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
ISTE-120	Computer Problem Solving: Information Domain I	4
ISTE-190	Foundations of Modern Information Processing	3
MATH-131	LAS Perspective 7A: Discrete Mathematics	4
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1, 2	6
ISTE-121	Computer Problem Solving: Information Domain II	4
ISTE-140	Web I	3
MATH-161	LAS Perspective 7B: Applied Calculus	4
ISTE-110	Ethics in Computing (WI)	3
	YearOne	0
	Wellness Education*	0
Second Year		
ISTE-230	Introduction to Database and Data Modeling	3
ISTE-240	Web II	3
ISTE-260	Designing the User Experience	3
STAT-145	Introduction to Statistics I	3
	LAS Perspective 3, 4	6
SWEN-383	Software Design Principles and Patterns	3
STAT-146	Introduction to Statistics II	4
ISTE-340	Client Programming	3
NSSA-290	Networking Essentials for Developers	3
	Cooperative Education (summer)	Co-op
Third Year		
ISTE-341	Server Programming	3
ISTE-330	Database Connectivity and Access	3
	LAS Perspective 5‡	4
	Free Electives	6
ISTE-270	Data Exploration and Knowledge Discovery	3
ISTE-430	Information Requirements Modeling	3
	ISTE Concentration Courses	6
	LAS Immersion 1	3
	Cooperative Education (summer)	Co-op
Fourth Year		
ISTE-500, 501	Senior Development Project I, (WI), II	6
	Concentration Courses	6
	LAS Immersion 2, 3	6
	LAS Perspective 6	3
	Free Electives	6
	LAS Elective	3
Total Semester Credit Hours		**126**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3 or 4 credit hour lab science course. If a science course consists of separate lecture and laboratory sections, students must take both the lecture and the lab portions to fulfill the requirement.
§ Students will satisfy this requirement by selecting one of the following four credit options: General Biology (BIOL-101) and General Biology Lab (BIOL-103); General and Analytical Chemistry (CHMG-141) and General and Analytical Chemistry (CHMG-145); or College Physics (PHYS-111).

Medical Informatics, BS

Program deactivated
Effective fall 2014, the bachelor's degree in medical informatics will no longer admit new students. The change will not affect currently enrolled students.

Program overview

The BS degree in medical informatics is one of only a few majors in the United States that responds to the increasing use of computers in every aspect of health care, biomedical research, and education. Developed by the college's departments of computer science and information technology in partnership with the College of Science, the major provides training in the medical sciences, computer science, and information technology, with an emphasis on clinical applications. Students learn to develop computer applications for the solution of clinical problems and to provide computing support to medical practice, medical research, and education.

Curriculum

The major offers students two tracks: computer science, for those interested primarily in developing computer software for medicine; or information technology, for those interested in providing computer support for clinical information systems, databases, networks, and Web applications.

Students consult with faculty advisers to tailor their academic programs to individual career goals. Upper-level electives prepare graduates for specialized employment opportunities within medical informatics, for graduate school in the sciences or computer science/information technology, or for postgraduate professional school.

Cooperative education

A minimum of two semesters of cooperative education are required after the completion of the second year of study. Co-op allows students to gain relevant, hands-on work experience in the medical informatics field, provides the opportunity to apply classroom knowledge in real-life situations, and offers networking opportunities with professionals in the field. These experiences enhance students' education and make them more valuable to prospective employers.

Optional premedical track

Medical informatics also offers a premedical track. Students interested in applying to medical, dental, or veterinary school should consult the program director and/or an academic adviser on the selection of courses to enhance their academic credentials for medical school.

Medical informatics, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
ISTE-120	Computer Problem Solving: Information Domain I	4
ISTE-190	Foundation of Modern Information Processing	3
MATH-131	LAS Perspective 7A: Discrete Mathematics	4
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	
	LAS Perspective 2, 3	6
ISTE-121	Computer Problem Solving: Information Domain II	4
ISTE-140	Web I	3
MATH-161	LAS Perspective 7B: Applied Calculus	4
	Wellness Education*	

COURSE		SEMESTER CREDIT HOURS
Second Year		
ISTE-230	Introduction to Database and Data Modeling	3
ISTE-140, 240	Web I, II	6
ISTE-260	Designing the User Experience	3
STAT-145	Introduction to Statistics I	3
	LAS Perspective 4, 6	6
ISTE-270	Data Exploration and Knowledge Discovery	3
MEDI-130	Computers in Medicine	3
MEDI-150	Introduction to Medical Informatics	3
	Cooperative Education (summer)	Co-op
Third Year		
ISTE-341	Server Programming	3
ISTE-430	Information Requirements Modeling	3
MEDS-250	Anatomy and Physiology I	4
ISTE-110	Ethics in Computing (WI)	4
ISTE-340	Client Programming	3
SWEN-383	Software Design Principles and Patterns	3
	Free Electives	6
	LAS Perspective 1	3
MEDI-330	The Electronic Health Record	3
	ISTE Concentration Course	3
	LAS Immersion 1	3
	Cooperative Education (summer)	Co-op
Fourth Year		
ISTE-500	Senior Development Project I (WI)	3
	ISTE Concentration Courses	6
	LAS Immersion 2, 3	6
	LAS Perspective 5‡	3
	Free Electives	6
ISTE-501	Senior Development Project II	3
	LAS Elective	3
Total Semester Credit Hours		**125**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2013-14 academic year.
‡ Students will satisfy this requirement by selecting one of the following four credit options: General Biology (BIOL-101) and General Biology Lab (BIOL-103); General and Analytical Chemistry (CHMG-141) and General and Analytical Chemistry (CHMG-145); or College Physics (PHYS-111).

Networking and Systems Administration, BS

nsa.rit.edu

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Program overview

Networking is the technology of interconnecting computing devices of all types so information can flow between them. This includes activities as simple as topology design to those as complex as the configuration of services and protocols to enable an entire intranet and the support of that environment.

While all that data eventually gets to the user, it spends most of its time on hundreds of interconnected servers. Systems administration is the design, installation, configuration, operation, and support of these servers. Networking professionals must be knowledgable in considering when to use physical or virtual servers, when to use a public or private cloud, and other key performance, reliability, and security issues.

In today's information-rich environment, computer systems exist at the heart of nearly every organization and are critical to the organization's success. Upon graduation, students can work in nearly any industry as a valuable part of the team helping to ensure their organization's products and services are always available.

Curriculum

The BS degree in networking and systems administration is designed to teach students to be the designers, implementers, operators, and maintainers of computing networks and the computer systems attached to the network. Students evaluate existing networks and computing systems, suggest improvements, monitor such systems for faults, and plan for growth. They will have the opportunity to work in small- to large-scale companies in any industry segment that interests them.

An important goal of the major is to provide students with a level of specialization beyond that provided by typical information systems or information technology programs. To accomplish this, the major focuses on networks of all types and the full range of computer system platforms that can attach to them. In this way the degree program favors depth over breadth. It is this approach that allows faculty to guide students in their exploration of conceptual knowledge, which is enhanced with required cooperative education experiences.

The curriculum includes required core and introductory courses in areas such as programming, database and security, and fundamental courses in computer networking and system administration.

Networking and systems administration, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NSSA-101	NSSA Themes	3
ISTE-100	Computer Problem Solving: Network Domain I	4
	LAS Foundation 1: First Year Seminar†	3
MATH-131	LAS Perspective 7A: Discrete Mathematics	4
	LAS Perspective 1	3
NSSA-102	Computer Systems Concepts	3
ISTE-140	Web I	3
NSSA-241	Introduction to Routing and Switching	3
ISTE-101	Computer Problem Solving: Network Domain II	4
ISTE-110	Ethics in Computing: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
NSSA-221	System Administration I	3
NSSA-242	Wireless Networking	3
ISTE-230	Introduction to Database and Data Modeling	3
	LAS Perspective 2, 3	6
STAT-145	Introduction to Statistics I	3
	LAS Perspective 5	4
	Free Elective	3
	Cooperative Education (summer)	Co-op
Third Year		
NSSA-322	System Administration II (WI)	3
MATH-161	LAS Perspective 7B: Applied Calculus	4
NSSA-245	Net Services	3
NSSA-244	Virtualization	3
	NSSA Concentration Courses	6
	LAS Perspective 6	4
	LAS Elective	3
NSSA-370	Project Management	3
NSSA-443	Network Design and Performance	3
	LAS Immersion 1	3
	LAS Perspective 2	3
	Free Elective	3
Fourth Year		
	NSSA Concentration Courses	6
	LAS Immersion 2, 3	6
	Free Electives	9
	LAS Elective	3
	LAS Perspective 4	3
Total Semester Credit Hours		**126**

Please see New General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Additional information

Cooperative education

Students complete two or three blocks of cooperative education depending on when they start their degree program. Students have found co-op positions in nearly every type of business that requires computer systems and/or networks. These vary from small- or medium-sized businesses to large international companies, from computing-centric organizations (network hardware manufacturers, software services providers) to users of information technology (manufacturing companies, school districts, and the entertainment industry). Co-op gives students real-world experience and a definite advantage over other applicants when applying for jobs after graduation. Typically, co-ops occur during the summers following the second and third years and during one of the academic semesters in the third year. Students must complete their co-op requirement prior to completing their course work and preferably prior to their senior year.

Department of Interactive Games and Media

Game Design and Development, BS

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Program overview

The BS in game design and development allows students to explore the entertainment technology landscape, as well as related areas, while pursuing a broad-based university education. The major has its technical roots in computing and information sciences. Simultaneously, students explore the breadth of development processes through involvement in topics such as game design, design process, and animation.

The major focuses on development while meeting the industry need for developers who are involved in the design process from inception through completion. The degree is for students who aspire to careers within the professional games industry or a related field such as simulation, edutainment, or visualization. It focuses on producing graduates who understand the technical roots of their medium, the possibilities that creative application of software development affords, and the way in which their industry operates. The major also provides students with a core computing education that prepares them for graduate study in a number of computing fields and for employment in more general computing professions.

Curriculum

Students complete a core of required course work and then pursue advanced studies that can be customized to individual interests and career goals. In addition, all students complete general education requirements in the liberal arts, social sciences, mathematics, and physics. Students can further customize their experience through both general education electives and free electives.

In particular, the major integrates strong programming skills, which are mandatory in the game development field, with game design and collaborative skills essential to success in the games industry, where multifaceted professionals are in high demand to work on game development teams.

Game design and development, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
IGME-105, 106	Game Development and Algorithmic Problem Solving I, II	8
IGME-110	Introduction to Interactive Media	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
MATH-131	LAS Perspective 7A: Discrete Mathematics	4
IGME-119	2D and 3D Animation and Asset Production	3
	LAS Perspective 1	3
PHYS-111	LAS Perspective 6: College Physics I	4
MATH-185	LAS Perspective 7B: Mathematics of Graphical Simulation I	3
	YearOne	0
	Wellness Education*	0
Second Year		
IGME-202	Interactive Media Development	3
IGME-219	Advanced Animation and Asset Production	3
IGME-236	Interaction, Immersion, and the Media Interface (WI)	3
	LAS Perspective 2, 3, 4	9
MATH-186	Mathematics of Graphical Simulation II	3
IGME-220	Game Design and Development I	3
IGME-209	Data Structures and Algorithms for Games and Simulation I	3
IGME-230	Website Design and Implementation	3
IGME-499	Cooperative Education (summer)	Co-op
Third Year		
IGME-320	Game Design and Development II	3
IGME-309	Data Structures and Algorithms for Games and Simulation II	3
	LAS Perspective 5‡	3
	LAS Immersion 1, 2	6
	LAS Elective	3
IGME-330	Rich Media Web Application Development I	3
	Advanced Elective	3
	Free Electives	6
IGME-499	Cooperative Education (summer)	Co-op
Fourth Year		
	Advanced Electives	9
	Free Electives	9
	LAS Immersion 3	3
	LAS Electives	9
Total Semester Credit Hours		**124**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3 or 4 credit hour lab science course. If a science course consists of separate lecture and laboratory sections, students must take both the lecture and the lab portions to fulfill the requirement.

Cooperative education

Students are required to complete two blocks of cooperative education. Co-op students have found work in the games industry and related domains, both regionally and nationally, at companies both large and small. Co-op gives students real-world experience, a definite edge when applying for jobs after graduation. The design of this major had considerable input from leaders in the games industry. Companies want employees who can work in interdisciplinary teams, and they actively recruit our graduates into the games industry.

Accelerated dual degree option

An accelerated dual degree option is available for outstanding undergraduate students who wish to earn both a bachelor's and a master's degree in game design and development in approximately five years.

Game design and development, BS/MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
IGME-105, 106	Game Development and Algorithmic Problem Solving I, II	8
IGME-110	Introduction to Interactive Media	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
MATH-131	LAS Perspective 7A: Discrete Mathematics	4
IGME-119	2D and 3D Animation and Asset Production	3
	LAS Perspective 1	3
PHYS-111	LAS Perspective 6: College Physics I	4
MATH-185	LAS Perspective 7B: Mathematics of Graphical Simulation I	3
	YearOne	0
	Wellness Education*	0
Second Year		
IGME-202	Interactive Media Development	3
IGME-219	Advanced Animation and Asset Production	3
IGME-236	Interaction, Immersion, and the Media Interface (WI)	3
	LAS Perspective 2, 3, 4	9
MATH-186	Mathematics of Graphical Simulation II	3
IGME-220	Game Design and Development I	3
IGME-209	Data Structures and Algorithms for Games and Simulation I	3
IGME-230	Website Design and Implementation	3
IGME-499	Cooperative Education (summer)	Co-op
Third Year		
IGME-320	Game Design and Development II	3
IGME-309	Data Structures and Algorithms for Games and Simulation II	3
	LAS Perspective 5‡	3
	LAS Immersion 1, 2	6
	LAS Elective	3
IGME-330	Rich Media Web Application Development I	3
	Advanced Elective	3
	Free Electives	6
IGME-499	Cooperative Education (summer)	Co-op
Fourth Year		
IGME-601	Game Development Processes	3
IGME-602	Game Design	3
IGME-603	Gameplay and Prototyping	3
IGME-695	Colloquium in Game Design and Development	2
	Advanced Electives	6
	Free Elective	3
	LAS Immersion 3	3
	LAS Electives	9
Fifth Year		
IGME-795	Game Industry Themes and Perspectives	1
IGME-788	Capstone Design	3
	Advanced Electives	9
	Free Electives	6
IGME-789	Capstone Development	3
Total Semester Credit Hours		**148**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3 or 4 credit hour lab science course. If a science course consists of separate lecture and laboratory sections, students must take both the lecture and the lab portions to fulfill the requirement.

New Media Interactive Development, BS

igm.rit.edu
Tona Henderson, Director
(585) 475-7243, tahics@rit.edu

Program overview

The last decade has seen unprecedented innovation in the fields of communication, computation, interactivity, and information delivery. New media touch nearly all of us daily through online games, search engines, dynamic and personalized websites, high-definition home entertainment systems, handheld devices, and instant connectivity. Educators, advertising agencies, design studios, and a wide variety of industries use new media to reach targeted audiences for advertising, entertaining, training, business, and expressing creative ideas.

Two huge underlying factors—Internet connectivity and computer processing—have dramatically transformed the media landscape. New media are dynamic, personalized, and connected. They change the way we learn, communicate, affiliate, and play. For the world to benefit from these changes there is a need for practitioners who can integrate evolving technologies with creative disciplines.

In a field that is changing rapidly, successful practitioners must have a solid foundation in cutting-edge technologies, a well-honed sense of design, and the skills to put creative ideas into practice. The new media interactive development major provides students with a balanced background in design and emerging technologies, with an emphasis on independent problem solving in a continually evolving field.

Curriculum

The major features core courses; specialty courses in the areas of graphic design, photographic imaging, video, publishing, programming, and interactive games and media; and a senior project that brings together all of the curriculum into a singular project at the conclusion of the program.

The senior project tackles real-world new media issues and provides an opportunity for students to hone their skills in collaboration with students from different disciplines in a setting that mirrors current industry practice.

Leaders from the new media industry have considerable input to the design and structure of the curriculum. The course work ensures that students gain experience working on interdisciplinary teams and brings the value of their senior project and cooperative education experiences together to enhance the overall educational experience.

Cooperative education

Students are required to complete two semesters of cooperative education, which provides real-world experience and a competitive edge when applying for jobs after graduation.

New media interactive development, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
IGME-101, 102	New Media Interactive Design and Algorithmic Problem Solving I, II	8
IGME-110	Introduction to Interactive Media	3
MDE-101	New Media Design Imaging	3
	LAS Foundation 1: First Year Seminar†	3
MATH-131	Discrete Mathematics	4
NMDE-102	New Media Design Elements 1	3
	LAS Perspective 1	3
	LAS Foundation 2: First Year Writing (WI)	3
MATH-185	Mathematics of Graphical Simulation I	3
	YearOne	0
	Wellness Education*	0
Second Year		
IGME-201	New Media Interactive Design and Algorithmic Problem Solving III	3
IGME-230	Website Design and Implementation	3
	LAS Perspective 2, 3, 4, 5‡	12
MATH-186	Mathematics of Graphical Simulation II	3
IGME-202	Interactive Media Development	3
IGME-236	Interaction, Immersion, and the Media Interface (WI)	3
	Lab Sciences‡	3
IGME-499	Cooperative Education (summer)	Co-op
Third Year		
IGME-330	Rich Media Web Application Development I	3
	Program Electives	9
	Free Electives	6
	LAS Immersion 1, 2	6
	LAS Electives	6
IGME-499	Cooperative Education (summer)	Co-op
Fourth Year		
NMDE-401	New Media Design Career Skills	3
	Program Electives	6
	Free Electives	9
	LAS Immersion 3	3
IGME-588	New Media Team Project	3
	LAS Electives	6
Total Semester Credit Hours		**123**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3 or 4 credit hour lab science course. If a science course consists of separate lecture and laboratory sections, students must take both the lecture and the lab portions to fulfill the requirement.

Department of Software Engineering

Software Engineering, BS

www.se.rit.edu
James Vallino, Chair
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Program overview

As software becomes ever more common in everything from airplanes to appliances, there is an increasing demand for engineering professionals who can develop high-quality, cost-effective software systems. The BS in software engineering combines traditional computer science and engineering with specialized course work in software engineering.

Students learn principles, methods, and techniques for the construction of complex and evolving software systems. The major encompasses technical issues affecting software architecture, design, and implementation as well as process issues that address project management, planning, quality assurance, and product maintenance. Upon graduation, students are prepared for immediate employment and long-term professional growth in software development organizations.

Accreditation

The BS degree in software engineering is accredited by the Engineering Accreditation Commission of ABET, abet.org.

Curriculum

An important component of the curriculum is complementary course work in related disciplines. As with other engineering fields, mathematics and the natural sciences are fundamental. In addition, students must complete courses in related fields of engineering, business, or science. Three engineering electives, plus a three-course sequence in an application domain, enable students to connect software engineering principles to application areas. A required course in economics or finance bridges software engineering with the realities of the business environment.

Students also complete general education courses in the liberal arts and a required ethics course helps students develop a sense of professionalism and social responsibility in the technical world.

Senior projects

A two-course senior design sequence helps students synthesize and apply the knowledge and experience they have gained in classes and on co-op assignments to a industry-sponsored project. Organizations with challenging technical problems frequently contact faculty seeking assistance on a problem. Many of these issues find their solutions via the work of the senior project teams.

In the first course students organize themselves into teams, based on the number and complexity of the projects available. The bulk of the semester is devoted to requirements elicitation and architectural design, but also may include detailed design, prototyping, and even production, depending on the nature of the project. In addition, teams are responsible for assigning specific roles to team members and developing a project plan that includes scheduled, concrete milestones. In the second course, students work on the tactical issues of development and deployment. Teams complete the construction and integration of their project, conduct testing, and demonstrate the final outcome to faculty and the sponsoring organization.

Organizations that have sponsored senior projects include Wegmans, Paychex, Moog, Northrup Grumman Security Systems, Intel Corp., Webster Financial Group, Oracle, Nokia, IBM Thomas Watson Research, PaeTec Communications, Alstom Signaling Inc., RIT Information and Technology Services, Harris Corporation (RF Communications Division), the Air Force Research Laboratory, Excellus Blue Cross Blue Shield, Telecom Consulting Group NE Corp. (TCN), and Videk.

Cooperative education

Students are required to complete 40 weeks of cooperative education prior to graduation. Students typically begin co-op in their third year of study, alternating semesters of study on campus with co-op blocks. To ensure that co-op is integrated with the curriculum, students must complete their final co-op block prior to taking Software Engineering Project I (SWEN-561).

Software engineering, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
CSCI-141, 142	Computer Science I, II	8
MATH-181, 182	LAS Perspective 7A, 7B: Project-based Calculus I, II	8
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1	3
SWEN-101	Freshman Seminar	1
MATH-190	Discrete Mathematics for Computing	3
SWEN-250	Personal SW Engineering	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0

COURSE		SEMESTER CREDIT HOURS
Second Year		
PHYS-211, 212	LAS Perspective 5, 6: University Physics I, II	8
CSCI-262	Introduction to Computer Science Theory	3
COMM-251	Professional Communication for Software Engineers	3
SWEN-261	Introduction to Software Engineering	3
	LAS Perspective 2, 3	6
STAT-205	Applied Statistics	3
SWEN-220	Math Models of Software Engineering	3
SWEN-262	Engineering of Software Subsystems	3
Third Year		
SWEN-256	Software Process and Project Management	3
SWEN-331	Secure Software System Development	3
	SWEN Design Elective	3
CMPE-340	Engineering Fundamentals of Computer Systems	4
	LAS Perspective 4	3
Fourth Year		
SWEN-440	Software System Requirements and Architecture (WI)	3
SWEN-444	Human-Centered Requirements and Design	3
	Process Elective	3
	Math/science Elective	3
	Application Domain Elective	3
	LAS Immersion 1	3
Fifth Year		
SWEN-561, 562	Software Engineering Project I, II	6
	Engineering Electives	6
	Application Domain Electives	6
	LAS Immersion 2, 3	6
	Free Electives	6
Total Semester Credit Hours		**128**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Accelerated dual degree option

An accelerated dual degree option is available for outstanding undergraduate students who wish to earn both a bachelor's and a master's degree in game design and development in approximately six years.

Software engineering, BS/MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
CSCI-141	Introduction to Computational Problem Solving	4
CSCI-142	Computational Problem Solving with Structures	4
MATH-181, 182	LAS Perspective 7A, 7B: Project-based Calculus I, II	8
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1	3
SWEN-101	Freshman Seminar	1
MATH-190	Discrete Mathematics for Computing	3
SWEN-250	Personal SW Engineering	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
PHYS-211, 212	LAS Perspective 5, 6: University Physics I, II	8
CSCI-262	Introduction to Computer Science Theory	3
COMM-251	Professional Communication for Software Engineers	3
SWEN-261	Introduction to Software Engineering	3
	LAS Perspective 2, 3	6
STAT-205	Applied Statistics	3
SWEN-220	Math Models of Software Engineering	3
SWEN-262	Engineering of Software Subsystems	3
Third Year		
SWEN-256	Software Process and Project Management	3
SWEN-331	Secure Software System Development	3
	SWEN Design Elective	3
CMPE-340	Engineering Fundamentals of Computer Systems	4
	LAS Perspective 4	3
	Cooperative Education (fall or spring)	Co-op
Fourth Year		
SWEN-440	Software System Requirements and Architecture (WI)	3
SWEN-444	Human-Centered Requirements and Design	3
SWEN-722	Process Engineering	3
	Process Elective	3
	Math/Science Elective	3
	Application Domain Elective	3
	LAS Immersion 1	3
	Cooperative Education (fall or spring)	Co-op
Fifth Year		
SWEN-561, 562	Software Engineering Project I, II	6
SWEN-745	Software Modeling	3
	Engineering Electives	6
	Application Domain Electives	6
	LAS Immersion 2, 3	6
	Free Electives	6
	Graduate Electives	6
Sixth Year		
SWEN-790	Thesis	6
SWEN-772	Software Quality Engineering	3
SWEN-755	Software Architectures and Product Lines	3
SWEN-749	Software Evolution and Re-engineering	3
	Graduate Elective	3
Total Semester Credit Hours		**158**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Software engineering electives

Software engineering electives may include the following:

SWEN-342	Engineering of Concurrent and Distributed Software Systems
SWEN-343	Engineering of Enterprise Software Systems
SWEN-461	Real Time and Embedded Systems
SWEN-462	Modeling of Real Time Systems
SWEN-463	Performance Engineering of Real Time and Embedded Systems
SWEN-467	Hardware Software Co-design for Cryptographic Applications
SWEN-549	Software Engineering Design Seminar

Software engineering process electives

Software engineering process electives may include the following:

SWEN-350	Software Process and Product Quality
SWEN-352	Software Testing
SWEN-356	Trends in Software Development Processes
SWEN-559	Software Engineering Process Seminar

Engineering electives

Students may choose engineering electives from any software engineering (SWEN) elective course, any course offered by the Kate Gleason College of Engineering at the 200 level or higher (for which a student has met the required prerequisites), or the following set of courses offered by the computer science department:

CSCI-261	Analysis of Algorithms
CSCI-331	Introduction to Intelligent Systems
CSCI-344	Programming Language Concepts
CSCI-351	Data Communications and Networks I
CSCI-352	Operating Systems
CSCI-420	Principles of Data Mining
CSCI-431	Introduction to Computer Vision
CSCI-442	Language Processors
CSCI-451	Data Communications and Networks II
CSCI-454	Parallel Computing
CSCI-462	Cryptography
CSCI-510	Introduction to Computer Graphics

Application domain courses

An application domain is a set of three courses that expose a student to a domain area in which software engineering is often applied. There are standard pre-defined application domains and a student is free to suggest a student-defined domain. Example application domain areas include:

- Artificial Intelligence
- Bioinformatics
- Business Applications
- Computational Mathematics
- Computer Engineering
- Computer Security
- Economics
- Entrepreneurship
- Industrial and Systems Engineering
- Interactive Entertainment
- Public Policy
- Scientific and Engineering Computing
- Statistics
- Usability
- Student-defined domain

Additional information

Laboratories

Equipped with the latest technology, the software engineering department's facilities include three student instructional studio labs, a specialized embedded systems lab, and a collaboration lab. In addition, freshmen are encouraged to take advantage of the department's mentoring lab. Staffed by advanced software engineering students, this lab offers new students an environment where they can learn from those who have successfully fulfilled most of the major's academic requirements.

Students enrolled in software engineering courses also can use any of the department's eleven team rooms. Equipped with a computer and projector, network connections, a meeting table, seating for six, and generous whiteboard space, these rooms support the department's commitment to teamwork, both inside and outside the classroom.

Senior software engineering students have unrestricted access to the department's projects lab for the duration of their senior projects.

Andrew L. Sears, BS, Rensselaer Polytechnic Institute; Ph.D., University of Maryland—Dean; Professor

Anne R. Haake, BA, Colgate University; MS, Rochester Institute of Technology; MS, Ph.D., University of South Carolina—Associate Dean for Research and Scholarship; Professor

Michael A. Yacci, BS, Ithaca College; MS, Rochester Institute of Technology; Ph.D., Syracuse University—Associate Dean for Academic Affairs; Professor

Wiley R. McKinzie, BA, University of Wichita; MS, State University of New York at Buffalo—Professor

Computer Science

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Reynold Bailey, BS, Midwestern State University; MS, Ph.D., Washington University—Assistant Professor

Ivona Bezakova, BS, Comenius University (Slovakia); MS, Ph.D., University of Chicago—Associate Professor

Hans-Peter Bischof, BS, MS, University of Ulm (Germany); Ph.D., University of Osnabrück (Germany)—Graduate Program Director; Professor

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Leonid Reznik, Degree of Electronics, Leningrad Institute of Aeronautical Construction (Russia); MS, St. Petersburg Aircraft Academy (Russia); Ph.D., St. Petersburg Polytechnic Institute (Russia)—Professor

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Information Sciences and Technologies

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James Leone, BS, University of Cincinnati; MA, Ph.D., Johns Hopkins University—Professor

Peter Lutz, BS, St. John Fisher College; MS, Ph.D., State University of New York at Buffalo—Graduate Program Director; Professor

Sharon P. Mason, BS, Ithaca College; MS, Rochester Institute of Technology—Director, Women in Computing; Associate Professor

Tae (Tom) Oh, BS, Texas Tech University; MS, Ph.D., Southern Methodist University—Associate Professor

Sylvia Perez-Hardy, BS, MBA, Cornell University—Associate Professor

Nirmala Shenoy, BE, ME, University of Madras (India); Ph.D., University of Bremen (Germany)—Professor

Brian Tomaszewski, BS, University at Albany; MA, University at Buffalo; Ph.D., Pennsylvania State University—Assistant Professor

Ronald P. Vullo, BS, LeMoyne College; Ed.M., Ph.D., University at Buffalo—Associate Professor

Elissa M. Weeden, BS, MS, Rochester Institute of Technology—Associate Professor

Michael A. Yacci, BS, Ithaca College; MS, Rochester Institute of Technology; Ph.D., Syracuse University—Professor

Qi Yu, BS, Zhejiang University (China); M.E., National University of Singapore (Singapore); Ph.D., Virginia Polytechnic Institute—Assistant Professor

Interactive Games and Media

Tona Henderson, BS, Southwest Missouri State University; MS, University of Missouri—Director; Associate Professor

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Elizabeth Lane Lawley, AB, MLS, University of Michigan; Ph.D., University of Alabama—Professor

Elouise Oyzon, BFA, MFA, Rochester Institute of Technology—Associate Professor

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Software Engineering

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Kate Gleason College of Engineering

Harvey J. Palmer, Dean
rit.edu/kgcoe

Programs of study

	Bachelor of Science degrees in:	Page
	Biomedical Engineering *Focus areas available in biomaterials; biomedical device and system design; biomedical signal processing; and physiological modeling, dynamics and control.*	54
#	Chemical Engineering	56
#	Computer Engineering	58
#	Electrical Engineering *Focus areas available in clean and renewable energy, computer engineering, robotics, and wireless communication.*	59
#	Industrial Engineering	61
#	Mechanical Engineering *Options available in aerospace engineering, automotive engineering, bioengineering, and energy and the environment.*	65
#	Microelectronic Engineering	68
	Certificate in:	
	Integrated Electronics	70

Accelerated BS/MS option available.

The majors offered by the Kate Gleason College of Engineering prepare students for careers in industry or for graduate study in engineering and related fields. Students develop a strong intellectual foundation for lifelong learning through a balance of course work in the liberal arts, physical sciences, and professional studies. The college offers majors leading to a bachelor of science degree in biomedical, chemical, computer, electrical, industrial, mechanical, and microelectronic engineering. All students participate in a five-year program that integrates a comprehensive four-year academic major with one year of cooperative education experience. Beginning after the second year of study, students typically alternate study on campus with cooperative education.

The first two years of each major emphasize mathematics, science and introductory-level engineering fundamentals to establish a foundation for the applied sciences and engineering subjects that follow in the third, fourth, and fifth years. Students also acquire hands-on design experience in their first year. This introduces, as early as possible, the creative and innovative elements of engineering practice, helps students develop a strong appreciation for their engineering discipline, and prepares them for meaningful work experience on their first co-op placement. Advanced courses, of both a fundamental and applied nature, are taught in the fourth and fifth years.

Each major has a full complement of technical and free electives so that students may tailor their educational experiences to address special interests and career goals. In particular, all majors offer the flexibility of pursuing minors in a wide range of academic disciplines, from business and foreign language to the arts. In their fifth year, all students participate in Senior Design, a distinctive element of the Kate Gleason College. This broad-based, multidisciplinary design initiative provides the opportunity for student teams from a variety of disciplines to generate creative and innovative solutions to real-world, industry-inspired engineering problems.

In addition to the foundation and engineering courses in each major, students take a variety of other courses that enhance their education. In modern society, engineering decisions are rarely made without considering the ethical and socio-economic impacts. Because the ability to communicate clearly and effectively with others is indispensable to an engineer, a significant portion of the curriculum is devoted to the liberal arts. These courses sensitize students to the factors that surround most decision-making situations, improving their ability to communicate with others, making their professional lives more meaningful, and encouraging their positive impact on society.

Goals

The overarching goals of the engineering program are to:

- educate students to become engineering professionals who are highly marketable and able to make an immediate impact in the workplace, and
- provide graduates with the educational foundation needed to succeed in selective graduate programs across the nation.

The Kate Gleason College accomplishes these goals by:

- integrating cooperative education into the program for all students,
- providing a strong foundation in mathematics and science as well as an appropriate balance between the liberal arts and technical courses,
- establishing an appropriate balance between the engineering design and engineering science components of the program,
- incorporating a strong laboratory component that is supported by outstanding laboratory facilities, and
- having a diverse faculty committed to engineering education.

Advances in engineering and technology are occurring at a rapid rate. Our career-oriented programs allow us to respond quickly to these changes, keeping our curriculum current and responsive to industry needs.

Admission requirements

For more information on undergraduate admission, including freshman and transfer admission guidelines, please refer to the Undergraduate Admission section of this bulletin.

Financial aid and scholarships

Please refer to the Financial Aid and Scholarships section of this bulletin for information regarding financial aid, scholarships, loans, and grants.

Faculty

The college's faculty is dedicated to teaching, research, and professional development with an emphasis on student involvement and success. Many faculty members have significant industrial experience that enhances their ability to convey the relevance of the subject matter in multiple contexts. Over 90 percent of the faculty members hold doctoral degrees.

Facilities and resources

The college's programs reside in a building complex that includes over 350,000 square feet of classrooms, machine shops, computer-based design capabilities, and specialized laboratories for teaching and research. Highlights include an integrated circuit design center, computer labs with industry-standard CAD software packages, more than 10,000 square feet of Class-1000 clean-room laboratory space for the fabrication of integrated circuits, a machining and manufacturing center equipped with state-of-the-art computer numerically controlled (CNC) machinery and 3D printing equipment, and a first-in-class engineering design center to teach product development and innovation. The engineering complex offers wireless access throughout. The chemical engineering and biomedical engineering majors reside in the newly constructed Institute Hall, which consists of 86,000 sq. ft. of office space, classrooms, labs, and open spaces. There are dedicated teaching and research labs, computer labs, a chemical stock room, and a green data center.

Cooperative education

RIT's cooperative education requirement enhances the knowledge students acquire in the academic setting with on-the-job experience. The exposure is invaluable in bringing the engineering discipline to life for students, providing a meaningful framework for the complex concepts that are studied in the classroom. Co-op experiences also acquaint students with the constraints imposed by the industrial environment on the solution of real-world engineering problems and help them decide which career path would be most rewarding. The Office of Cooperative Education and Career Services assists students in identifying and applying for co-op positions.

Students typically begin co-op after two years of study, at a time when their educational background qualifies them for jobs that involve meaningful engineering work. One example of how cooperative education may be integrated into the academic program is shown.

YEAR	FALL	SPRING	SUMMER
One	RIT	RIT	--
Two	RIT	RIT	--
Three	Co-op	RIT	Co-op
Four	RIT	Co-op	Co-op
Five	RIT	RIT	--

Accreditation

All eligible majors have received national accreditation by ABET (Accreditation Board of Engineering and Technology), which is a prerequisite for licensure as a professional engineer in many states. The chemical and biomedical engineering majors, which are not yet eligible, were designed to achieve accreditation immediately following the graduation of the first cohort of students in each major. In their final semester of study, graduating seniors in ABET approved majors are eligible to sit for the NCEES Fundamentals of Engineering (FE) section of the New York State Professional Engineering examination, which is the first step in the process for licensure as a Professional Engineer (PE).

Advising

Upon entry into the Kate Gleason College, each student is assigned a faculty adviser who is available for academic advising and career counseling. In addition, the college's Student Services Office provides specialized co-curricular programs and individual counseling to meet students' needs.

Academic enrichment

The Honors Program: The Honors Program is designed to enrich the academic and professional experiences of some of the best students who apply to RIT. Honors participants have access to distinctive courses, receive special advising within the college, and enjoy privileges such as early registration and access to special housing. Engineering students enrolled in the Honors program are eligible to participate in a unique curriculum that focuses on product innovation for a global economy and strives to educate students about how engineers become leaders who shape the future of our society. Highlights include an all-expenses-paid trip to a key industry center, which provides a first-hand exposure to industry best practices in the conceptualization, development, design, and manufacture of innovative products from both a domestic and global perspective. Travel destinations have included a variety of destinations known for their diverse portfolio of engineering companies (e.g., Seattle, San Francisco, Phoenix, Austin, Miami; and Guadalajara, Mexico). Seminars and social events with engineering faculty mentors round out the program.

Minors: RIT offers students more than 80 minors to choose from to enhance their academic program or further develop a personal area of interest. For a detailed list of minors, including courses, please refer to the Minors section of this bulletin.

Study Abroad: RIT encourages all students to consider a study abroad program. Students may study full time at a variety of host schools and are able to select both courses in their majors and/or liberal arts classes. The Study Abroad Office has information about foreign study options and opportunities. Students may choose to take advantage of a growing number of opportunities for study

abroad, co-op placement outside the United States, or collaboration with students at an international university.

Writing competency: All students are required to be proficient in writing the English language. This is accomplished through required courses in the liberal arts and through writing requirements established and monitored by individual departments. A passing grade on the college's writing test, administered in the third, fourth, or fifth year, is required for graduation.

Professional student organizations: The college maintains memberships in the following professional organizations: American Institute of Chemical Engineers, American Society of Mechanical Engineers, Biomedical Engineering Society, Engineers for a Sustainable World, Institute of Electrical and Electronic Engineers, Institute of Industrial Engineers, Microelectronic Engineering Student Association, National Society of Black Engineers, Society of Automotive Engineers, Society of Hispanic Professional Engineers, Society of Manufacturing Engineers, and Society of Women Engineers.

Special Opportunities

Accelerated dual degree options: Many of the engineering majors offer accelerated dual degree (BS/MS, BS/ME, or BS/MBA) options. These options offer students the opportunity to earn a bachelor's degree and a master's degree in less time than pursuing each degree individually. Please refer to individual programs, the Graduate Bulletin, or the college's website for more information.

Graduate study: The college offers a doctorate degree in microsystems engineering; master of science degrees in applied statistics, computer engineering, electrical engineering, industrial and systems engineering, materials science and engineering (offered jointly with the College of Science), mechanical engineering, microelectronic engineering, product development, manufacturing leadership, and sustainable engineering; master of engineering degrees in engineering management, industrial and systems engineering, mechanical engineering, microelectronics manufacturing engineering, and sustainable engineering; and advanced certificates in lean six sigma, statistical quality, and vibrations. For more information regarding these graduate programs, please refer to the Graduate Bulletin or visit the college's website.

Women and minorities in engineering: The Kate Gleason College is proud of its many co-curricular programs that have helped build a strong sense of community among its students and faculty. Focused on student success, the college's Office of Student Services manages a variety of special programs to enhance the quality of the educational experience for female and minority engineering students.

Our nationally recognized Women in Engineering (WE@RIT) program is dedicated to increasing the representation of women within the engineering disciplines through outreach and community building. Current students can participate in these programs and learn valuable leadership skills, network with women engineers in the area, and have access to resources that help prepare them for success. For more information visit rit.edu/women.

Engineering Exploration, Undeclared

rit.edu/kgcoe/student-resource/engineering-exploration
Karen Hirst, Assistant Dean for Student Services
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Program overview

The engineering exploration option is for students who would like additional time to fully explore RIT's portfolio of engineering majors before committing to a program of study. Students may choose a major anytime during the first year.

Curriculum

Students complete foundation courses required by all the engineering disciplines. Course work taken in the engineering exploration option will transfer into all engineering majors without any loss of credits hours.

During the fall semester, engineering exploration students take Engineering Exploration Seminar (EGEN-100). In this course, students are introduced to the curriculum of each engineering major offered by the Gleason College. Sample lab and project work is presented as well as the various career opportunities pertaining to each major. Additional career-oriented activities are available through this option, including meeting with engineering faculty and students in the different majors, observing presentations of engineering design projects, exploring engineering laboratory facilities, and one-on-one consulting with an academic adviser regarding engineering courses.

Undeclared engineering, typical course sequence

COURSE		SEMESTER CREDIT HOURS
MATH-181	Project-Based Calculus I	4
CHMG-131	General Chemistry for Engineering	4
	LAS Foundation 1: First Year Seminar†	
	LAS Foundation 2: First Year Writing	3
EGEN-100	Engineering Exploration Seminar	1
	LAS Perspective Courses	6-9
MATH-182	Project-Based Calculus II	4
PHYS-211	University Physics I	4
	Engineering Course‡	1-6
	YearOne	0
	Wellness Education*	0
Total Semester Credit Hours		**29-34**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students choose one or two courses to take in consultation with their adviser.

Biomedical Engineering, BS

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Program overview

Educational objectives

The bachelor of science degree in biomedical engineering prepares graduates to:

- apply fundamental knowledge, skills, and tools of engineering in a wide variety of biomedical application domains.
- possess a broad education and knowledge of contemporary issues relevant to the practice of the biomedical engineering profession.

- engage in lifelong learning as a means of adapting to change, refining skill level, and remaining aware of professional and societal issues.
- communicate effectively as individuals, and within and across teams.
- accept the professional and ethical responsibilities to function as a biomedical engineer in society.
- work as engineering professionals in the private or public sector.
- enter graduate education programs and obtain advanced degrees, if desired.

Biomedical engineers are intimately involved in the development of devices and techniques to address issues associated with the state of human health. Such development is inherently a multidisciplinary endeavor requiring expertise from a wide range of professionals, and in particular engineers from the classical disciplines such as chemical, electrical, and mechanical engineering. This is true whether in industrial, research, or clinical settings. A fully successful multidisciplinary team must have at least one member who possesses a comprehensive understanding of the highly variable and intricate nature of the biomedical system of interest. This team member must possess the quantitative and analytical engineering skills needed to precisely define the challenge that is being addressed and assess the relative effectiveness of plausible solution strategies. This crucial role can be performed effectively by a biomedical engineer expressly educated to meet those requirements and qualifications.

The BS degree in biomedical engineering delivers a focused curriculum that targets the biomedical enterprise from a highly quantitative and analytically rigorous perspective. The goal is to enable participants to compete successfully for engineering-related positions immediately upon graduation or to pursue post-graduate education in engineering, science, or medicine. Undergraduates will have the ability to contribute significantly to the development of new knowledge, understanding, and innovative solutions in the health care industry and across a wide variety of health care related research applications.

Curriculum

Biomedical engineering is a five-year program consisting of 50 weeks of cooperative employment experience and the following course requirements: biomedical engineering core, professional technical electives, science and mathematics, liberal arts, free electives, and wellness education. The program culminates in the fifth year with a two-course multidisciplinary design sequence, a capstone design experience that integrates engineering theory, principles, and processes within a collaborative environment that bridges engineering disciplines.

Biomedical engineering, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
	LAS Foundation 1: First Year Seminar†	3
BIME-181	Introduction to Biomedical Engineering I	1
CHMG-141	LAS Perspective 5: General and Analytical Chemistry I	3
CHMG-145	LAS Perspective 5: General and Analytical Chemistry I Lab	1
MATH-181	Project-Based Calculus I	4
	LAS Foundation 2: First Year Writing	3
BIME-182	Introduction to Biomedical Engineering II	1
CHMG-142	General and Analytical Chemistry II	3
CHMG-146	General and Analytical Chemistry II Lab	1
MATH-182	Project-Based Calculus II	4
PHYS-211	University Physics I	4
	LAS Perspective 1	3
	Year One	0
	Wellness Education*	0
Second Year		
BIME-200	Introduction to Musculoskeletal Biomechanics	3
BIME-250	Biosystems Process Analysis	3
BIME-391	Biomechanics and Biomaterials Lab	1
BIOG-140	Cell and Molecular Biology for Engineers I	3
MATH-231	Differential Equations	3
BIME-370	Introduction to Biomaterials Science	3
CHME-320	Continuum Mechanics I	3
BIOG-141	Cell and Molecular Biology for Engineers II	3
MATH-221	Multivariable and Vector Calculus	4
PHYS-212	LAS Perspective 6: University Physics II	4
	LAS Perspective 2	3
EGEN-099	Engineering Co-op Preparation	0
BIME-499	Cooperative Education (summer)	Co-op
Third Year		
BIME-499	Cooperative Education (fall)	Co-op
BIME-410	Systems Physiology I	3
BIME-440	Biomedical Signals and Analysis	3
CQAS-251	LAS Perspective 7A: Probability and Statistics for Engineers I	3
BIOG-142	Biocompatibility and the Immune System	3
	LAS Perspective 3, 4	6
Fourth Year		
BIME-411	Systems Physiology II (WI)	3
MECE-407	Biomedical Device Engineering	3
CQAS-252	LAS Perspective 7B: Probability and Statistics for Engineers II	3
BIME-450	Numerical and Statistical Analysis of Complex Biosystems	3
BIME-491	Quantitative Physiological Signal Analysis Lab	1
	LAS Immersion 1	3
BIME-499	Cooperative Education (spring)	Co-op
Fifth Year		
BIME-497	Multidisciplinary Senior Design I	3
BIME-460	Dynamics and Control of Biomedical Systems	3
	Professional Electives	6
	Free Electives	6
	LAS Immersion 2, 3	6
BIME-492	Systems Physiology Control and Dynamics Lab	1
BIME-498	Multidisciplinary Senior Design II	3
CQAS-325	DOE for Biomedical Engineers	3
Total Semester Credit Hours		**129**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Typical areas of interest

Biomaterials

An important feature of materials intended for biomedical applications is their compatibility with the environment in which they are employed. This presumes a solid knowledge and understanding of a wide variety of biologically compatible materials. Similarly, the dynamic behavior of the materials in response to stress, strain, and wear must often be assessed in terms of efficacy, safety, and durability. Useful and rigorous modeling, as well as the design and evaluation of material performance, requires a strong foundation in physics, chemistry, and mathematics (including statistics) along with an understanding of appropriate and accurate analysis methods. Courses for this type of work are provided in the core curriculum of the program. However, electives that provide additional expertise in this area (e.g.: material science, probability and statistics, chemistry and chemical engineering) may be obtained by selecting the biomaterials concentration.

Biomedical device and system design

Students will develop the ability to propose and assess innovative ideas and understand the type of analysis and assessment tools that are key elements in the process of developing robust designs. Constraints on such designs are safe and efficient devices, systems, and processes for biomedical applications. This represents a need in industrial, research, and clinical environments, and includes therapeutic, rehabilitative, and research-oriented developments.

Biomedical signal processing
Biological systems are inherently complex and are composed of processes, mechanisms, and phenomena that interact, often in parallel and across a wide range of scales and environments. The ability to determine key aspects of those systems for biomedical applications requires a rigorous and in-depth capability to detect, process, and interpret signals that can be extracted and measured, often in the midst of noise and confounding information. Producing reliable information that can be used to assess or understand those systems requires careful processing and interpretation of available signals.

Physiological modeling, dynamics, and control
Homeostasis is fundamentally a feedback process. Generally, biological systems contain a myriad of interrelated and interacting feedback systems that are inherently non-deterministic in nature and usually have a variety of optimal or satisfactory operating points. If the goal of a therapeutic or rehabilitative system or intervention is to predict the outcome of some intended action, then it becomes essential to accurately model the behavior of the relevant characteristics of the targeted system. This type of analysis can be used to support fundamental research as well as help provide guidance to develop a new device or system. A concentration in this area builds on the core elements of the curriculum as well as an understanding, from a systems perspective, of human physiology.

Chemical Engineering, BS

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Program overview

Chemical engineering applies the core scientific disciplines of chemistry, physics, biology, and mathematics to transform raw materials or chemicals into more useful or valuable forms, invariably in processes that involve chemical change. All engineers employ mathematics, physics, and engineering art to overcome technical problems in a safe and economical fashion. The chemical engineer provides the critical level of expertise needed to solve problems in which chemical specificity and change have particular relevance. They not only create new, more effective ways to manufacture chemicals, they also work collaboratively with chemists to pioneer the development of high-tech materials for specialized applications. Well-known contributions include the development and commercialization of synthetic rubber, synthetic fiber, pharmaceuticals, and plastics. Chemical engineers contribute significantly to advances in the food industry, alternative energy systems, semiconductor manufacturing, and environmental modeling and remediation. The special focus within the discipline on process engineering cultivates a systems perspective that makes chemical engineers extremely versatile and capable of handling a wide spectrum of technical problems.

Students develop a firm and practical grasp of engineering principles and the underlying science associated with traditional chemical engineering applications. They also learn to tie together phenomena at the nano-scale with the behavior of systems at the macro-scale. While chemical engineers have always excelled at analyzing and designing processes with multiple length scales, modern chemical engineering applications require this knowledge to be extended to the nano-scale. The program addresses this emerging need.

Educational objectives

Graduates of the bachelor of science degree in chemical engineering are expected, within a few years of graduation, to have:

- demonstrated an ability to draw upon the fundamental knowledge, skills, and tools of chemical engineering to develop scale-appropriate system-based engineering solutions that satisfy constraints imposed by a global society.
- demonstrated an ability to enhance their skills through formal education and training, independent inquiry, and professional development.
- demonstrated an ability to work independently as well as collaboratively with others, and to have demonstrated leadership, accountability, initiative, and ethical and social responsibility.
- demonstrated the ability to successfully pursue graduate degrees at the master's and/or doctorate levels for those with relevant qualifications.

Curriculum

The core curriculum of the chemical engineering major provides students with a solid foundation in engineering principles and their underlying science. Students choose professional technical electives that provide them with more depth in the chemical engineering field or breadth in other engineering disciplines. These electives may be chosen from those offered within the major, as well as from a department-approved list of engineering courses offered throughout the college. A capstone design experience in the fifth year integrates chemical engineering theory, principles, and processes in a collaborative team environment. Mathematics and science courses, free electives, and liberal arts courses round out the curriculum.

Cooperative education

Students are required to complete 48 weeks of cooperative education, which is full-time, paid work experience that enables students to apply what they have learned to co-op positions in companies around the country and the world. This work experience, coupled with the professional networks created by our students and alumni, often translates into jobs after graduation. Additionally, for those students who develop an interest in research and demonstrate aptitude in the classroom, a limited number of co-op opportunities are possible in which students will work alongside professors as they conduct research in the chemical engineering field.

Electives

Professional technical elective courses offered include:

- CHME-421 Interfacial Phenomena
- CHME-422 Introduction to Applied Rheology
- CHME-431 Advanced Separation Processes
- CJME-489 Special Topics: Topics in Process Dynamics and Control

Chemical engineering, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
CHME-181	Chemical Engineering Insights I	1
CHMG-141	General and Analytical Chemistry I	3
CHMG-145	General and Analytical Chemistry Lab I	1
MATH-181	Project-based Calculus I	4
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
CHME-182	Chemical Engineering Insights II	1
CHMG-142	General and Analytical Chemistry II	3
CHMG-146	General Chemistry Lab II	1
PHYS-211	University Physics I	4
MATH-182	Project-based Calculus II	4
	LAS Perspective 1	3
	YearOne	0
	Wellness Education*	0

COURSE		SEMESTER CREDIT HOURS
Second Year		
CHME-230	Chemical Process Analysis	3
CHMO-231	Organic Chemistry I	3
CHMO-235	Organic Chemistry I Lab	1
MATH-231	Differential Equations	3
	LAS Perspective 2, 3	6
CHME-310	Applied Thermodynamics	3
CHME-320	Continuum Mechanics I	3
CHME-391	Chemical Engineering Principles Lab	2
CHMI-351	Inorganic Chemistry I	3
MATH-221	Multivariable and Vector Calculus	4
EGEN-099	Engineering Co-op Preparation	0
Third Year		
	Cooperative Education (fall)	Co-op
CHME-330	Mass Transfer Operations	3
CHME-321	Continuum Mechanics II	3
CHME-301	Analytical Tech. for Chemical Engineers I	3
CHMA-221	Instrumental Analysis	3
	LAS Perspective 4	3
	LAS Immersion 1	3
Fourth Year		
CHME-350	Multiple Scale Material Science	3
CHME-340	Reaction Engineering	4
CHME-302	Analytical Techniques for Engineers II	3
CHME-491	Chemical Engineering Processes Lab (WI)	2
	LAS Immersion 2, 3	6
	Cooperative Education (spring)	Co-op
Fifth Year		
CHME-451	Analysis of Multi-Scale Processes	3
CHME-489	Special Topic: Advanced Design Capstone	3
CHME-490	Design With Constraint	3
	Professional Technical Electives	9
PHYS-212	University Physics II	4
CHME-401	System Dynamics and Control	3
	Free Electives	6
Total Semester Credit Hours		**129**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Accelerated dual degree option

A five-year accelerated, cross-disciplinary degree is available for motivated, qualified chemical engineering students who are interested in earning a BS in chemical engineering and an MS in science, technology, and public policy (offered by the College of Liberal Arts). The science, technology and public policy program emphasizes the creation and understanding of engineering, science, and technology policy. It enables students to interact with faculty members and researchers who are working on scientific developments and technological innovations that drive new public policy considerations.

Chemical engineers are ideal candidates to augment their education with in-depth knowledge of public policy. The breadth and depth of chemical engineering, as evidenced by the large range of application domains in which they play a role, provides an opportunity for chemical engineers to influence public policy over a broad range of issues of relevance to society. Additionally, as chemical engineers are often called on to mitigate problems of societal importance such as environmental remediation, an in-depth knowledge of government regulations and their origin is often essential for engineering practice.

Chemical engineering, BS degree/Science, technology and public policy, MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
CHME-181	Chemical Engineering Insights I	1
CHMG-141	General and Analytical Chemistry I	3
CHMG-145	General and Analytical Chemistry Lab I	1
MATH-181	Project-based Calculus I	4
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
CHME-182	Chemical Engineering Insights II	1
CHMG-142	General and Analytical Chemistry II	3
CHMG-146	General and Analytical Chemistry Lab II	1
PHYS-211	University Physics I	4
MATH-182	Project-based Calculus II	4
	LAS Perspective 1	3
	YearOne	0
	Wellness Education*	0
Second Year		
CHME-230	Chemical Process Analysis	3
CHMO-231	Organic Chemistry I	3
CHMO-235	Organic Chemistry I Lab	1
MATH-231	Differential Equations	3
	LAS Perspective 2, 3	6
CHME-310	Applied Thermodynamics	3
CHME-320	Continuum Mechanics I	3
CHME-391	Chemical Engineering Principles Lab	2
CHMI-351	Inorganic Chemistry I	3
MATH-221	Multivariable and Vector Calculus	4
EGEN-099	Engineering Co-op Preparation	0
Third Year		
	Cooperative Education (fall)	Co-op
CHME-330	Mass Transfer Operations	3
CHME-321	Continuum Mechanics II	3
CHME-301	Analytical Tech. for Chemical Engineers I	3
CHMA-221	Instrumental Analysis	3
	LAS Perspective 4	3
	FLAS Immersion 1	3
Fourth Year		
CHME-350	Multiple Scale Material Science	3
CHME-340	Reaction Engineering	4
CHME-302	Analytical Techniques for Engineers II	3
CHME-491	Chemical Engineering Processes Lab (WI)	2
PUBL-700	Readings in Public Policy	3
PHYS-212	University Physics II	4
	LAS Immersion 2, 3	6
PUBL-702	Graduate Decision Analysis	3
CHME-451	Analysis of Multi-scale Processes	3
PUBL-703	Program Evaluation and Research Design	3
Fifth Year		
	Professional Electives	9
CHME-401	System Dynamics and Control	3
CHME-451	Analysis of Multi-scale Processes	3
CHME-489	Special Topic: Advanced Design Capstone	3
CHME-490	Design with Constraint	3
PUBL-701	Graduate Policy Analysis	3
	Graduate Electives	9
STSO-710	Graduate Science and Technology Policy Seminar	3
PUBL-790	Thesis	6
Total Semester Credit Hours		**150**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Computer Engineering, BS

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Program overview

The computer engineering major focuses on the design and development of computer and computer-integrated systems, with due consideration to such engineering factors as function, performance, and cost. Computer engineers design and build these systems to meet application requirements with attention to the hardware-software interaction. The program spans topics from formal specifications to heuristic algorithm development; from systems architecture to computer design; from interface electronics to software development, especially real-time applications; and from computer networking to integrated circuit design and implementation.

As an engineering discipline, computer engineering emphasizes the careful adoption of design methodology and the application of sophisticated engineering tools. The intensive programming and laboratory work requirements ensure significant experience with modern facilities and up-to-date design tools.

The computer engineering department focuses on educating students in software, hardware and integration of systems. Faculty have expertise and research in the following areas and students who have a similar interest may choose to take professional electives in these areas as well: high performance computing, nanoscale circuit systems, embedded systems and control, networks and security, and computer vision and signal processing.

The cooperative education program enables students to apply the principles and techniques of computer engineering to real industrial problems and provides them with a stronger framework on which to build their academic courses. These co-op work periods alternate with academic semesters throughout the last three years of the program.

The faculty members of the computer engineering department are committed to quality engineering education and student success.

Educational objectives

The computer engineering department has established the following educational objectives for the computer engineering program, which describe the accomplishments of its graduates during the first few years following graduation:

Career focus: Graduates successfully contribute to the professional workforce typically by applying their knowledge in various areas of computer engineering related to hardware, software, and/or systems.

Graduate study: Many graduates have pursued, are pursuing, or plan to pursue graduate study in computer engineering, related disciplines, or in business.

Independent learning: Graduates are engaged in lifelong learning and stay current with advancements in their chosen field through independent learning and/or continuing education.

Professionalism: Graduates conduct themselves in a professional and ethical manner and function as responsible members of society.

Accreditation

The BS program in computer engineering is accredited by the Engineering Accreditation Commission of ABET, abet.org.

Principal field of study

For students matriculated in the interdisciplinary computer engineering program, the principal field of study is defined as all courses taken in the Kate Gleason College of Engineering and the departments of computer science and software engineering.

Curriculum

Computer engineering, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
CMPE-110	Introduction to Computer Engineering	1
MATH-181, 182	Project-based Calculus I, II	8
CSCI-141, 142	Computer Science I, II	8
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
CMPE-160	Digital Systems Design I	3
PHYS-211	University Physics I	4
	LAS Perspective 1, 2	6
	Wellness Education*	0
Second Year		
CMPE-250	Assembly Language	3
MATH-190	Discrete Math for Computing	3
MATH-219	Multivariable Calculus	3
PHYS-212	University Physics II	4
SWEN-261	Introduction to Software Engineering	3
	LAS Perspective 3	3
CMPE-260	Digital Systems Design II	4
EEEE-281	Circuits I	3
MATH-231	Differential Equations	3
MATH-241	Linear Algebra I	3
EGEN-099	Engineering Co-op Preparation	0
Third Year		
CMPE-350	Computer Organization	3
EEEE-282	Circuits II	3
EEEE-381	Electronics I	3
CMPE-380	Applied Programming	3
	LAS Perspective 4	3
CMPE-499	Cooperative Education‡	Co-op
Fourth Year		
CMPE-499	Cooperative Education‡	Co-op
CMPE-460	Interface and Digital Electronics	4
CMPE-480	Digital Signal Processing	3
CMPE-550	Computer Architecture (WI)	3
MATH-251	Probability and Statistics I	3
	LAS Immersion 1	3
Fifth Year		
CMPE-495, 496	Senior Design Projects I, II	6
CMPE-570	Data and Communication Networks	3
CMPE-530	Digital IC Design	3
	LAS Immersion 2, 3	6
	Professional Electives	6
	Free Electives	6
Total Semester Credit Hours		**129**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Cooperative education may be completed during the fall, spring, or summer semesters.

Accelerated dual degree option

An accelerated dual degree (BS/MS) option is available to students who qualify. Students may apply in their second year of study and requirements are strict. Students usually finish this program in five years with the addition of the summer following their course completion. A thesis is required.

Computer engineering, BS/MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
CMPE-110	Introduction to Computer Engineering	1
MATH-181, 182	Project-Based Calculus I, II	8
CSCI-141, 142	Computer Science I, II	8
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
CMPE-160	Digital Systems Design I	3
PHYS-211	University Physics I	4
	LAS Perspectives 1, 2	6
	YearOne	0
	Wellness Education*	0

COURSE		SEMESTER CREDIT HOURS
Second Year		
CMPE-250	Assembly Language	3
MATH-190	Discrete Math for Computing	3
MATH-219	Multivariable Calculus	3
PHYS-212	University Physics II	4
SWEN-261	Introduction to Software Engineering	3
	LAS Perspective 3	3
CMPE-260	Digital Systems Design II	4
EEEE-281	Circuits I	3
MATH-231	Differential Equations	3
MATH-241	Linear Algebra I	3
EGEN-099	Engineering Co-op Preparation	0
CMPE-499	Cooperative Education (summer)	Co-op
Third Year		
CMPE-350	Computer Organization	3
EEEE-282	Circuits II	3
EEEE-381	Electronics I	3
CMPE-380	Applied Programming	3
MATH-251	Probability and Statistics I	3
	LAS Perspective 4	3
CMPE-499	Cooperative Education‡	Co-op
Fourth Year		
CMPE-460	Interface and Digital Electronics	4
CMPE-480	Digital Signal Processing	3
CMPE-550	Computer Architecture (WI)	3
CMPE-670	Data and Communication Networks	3
CMPE-795	Computer Engineering Graduate Seminar	0
	LAS Immersion 1, 2	6
CMPE-495	Senior Design Projects I	3
	Professional Electives	6
CMPE-630	Digital IC Design	3
	Restricted Core for BS/MS	3
Fifth Year		
CMPE-496	Senior Design Projects II	3
CMPE-610	Analytical Topics in Computer Engineering	3
	Graduate Electives	12
	LAS Immersion 3	3
CMPE-780	Thesis Proposal	0
CMPE-790	Thesis	6
	Free Elective	3
Total Semester Credit Hours		**150**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Cooperative education may be completed during the fall, spring, or summer semesters.

Electrical Engineering, BS

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Program overview

Electrical engineering addresses the high-technology needs of business and industry by offering a rich academic program that includes analog and digital integrated circuits, digital signal processing, radiation and propagation, power electronics, control systems, communications, circuit theory, computer architecture, computer-aided design, embedded systems, solid-state devices, microelectromechanical systems (MEMs), and robotics.

The major prepares students for exciting careers within the varied electrical engineering and allied disciplines and for positions in business management. Graduates also have the foundation to pursue advanced study at the most prestigious graduate schools.

The curriculum, co-op program, and facilities are designed to accomplish the program's educational objectives. Since the ability to design is an essential part of electrical engineering, students are presented with challenging design problems in a number of courses, beginning with Freshman Practicum (EEEE-105) in the first year.

To strengthen students' applied knowledge, laboratories are an integral part of many courses. The department offers a number of classes in studio-style lecture labs, where the instructor presents the lecture in a fully instrumented room that allows immediate observation and implementation of important engineering ideas. Many of our alumni report that the college's facilities are comparable to the best in the industry.

A highlight of the applied engineering experience is the senior project. Students work on a challenging project under the tutelage of an experienced faculty adviser. While experiencing the satisfaction of completing an interesting project and exploring the latest in technology, students develop engineering management and project organization skills, learn to communicate their ideas effectively within a multidisciplinary team, and present their project and ideas to a diverse audience of students, faculty, and industrial partners.

Educational objectives

The electrical engineering faculty, in conjunction with its constituents, have established the following educational objectives. Graduates will:

- Have a strong foundation in mathematics and basic sciences, and core electrical engineering fundamental knowledge and abilities necessary for specialization in all areas of electrical engineering.
- Develop problem solving and design skills for devising and evaluating solutions to electrical engineering problems, including design of components, systems, and experiments.
- Be well-informed about present and emerging technologies significant to electrical engineering.
- Be well-prepared for graduate education.
- Embrace and foster an environment that encourages creativity and enthusiasm for life-long learning.
- Develop professional attributes that include communication skills, teamwork, ethics, and an appreciation for other disciplines, both technical and non-technical, in order to deal with the impact of technology in a global, societal, and organizational context.

Accreditation

The BS in electrical engineering program is accredited by the Engineering Accreditation Commission of ABET, abet.org.

Curriculum

The first two years of the curriculum are devoted to establishing a foundation in mathematics and the physical science, which is essential to the study of electrical engineering. In other courses, students learn about electrical engineering principles such as circuits and digital systems. Practicum courses introduce students to electrical engineering practice and computer-aided design (CAD) tools that are used throughout the five-year program.

In the third and fourth years, students focus on the subjects that form the core of electrical engineering. Courses in circuits, electronics, linear systems, electromagnetic fields, semiconductor devices, communication systems, control systems, and microelectromechanical systems are taught.

During the fifth year, students specialize in an area of professional interest. They complete a senior design project as part of the graduation requirements.

Electrical engineering, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
EEEE-105	Freshman Practicum	1
MATH-181, 182	Project-Based Calculus I, II	8
CHMG-131	General Chemistry for Engineers	3
	LAS Foundation 1: First Year Seminar†	3
EEEE-105	Freshman Practicum	1
	LAS Foundation 2: First Year Writing	3
	LAS Perspective 1, 2, 3	9
PHYS-211	University Physics I	4
EEEE-120	Digital Systems I	3
	YearOne	0
	Wellness Education*	0
Second Year		
MATH-221	Multivariable and Vector Calculus	4
PHYS-212	University Physics II	4
CMPR-271	Computational Problem Solving for Engineers	3
EEEE-281	Circuits I	3
	LAS Perspective 4	3
MATH-231	Differential Equations	3
EEEE-260	Semiconductor Devices	3
EEEE-282	Circuits II	3
EEEE-220	Digital Systems II	3
	Restricted Science Elective	3
EGEN-099	Engineering Co-op Preparation	0
Third Year		
MATH-381	Complex Variables	3
EEEE-374	Electromagnetic Fields and Transmission Lines	4
EEEE-353	Linear Systems	4
EEEE-381	Electronics I	3
	LAS Immersion 1	3
	Cooperative Education (spring)	Co-op
Fourth Year		
MATH-251	Probability and Statistics I	3
EEEE-420	Embedded Systems Design	3
EEEE-414	Classical Control	3
EEEE-482	Electronics II	4
	Free Elective	3
	Cooperative Education (spring)	Co-op
Fifth Year		
EEEE-484	Communication Systems (WI)	3
EEEE-497	Senior Design I	3
EEEE-483	Mechatronics	3
	Professional Electives	9
	LAS Immersion 2, 3	6
EEEE-498	Senior Design II	3
	Free Elective	3
Total Semester Credit Hours		**129**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Focus areas

Students may develop a focus area in one of four options. Students complete all the required courses for the BS in electrical engineering and choose their free and professional electives from a specified set of courses in one of the following areas.

Clean and renewable energy option

Because of the environmental impact, it has become critical that electrical energy be developed from sources that do not pollute the atmosphere, preferably from renewable sources like wind and solar energy. It is equally important that existing electrical generation and distribution systems become more efficient. In the future, research and development in clean and renewable energy will grow at a rate much faster than other areas. Both industry and the federal government are increasing their efforts and financial investment in this area.

Computer engineering option

The computer engineering option is ideal for students interested in designing modern computing systems. Students gain knowledge in areas ranging from C programming, object-oriented programming, assembly language, microprocessor interfacing, and logic design to data structures and computer operating systems.

Robotics option

The robotics option provides students with the theoretical and practical skills required to design robots and robotic devices. Students study advanced programming, robotic systems, principles of robotics, advanced robotics, kinematics and dynamics of robotics manipulators, mobile robots, locomotion types, and complete experiments using various arm and mobile robots. Advanced robotics courses include the dynamics of manipulators and the dynamics of mobile robots with advanced locomotion techniques and path planning.

Wireless communication option

The wireless communications option is ideal for those who want to incorporate the theoretical and practical skills required for understanding, designing, and evaluating wireless communication systems. Wireless communications is a critical enabling technology for many modern products and services. Examples include: mobile telephony, remote Internet access, consumer electronics, medical devices, and location-based services. Students in the wireless communications option take an introductory course addressing wireless communications from a systems perspective. The course covers modern products and services enabled via wireless communication. In the two years that follow, students take a course sequence covering analog communication, digital data communication, and communication over wireless channels. This sequence builds a core of knowledge in the transmission of signals to carry information wirelessly in various practical scenarios. The sequence is complemented with a course covering basic principles in communication networks and the Internet.

Accelerated dual degree option

An accelerated dual degree (BS/MS) option requires the successful completion of at least 150 semester credit hours of undergraduate and graduate study in electrical engineering. Students focus on one of the following areas during the graduate portion of the dual degree: communication, control, digital systems, electromagnetic/microwaves, integrated electronics, MEMS, or signal and image processing.

Students may apply to the BS/MS option in the second semester of their second year, providing that a minimum cumulative grade point average of 3.4 has been obtained at the end of the previous semester.

Electrical engineering, BS/MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MATH-181, 182	Project-Based Calculus I, II	8
CHMG-131	General Chemistry for Engineers	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
	LAS Perspective 1, 2, 3	9
PHYS-211	University Physics I	4
EEEE-120	Digital Systems I	3
	YearOne	0
	Wellness Education*	0
Second Year		
MATH-221	Multivariable and Vector Calculus	4
PHYS-212	University Physics II	4
CMPR-271	Computational Problem Solving for Engineers	3
EEEE-281, 282	Circuits I, II	6
	LAS Perspective 4	3
MATH-231	Differential Equations	3
EEEE-260	Semiconductor Devices	3
EEEE-220	Digital Systems II	3
	Restricted Science Elective	3
EGEN-099	Engineering Co-op Preparation	0

COURSE		SEMESTER CREDIT HOURS
Third Year		
	Cooperative Education (fall)	Co-op
MATH-381	Complex Variables	3
EEEE-374	EM Fields and Trans Lines	4
EEEE-353	Linear Systems	4
EEEE-381	Electronics I	3
	LAS Immersion I	3
Fourth Year		
MATH-251	Probability and Statistics I	3
EEEE-420	Embedded Systems Design	3
EEEE-414	Classical Control	3
EEEE-482	Electronics II	4
	Free Elective	3
EEEE-484	Communication Systems (WI)	3
EEEE-483	Mechatronics	3
	LAS Immersion 2	3
EEEE-602	Random Signals and Noise	3
EEEE-603	Matrix Methods in Electrical Engineering	3
EEEE-790	MS Thesis	3
Fifth Year		
EEEE-497, 498	Senior Design I, II	6
	Professional Electives	9
	LAS Immersion 3	3
	Graduate Electives	9
EEEE-790	MS Thesis	3
	Free Elective	3
Total Semester Credit Hours		**150**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Industrial Engineering, BS

rit.edu/kgcoe/ise

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Program overview

Industrial engineers design, optimize, and manage the process by which products are made and distributed across the world (i.e., global supply chain), or the way services are delivered in industries such as banking, health care, energy, or entertainment. Industrial engineers ensure that high-quality products and services are delivered in a cost-effective manner.

Industrial engineering is ideal for those who enjoy both technology and working with people. Industrial engineers frequently spend as much time interacting with other engineers and product users as they do at their desks and computers. Typical work involves developing applied models and simulations of processes to evaluate overall system efficiency.

A degree in industrial engineering offers students a significant opportunity for a flexible long-term career. Employers have consistently praised the quality of RIT's industrial engineering graduates, noting that the range of their abilities includes both strong technical knowledge and communication skills. Graduates have used their technical base as a springboard to careers in management, consulting, manufacturing, sales, health care, law, and education.

Because of the flexible nature of the major, the industrial engineering student can gain breadth of knowledge in many different areas of industrial engineering, including, but not limited to, advanced manufacturing, distribution/logistics, ergonomics/human factors, modeling/simulation, and sustainable design and development. Students may choose free and professional electives for this purpose. Faculty are committed to high-quality engineering education as well as the program's educational objectives.

The industrial engineering curriculum covers the principal concepts of engineering economics and project management, facilities planning, human performance, mathematical and simulation modeling, production control, applied statistics and quality, and contemporary manufacturing production processes that are applied to solve the challenges presented by the global environment and economy of today. The curriculum stresses the application of contemporary tools and techniques in solving engineering problems.

As described by the Institute of Industrial Engineers on the organization's website:

"Industrial engineering is about choices. Other engineering disciplines apply skills to very specific areas. IE gives practitioners the opportunity to work in a variety of businesses.

Many practitioners say that an industrial engineering education offers the best of both worlds: an education in both engineering and business.

The most distinctive aspect of industrial engineering is the flexibility it offers. Whether it's shortening a roller coaster line, streamlining an operating room, distributing products worldwide, or manufacturing superior automobiles, these challenges share the common goal of saving companies money and increasing efficiencies.

As companies adopt management philosophies of continuous productivity and quality improvement to survive in the increasingly competitive world market, the need for industrial engineers is growing. Why? Industrial engineers are the only engineering professionals trained specifically to be productivity and quality improvement specialists.

Industrial engineers figure out how to do things better. They engineer processes and systems that improve quality and productivity. They work to eliminate waste of time, money, materials, energy and other commodities. This is why many industrial engineers end up being promoted into management positions.

Many people are misled by the term industrial engineer. It's not just about manufacturing. It also encompasses service industries, with many IEs employed in entertainment industries, shipping and logistics businesses, and health care organizations."

Industrial engineers are "big-picture" thinkers, much like systems integrators. IEs spend most of their time out in the work environment, using scientific approaches to solve today's problems while they develop solutions for the future.

Educational objectives

Faculty from the department of industrial and systems engineering, in conjunction with its constituents, have established the following educational objectives for the industrial engineering major:

Systems integrators—Graduates will draw upon broad knowledge to develop integrated systems-based engineering solutions that include the consideration of realistic constraints within contemporary global, societal, and organizational contexts.

Lifelong learners—Graduates will develop engineering solutions using the skills and knowledge acquired through formal education and training, independent inquiry, and professional development.

Graduate education—Graduates will be well-prepared to pursue graduate degrees.

Engineering professionals—Graduates will work independently as well as collaboratively with others and demonstrate leadership, accountability, initiative, and ethical and social responsibility.

With rapidly changing work environments, students need a well-rounded education that will allow them to apply engineering principles to new situations.

Accreditation

The BS program in industrial engineering is accredited by the Engineering Accreditation Commission of ABET, abet.org.

Curriculum

Industrial engineering, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
	LAS Foundation 1: First Year Seminar†	3
ISEE-120	Fundamentals of Industrial Engineering	3
CHMG-131	General Chemistry for Engineers	3
MATH-181, 182	Project-Based Calculus I, II	8
	LAS Perspective 1, 2	6
ISEE-140	Materials Processing	3
PHYS-211	University Physics I	4
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
ISEE-200	Computing for Engineers	3
MATH-221	Multivariable and Vector Calculus	4
PHYS-212	University Physics II	4
CQAS-251	Probability and Statistics for Engineers I	3
CQAS-252	Probability and Statistics for Engineers II	3
	LAS Perspective 3, 4	6
MECE-200	Fundamentals of Mechanics	4
MATH-233	Linear Systems and Differential Equations	4
ISEE-345	Engineering Economy	3
EGEN-099	Engineering Co-op Preparation	0
Third Year		
ISEE-499	Cooperative Education (fall and summer)	Co-op
ISEE-301	Operations Research	4
ISEE-350	Engineering Management	3
ISEE-330	Ergonomics and Human Factors (WI)	4
ISEE-323	Facilities Planning	3
MECE-304	Fundamentals of Materials Science	2
MECE-306	Materials Science with Applications Laboratory	1
Fourth Year		
ISEE-420	Production Planning and Scheduling	3
ISEE-460	Applied Statistical Quality Control	3
ISEE-510	Systems Simulation	3
ISEE-421	Design and Analysis of Production Systems	3
	LAS Immersion 1	3
ISEE-499	Cooperative Education (spring and summer)	Co-op
Fifth Year		
ISEE-561	Linear Regression Analysis	3
ISEE-497	Multidisciplinary Senior Design I	3
	Professional Electives	9
	Free Electives	6
	LAS Immersion 2, 3	6
ISEE-498	Multidisciplinary Senior Design II	3
Total Semester Credit Hours		**129**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Accelerated 4+1 BS/MBA option

An accelerated 4+1 option is available for students who wish to earn a BS in industrial engineering and an MBA. The option is offered in conjunction with Saunders College of Business and allows students to obtain both degrees in five years of study.

Accelerated dual degree options

The department offers several accelerated dual degree (BS/MS and BS/ME) options, where select students may complete a BS and an MS or ME in industrial engineering in five years. The following options are available:

- BS in Industrial Engineering and an ME in Industrial and Systems Engineering
- BS in Industrial Engineering and an MS in Industrial and Systems Engineering
- BS in Industrial Engineering and an ME in Sustainable Engineering
- BS in Industrial Engineering and an MS in Sustainable Engineering
- BS in Industrial Engineering and an ME in Engineering Management
- BS in Industrial Engineering and an MS in Applied Statistics

Industrial engineering, BS degree/Industrial and systems engineering, ME degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
	LAS Foundation 1: First Year Seminar†	3
ISEE-120	Fundamentals of Industrial Engineering	3
CHMG-131	General Chemistry for Engineers	3
MATH-181, 182	Project-Based Calculus I, II	8
	LAS Perspective 1, 2	6
ISEE-140	Materials Processing	3
PHYS-211	University Physics I	4
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
ISEE-200	Computing for Engineers	3
MATH-221	Multivariable Calculus	4
PHYS-212	University Physics II	4
CQAS-251	Probability and Statistics for Engineers I	3
CQAS-252	Probability and Statistics for Engineers II	3
	LAS Perspective 3, 4	6
MECE-200	Fundamentals of Mechanics	4
MATH-233	Linear Systems and Differential Equations	4
ISEE-345	Engineering Economy	3
ISEE-499	Cooperative Education (summer)	Co-op
EGEN-099	Engineering Co-op Preparation	0
Third Year		
ISEE-499	Cooperative Education (fall)	Co-op
ISEE-301	Operations Research	4
ISEE-350	Engineering Management	3
ISEE-330	Ergonomics and Human Factors (WI)	4
ISEE-323	Facilities Planning	3
MECE-304	Fundamentals in Materials Science	2
MECE-306	Materials Science with Applications Laboratory	1
ISEE-499	Cooperative Education (summer)	Co-op
Fourth Year		
ISEE-420	Production Planning and Scheduling	3
ISEE-460	Applied Statistical Quality Control	3
ISEE-510	Systems Simulation	3
ISEE-421	Design and Analysis of Production Systems	3
	Free Electives	6
	Professional Electives	9
ISEE-760	Design of Experiments	3
	LAS Immersion 1, 2	6
ISEE-499	Cooperative Education (summer)	Co-op
Fifth Year		
ISEE-497, 498	Multidisciplinary Senior Design I, II	6
ISEE-561	Linear Regression Analysis	3
ISEE-771	Engineering of Systems I	3
	Graduate Electives	15
	LAS Immersion 3	3
ISEE-792	Engineering Capstone	3
Total Semester Credit Hours		**153**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Industrial engineering, BS degree/Industrial and systems engineering, MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
	LAS Foundation 1: First Year Seminar†	3
ISEE-120	Fundamentals of Industrial Engineering	3
CHMG-131	General Chemistry for Engineers	3
MATH-181, 182	Project-Based Calculus I, II	8
	LAS Perspective 1, 2	6
ISEE-140	Materials Processing	3
PHYS-211	University Physics I	4
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0

COURSE		SEMESTER CREDIT HOURS
Second Year		
ISEE-200	Computing for Engineers	3
MATH-221	Multivariable Calculus	4
PHYS-212	University Physics II	4
CQAS-251	Probability and Statistics for Engineers I	3
CQAS-252	Probability and Statistics for Engineers II	3
	LAS Perspective 3, 4	6
MECE-200	Fundamentals of Mechanics	4
MATH-233	Linear Systems and Differential Equations	4
ISEE-345	Engineering Economy	3
EGEN-099	Engineering Co-op Preparation	0
ISEE-499	Cooperative Education (summer)	Co-op
Third Year		
ISEE-499	Cooperative Education (fall)	Co-op
ISEE-301	Operations Research	4
ISEE-350	Engineering Management	3
ISEE-330	Ergonomics and Human Factors (WI)	4
ISEE-323	Facilities Planning	3
MECE-304	Fundamentals in Materials Science	2
MECE-306	Materials Science with Applications Laboratory	1
ISEE-499	Cooperative Education (summer)	Co-op
Fourth Year		
ISEE-420	Production Planning and Scheduling	3
ISEE-460	Applied Statistical Quality Control	3
ISEE-510	Systems Simulation	3
ISEE-421	Design and Analysis of Production Systems	3
	Professional Electives	9
	Free Electives	6
ISEE-795, 796	Graduate Seminar I, II	0
ISEE-760	Design of Experiments	3
	LAS Immersion 1, 2	6
ISEE-499	Cooperative Education (summer)	Co-op
Fifth Year		
ISEE-497, 498	Multidisciplinary Senior Design I, II	6
ISEE-561	Linear Regression Analysis	3
ISEE-771	Engineering of Systems I	3
	Graduate Electives	9
	Thesis	6
	LAS Immersion 3	3
Total Semester Credit Hours		**150**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Industrial engineering, BS degree/Sustainable engineering, ME degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
	LAS Foundation 1: First Year Seminar†	3
ISEE-120	Fundamentals of Industrial Engineering	3
CHMG-131	General Chemistry for Engineers	3
MATH-181, 182	Project-Based Calculus I, II	8
	LAS Perspective 1, 2	6
ISEE-140	Materials Processing	3
PHYS-211	University Physics I	4
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
ISEE-200	Computing for Engineers	3
MATH-221	Multivariable and Vector Calculus	4
PHYS-212	University Physics II	4
CQAS-251	Probability and Statistics for Engineers I	3
CQAS-252	Probability and Statistics for Engineers II	3
	LAS Perspective 3, 4	6
MECE-200	Fundamentals of Mechanics	4
MATH-233	Linear Systems and Differential Equations	4
ISEE-345	Engineering Economy	3
EGEN-099	Engineering Co-op Preparation	0
ISEE-499	Cooperative Education (summer)	Co-op
Third Year		
ISEE-499	Cooperative Education (fall)	Co-op
ISEE-301	Operations Research	4
ISEE-350	Engineering Management	3
ISEE-330	Ergonomics and Human Factors (WI)	4
ISEE-323	Facilities Planning	3
MECE-304	Fundamentals in Materials Science	2
MECE-306	Materials Science with Applications Laboratory	1
ISEE-499	Cooperative Education (summer)	Co-op
Fourth Year		
ISEE-420	Production Planning and Scheduling	3
ISEE-460	Applied Statistical Quality Control	3
ISEE-510	Systems Simulation	3
ISEE-421	Design and Analysis of Production Systems	3
	Professional Electives	9
	Free Electives	6
	Engineering Elective	3
	LAS Immersion 1, 2	6
ISEE-499	Cooperative Education (summer)	Co-op
Fifth Year		
ISEE-497, 498	Multidisciplinary Senior Design I, II	6
ISEE-561	Linear Regression Analysis	3
ISEE-771	Engineering of Systems I	3
ISEE-785	Fundamentals of Sustainable Engineering	3
MECE-629	Renewable Energy Systems	3
	Social Context Elective	3
	LAS Immersion 3	3
ISEE-786	Lifecycle Assessment	3
ISEE-787	Design for the Environment	3
	Technology Elective	3
ISEE-792	Engineering Capstone	3
Total Semester Credit Hours		**156**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Industrial engineering, BS degree/Sustainable engineering, MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
	LAS Foundation 1: First Year Seminar†	3
ISEE-120	Fundamentals of Industrial Engineering	3
CHMG-131	General Chemistry for Engineers	3
MATH-181, 182	Project-Based Calculus I, II	8
	LAS Perspective 1, 2	6
ISEE-140	Materials Processing	3
PHYS-211	University Physics I	4
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
ISEE-200	Computing for Engineers	3
MATH-221	Multivariable and Vector Calculus	4
PHYS-212	University Physics II	4
CQAS-251	Probability and Statistics for Engineers I	3
CQAS-252	Probability and Statistics for Engineers II	3
	LAS Perspective 3, 4	6
MECE-200	Fundamentals of Mechanics	4
MATH-233	Linear Systems and Differential Equations	4
ISEE-345	Engineering Economy	3
EGEN-099	Engineering Co-op Preparation	0
ISEE-499	Cooperative Education (summer)	Co-op
Third Year		
ISEE-499	Cooperative Education (fall)	Co-op
ISEE-301	Operations Research	4
ISEE-350	Engineering Management	3
ISEE-330	Ergonomics and Human Factors (WI)	4
ISEE-323	Systems/Facilities Planning	3
MECE-304	Fundamentals in Materials Science	2
MECE-306	Materials Science with Applications Laboratory	1
ISEE-499	Cooperative Education (summer)	Co-op
Fourth Year		
ISEE-420	Production Planning and Scheduling	3
ISEE-460	Applied Statistical Quality Control	3
ISEE-510	Systems Simulation	3
ISEE-421	Design and Analysis of Production Systems	3
	Professional Electives	6
	Free Electives	6
ISEE-795, 796	Graduate Seminar I, II	0
	Technology Elective	3
	Social Context Elective	3
	LAS Immersion 1, 2	6
ISEE-499	Cooperative Education (summer)	Co-op

COURSE		SEMESTER CREDIT HOURS
Fifth Year		
ISEE-497, 498	Multidisciplinary Senior Design I, II	6
ISEE-561	Linear Regression Analysis	3
ISEE-771	Engineering of Systems I	3
ISEE-785	Fundamentals of Sustainable Engineering	3
MECE-629	Renewable Energy Systems	3
	LAS Immersion 3	3
ISEE-786	Lifecycle Assessment	3
ISEE-787	Design for the Environment	3
ISEE-790	Thesis	6
Total Semester Credit Hours		**153**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Industrial engineering, BS degree/Engineering management, ME degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
	LAS Foundation 1: First Year Seminar†	3
ISEE-120	Fundamentals of Industrial Engineering	3
CHMG-131	General Chemistry for Engineers	3
MATH-181, 182	Project-Based Calculus I, II	8
	LAS Perspective 1, 2	6
ISEE-140	Materials Processing	3
PHYS-211	University Physics I	4
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
ISEE-200	Computing for Engineers	3
MATH-221	Multivariable and Vector Calculus	4
PHYS-212	University Physics II	4
CQAS-251	Probability and Statistics for Engineers I	3
CQAS-252	Probability and Statistics for Engineers II	3
	LAS Perspective 3, 4	6
MECE-200	Fundamentals of Mechanics	4
MATH-233	Linear Systems and Differential Equations	4
ISEE-345	Engineering Economy	3
EGEN-099	Engineering Co-op Preparation	0
ISEE-499	Cooperative Education (summer)	Co-op
Third Year		
ISEE-499	Cooperative Education (fall)	Co-op
ISEE-301	Operations Research	4
ISEE-350	Engineering Management	3
ISEE-330	Ergonomics and Human Factors (WI)	4
ISEE-323	Facilities Planning	3
MECE-304	Fundamentals in Materials Science	2
MECE-306	Materials Science with Applications Laboratory	1
ISEE-499	Cooperative Education (summer)	Co-op
Fourth Year		
ISEE-420	Production Planning and Scheduling	3
ISEE-460	Statistical Quality Control	3
ISEE-510	Systems Simulation	3
ISEE-421	Design and Analysis of Production Systems	3
	Professional Electives	9
	Free Electives	6
ISEE-760	Design of Experiments	3
	LAS Immersion 1, 2	6
ISEE-499	Cooperative Education (summer)	Co-op
Fifth Year		
ISEE-497, 498	Multidisciplinary Senior Design I, II	6
ISEE-561	Linear Regression Analysis	3
ISEE-771	Engineering of Systems I	3
ISEE-750	Systems and Project Management	3
ACCT-794	Cost Management in Technical Organizations	3
	Engineering Management Electives	9
	LAS Immersion 3	3
ISEE-792	Engineering Capstone	3
Total Semester Credit Hours		**153**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Industrial engineering, BS degree/Applied statistics, MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
	LAS Foundation 1: First Year Seminar†	3
ISEE-120	Fundamentals of Industrial Engineering	3
CHMG-131	General Chemistry for Engineers	3
MATH-181, 182	Project-based Calculus I, II	8
	LAS Foundation 1, 2 (WI)	6
ISEE-140	Materials Processing	3
PHYS-211	University Physics I	4
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
ISEE-200	Computing for Engineers	3
MATH-221	Multivariable Calculus	4
PHYS-212	University Physics II	4
CQAS-251	Probability and Statistics for Engineers I	3
CQAS-252	Probability and Statistics for Engineers II	3
	LAS Perspective 3, 4	6
MECE-200	Fundamentals of Mechanics	4
MATH-233	Linear Systems and Differential Equations	4
ISEE-345	Engineering Economy	3
EGEN-099	Engineering Co-op Preparation	0
ISEE-499	Cooperative Education (summer)	Co-op
Third Year		
ISEE-499	Cooperative Education (summer)	Co-op
ISEE-301	Operations Research	4
ISEE-350	Engineering Management	3
ISEE-330	Ergonomics and Human Factors (WI)	4
ISEE-323	Facilities Planning	3
MECE-304	Fundamentals in Material Science	2
MECE-306	Materials Science with Applications Laboratory	1
Fourth Year		
ISEE-420	Production Planning and Scheduling	3
ISEE-421	Design and Analysis of Production Systems	3
ISEE-510	Systems Simulation	3
CQAS-721, 722	Theory of Statistics I, II	6
CQAS-741	Regression Analysis	3
CQAS-611	Statistical Software	3
	Professional Elective	3
CQAS-701	Foundations of Experimental Design	3
	LAS Immersion 1, 2	6
	Free Elective	3
CQAS-795	Graduate Seminar	0
ISEE-499	Cooperative Education	Co-op
Fifth Year		
ISEE-497, 498	Multidisciplinary Senior Design I, II	6
ISEE-460	Statistical Quality Control	3
	Professional Elective	3
	Graduate Electives	9
	LAS Immersion 3	3
	Free Elective	3
CQAS-792	Capstone	3
Total Semester Credit Hours		**150**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Additional information

Facilities

The industrial and systems engineering department is located in the James E. Gleason Building and houses several state-of-the-art laboratories, including the Brinkman Machine Tools and Manufacturing Lab, the Metrology and Rapid Prototyping Lab, the Toyota Production Systems Lab, the Human Performance Lab, the Advanced Systems Integration Lab, the Sustainable Engineering Research Group (SERG) Lab, and the Print Research and Image Systems Modeling (PRISM) Lab. Ample computing facilities reside within each of these specialized labs, as well as a dedicated PC computer lab. These labs offer an extensive library of software to support industrial engineering course work, project work, and research, including conventional word processing, spreadsheet,

and presentation applications (e.g., Microsoft Office), database management (e.g., Microsoft ACCESS), data acquisition (e.g., Lab View), statistical analysis (e.g., Minitab, SAS), facilities layout (e.g., AutoCad, Factory Flow, Factory Plan, LayoutIQ), manufacturing (e.g., MasterCam Cambridge Engineering Selector Software), optimization (e.g., ILOG OPL-CPLEX, LINDO, KNITRO, AMPL, Gurobi, Mathematica), systems simulation software (e.g., Solver, Arena, Promodel), biomechanics (3DSSPP), and lifecycle assessment and costing tools (e.g., SimaPro, CES Eco-Audit).

Careers

In order to optimize processes and systems, industrial engineers apply their knowledge in a wide range of areas, including systems simulation modeling, quality, logistics and supply chain management, ergonomics and human factors, facilities layout, production planning and control, manufacturing, management information systems, and project management. Upon graduation, our students work for a wide array of fields (ranging from manufacturing and distribution/logistics to health care, energy and other services) and companies (including Boeing, IBM, Toyota, Xerox, Intel, General Electric, Hershey, Walt Disney World, Ortho-McNeil Pharmaceutical, Lockheed Martin, and Wegmans Food Markets, to name a few.)

Balance, as well as specialization, has allowed our graduates to pursue varied paths. Examples of the diversity, along with the roles in which an industrial engineer might function, are reflected in the following list of sample industrial engineering co-op assignments.

In manufacturing industries:

- Perform product life studies
- Lay out and improve work areas
- Design production processes to improve productivity
- Investigate and analyze the cost of purchasing new vs. repairing existing equipment
- Investigate delivery service, including scheduling, route modification, and material handling
- Create computer programs to track pricing policies and truck scheduling
- Perform downtime studies of various operations using time study and work sampling
- Develop and computerize a forecasting model
- Perform ergonomic studies and evaluations of workstations and product designs
- Participate in the design process of products and processes to ensure ease of manufacture, maintenance, and remanufacture or recycling

In service industries:

- Design information systems
- Monitor safety and health programs
- Manage hazardous and toxic materials storage and disposal programs
- Manage a facility's projects to ensure they are completed on time and on budget
- Conduct cost analysis of procedures to support decision making
- Schedule operations and manage information flow
- Design supply-ordering systems
- Improve processes in a hospital
- Evaluate waiting time and space utilization in an amusement park

Mechanical Engineering, BS

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Program overview

Mechanical engineering is perhaps the most comprehensive of the engineering disciplines. The mechanical engineer's interests encompass the design of automotive and aerospace systems, bioengineering devices, and energy-related technologies. The spectrum of professional activity for the mechanical engineering graduate runs from research through design and development to manufacturing and sales. Because of their comprehensive training and education, mechanical engineers often are called upon to assume management positions.

The mechanical engineering department offers professional courses in bioengineering, energy systems, applied mechanics, manufacturing, materials science, systems analysis, computer-aided graphics and design, robotics, and automotive and aerospace engineering. The department's laboratories are equipped to provide extensive experimentation in these areas. Laboratory facilities include a well-instrumented wind tunnel, a particle imaging velocimetry laser system for flow visualization, advanced heat transfer systems, robotics, a proton exchange membrane fuel cell, engine dynamometers, fluid flow loops, refrigeration systems, tensile testers, compression testers, torsion testers, hardness testers, X-ray diffractometer, atomic force microscope, dynamic system simulators, a spectrum analyzer, and a well-equipped machine shop.

Educational objectives

The objectives of the mechanical engineering major are to prepare graduates to:

- practice mechanical engineering in support of the design of engineered systems through the application of the fundamental knowledge, skills, and tools of mechanical engineering.
- enhance their skills through formal education and training, independent inquiry, and professional development.
- work independently as well as collaboratively with others, while demonstrating the professional and ethical responsibilities of the engineering profession.
- successfully pursue graduate degrees at the master's and/or doctoral levels, should they choose.

Activities and professional organizations

Students have an opportunity to participate in regional and national design competitions such as the Formula SAE Autosports Competition team, the SAE Aerodesign Club, and the Human-Powered Vehicle Competition team. They also are encouraged to participate in the student chapters of professional societies such as the American Society of Mechanical Engineers, the Society of Women Engineers, the National Society of Black Engineers, the Society of Hispanic Professional Engineers, the American Institute of Aeronautics and Astronautics, and the Society of Automotive Engineers.

Curriculum

The major provides students with a broad academic base complemented by hands-on laboratory activities and cooperative education experience. Students devote their first two years to the study of mathematics, physics, chemistry, liberal arts, and engineering sciences, while the third and fourth years emphasize engineering science, design, and systems.

A student may then specialize by choosing appropriate technical and free elective courses in an area of interest. Each of the listed technical

electives includes a significant design project. In the fifth year, each student is required to complete the capstone design courses, Senior Design I and II (MECE-497, 498).

Students complete liberal arts general education courses in the social sciences and the humanities to round out their education. In the third year, all students must demonstrate writing competency in the English language by successfully completing a college writing exercise evaluated by faculty from the Institute Writing Committee. For some students, this may require work with the Academic Support Center, the English Language Center, or additional course work in the College of Liberal Arts.

Accreditation

The BS in mechanical engineering major is accredited by the Engineering Accreditation Commission of ABET, abet.org.

Mechanical engineering, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
	LAS Foundation 2: First Year Writing	3
MATH-181, 182	LAS Perspective 7A: Project-based Calculus I, II	8
	LAS Perspective 1, 2, 3	9
MECE-102	Engineering Mechanics Lab	3
MECE-104	Engineering Design Tools	3
	LAS Foundation 1: First Year Seminar†	3
MECE-103	Statics	3
	YearOne	0
	Wellness Education*	0
Second Year		
	LAS Perspective 4	3
MATH-219	Multivariable Calculus	3
MECE-205	Dynamics	3
MECE-110	Thermodynamics I	3
MECE-210	Fluid Mechanics I	3
	LAS Immersion 1	3
MATH-231	Differential Equations	3
MECE-203, 204	Strength of Materials I and Lab	4
MECE-305, 306	Materials Science with Applications and Lab	4
	Immersion 1	3
EGEN-099	Cooperative Education Preparation	0
Third Year		
MECE-499	Cooperative Education (fall or spring)	Co-op
MECE-348	Contemporary Issues (WI)	3
MATH-326	Boundary Value Problems	3
EEEE-281	Circuits I	3
MECE-317	Numerical Methods	3
MECE-211	Engineering Measurements Lab	2
	Immersion 2	3
MECE-499	Cooperative Education (summer)	Co-op
Fourth Year		
MECE-499	Cooperative Education (fall or spring)	Co-op
MATH-241	Linear Algebra	3
MECE-320	System Dynamics	3
MECE-310	Heat Transfer I	3
MECE-301	Engineering Applications Lab	2
MECE-3xx	ME Extended Core Elective	3
	Physical Science Elective II	3
MECE-499	Cooperative Education (summer)	Co-op
Fifth Year		
MECE-497, 498	Multidisciplinary Senior Design I, II	6
	ME Applied Elective	3
STAT-205	Applied Statistics	3
	LAS Immersion 3	3
	Free Electives	6
	ME Electives	6
PHYS-212	University Physics II	4
Total Semester Credit Hours		**129**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Options

Students may select a number of course options to gain specialized study in a particular discipline of mechanical engineering. Options include aerospace engineering, automotive engineering, bioengineering, and energy and environment. Participation in one of these options is not required. However, they are offered for those students who seek to pursue a career in one of these specialized fields of mechanical engineering. Students must maintain a GPA of at least 2.0 within the option sequence of courses to remain in the option. The degree requires students to complete four technical electives and three free electives.

Students may elect to complete the major without an option and instead customize their academic study in support of their career plans. The mechanical engineering major is relatively flexible and allows students to pursue options, minors, and even multiple degrees.

Aerospace engineering

The aerospace engineering option allows for specialized study in the engineering aspects of air- and space-borne vehicles and starts with a course introducing students to the aerospace field. The sequence starts in the third year with students taking a variety of electives focused on aerospace. In addition, students are expected to work on an aerospace engineering design project in Multidisciplinary Senior Design I and II (MECE-497, 498) and to pursue co-op employment in a related field.

Automotive engineering

The automotive engineering option offers a series of specialized technical and free elective courses during the fourth and fifth years that provide an introduction to vehicle power plants, dynamics, and control systems. In addition, students are expected to work on an automotive senior design in the fifth year and to pursue co-op employment in a related field.

Bioengineering

The bioengineering option provides an introduction to engineering sciences and design based upon a foundation of biological sciences. The course sequence starts with a biological science elective, which counts as a free elective. Students are expected to work on a bioengineering design project in their fifth year and to pursue co-op employment in a related field.

Energy and environment

This option provides students with exposure to a wide range of opportunities and careers associated with energy-intensive systems and how they relate to the environment. This option increases the number of opportunities students have for careers in the fields of building energy systems, alternative and renewable energy, and direct energy conversion. Students are expected to work on an energy systems design project in senior design and to pursue co-op employment in a related field.

Accelerated dual degree options

Three accelerated dual degree options are available for outstanding mechanical engineering students who wish to earn a both a bachelor's and a master's degree within approximately five years.

- A BS/MS in mechanical engineering has a strong research focus and is primarily directed toward students who plan to continue their education in the pursuit of a doctoral degree.
- A BS/ME in mechanical engineering has a strong career focus for students who plan to seek employment immediately after graduation.
- A BS in mechanical engineering and an MS in science, technology, and public policy has a public policy research focus and is designed for students interested in using their technical preparation as an engineer to help shape future policy decisions.

All students enrolled in the dual degree options are required to complete a graduate thesis and conduct scholarly research.

The BS and MS or ME degrees are awarded simultaneously. A student may apply for admission to this options during their second year of study. A transfer student may apply after completing one semester of study at RIT. Admission is based on a cumulative grade-point average of

at least 3.4, letters of recommendation from faculty, and a letter of application from the student. Students are admitted first to the BS/ME option but may change to the BS/MS option upon approval of a thesis proposal. While pursuing a dual degree option, students are required to maintain a cumulative grade-point average of at least 3.2.

Mechanical engineering, BS/MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
	LAS Foundation 2: First Year Writing	3
MATH-181, 182	LAS Perspective 7A: Project-based Calculus I, II	8
	LAS Perspective 1, 2, 3	9
MECE-102	Engineering Mechanics Lab	3
MECE-104	Engineering Design Tools	3
	LAS Foundation 1: First Year Seminar†	3
MECE-103	Statics	3
	YearOne	0
	Wellness Education*	0
Second Year		
	LAS Perspective 4	3
MATH-219	Multivariable Calculus	3
MECE-205	Dynamics	3
MECE-110	Thermodynamics I	3
MECE-210	Fluid Mechanics I	3
MECE-305, 306	Material Science with Applications and Lab	4
MATH-231	Differential Equations	3
MECE-203, 204	Strength of Materials I and Lab	4
	Physical Science Elective	3
EGEN-099	Cooperative Education Preparation	0
Third Year		
	Immersion 1, 2	6
	Free Elective	3
MATH-326	Boundary Value Problems	3
EEEE-281	Circuits I	3
MATH-241	Linear Algebra	3
MECE-348	Contemporary Issues (WI)	3
MECE-211	Engineering Measurements Lab	2
MECE-317	Numerical Methods	3
MECE-310	Heat Transfer	3
	Extended Core Elective	3
MECE-499	Cooperative Education	Co-op
Fourth Year		
MECE-601	Math I for Engineers	3
MECE-602	Math II for Engineers	3
MECE-301	Engineering Applications Lab	2
MECE-320	System Dynamics	3
PHYS-212	University Physics II	4
	LAS Immersion 3	3
STAT-205	Applied Statistics	3
	Physical Science Elective	3
	Free Elective	3
MECE-499	Cooperative Education	Co-op
Fifth Year		
MECE-497, 498	Multidisciplinary Senior Design I, II	6
	Grad Focus Area Courses	9
	Graduate Electives	9
MECE-790	Thesis	6
Total Semester Credit Hours		**150**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Mechanical engineering, BS/ME degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
	LAS Foundation 2: First Year Writing	3
MATH-181, 182	LAS Perspective 7A: Project-based Calculus I, II	8
	LAS Perspective 1, 2, 3	9
MECE-102	Engineering Mechanics Lab	3
MECE-104	Engineering Design Tools	3
	LAS Foundation 1: First Year Seminar†	3
MECE-103	Statics	3
	YearOne	0
	Wellness Education*	0
Second Year		
	LAS Perspective 4	3
MATH-219	Multivariable Calculus	3
MECE-205	Dynamics	3
MECE-110	Thermodynamics I	3
	Physical Science Elective 1	3
MECE-210	Fluid Mechanics I	3
MATH-231	Differential Equations	3
MECE-203, 204	Strength of Materials I and Lab	4
MECE-305, 306	Material Science with Applications and Lab	4
	Free Elective	3
EGEN-099	Cooperative Education Preparation	0
Third Year		
	Free Elective	3
	Immersion 1, 2	6
MATH-326	Boundary Value Problems	3
EEEE-281	Circuits I	3
MECE-348	Contemporary Issues (WI)	3
MECE-317	Numerical Methods	3
MECE-211	Engineering Measurements Lab	2
MATH-241	Linear Algebra	3
	Extended Core Elective	3
MECE-310	Heat Transfer I	3
MECE-499	Cooperative Education (summer)	Co-op
Fourth Year		
MECE-601	Math I for Engineers	3
MECE-602	Math II for Engineers	3
MECE-320	System Dynamics	3
MECE-301	Engineering Applications Lab	2
MECE-730	Design Project Leadership	3
PHYS-212	University Physics II	4
STAT-205	Applied Statistics	3
	Physical Science Elective	3
	Immersion 3	3
MECE-499	Cooperative Education	0
Fifth Year		
MECE-497, 498	Multidisciplinary Senior Design I, II	6
	Graduate Focus Area Courses	9
	Graduate Electives	12
Total Semester Credit Hours		**150**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Mechanical engineering, BS degree/Science, technology and public policy, MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
	LAS Foundation 2: First Year Writing	3
MATH-181	LAS Perspective 7A: Project-based Calculus I	4
	LAS Perspective 1, 2, 3	9
MECE-102	Engineering Mechanics Lab	3
MECE-104	Engineering Design Tools	3
	LAS Foundation 1: First Year Seminar†	3
MATH-182	LAS Perspective 7B: Project-based Calculus II	4
MECE-103	Statics	3
	YearOne	0
	Wellness Education*	0
Second Year		
	LAS Perspective 4	3
MATH-219	Multivariable Calculus	3
MECE-205	Dynamics	3
MECE-110	Thermodynamics I	3
MECE-210	Fluid Mechanics I	3
	Physical Science Elective	3
MATH-231	Differential Equations	3
MECE-203, 204	Strength of Materials I and Lab	4
MECE-305, 306	Material Science with Applications and Lab	4
	Free Elective	3
EGEN-099	Cooperative Education Preparation	0

COURSE		SEMESTER CREDIT HOURS
Third Year		
	Immersion 1, 2	6
MECE-310	Heat Transfer I	3
MATH-326	Boundary Value Problems	3
MATH-241	Linear Algebra	3
EEEE-281	Circuits I	3
MECE-348	Contemporary Issues (WI)	3
MECE-317	Numerical Methods	3
MECE-211	Engineering Measurements Lab	2
	Extended Core Elective	3
MECE-499	Cooperative Education (spring)	Co-op
Fourth Year		
MECE-320	System Dynamics	3
MECE-301	Engineering Applications Lab	2
	Immersion 3	3
PHYS-212	University Physics II	4
	Graduate Electives	6
	Physical Science Electives	6
PUBL-700	Readings in Public Policy	3
MECE-499	Cooperative Education (spring, summer)	Co-op
Fifth Year		
MECE-497, 498	Multidisciplinary Senior Design I, II	6
STAT-205	Applied Statistics	3
	Graduate Elective	3
PUBL-701	Graduate Policy Analysis	3
PUBL-702	Graduate Decision Analysis	3
PUBL-703	Evaluation and Research Design	3
STSO-710	Graduate Science and Technology Seminar	3
PUBL-790	Thesis	6
Total Semester Credit Hours		**150**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Microelectronic Engineering, BS

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Program overview

Semiconductor technology at the micro and nanometer scale remains a key driver for the world economy. World-wide electronics is expected to top one trillion dollars in 2015 and the semiconductor industry is a star performer in this crucial manufacturing field. The preparation and maintenance of a capable high-tech workforce is important for the nation's economic growth and long-term security. The Kate Gleason College of Engineering developed the first bachelor of science degree in microelectronic engineering in the U.S., and the college continues to provide highly educated and skilled engineers for the semiconductor industry.

Educational objectives

The educational objectives of the microelectronic engineering major are to produce graduates who have the following skills or characteristics:

- A sound knowledge of the fundamental scientific principles involved in the operation, design, and fabrication of integrated circuits.
- A comprehensive understanding of relevant technologies such as integrated circuit process integration and manufacturing. This includes nanolithography and the application of engineering principles to the design and development of current and future semiconductor technologies.
- A professional approach to problem solving, using analytical, academic, and communication skills effectively, with special emphasis on working in teams.
- An enthusiasm for learning and the continuous improvement of skills throughout one's career, exemplified by learning about emerging technologies and adapting to and accepting change within the field.
- A desire to achieve leadership positions in industry or academia.
- A breadth of knowledge, including the multidisciplinary nature of microelectronic engineering as well as the broad social, ethical, safety, and environmental issues within which engineering is practiced.

One of the great challenges in integrated circuit manufacturing is the need to draw on scientific principles and engineering developments from such an extraordinarily wide range of disciplines. The design of microelectronic circuits requires a sound knowledge of electronics and circuit analysis. Optical lithography tools, which print microscopic patterns on wafers, represent one of the most advanced applications of the principles of Fourier optics. Plasma etching involves some of the most complex chemistry used in manufacturing today. Ion implantation draws upon understanding from research in high-energy physics. Thin films on semiconductor surfaces exhibit complex mechanical and electrical behavior that stretches our understanding of basic materials properties.

Scientists and engineers who work in the semiconductor field need a broad understanding of and the ability to seek out, integrate, and use ideas from many disciplines. The major provides the broad interdisciplinary background in electrical and computer engineering, solid-state electronics, physics, chemistry, materials science, optics, and applied math and statistics necessary for success in the semiconductor industry.

Accreditation

The BS in microelectronic engineering major is accredited by the EAC Accreditation Commission of ABET, abet.org.

Curriculum

The curriculum begins with introductory courses in microelectronic engineering and nanolithography (nanopatterning) for integrated circuits. The first two years build a solid foundation in mathematics, physics, and chemistry. The fundamentals of statistics and their applications in the design of experiments, semiconductor device physics and operation, and integrated circuit technology are covered in the second year. This prepares students for their first cooperative education experience. The third year comprises the electrical engineering course work necessary for understanding semiconductor devices and integrated circuits. The fourth and fifth years are dedicated to VLSI design, optics, nanolithography systems and materials, semiconductor processing, professional electives, and a two-course capstone senior project. In the capstone course, students propose and conduct individual research/design projects and present their work at the Annual Microelectronic Engineering Conference, which is organized by the department and well-attended by industrial representatives.

A choice of professional electives and the senior project offer students an opportunity to build a concentration, such as advanced CMOS, VLSI chip design, analog circuit design, electronic materials science, microelectromechanical systems (MEMS), or nanotechnology within this unique interdisciplinary major. Two free elective courses allow students to develop an expertise in a related discipline.

Computing skills are necessary to design, model, simulate, and predict processes and device behavior that are vital to manufacturing. A comprehensive knowledge of statistics is required to manipulate data and process control. As the devices shrink in size, approaching the nanoscale regime where molecular and atomic scale phenomena come into play, elements of quantum mechanics become important.

Important issues such as the technology road map, ethics, societal impact, and global perspectives are built into the curriculum beginning with first-year courses. The major is laid out in a way that keeps students connected with their home department throughout the course of study.

Students gain hands-on experience in the design, fabrication, and testing of integrated circuits (microchips), the vital component in almost every advanced electronic product manufactured today. RIT's undergraduate microelectronics engineering laboratories, which include modern integrated circuit fabrication (clean room) and test facilities, are among the best in the nation. At present, the major is supported by a 150mm complementary metal oxide semiconductor line equipped with diffusion; ion implantation, plasma, and chemical vapor deposition (CVD) processes; chemical mechanical planarization; and device design, modeling, and test laboratories. The microlithography facilities include a ASML i-line and GCA g-line wafer steppers, and a Perkin Elmer MEBES III electron beam mask writer.

Students are required to complete 48 weeks of cooperative education, beginning after their second year of study. Students may find co-op employment at one of the many major integrated circuits manufacturers across the United States. Upon graduation, students are well-prepared to enter industry or pursue graduate school. This major also prepares students to work in emerging technologies such as nanotechnology, microelectromechanical systems, and microsystems.

With the worldwide semiconductor industry growing at an astounding pace, RIT graduates are a valuable resource to the industry. This major offers students an unparalleled opportunity to prepare for professional challenges and success in one of the leading modern areas of engineering. Faculty committed to quality engineering education, state-of-the-art laboratories, strong industrial support, co-op opportunities with national companies, and smaller class sizes make this one of the most value-added programs in the nation.

Microelectronic engineering, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MATH-181	Project-Based Calculus I	4
CHMG-131	General Chemistry for Engineering	3
	LAS Foundation 2: First Year Writing	3
MCEE-101	Introduction to Nanoelectronics	3
	LAS Foundation 1: First Year Seminar†	3
MATH-182	Project-Based Calculus II	4
PHYS-211	University Physics I	4
CMPR-271	Computational Problem Solving for Engineers	3
EEEE-120	Digital Systems I	3
	LAS Perspective 1	3
	YearOne	0
	Wellness Education*	0
Second Year		
MATH-221	Multivariable and Vector Calculus	4
PHYS-212	University Physics II	4
MCEE-205	Statistics and DOE	3
EEEE-281	Circuits I	3
	LAS Perspective 2, 3	6
MATH-231	Differential Equations	3
PHYS-213	Modern Physics	3
EEEE-282	Circuits II	3
MCEE-201	IC Technology	3
EGEN-099	Engineering Co-op Preparation	0
Third Year		
	Cooperative Education (fall)	Co-op
MCEE-320	E&M Fields for Microelectronics	3
MCEE-360	Semiconductor Devices for Microelectronic Engineering	4
MCEE-502	VLSI Process Modeling	3
EEEE-381	Electronics I	3
	Free Elective	3
Fourth Year		
MCEE-499	Cooperative Education (summer)	Co-op
MCEE-505	Lithography Materials and Processes	3
EEEE-353	Linear Systems	4
MCEE-503	Thin Films (WI)	3
EEEE-482	Electronics II	4
	LAS Perspective 4	3
MCEE-499	Cooperative Education (spring and summer)	Co-op
Fifth Year		
MCEE-495	Senior Design I	3
MCEE-550	CMOS Processing	4
	Professional Electives	6
	LAS Immersion 1, 2, 3	9
MCEE-496	Senior Design II	3
MCEE-515	Nanolithography Systems	3
	Free Elective	3
Total Semester Credit Hours		**129**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Accelerated dual degree option

A cross-disciplinary dual degree option is available in which students earn a BS in microelectronic engineering from the Kate Gleason College of Engineering and an MS in materials science and engineering from the College of Science.

This unique option was inspired by trends involving the convergence of advanced materials with nanofabrication and microelectronics in modern microdevices and systems. The five-year option requires the successful completion of 150 semester credits and includes a graduate thesis. One co-op is substituted for the graduate course work to make it an accelerated five-year option. A student may apply for admission to this option in the third year with a grade-point average of at least 3.0.

Microelectronic engineering, BS degree/Materials science and engineering, MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MATH-181	Project-Based Calculus I	4
CHMG-131	General Chemistry for Engineers	3
	LAS Foundation 2: First Year Writing	3
MCEE-101	Introduction to Nanoelectronics	3
	LAS Foundation 1: First Year Seminar†	3
MATH-182	Project-Based Calculus II	4
PHYS-211	University Physics I	4
CMPR-271	Computational Problem Solving for Engineers	3
EEEE-120	Digital Systems I	3
	LAS Perspective 1	3
	YearOne	0
	Wellness Education*	0
Second Year		
MATH-221	Multivariable and Vector Calculus	4
PHYS-212	University Physics II	4
MCEE-205	Statistics and DOE	3
EEEE-281	Circuits I	3
	LAS Perspective 2, 3	6
MATH-231	Differential Equations	3
PHYS-213	Modern Physics	3
EEEE-282	Circuits II	3
MCEE-201	IC Technology	3
EGEN-099	Engineering Co-op Preparation	0
Third Year		
MCEE-499	Cooperative Education (fall)	Co-op
MCEE-320	E&M Fields for Microelectronic Engineering	3
MCEE-360	Semiconductor Devices for Microelectronic Engineering	4
EEEE-381	Electronics I	3
MTSE-702	Polymer Science	3
	Free Elective	3
MCEE-499	Cooperative Education (summer)	Co-op

COURSE		SEMESTER CREDIT HOURS
Fourth Year		
MCEE-603	Thin Films (WI)	3
MCEE-605	Lithography Materials and Processes	3
MTSE-601	Materials Science	3
MCEE or MTSE	Elective	3
	LAS Perspective 4	3
EEEE-353	Linear Systems	4
EEEE-482	Electronics II	4
MCEE-502	VLSI Process Modeling	3
Choose one of the following:		3
MTSE-703	Solid State Science	3
MCEE-713	Physics of Nanostructures	3
MCEE-499	Cooperative Education (summer)	Co-op
Fifth Year		
MCEE-495	Senior Design I	3
	Professional Electives	6
	LAS Immersion 1, 2, 3	9
MTSE-704	Theoretical Methods	3
MCEE-550	CMOS Processing	4
MCEE-515	Nanolithography Systems	3
MTSE-790	Thesis	6
MCEE-496	Senior Design II	3
	Free Elective	3
Total Semester Credit Hours		**150**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Integrated Electronics, Cert.

Robert Bowman, Professor
(585) 475-7917, rjbeee@rit.edu

Program overview

The certificate in integrated electronics offers a comprehensive curriculum on the design of state-of-the-art electronic circuits. Course work builds on an introductory understanding of semiconductor device physics and basic circuit theory. The design of analog and mixed-signal circuits are addressed in courses focusing on issues and trade-offs involved in widely used circuits. In addition, the certificate offers an advanced course to instill an in-depth understanding of all processes involved in designing a modern integrated circuit, including electronic design automation.

This certificate primarily targets people already active in the electrical engineering field and allows experienced technicians and physical designers to become more cross-functional and stronger contributors to multidisciplinary teams. The curriculum provides them with a path for professional growth.

At least five years of working knowledge with electronics and some college-level math and science (e.g., algebra and physics) are required for admission. Applications are reviewed by the program director. Courses in this certificate are available online.

Curriculum

Integrated electronics, certificate, typical course sequence

COURSE		SEMESTER CREDIT HOURS
EEEE-285	Introduction to Circuits	3
EEEE-381	Electronics I	3
EEEE-482	Electronics II	3
EEEE-726	Mixed Signal Design	3
Total Semester Credit Hours		**12**

Harvey J. Palmer, BS, University of Rochester; Ph.D., University of Washington, PE—Dean; Professor

Biomedical Engineering

Daniel B. Phillips, BS, State University of New York at Buffalo; MS, Ph.D., University of Rochester—Department Head; Associate Professor

Iris Asllani, B.Sc., University of Tirana (Albania); M.Sc., Ph.D., University of Washington—Assistant Professor

Jennifer Bailey, BS, Ph.D., Purdue University—Lecturer

Thomas R. Gaborski, BS, Cornell University; MS, Ph.D., University of Rochester—Assistant Professor

Behnaz Ghoraani, B.Sc., Sharif University of Technology (Iran); M.Sc., Amirkabir University of Technology (Iran); Ph.D., Ryerson University (Canada)—Assistant Professor

Blanca Lapizco-Encinas, BS, MS, Instituto Tecnologico de Sonora (Mexico); Ph.D., University of Cincinnati—Associate Professor

Cristian Linte, BS, University of Windsor (Canada); MS, Ph.D., University of Western Ontario (Canada)

Chemical Engineering

Steven J. Weinstein, BS, University of Rochester; MS, Ph.D., University of Pennsylvania—Department Head; Professor

Karuna Koppula, B.Tech., Andhra University (India); MS, University of New Hampshire; Ph.D., Michigan State University—Lecturer

Brian J. Landi, BS, MS, Ph.D., Rochester Institute of Technology—Associate Professor

Harvey J. Palmer, BS, University of Rochester; Ph.D., University of Washington, PE—Dean; Professor

Christiaan Richter, BA, BSc, University of Pretoria; MS, University of Nebraska at Lincoln; Ph.D., Northeastern University—Assistant Professor

Reginald Rogers, BS, Massachusetts Institute of Technology; MS, Northeastern University; Ph.D., University of Michigan—Assistant Professor

Kenneth J. Ruschak, BS, Carnegie Mellon University; Ph.D., University of Minnesota—Research Professor

Patricia Taboada-Serrano, BS, Mayor de San Andres University (Bolivia); MS, Simon Bolivar University (Venezuela); Ph.D., Georgia Institute of Technology—Assistant Professor

Computer Engineering

Shanchieh J. Yang, BS, National Chiao-Tung University (Taiwan); MS, Ph.D., University of Texas at Austin—Department Head; Associate Professor

Adriana Becker-Gomez, BS, Universidad Iberoamericana (Mexico); MS, Texas A&M University; Ph.D., University of Texas at Dallas—Lecturer

Reza Azarderakhsh, M.Sc, Sharif University of Technology (Iran); Ph.D., The University of Western Ontario (Canada)—Assistant Professor

Juan C. Cockburn, BS, Universidad Nacional de Ingenieria (Peru); MS, Ph.D., University of Minnesota—Associate Professor

Amlan Ganguly, B. Tech, Indian Institute of Technology (India); MS, Ph.D., Washington State University—Assistant Professor

Kenneth W. Hsu, BS, National Taiwan Normal University (Taiwan); MS, Ph.D., Marquette University; PE—Professor

Dhireesha Kudithipudi, BS, Nagarjuna University (India); MS, Wright State University; Ph.D., University of Texas at San Antonio—Assistant Professor

Andrés Kwasinski, M.Sc., Ph.D., University of Maryland at College Park—Associate Professor

Sonia Lopez Alarcon, BS, Ph.D., Complutense University of Madrid (Spain)—Assistant Professor

Marcin Lukowiak, M.Sc., Ph.D., Poznan University of Technology (Poland)—Assistant Professor

Roy W. Melton, B.Sc, M.Sc., Ph.D., Georgia Institute of Technology—Senior Lecturer

Raymond Ptucha, MS, Ph.D., Rochester Institute of Technology—Assistant Professor

Andreas E. Savakis, BS, MS, Old Dominion University; Ph.D., North Carolina State University—Professor

Muhammad E. Shaaban, BS, MS, University of Petroleum and Minerals (Saudi Arabia); Ph.D., University of Southern California—Associate Professor

Electrical and Microelectronic Engineering

Sohail A. Dianat, BS, Aria-Mehr University of Technology (Iran); MS, Ph.D., George Washington University—Department Head; Professor

Mustafa A. G. Abushagur, BS, Tripoli University (Libya); MS, Ph.D., California Institute of Technology—Professor

David A. Borkholder, BS, Rochester Institute of Technology; MS, Ph.D., Stanford University—Associate Professor

Robert J. Bowman, BS, Pennsylvania State University; MS, San Jose State University; Ph.D. (Bioengineering), Ph.D. (Electrical Engineering), University of Utah—Professor

Edward E. Brown, Jr., BS, University of Pennsylvania; MS, Ph.D., Vanderbilt University—Associate Professor

William W. Destler, BS, Stevens Institute of Technology; Ph.D., Cornell University—President, RIT; Professor

Dale E. Ewbank, BS, MS, Ph.D., Rochester Institute of Technology—Senior Lecturer

Lynn F. Fuller, BS, MS, Rochester Institute of Technology; Ph.D., State University of New York at Buffalo—Professor

Karl D. Hirschman, BS, MS, Rochester Institute of Technology; Ph.D., University of Rochester—Micron Technology Professor; Associate Professor

Christopher R. Hoople, BS, Union College; Ph.D., Cornell University—Senior Lecturer

Mark A. Hopkins, BS, Southern Illinois University; MS, Ph.D., Virginia Polytechnic Institute and State University—Professor

Michael A. Jackson, BS, MS, Ph.D., State University of New York at Buffalo—Associate Professor

Santosh K. Kurinec, BS, MS, Ph.D., University of Delhi (India)—Professor

Zhaolin Lu, B.A., Chongqing University (China), MS, Michigan Technological University, Ph.D., University of Delaware—Associate Professor

Sergey E. Lyshevski, MS, Ph.D., Kiev Polytechnic Institute (Ukraine)—Professor

Athimoottil V. Mathew, BEE, Jadavpur University (India); M.Tech., Indian Institute of Technology; Ph.D., Queens University (Canada)—Professor

James E. Moon, BS, Carnegie Mellon University; MBA, University of Rochester; MS, Ph.D., University of California at Berkeley—Associate Professor

Sildomar Monteiro, BS, University of Amazonas (Brazil); MS, Aeronautics Institute of Technology; Ph.D., Tokyo Institute of Technology (Japan) - Assistant Professor

Mehran Mozaffari-Kermani, BS, Tehran University (Iran); MS, Western University; Ph.D., Western University—Assistant Professor

P. R. Mukund, BS, MS, Ph.D., University of Tennessee—Professor

Dorin Patru, BS, MS, Technical University of Cluj-Napoca (Romania); Ph.D., Washington State University—Associate Professor

Robert E. Pearson, BS, MS, Rochester Institute of Technology; Ph.D., State University of New York at Buffalo—Director, Microelectronic Engineering Program; Associate Professor

Daniel B. Phillips, BS, State University of New York at Buffalo; MS, Ph.D., University of Rochester—Associate Professor

Stefan Preble, BS, Rochester Institute of Technology; Ph.D., Cornell University—Associate Professor

Ivan Puchades, BS, MS, Ph.D., Rochester Institute of Technology—Research Assistant Professor

Sean L. Rommel, BS, Ph.D., University of Delaware—Associate Professor

Eli Saber, BS, State University of New York at Buffalo; MS, Ph.D., University of Rochester—Professor

Ferat E. Sahin, BS, Istanbul Technical University (Turkey); MS, Ph.D., Virginia Polytechnic Institute— Professor

George B. Slack, BS, Rochester Institute of Technology; MS, University of Rochester—Lecturer

Gill R. Tsouri, B.Sc., M.Sc., Ph.D., Ben-Gurion University (Israel)—Associate Professor

Jayanti Venkataraman, BS, MS, Bangalore University (India); Ph.D., Indian Institute of Science (India)—Professor

Industrial and Systems Engineering

Scott E. Grasman, BS, MS, Ph.D., University of Michigan—Department Head; Professor

Ronald L. Aman, BS, MS, Ph.D., North Carolina State University—Assistant Professor

Robin R. Borkholder, BS, MS, State University of New York at Buffalo—Lecturer

Denis R. Cormier, BS, University of Pennsylvania; MS, State University of New York at Buffalo; Ph.D., North Carolina State University—Earl W. Brinkman Professor

Marcos Esterman, BS, MS, Massachusetts Institute of Technology; Ph.D., Stanford University—Associate Professor

John T. Kaemmerlen, BS, ME, Rochester Institute of Technology—Lecturer

Michael E. Kuhl, BS, Bradley University; MS, Ph.D., North Carolina State University—Professor

Katie McConky, BS, MS, Rochester Institute of Technology; Ph.D., State University of New York at Buffalo—Assistant Professor

Matthew M. Marshall, BS, Rochester Institute of Technology; MS, Ph.D., University of Michigan—Associate Professor

Nabil Z. Nasr, BS, Helwan University (Egypt); M.Eng., Pennsylvania State University; MS, Ph.D., Rutgers University—Assistant Provost and Director, Golisano Institute for Sustainability and CIMS; Professor

Rubén A. Proaño, BS, Universidad San Francisco de Quito (Ecuador); MS, Ph.D., University of Illinois at Urbana-Champaign—Assistant Professor

Rachel Silvestrini, BS, Northern University; MS, Ph.D., Arizona State University—Associate Professor

Brian K. Thorn, BS, Rochester Institute of Technology; MS, Ph.D., Georgia Institute of Technology—Associate Professor

Mechanical Engineering

Edward C. Hensel, BS, Clarkson University; Ph.D., New Mexico State University; PE—Department Head; Professor

Margaret B. Bailey, BS, Pennsylvania State University; Ph.D., University of Colorado at Boulder; PE—Professor

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Agamemnon L. Crassidis, BS, MS, Ph.D., State University of New York at Buffalo—Graduate Director, Associate Professor

Steven Day, BS, Ph.D., University of Virginia—Associate Professor

Elizabeth A. DeBartolo, BS, Duke University; MS, Ph.D., Purdue University—Associate Professor

Hany A. Ghoneim, BS, MS, Cairo University (Egypt); Ph.D., Rutgers University—Professor

Amitabha Ghosh, B.Tech., M.Tech., Indian Institute of Technology (India); Ph.D., Mississippi State University—Professor

Mario W. Gomes, BsE, Cornell University; MS, Georgia Institute of Technology; Ph.D., Cornell University—Assistant Professor

Surendra K. Gupta, B.Tech., Indian Institute of Technology (India); MS, University of Notre Dame; Ph.D., University of Rochester—Professor

Patricia Iglesias Victoria, BS, Ph.D., Polytechnic University of Cartagena (Spain)—Assistant Professor

William A. Humphrey, BS, MS, Case Western Reserve University—Lecturer

Satish G. Kandlikar, BE, Marathwada University (India); M.Tech., Ph.D., Indian Institute of Technology (India)—James E. Gleason Professor

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Kathleen Lamkin-Kennard, BS, Worcester Polytechnic Institute; MS, Ph.D., Drexel University—Associate Professor

Timothy P. Landschoot, BS, MS, Rochester Institute of Technology; MBA, University of Rochester—Senior Lecturer

Kate Leipold, BS, MS, Rochester Institute of Technology—Senior Lecturer

Alexander Liberson, BS, MS, Ph.D., State University of Aerospace Technology (Moscow)—Lecturer

Alan H. Nye, BS, MS, Clarkson College; Ph.D., University of Rochester—Associate Department Head for Outreach; Professor

Ali Ogut, B.Ch.E., Hacettepe University (Turkey); MS, Ph.D., University of Maryland—Professor

Risa J. Robinson, BS, MS, Rochester Institute of Technology; Ph.D., State University of New York at Buffalo—Associate Department Head for Undergraduate Education; Professor

Michael Schertzer, BS, MS, McMaster University (Canada); Ph.D., University of Toronto (Canada)—Assistant Professor

Michael Schrlau, BS, University of Pittsburgh; Ph.D., University of Pennsylvania—Assistant Professor

Frank Sciremammano Jr., BS, MS, Ph.D, University of Rochester; PE—Professor

Robert J. Stevens, BS, Swarthmore College; MS, North Carolina State University; Ph.D., University of Virginia—Associate Professor

Benjamin Varela, BS, Institute of Technology of Juarez (Mexico); MS, Ph.D., New Mexico State University—Associate Professor

Panchapakesan Venkataraman, B.Tech., Indian Institute of Technology (India); MS, Ph.D., Rice University—Associate Professor

Wayne W. Walter, BE, State University of New York Maritime College; MS, Clarkson College; Ph.D., Rensselaer Polytechnic Institute; PE—Professor

John D. Wellin, BS, Rochester Institute of Technology; MS, University of Rochester—Senior Lecturer

The John D. Hromi Center for Quality and Applied Statistics

Donald D. Baker, BA, Trinity College; M.Ed., MBA, Ed.D., University of Rochester—Director; Professor; Quality Management and Problem Solving, Lean Six Sigma

Peter Bajorski, MS, University of Wroclaw (Poland); Ph.D., Technical University of Wroclaw (Poland)—Graduate Chair; Professor, Regression Models, Multivariate Analysis, Nonparametrics, Imaging Science Applications

Ernest Fokoué, Maitrise B.Sc., University of Yaoundé (Cameroon); M.Sc., Aston University (United Kingdom); Ph.D., University of Glasgow (United Kingdom)—Associate Professor, Statistical Machine Learning and Data Mining

Steven M. LaLonde, BA, State University College at Potsdam; MBA, University of Rochester; MA, Ph.D., Syracuse University—Associate Professor, Multivariate Analysis, Survey Design and Analysis, Statistical Computing, Educational and Psychological Measurement

Daniel R. Lawrence, BA, BS, University of Akron; MA, Ball State University; MS, Rochester Institute of Technology; Ph.D., University of Toronto (Canada)—Professor, Multivariate Analysis (categorical data), Qualitative Measurement, Psychometrics, Survey Design and Analysis

Robert J. Parody, BS, Clarkson University; MS, Rochester Institute of Technology; Ph.D., University of South Carolina—Associate Professor, Experimental Design, Response Surface Methods, Quality Control and Improvement

Joseph G. Voelkel, BS, Rensselaer Polytechnic Institute; MS, Northwestern University; Ph.D., University of Wisconsin at Madison-Professor; Experimental Design, Process Modeling and Improvement, Multivariate Analysis, Reliability, Nonparametrics

Microsystems Engineering

Bruce W. Smith, BS, MS, Ph.D., Rochester Institute of Technology—Director; Intel Professor of Research and Technology; Professor

David Borkholder, BS, Rochester Institute of Technology; MS, Ph.D, Stanford University—Bausch and Lomb Associate Professor of Microsystems Engineering

Zhaolin Lu, BS, Changqing University (China); MS, Michigan Technological University; Ph.D., University of Delaware—Associate Professor

Stefan F. Preble, BS, Rochester Institute of Technology; Ph.D., Cornell University—Associate Professor

Jiandi Wan, BS, Wuhan University; Ph.D., Boston University—Assistant Professor

Distinguished Professorships

James E. Gleason Professorship in Mechanical Engineering

Established: 1967

Donor: Estate of James E. Gleason

Purpose: To provide a permanent memorial for Mr. Gleason, who was president of Gleason Works from 1922-1947 and was awarded 36 patents for his many inventions in bevel gear design and manufacturing. Mr. Gleason served on the RIT Board of Trustees for 65 years (1899 until 1964), including 20 years as chairman, and was an enthusiastic supporter of the move of RIT to the Henrietta campus. The professorship is targeted to strengthen RIT in the field in which he received his education.

Held by: Satish G. Kandlikar

Gleason Professor in Electrical Engineering

Established: 1993

Donor: Gleason Memorial Fund

Purpose/History: To provide support for a faculty member who will provide leadership in research and development in electrical engineering.

Held by: Eli S. Saber

Kate Gleason Endowed Chair

Established: 1999

Donor: Gleason Foundation

Purpose: To build upon the tradition of Kate Gleason as a role model for women in engineering by supporting the College's continuing commitment to diversity, its strategic goals and overall mission. Among her many notable achievements, Kate Gleason was the first woman admitted to study engineering at Cornell University, the first woman elected to full membership in ASME, the first woman bank president in the US.

Held by: Jing Zhang

Earl W. Brinkman Professor of Machining and Manufacturing

Established: 1995

Donor: Brinkman Family Charitable Trust and an anonymous foundation

Purpose: To support an endowed professorship in engineering and create a lasting memorial to Earl W. Brinkman, an innovative leader in the screw machine industry. Mr. Brinkman started in the industry at the age of 17, worked his way up the ranks to become Chief Engineer of the Davenport Machine Company in Rochester, N.Y., in 1937, and became president of the company from 1996 until his retirement in 1979, after devoting 53 years to the company.

Held by: Denis R. Cormier

Bausch and Lomb Professorship

Established: 2007

Donor: Bausch and Lomb Foundation

Purpose: To support an endowed professorship in Microsystems Engineering. This may include, but is not limited to, aiding in the development of microsystems technologies for biomedical applications to enhance the quality of life for future generations.

Held by: David A. Borkholder

Kate Gleason Chair

Established: 2014

Donor: Gleason Foundation

Purpose: To build upon the tradition of Kate Gleason as a role model for women in engineering, by supporting the college's continuing commitment to diversity, its strategic goal, and overall mission. Among her many notable achievements, Kate Gleason was the first woman to be admitted to study engineering at Cornell University, the first woman elected to full membership in the ASME, and the first woman bank president in the U.S.

Held by: Rachel Silvestrini

College of Health Sciences and Technology

Daniel Ornt, Dean
rit.edu/healthsciences

Programs of study

	Bachelor of Science degrees in:	Page
	Biomedical Sciences	75
	Diagnostic Medical Sonography (Ultrasound)	76
	Nutrition Management	78
#	Physician Assistant	79

	Certificates in:	
	Diagnostic Medical Sonography (Ultrasound)	77
	Echocardiography	77
	Exercise Science	80
	Health Systems Administration	80

The physician assistant program is only available as an accelerated BS/MS option.

RIT's College of Health Sciences and Technology responds to the growing need for well-educated professionals in the health care field. The United States faces a looming shortage of many types of health care professionals, including nurses, physicians, dentists, pharmacists, and allied health workers. The college, housed in the Institute of Health Sciences and Technology, serves as an independent academic and research entity designed to provide a focused, interdisciplinary, and systems approach to innovative health care education, applied/translational research, and community outreach. The institute incorporates three major thrusts: the College of Health Sciences and Technology, the Health Science Research Center, and the Health Science Community Collaboration and Outreach Center.

The college offers clinically related and biomedical research-based programs to meet both the present and future needs of the health care system. The college's faculty and staff are committed to delivering high quality educational programs. Building on a foundation of liberal arts and basic sciences, students will gain advanced knowledge in theoretical science and practical applications in experiential learning environments. These experiences prepare students to serve as practitioners, scientists, and leaders through their contributions to, and the provision of, high-quality patient care, health care service, and/or applied, translational biomedical research.

Admission requirements

For more information on undergraduate admission, including freshman and transfer admission guidelines, please refer to the Undergraduate Admission section of this bulletin.

Financial aid and scholarships

Please refer to the Financial Aid and Scholarships section of this bulletin for information regarding financial aid, scholarships, loans, and grants.

Faculty

Faculty members in the college have considerable experience in their respective fields of discipline. Basic science and clinical faculty work side-by-side to provide students with a comprehensive learning experience to prepare them for their chosen healthcare-related career.

Facilities and resources

In addition to facilities shared with the College of Science, the Center for Bioscience Education and Technology building provides a comprehensive environment to support academic, community, and career-training programs in the emerging life and medical sciences. The facility consists of multi-purpose, high-tech laboratories and classrooms for academic programs, continuing education programs, research, K-12 student workshops, secondary school training programs, and work-force development.

Cooperative education and clinical internships

All students will gain advanced knowledge in theoretical science and practical applications in experiential learning environments. For some students in the college this comes primarily in the form of unpaid clinical internship rotations through medical settings designed to help students master technical standards for their degree and eventual licensure. Additional opportunities are available for students to participate in cooperative education experiences to complement disciplines offered through the curriculum.

Accreditation

The college offers several professional programs, which are all fully accredited through national accrediting organizations. The diagnostic medical sonography program (ultrasound) is accredited by the Joint Review Committee on Education in Diagnostic Medical Sonography of the Commission on Accreditation of Allied Health Education Programs (CAAHEP). The physician assistant program is accredited through the Accreditation Review Commission on Education for the Physician Assistant, Inc. (ARC-PA). The nutrition management program is accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics

Advising

The college's Student Services Office offers administrative support to assist with course selection and registration, career guidance, student records, and course scheduling. In addition, the administrative staff provides students with information on additional support services within RIT. Students are assigned an individual faculty adviser, who becomes an integral part of their advising network.

Academic enrichment

Honors Program: Students who demonstrate a high level of achievement at the high school level may be invited to join the Honors program. These students will participate in Honors course work throughout their program of study and experiential learning activities under the guidance of a faculty mentor. Honors students will be selected during the admissions process.

Study Abroad: RIT encourages all students to consider a study abroad program to enhance their understanding of other cultures. Students may study full time at a variety of host schools. RIT's Study Abroad Office has information about foreign study options and opportunities.

Minors: RIT offers students more than 80 minors to choose from to enhance their academic program or further develop a personal area of interest. For a detailed list of minors, including courses, please refer to the Minors section of this bulletin.

Special opportunities

Graduate study: The college offers a master of science degree in health systems administration, and a master of fine arts degree in medical illustration. Additional graduate programs in health-related fields and in the sciences are offered through the College of Science. Please refer to the *Graduate Bulletin* or the colleges' websites for more information.

Premedical studies and pre-health professions advisory program

The premedical studies and pre-health professions advisory program is designed to provide guidance and assistance to all RIT students who are interested in continuing their education in one of the health professions; e.g., medicine, osteopathy, dentistry, optometry, podiatry, or veterinary science. Faculty members who participate in this program provide advice on the prerequisites (course selection, health-related experiences, extracurricular activities) needed for application to various health-related professional schools. In addition, they provide assistance with the application process.

Enrollment in premedical studies/pre-health professions advisory program

The premedical studies and pre-health professions advisory program is available to students who are enrolled in one of the degree granting programs or to nonmatriculated students taking the premedical core courses or pre-professional prerequisite courses. To enroll in the program, students must contact the premedical studies and pre-health professions office in the Center for Bioscience Education and Technology (CBET).

Biomedical Sciences, BS

rit.edu/healthsciences/undergraduate-programs/biomedical-sciences
Richard Doolittle, Program Director
(585) 475-5972, rldsbi@rit.edu

Program overview

The biomedical sciences major prepares students for advanced study in medical, dental, nursing, physician assistant, research, or graduate school, or for direct entry into a health care career. Faculty from across the basic science disciplines offer a diverse curriculum that includes a broad array of elective courses. The major also offers students career-relevant experiential learning opportunities where they can apply the knowledge they gain in the classroom to real-world experiences.

For those with an interest in pursuing graduate school, a comprehensive premedical studies advising program is available to guide students in their selection of course work and in completing the requirements necessary for admission to advanced degree programs. Employment opportunities in the biomedical sciences continue to grow and develop—driven in part by advances in biotechnology and the need for more research and better treatments for current and emerging health care and public policy challenges including AIDS, diabetes, cancer, and neurological disorders. Courses and concentrations are designed to attract students interested in a broad spectrum of medically related jobs and to provide the knowledge base and the technical skills required to pursue their chosen careers.

Curriculum

The major's curricular requirements are flexible, consisting of a life sciences core and a broad range of course options. The life sciences core is designed to provide students with a strong grounding in mathematics and science, a complement of liberal arts courses in preparation for a particular career path—e.g., entry into graduate study, including medical/dental school—or a research position in an applied area of biomedical science. Concentrations are available in which the student, in consultation with an academic adviser, may select a series of required and elective courses. Concentrations include focused study in exercise science, pre-health professions, genetics, premedical studies, or biomedical research. Students also may choose to use elective credits to engage in undergraduate research with a faculty mentor, pursue a double major, or select a secondary field of study through a minor.

Biomedical sciences, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
BIOL-101, 103	General Biology I and Lab	4
CHMG-141, 145	LAS Perspective 5: General and Analytical Chemistry I and Lab	4
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1	3
BIOL-102, 104	General Biology II and Lab	4
CHMG-142, 146	LAS Perspective 6: General and Analytical Chemistry II and Lab	4
	LAS Foundation 2: First Year Writing	3
MATH-161	LAS Perspective 7A: Applied Calculus	4
	YearOne	0
	Wellness Education*	0
Second Year		
MEDS-250, 251	Anatomy and Physiology I, II and Labs	8
	Concentration Courses	8
Choose one of the following:		3
STAT-145	LAS Perspective 7B: Introduction to Statistics I	3
STAT-155	LAS Perspective 7B: Introduction to Biostatistics	3
	LAS Perspective 2, 3	6
BIOL-201	Cellular and Molecular Biology	4

COURSE		SEMESTER CREDIT HOURS
Third Year		
	Concentration Courses	11
	Professional Electives (WI)	12
	LAS Perspectives 4	3
Choose one of the following:		3
	Concentration Course	3
	Professional Elective	3
	LAS Immersion 1	3
Fourth Year		
	Professional Electives	12
	Free Electives	12
	LAS Immersion 2, 3	6
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Diagnostic Medical Sonography (Ultrasound), BS

rit.edu/healthsciences/undergraduate-programs/diagnostic-medical-sonography
Hamad Ghazle, Program Director
(585) 475-2241, hhgscl@rit.edu

Program overview

Diagnostic medical sonography is a noninvasive, nontoxic diagnostic medical imaging modality in which high-frequency sound waves are used to produce images of the human body. Ultrasound is readily used to image the heart, blood flow, and abdominal organs as well as the developing fetus and male/female reproductive organs. The profession has grown rapidly in the last 20 years and is expected to continue to grow over the next several decades. Evaluation of the job market and a survey of employers indicate a strong demand for well-trained sonographers.

The major prepares students to be leaders in the field of ultrasound. Skills in administration and research are emphasized in addition to the development of scanning and diagnostic abilities. Students apply their theoretical knowledge and practice their skills in our dedicated ultrasound laboratory before embarking on the clinical internship portion of the program. Upon successful completion of the program's requirements, students are eligible to take a national certifying examination for abdominal, small parts, obstetrical, and gynecological ultrasound. Each candidate is also introduced to vascular ultrasound.

Graduates are prepared to pursue a variety of career options, nationally and internationally, in medical, industrial, and educational settings. Graduates can be found in a wide range of positions, including supervisory and administrative, in hospitals, clinics, private physicians' offices, teaching, research, sales, and industry. Graduates also can work as freelance sonographers or for mobile services.

Curriculum

The BS degree is a four-year program, including a clinical internship, unless the student has transfer credit from another academic institution. Those holding associate degrees may be able to complete the BS degree in two years; additional course work may be required. Contact the program director for further information on BS degree requirements.

In addition to the bachelor of science in diagnostic medical sonography, the College of Health Sciences and Technology also offers a certificate program in diagnostic medical sonography and a certificate program in echocardiography. Both of these options are designed to meet the growing needs of the national and international medical communities.

Clinical internship

The clinical internship year (completed with a 20 percent tuition discount) provides hands-on experience at two or more approved medical facilities. (Students can complete their clinical internships in western New York or at any approved regional or national medical ultrasound facility.) All students begin the internship by attending an intensive five-week experience on campus. During this time, they learn how to perform complete sonographic examinations and to recognize anatomy and disease states using equipment in the ultrasound laboratory. Students also learn about hospital, departmental, and administrative operations. After completing the requirements, candidates are assigned to a medical training site for clinical experience. At these facilities, students work side by side with sonographers, physicians, and other health care professionals to learn, develop, apply, and sharpen the necessary skills to perform general ultrasound examinations. Students' clinical progress and performance are monitored by the program's clinical coordinator and program director, who make periodic visits to the clinical internship sites. Additionally, students return to campus each month for three days of lectures, presentations, projects, and testing.

Accreditation

The diagnostic medical sonography major is accredited by the Joint Review Committee on Education in Diagnostic Medical Sonography of the Commission on Accreditation of Allied Health Education Programs.

Diagnostic medical sonography (general ultrasound), BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
BIOL-101	General Biology	3
BIOL-103	General Biology Lab I	1
MATH-111	LAS Perspective 7A: Pre-Calculus	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1, 2, 3	9
BIOL-102	General Biology II	3
BIOL-104	General Biology Lab II	1
STAT-145	LAS Perspective 7B: Introduction to Statistics	3
	LAS Foundation 2: First Year Writing	3
MEDI-130	Computers in Medicine	3
	YearOne	0
	Wellness Education*	0
Second Year		
PHYS-111	LAS Perspective 5: College Physics I	4
MEDS-250	Human Anatomy and Physiology I	4
MEDS-201	Language of Medicine	3
	LAS Perspective 4	3
PHYS-112	LAS Perspective 6: College Physics II	4
MEDS-251	Human Anatomy and Physiology II	4
MEDS-245	Medical Genetics	3
	LAS Immersion 1	3
	Free Elective	3
Third Year		
DMSO-312	Human Cross Sectional Anatomy	3
DMSO-301	Sonographic Scanning Skills and Techniques I	3
DMSO-309	Sonography Physics and Instrumentation I	3
	LAS Immersion 2, 3	6
	Free Elective	3
DMSO-310	Sonography Physics and Instrumentation II	3
DMSO-302	Sonographic Scanning Skills and Techniques II	3
MEDS-315	Medical Pathophysiology	3
MEDS-333	Patient Care	2
Fourth Year		
DMSO-452	Obstetrical Sonography I	3
DMSO-453	Gynecological Sonography	3
DMSO-456	Abdominal and Small Parts Sonography I	3
DMSO-570	Clinical Sonography I	7
DMSO-414	Sonographic Vascular Evaluation	3
DMSO-454	Obstetrical Sonography II	3
DMSO-457	Abdominal and Small Parts Sonography II	3
DMSO-460	Administration and Research in Sonography (WI)	3
DMSO-571	Clinical Sonography II	5
Total Semester Credit Hours		**125**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Diagnostic Medical Sonography (Ultrasound), Cert.

rit.edu/healthsciences/undergraduate-programs/diagnostic-medical-sonography/certificate-options
Hamad Ghazle, Program Director
(585) 475-2241, hhgscl@rit.edu

Program overview

The diagnostic medical sonography certificate is an eighteen-month program that include a clinical internship. The program, which focuses on various abdominal, gynecological, obstetrical, and small parts examinations including certain vascular studies, has been formulated to meet and exceed the objectives of the Joint Review Committee on Education in Diagnostic Medical Sonography of the Commission on Accreditation of Allied Health Education Programs (CAAHEP). It is designed to produce competent, compassionate, and responsible ultrasound professionals and leaders. The program will assist students in:

- gaining a thorough working knowledge of ultrasound scanning techniques;
- becoming skilled in the operation of ultrasound instrumentation and laboratory equipment;
- acquiring the proper manner in working with patients; and
- under the guidance from faculty and professional staff, becoming capable of scheduling and performing the daily workload of ultrasound procedures, of evaluating new procedures where necessary, and of supervising other technical personnel.

The certificate is available to all registered allied health practitioners as well as to those holding an associate or bachelor's degree in a relevant discipline. The certificate includes lectures and course work integrated with a clinical internship. Dependent on the degree, certain prerequisite courses may be required prior to enrollment. Contact the program director for further information on prerequisite course work and degree options.

Clinical internship

The clinical internship is divided into two rotations at various medical facilities. After successfully completing the first year of course work, students are assigned to clinical training sites. At these facilities, students work side-by-side with sonographers, physicians, radiologists, perinatologists, and other health care professionals to learn, develop, apply, sharpen, and master the necessary skills to perform various ultrasound examinations. Each student's clinical progress and performance is closely monitored by the program's faculty. Upon completion of the program, graduates are eligible to take the national certifying examinations.

Curriculum

During the first academic year, students complete all the prerequisite courses required to enter the clinical internship phase of the program. During this year, students also apply, polish, and test their clinical skills and techniques in the on-campus ultrasound scanning suite, which is equipped with a variety of ultrasound equipment. Following a required short preclinical internship orientation summer course, students begin their training at the first of two assigned clinical training sites.

In addition to the diagnostic medical sonography (ultrasound) certificate, the College of Health Sciences and Technology also offers a bachelor of science degree in diagnostic medical sonography (ultrasound) and a certificate program in echocardiography (cardiac ultrasound). Both of these options are designed to meet the growing needs of the national and international medical communities

Diagnostic medical sonography, certificate, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
DMSO-312	Human Cross Sectional Anatomy	3
DMSO-301	Sonographic Scanning Skills and Techniques I	3
DMSO-309	Sonography Physics and Instrumentation I	3
DMSO-310	Sonography Physics and Instrumentation II	3
DMSO-302	Sonographic Scanning Skills and Techniques II	3
MEDS-315	Medical Pathophysiology	3
MEDS-333	Patient Care	2
Second Year		
DMSO-452	Obstetrical Sonography I	3
DMSO-453	Gynecological Sonography	3
DMSO-456	Abdominal and Small Parts Sonography I	3
DMSO-570	Clinical Sonography I	7
DMSO-414	Sonographic Vascular Evaluation	3
DMSO-454	Obstetrical Sonography II	3
DMSO-457	Abdominal and Small Parts Sonography II	3
DMSO-460	Administration and Research in Sonography	3
DMSO-571	Clinical Sonography II	5
Total Semester Credit Hours		**53**

Echocardiography (Cardiac Ultrasound), Cert.

rit.edu/healthsciences/undergraduate-programs/diagnostic-medical-sonography/certificate-options
Hamad Ghazle, Program Director
(585) 475-2241, hhgscl@rit.edu

Program overview

The certificate in echocardiography is an eighteen-month program that includes a clinical internship. The program, which focuses on the evaluation of the heart, its valves and chambers, and associated vessels, was designed to exceed the objectives of the Joint Review Committee on Education in Diagnostic Medical Sonography of the Commission on Accreditation of Allied Health Education Programs (CAAHEP). The program produces competent, compassionate, and responsible echocardiography professionals and leaders. This certificate is available to all registered allied health practitioners as well as those holding an associate or bachelor's degree in a relevant discipline. The certificate includes lectures and course work integrated with a clinical internship. Depending on a candidate's previous course work, certain prerequisite courses may be required prior to enrollment in the program.

Graduates of the certificate program will:

- gain a thorough working knowledge of echocardiography scanning techniques;
- be skilled in the operation of ultrasound instrumentation and laboratory equipment;
- acquire the proper manner in working with patients; and
- under guidance from faculty and professional staff, become capable of scheduling and performing the daily workload of ultrasound procedures, of evaluating new procedures where necessary, and of supervising other technical personnel.

Clinical internship

The clinical internship is divided into two rotations completed at various medical facilities. After successfully completing the first year of course work, students are assigned to a clinical training site. At these facilities, students work side-by-side with physicians, echocardiographers,

cardiologists, and other health care professionals to learn, develop, apply, sharpen, and master the necessary skills to perform various echocardiographic examinations. Each student's clinical progress and performance is closely monitored by faculty. Upon completion of the program, graduates are eligible to take the national certifying examinations.

Curriculum

During the first academic year, students complete all the prerequisite courses required to enter the clinical internship phase of the program. During this year, students also apply, polish, and test their clinical skills and techniques in the on-campus ultrasound scanning suite, which is equipped with a variety of ultrasound equipment. Following a required short pre-clinical internship orientation course, students begin their training at the first of two assigned clinical training sites.

In addition to the echocardiography certificate, the College of Health Sciences and Technology also offers a bachelor of science degree and a certificate program in diagnostic medical sonography. Both of these options are designed to meet the growing needs of the national and international medical communities.

Echocardiography, certificate, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
ECHO-305	Cardiac Anatomy and Physiology	3
ECHO-307, 308	Echocardiographic Scanning Skills and Techniques I, II	2
DMSO-309, 310	Sonography Physics and Instrumentation I, II	6
MEDS-315	Medical Pathophysiology	3
ECHO-320	Electrophysiology and Cardiac Pharmacology	2
Second Year		
ECHO-401, 402	Echocardiography I, II	6
ECHO-410	Ischemic Heart Disease: Stress Echocardiography	2
ECHO-415	Cardiac M-Mode	2
ECHO-430, 431	Congenital Heart Disease I, II	4
ECHO-465	Echocardiography Special Procedures	2
ECHO-425	Seminar in Echocardiography	2
ECHO-420, 421	Clinical Echocardiography I, II	8
Total Semester Credit Hours		**42**

Nutrition Management, BS

rit.edu/healthsciences/undergraduate-programs/nutrition-management

Barbra Cerio-Iocco, Co-Chair
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Elizabeth Kmiecinski, Co-Chair
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Program overview

People are increasingly interested in the nutritional requirements for obtaining good health and a long life. Registered dietitians work with people of all ages, cultures, and economic means. They learn to understand people as individuals, thereby helping their clients solve their nutritional needs. Registered dietitians are health professionals who apply the science and art of food and nutrition.

The nutrition management major offers a challenging curriculum that prepares students to become registered dietitians and practice in diverse settings such as private practice; community nutrition and public health; wellness; sports fitness programs; corporations; clinical dietetics, hospital or long-term care food management facilities; research; food companies; nutrition education; restaurant consulting; writing and communication.

Curriculum

The major leads to a BS degree that meets the educational requirements of the Academy of Nutrition and Dietetics. The pre-professional phase (years 1 and 2) involves core courses in basic sciences, food science, basic nutrition, mathematics, liberal arts, and business. The professional phase (years 3 and 4) includes practicum experiences in various upper-division courses. Three cooperative work experiences, including one position in health care food and nutrition services, is a requirement of the major. Students also have the opportunity to acquire a certificate or minor in a variety of content areas, including exercise science. To become credentialed as a registered dietitian, students also need to complete an accredited supervised practice after graduation and pass the National Registration Exam for Dietitians.

Two-year transfer in nutrition management

Due to specific areas of study required by both the Accreditation Council for Education in Nutrition and Dietetics of the Academy of Nutrition and Dietetics and RIT, the amount of transferable credit and the estimated time to complete work for the BS degree must be determined by each individual's transcript. A minimum grade-point average of 3.2 and grades of A or B in all required science courses are required for admission and continuation in the major. For specific information regarding transfer admission, please refer to the Admission section of this bulletin.

Accreditation

The nutrition management major is accredited by the Accreditation Council for Education in Nutrition and Dietetics of the Academy of Nutrition and Dietetics, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995.

Nutrition management, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
FOOD-121	Principles of Food Production	3
	LAS Foundation 1: First Year Seminar†	3
CHMG-111, 112	General Organic Biochemistry I, II	8
MATH-101	LAS Perspective 7A: College Algebra	3
PSYC-101	Introduction to Psychology	3
	LAS Foundation 2: First Year Writing	3
NUTR-125	Contemporary Nutrition	3
MEDG-106	Microbiology in Health and Disease	3
ECON-101	Principles of Microeconomics	3
	YearOne	0
	Wellness Education*	0
Second Year		
MEDS-250	LAS Perspective 5: Anatomy and Physiology I, Lab	4
FOOD-123	Sanitation and Safety	1
ACCT-110	Financial Accounting	3
SOCI-102	Foundations of Sociology	3
MEDS-251	LAS Perspective 6: Anatomy and Physiology II, Lab	4
FOOD-223	Food and Beverage Management	3
NUTR-223	Food and Beverage Management Lab	1
STAT-145	Introduction to Statistics I	3
	LAS Immersion 1	3
	LAS Perspective 1, 2	6
Third Year		
HSPT-383	Assessing and Improving Service Quality	3
NUTR-402	Dietetic Environment	3
NUTR-333	Techniques of Dietetic Education	3
MTKG-230	Principles of Marketing	3
NUTR-554	Life Cycle Nutrition	4
FOOD-325	Food Innovation and Development	3
HRDE-386	Human Resources Development	3
	LAS Immersion 2, 3	6
	LAS Perspective 3	3

COURSE		SEMESTER CREDIT HOURS
Fourth Year		
NUTR-497	Dietetic Internship Seminar	1
NUTR-525, 526	Medical Nutrition Therapy I, II	6
HSPT-490	Senior Project (WI)	3
NUTR-510	Nutrition and Complementary Medicine	1
	LAS Perspective 4	3
	Free Electives	9
NUTR-550	Community Nutrition	3
HSPT-481	Leadership in Hospitality and Service Industries	3
Total Semester Credit Hours		**123**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Physician Assistant, BS/MS

rit.edu/healthsciences/undergraduate-programs/physician-assistant
Heidi Miller, Program Director
(585) 475-5945, hbmscl@rit.edu

Program overview

The physician assistant major focuses on primary care for patients. Physician assistants provide diagnostic and therapeutic patient care in conjunction with a supervising physician. They elicit medical histories, conduct physical examinations, order laboratory and radiological testing, diagnose common illnesses, determine treatment, provide medical advice, counsel and educate patients, promote wellness and disease prevention, assist in surgery, and perform casting and suturing.

Physician assistant duties vary depending on the state and specialty in which they practice. In most states, including New York, physician assistants may prescribe medication. Examples of specialties include (but are not limited to): internal medicine, family medicine, emergency medicine, geriatrics, pediatrics, obstetrics/gynecology, psychiatry, general surgery, orthopedics, neurosurgery, and neonatology. Clinical rotations (internships) during students' last year provide the opportunity to explore these varied disciplines.

Curriculum

The physician assistant major is offered as a BS/MS degree program, which enables students to earn both a bachelor's degree and a master's degree in five years. The curriculum is divided into the pre-professional phase (years 1 and 2), which includes course work in the sciences, mathematics, and liberal arts; and the professional phase, (years 3, 4, and 5), which features didactic medical education and culminates in clinical rotations in which students apply their medical knowledge in a series of rotations through various disciplines of medicine.

Clinical internship

Clinical rotations include a five-week experience in various disciplines of medicine, providing students with the opportunity to apply the basic principles of medicine to hospital-based and ambulatory patient care settings. Students are assigned to a primary preceptor (physician/physician assistant) and are exposed to a wide variety of acute and chronic medical problems. The emphasis is on data gathering, physical examination, differential diagnosis, patient management, maintenance of medical records, performance of diagnostic and therapeutic procedures, and the provision of patient education and counseling. Mandatory rotations are in the fields of inpatient medicine, family medicine, geriatrics, orthopedics, emergency medicine, OB/GYN, pediatrics, general surgery, and psychiatry. Students select one elective rotation, which enables them to customize their experience according to their medical area of interest.

Accreditation

The professional phase (years 3, 4, and 5) of the physician assistant major is accredited by the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA).

Physician assistant, BS/MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year (Pre-professional)		
BIOL-101, 103	General Biology I and Lab	4
CHMG-141, 145	LAS Perspective 5: General and Analytical Chemistry I and Lab	4
	LAS Perspective 1, 2, 3	9
	LAS Foundation 1: First Year Seminar†	3
BIOL-102, 104	General Biology II and Lab	4
CHMG-142, 146	LAS Perspective 6: General and Analytical Chemistry II and Lab	4
MATH-161	LAS-Perspectives 7A: Applied Calculus	4
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year (Pre-professional)		
MEDS-250, 251	Anatomy and Physiology I, II	8
CHMB-240	Biochemistry for Health Sciences	3
	LAS Perspective 4	3
	Free Elective	3
	LAS Immersion 1, 2, 3	9
PHYA-206	Medical Microbiology	3
STAT-145	LAS Perspective 7B: Introduction to Statistics I	3
Third Year (Professional)		
PHYA-405, 406	Pathophysiology I, II	4
PHYA-401, 402	History/Physical Dx I, II	8
PHYA-422, 423	Clinical Medicine I, II	10
PHYA-419	Advanced Gross Anatomy	2
PHYA-420	Physician Assistant Seminar	1
PHYA-415, 416	Pharmacology I, II	3
PHYA-409	Clinical Lab Medicine	1
PHYA-430	Medical Genetics	2
Fourth Year (Professional)		
PHYA-510	Hospital Practice	4
PHYA-424	Clinical Medicine III	5
PHYA-440	Society and Behavioral Medicine (WI)	3
PHYA-417	Pharmacology III	2
PHYA-421	Diagnostic Imaging	2
PHYA-550	Procedural Clinical Skills	3
PHYA-520	Clinical Integration	4
PHYA-560	Healthcare Policy and Law	2
PHYA-729	Clinical Epidemiology	3
PHYA-730	Research Methods	2
	Free Elective	3
PHYA-750	Pediatrics	4
PHYA-751	General Medicine	4
PHYA-752	OB-GYN	4
PHYA-761	Professional Practice I	2
PHYA-710	Graduate Project I	2
Fifth Year (Professional)		
PHYA-753	Emergency Medicine	4
PHYA-754	Surgery	4
PHYA-755	Orthopedics	4
PHYA-762, 763	Professional Practice II, III	4
PHYA-720	Graduate Project II	2
PHYA-756	Geriatrics	4
PHYA-757	Psychiatry	4
PHYA-758	Family Medicine	4
PHYA-759	Elective Rotation	4
Total Semester Credit Hours		**181**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Admission requirements

In addition to the university's general admission procedures, the physician assistant major requires the completion of a supplemental data packet, application, and a personal admission interview (by invitation). For more information regarding these additional admission requirements, please contact the Office of Undergraduate Admissions. It also is

important to note that the minimum grade point average for acceptance into the physician assistant major is 3.0 (on the basis of a 4.0 maximum) for both high school and transfer students. In order to graduate from the major, a GPA of 3.0 or better must be maintained.

Transfer admission
Qualified transfer students are accepted into the major, on a space available basis. Prior health care experience and/or shadowing are strongly recommended. Transcript evaluations and rendering of transfer credit are addressed at the time of admission only. Anatomy and physiology courses must be taken within the last five years prior to matriculation to be eligible for transfer. All pre-professional course work must be completed to continue on, or to be considered for entry, into the professional phase of the major. Please contact the Office of Undergraduate Admissions for information on transfer requirements.

Additional information

Advanced placement
In the pre-professional phase, advanced placement (AP) credit for liberal arts courses is evaluated and approved by the College of Liberal Arts. AP credit for calculus, statistics, and university electives is awarded, as applicable, within the major. AP credit is not accepted for biology and chemistry as course substitutions, but university elective credit is awarded for these courses, as applicable. Advanced placement or credit for experiential learning is not awarded for courses in the professional phase of the major.

Exercise Science, Cert.

William Brewer, Program Director
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Program overview

College-level knowledge and professional certification are increasingly required for those who wish to work in the fitness industry, whether full- or part-time, in an athletic club, ski resort, or sports medicine facility. Knowledge of and professional certification in fitness instruction and programming also are of increasing value to allied health professionals who wish to augment their care or practice with the ability to prescribe exercise programs that address special medical needs.

The certificate in exercise science covers the basic principles of exercise physiology, fitness assessment, the preparation of fitness programs and prescriptions, and the development of exercise prescriptions for individuals with medical or other significant limitations. Students who successfully complete all three courses are prepared to sit for professional certification examinations from the American College of Sports Medicine, American Council on Exercise, and the American Academy of Health and Fitness Professionals, as well as for certifications from the Cooper Institute for Aerobic Research, the National Academy of Sports Medicine, and a number of other recognized organizations.

Curriculum

Exercise science, certificate, typical course sequence

COURSE		SEMESTER CREDIT HOURS
MEDS-295	Sports Physiology and Life Fitness	3
MEDS-296	Fitness Prescription	3
MEDS-297	Exercise for Special Populations	3
Total Semester Credit Hours		**9**

Health Systems Administration, Cert.

Program overview

Many students who have completed their associate degree consider entering the health care work force but require an orientation to health systems. These students do not wish to attain a bachelor's degree but rather to enhance their knowledge base about health care. Students who wish to pursue a certificate in health systems administration must have completed their associate degree with a minimum GPA of 2.0. To earn the certificate, students must attain a GPA of 2.5 or higher in the certificate courses. These courses are only available online.

Curriculum

Health systems administration, certificate, typical course sequence

COURSE		SEMESTER CREDIT HOURS
HLTH-300	Health Care Systems and Operations	3
HLTH-310	Health Care Quality Assurance	3
HLTH-320	Legal and Financial Aspects of Health Care Administration	3
HLTH-330	Health Planning and Program Development	3
Total Semester Credit Hours		**12**

Daniel Ornt, BA, Colgate University; MD, University of Rochester—Dean

Biomedical Sciences

William S. Brewer, BS, State University College at Cortland; MS, Empire State College—Lecturer

Richard L. Doolittle, BA, University of Bridgeport; MS., Ph.D., University of Rochester—Vice Dean

Caroline Easton, BS, Rochester Institute of Technology; Ph.D. University of Connecticut—Professor

Michele Lennox, AAS, Rochester Institute of Technology—Lecturer

Douglas P. Merrill, BS, Ph.D., State University of New York College of Environmental Science and Forestry—Professor

Robert Osgood, BS, Jackson State University; MS, Ph.D., University of Southern Mississippi—Associate Professor

Elizabeth Perry, BS, State University College at Brockport; MS, Ph.D., University of Rochester—Assistant Professor

Laurence I. Sugarman, BA Washington University in St. Louis; PA-C, St. Louis University; MD, University of Missouri-Columbia—Research Professor

Bolaji Thomas, Ph.D., University of Lagos (Nigeria)—Associate Professor

Kristen Waterstam-Rich, BS, MS, Rochester Institute of Technology—Director, Premedical and Health Professions Advising; Professor

Physician Assistant

Heidi Miller, BS, PA-C, Alderson Broaddus College; MPH, University of Rochester—Program Director; Professor

Nancy Valentage, BS, PA-C, Gannon University; MS, Rochester Institute of Technology—Associate Director; Professor

Cara F. Calvelli, AB, Mount Holyoke College; MD, Cornell University Medical College—Associate Professor

Patricia Newcomb, AB, Mount Holyoke College; MD, Tufts University School of Medicine—Academic Coordinator, Assistant Professor

John B. Oliphant, BA, ATC, Messiah College; MSEd, Elmira College; MHP, PA-C, Northeastern University—Assistant Professor

Diagnostic Medical Sonography

Hamad Ghazle, BS, APS, MS, Rochester Institute of Technology; MS, Ed.D. University of Rochester—Program Director; Professor

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Nutrition Management

Barbra A. Cerio-Iocco, RD, BS, MS, State University of New York at Buffalo—Associate Professor

Elizabeth A. Kmiecinski, RD, BS, The Ohio State University; MS, University of Kentucky—Associate Professor

College of Imaging Arts and Sciences

Lorraine Justice, Dean
cias.rit.edu

Programs of study

Bachelor of Fine Arts degrees in:	Page
3D Digital Design	92
Ceramics	85
Film and Animation *Options available in: animation and production.*	96
Fine Arts Studio	90
Furniture Design	86
Glass	87
Graphic Design	93
Illustration	89
Industrial Design	94
Interior Design	95
Medical Illustration	91
Metals and Jewelry Design	88
New Media Design	95
Photographic and Imaging Arts *Options available in: advertising photography, fine art photography, photojournalism, and visual media.*	99

Bachelor of Science degrees in:	
Media Arts and Technology	98
Motion Picture Science	98
Photographic and Imaging Technologies *Options available in: biomedical photographic communications, and imaging and photographic technology.*	103

Associate in Occupational Studies degree in:	
Furniture Design	87

The College of Imaging Arts and Sciences includes the schools of American Crafts, Art, Design, Film and Animation, Media Sciences, and Photographic Arts and Sciences. Students in most of the baccalaureate and master's degree programs complete foundation courses for fundamental studio course work and historical grounding in the visual arts.

Admission requirements

For information on undergraduate admission, including freshman and transfer admission guidelines, please refer to the Undergraduate Admission section of this bulletin.

Portfolio review: Admission to the schools of American Crafts, Art, and Design requires a combination of academic performance and creative visual skills that are evaluated via a portfolio review. Faculty will review each student's portfolio to evaluate creative visual skills as well as the potential for success in the student's selected program.

The schools of Media Sciences and Photographic Arts and Sciences do not require a portfolio for acceptance into their undergraduate programs. However, a portfolio is required if students are requesting a transfer of credits to satisfy program requirements. A portfolio is optional for applicants to the School of Film and Animation.

Guidelines for portfolio submission: The follow guidelines should be used when preparing your portfolio for submission.

1. Portfolios for the schools of American Crafts, Art, and Design will be evaluated on the basis of drawing and design ability, original ideas, and craftsmanship. Portfolios should consist of 10 to 20 digital files of a student's best artwork, saved in a JPEG file format on a CD. There should be a minimum of five samples of drawings made from direct observation. These should include figure, perspective, still life, and object drawing (not copied from photographs, comics or "fantasy"). Other work may include painting, photography, page layout design, two-dimensional design, sculpture, models, mechanical drawings, and marker renderings. The clarity of the digital file is of the utmost importance. Portfolios that do not meet the correct specifications will not be reviewed.

2. All digital files and documents submitted should be clearly labeled. Each digital file should be submitted with the student's last name and a number beginning with two zeros (e.g., smith001.jpg, smith002.jpg) with no spaces. The CD must be labeled with the student's full name, address, phone number, and e-mail address (if available). Please write legibly and directly on the face of the CD with a black or blue permanent marker. Package the finished CD in a plastic case for protection.

3. The CD must be accompanied by a separate sheet of paper listing each work by corresponding number with title, size, media, and assignment. Exhibition/award notations may be included. Make certain to include the student's full name, address, phone number, and e-mail address (if available) on the list.

4. Medical illustration applicants should include at least six samples of natural forms such as shells, figures, or animals rendered in a single medium.

5. Portfolios are not required by applicants to the School of Film and Animation but may be submitted. Portfolios are likely to be reviewed in cases where final determination of acceptance must be made between similar academically competitive applicants. Most portfolios will not be reviewed. Applicants must present their best work, and films or videos should total 15 minutes or less in length. A complete work is preferable to a "demo reel." If there are no short works, then a 15-minute excerpt of a longer piece is acceptable.

6. Transfer students in art, design, and crafts should clearly represent their basic foundation experience as well as any advanced or applied work. Students considering transfer should notify RIT at the earliest possible moment. Catalog course descriptions assist in transfer credit evaluation.

7. Digital portfolios will not be returned. It is recommended that students make copies of their portfolio CD for their own records.

8. While every precaution is taken to ensure proper handling, the university assumes no responsibility for lost or damaged portfolios.

9. The schools participate in open house programs hosted by RIT's Office of Undergraduate Admissions and selected National Portfolio Days. These events allow for the presentation and review of original work and, for the exceptional portfolio, a means for on-site acceptance of portfolio. For information on National Portfolio Days, call (585) 475-2968. For dates of open houses and general admission information, call the Office of Undergraduate Admissions at (585) 475-6631.

10. For information on submitting a digital portfolio, visit our website at cias.rit.edu/prospective-students/portfolio-guide.

Financial aid and scholarships

Please refer to the Financial Aid and Scholarships section of this bulletin for information regarding financial aid, scholarships, loans, and grants.

Facilities

- Thirty fully equipped photographic studios.
- More than 20 fully ventilated darkrooms.
- Extensive professional 16mm film and digital video field production equipment, including newly renovated film and animation facilities, 60 digital film editing stations, three animation labs, three stop-motion studios, two sound stages, and prop shop.
- More than $40 million worth of printing and publishing equipment in 17 laboratories.
- Wallace Library, rich in photography, graphic arts publications, and contemporary periodicals in design, arts, crafts for study, and research; ARTstor, an online image collection; and electronic reserve course materials.
- Cooperative efforts with George Eastman House International Museum of Photography and Film, with access to the museum's collections of photography, rare books, motion pictures, and technology.
- Library of the Kodak Research Laboratories.
- The Melbert B. Cary Jr. Graphic Arts Collection, containing more than 20,000 volumes of rare books and additional resources that illustrate fine printing, the history of printing, book design and illustration, papermaking, binding, and other aspects of the graphic arts.
- The Graphic Design Archives in the Wallace Library are complete and partial collections of some of the world's most influential pioneers in graphic design. The collections contain original source materials documenting the designers' working lives and include such unique items as original artwork, sketchbooks, sculptures, architectural models, reliefs, and printed samples.
- The Vignelli Center for Design Studies houses the extensive professional archive of Massimo and Lella Vignelli, and offers exhibition space and archival study classrooms for the examination of Modernist design history, theory, and criticism.
- Fully equipped studios for designing, forming, and finishing utilitarian and sculptural objects in clay, glass, metals and wood, including CNC routers and metal cutters. The recently added Sands Family Studios wing houses state-of-the-art hot glass, large-scale metal fabricating and specialized ceramic kiln areas.
- Bevier Gallery and the School of Photographic Arts and Sciences (SPAS) Gallery, the college's on-campus exhibition spaces.
- Gallery r, the university's off-campus, student-managed contemporary art gallery, is overseen by the School of Art. The gallery actively educates and encourages viewers to examine the relevance of art and cultural exposure in their own lives. Gallery r is an educational laboratory presenting art to the widest possible audience and maintaining a select collection of student and alumni artwork for on-site consignment and sales.
- The college houses archives, as well as exhibition and display spaces. Exhibitions regularly feature the work of contemporary painters, designers, photographers, illustrators, graphic artists, filmmakers, and faculty and student work.
- A comprehensive art library and a variety of educational resources are available in RIT's library.

Cooperative education

Students may participate in cooperative education experiences or internships. Co-op allows students the opportunity to evaluate career goals before making employment decisions, develop insight into their chosen fields, gain professional experience that enhances their resumes, and increase their potential for placement and rapid career advancement after graduation. As part of the student's career exploration, co-op experiences provide an opportunity to observe and perform work directly related to the student's major.

Co-op is required in the School of Media Sciences and in the bachelor of science programs in the School of Photographic Arts and Sciences. Although co-op is not required in the BFA programs in the schools of American Crafts, Art, Design, Film and Animation, or Photographic Arts and Sciences, many students choose to co-op during the summer quarter to enhance their learning while gaining valuable experience.

For more information about cooperative education, please refer to the Office of Cooperative Education and Career Services or visit the college's website.

Accreditation

RIT is accredited by the Middle States Commission on Higher Education, 3624 Market Street, Philadelphia, PA, 19104 (267-284-5000). The Middle States Commission on Higher Education is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council on Higher Education Accreditation. In addition, the National Association of Schools of Art and Design accredits the BFA and MFA programs in the schools of American Crafts, Art, Design, Photographic Arts and Sciences, and Film and Animation. The School of Design's interior design program is accredited by the Council for Interior Design Education Accreditation.

Advising

All programs provide expert advisement to students in multiple ways. Each CIAS student is assigned a primary adviser with whom they consult on a quarterly basis concerning course selection, assignments, co-ops, educational challenges, and career opportunities. In addition, each school has program chairs per discipline whose primary task is to advise students, as well as the chair of the school and academic advisers in the college's Student Services Offices. While at RIT and after graduation, students can seek and receive personal and professional advisement to support their studies.

Academic Enrichment

Honors Program: Students who demonstrate a high level of achievement at the high school level may be invited to join the Honors program. These students will participate in Honors course work throughout their program of study and experiential learning activities under the guidance of a faculty mentor. Honors students will be selected during the admission process.

Study Abroad: RIT encourages all students to consider a study abroad program. Students may study full time at a variety of host schools and are able to select both courses in their majors and/or liberal arts classes. The Study Abroad Office has information about foreign study options and opportunities.

Minors: RIT offers students more than 80 minors to choose from to enhance their academic program or further develop a personal area of interest. For a detailed list of minors, including courses, please refer to the Minors section of this bulletin.

Professional student organizations: The college maintains memberships in the following professional organizations: Industrial Designers Society of America, ACM Siggraph, American Institute of Architects, American Institute of Graphic Arts, American Society of Interior Designers, American Society of Media Photography, Bio Communications Association, College Art Association, ICOGRADA, International Interior Design Association, International Panoramic Photographers Association, International Society for Optical Engineering, National Press Photographer Association Student Chapter, Ophthalmic Photographers Society, Photo Imaging Educators Association, Photo Marketing Association International, Society of Environmental Graphic Designers, Society for Imaging Science and Technology, Society for Photographic Education and Society of Motion Picture and Television Engineers.

Special Opportunities

Graduate study: The college offers master of fine art degrees in ceramics, computer graphics design, fine arts studio, furniture design, glass, graphic design, imaging arts, industrial design, and metalcrafts and jewelry; a master of science for teachers in visual arts (all grades); a master of science in print media; and an advanced certificate in non-toxic printmaking. Please refer to the *Graduate Bulletin* or the college's website for more information.

Summer course offerings: The college offers a number of summer courses. Please contact the Office of Part-time Enrollment Services or visit the college's website for more information.

Art history electives

BFA students are required to select three art history electives to broaden their understanding of the historical development of the arts. Art history electives include:

ARTH-135*	Survey of Western Art and Architecture I
ARTH-136*	Survey of Western Art and Architecture II
ARTH-345†	History to Architecture Interior and Furniture I
ARTH-346†	History to Architecture Interior and Furniture II
ARTH-366	18th & 19th Century Art
ARTH-368	20th Century Art: 1900-1950
ARTH-369	20th Century Art: Since 1950
ARTH-373	Art of the Last Decade
ARTH-392	Theory and Criticism of 20th Century
ARTH-457	Art and Activism
ARTH-511	Art of Italy: 1250-1400
ARTH-512	Art of Italy: 1600-1750
ARTH-517	Art Florence and Rome: 15th Century
ARTH-518	Art Florence and Rome: 16th Century
ARTH-521	The Image
ARTH-541	Art and Architecture of Ancient Rome
ARTH-544	Illuminated Manuscripts
ARTH-554	Late Medieval Art
ARTH-558	The Gothic Revival
ARTH-561	Latin American Art
ARTH-566	Early Medieval Art
ARTH-568	Art and Technology: Machine Aesthetic Cyborg
ARTH-572	Art of the Americas
ARTH-573	Conceptual Art
ARTH-574	Dada and Surrealism
ARTH-576	Modernism and Realism
ARTH-577	Displaying Gender
ARTH-578	Edvard Munch
ARTH-582	Medieval Craft
ARTH-583	Installation Art
ARTH-584	Scandinavian Modernism
ARTH-586	Studies in Material Culture
ARTH-587	The Gothic Cathedral
ARTH-588	Symbols and Symbol-Making

* This elective is required for students in majors in the schools of American Crafts, Art, Design, and Photographic Arts and Sciences (BFA only).

† This elective is required for interior design and furniture design majors.

Art and Design, Undeclared

Program overview

If students have a passion for the visual arts, but are undecided about which major to pursue, they may consider the undeclared art and design option in the College of Imaging Arts and Science. Students in the schools of American Crafts, Art, and Design begin their studies in a foundation studies program, which provides students with a broad set of introductory experiences in several areas of the visual arts. Students interested in one of the majors in the schools of Art or Design should apply for the undeclared art and design option. Admission is based, in part, on a portfolio evaluation. Portfolio guidelines can be found at rit.edu/admissions.

Crafts, Undeclared

cias.rit.edu/crafts
Carlos Caballero-Perez, Administrative Chair
(585) 475-6114, jcc2390@rit.edu

Program overview

If students have a passion for the visual arts, but are undecided about which major to pursue, they may consider the undeclared crafts option in the College of Imaging Arts and Science. Students in the School of American Crafts begin their studies in the foundation studies program, which provides a broad set of introductory experiences in several areas of the visual arts. Students may then select a major within the School for American Crafts. Admission to the undeclared crafts option is based, in part, on a portfolio evaluation. Portfolio guidelines can be found at rit.edu/admissions.

School for American Crafts

Ceramics, BFA

cias.rit.edu/schools/american-crafts/undergraduate-ceramics
Richard Hirsch, Professor
Jane Shellenbarger, Assistant Professor
(585) 475-6114, sac@rit.edu

Program overview

The ceramics major has a deep focus on intellectual development, technical skill, and practical knowledge. The ultimate goal is to create an environment where intellectual discourse and craftsmanship can thrive. The studio supports a range of fundamental topics within ceramics, such as throwing, glazing, and firing, and emphasizes personal development with individual critiques and group discussions.

The major emphasizes practical training and education in preparation for ceramics-related employment. Students learn how to operate a studio business and maintain equipment, manage galleries, teach, and interface with community projects. Students are also exposed to a wide scope of visual arts and study their cultural relevance through weekly seminars, visiting artists, trips to museums, and attendance at the National Ceramics Conference every spring.

Curriculum

Ceramics, BFA degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
FDTN-111, 112	Drawing I, II	6
FDTN-121, 122	2D Design I, II	6
FDTN-131, 132	3D Design I, II	6
	Studio Elective†	3
	LAS Foundation 1: First Year Seminar† (SMTL)	3
	LAS Foundation 2: First Year Writing	3
	Free Elective	3
	YearOne	0
	Wellness Education*	0
Second Year		
ARTH-135	LAS Perspective 2: Survey of Western Art and Architecture I	3
ARTH-136	LAS Perspective 3: Survey of Western Art and Architecture II	3
CCER-201, 202	Ceramics Sophomore I, II	12
CGEN-201	Crafts Drawing Practice	3
CGEN-202	Crafts CADD Drawing	3
	LAS Perspective 1, 4	6
Third Year		
CCER-301, 302	Ceramics Junior I, II	12
	Art History Electives§	6
	Studio Elective‡	3
	LAS Elective (SMTL)	3
	LAS Immersion 1	3
	Free Elective	3
Fourth Year		
CCER-501, 502	Ceramics Senior I, II	12
CGEN-501	Crafts Promotional Materials	3
CGEN-502	Crafts Business Practice	3
	LAS Immersion 2, 3	6
	Studio Elective‡	3
	Free Elective	3
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
(SMTL) Refers to science, math, technical literacy requirement.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ CIAS Studio Electives are courses designated by lab or studio contact hours in the course description.
§ Art History electives are non-studio courses offered in the colleges of Imaging Arts and Sciences or Liberal Arts that examine the historical aspects of art, design, crafts, photography, or film.

Art history electives

Students are required to select three art history electives to broaden their understanding of the historical development of the arts. Art history electives include:

COURSE	
ARTH-135	Survey of Western Art and Architecture I*
ARTH-136	Survey of Western Art and Architecture II*
ARTH-221	Contemporary Design Issues
ARTH-311	Art of Italy: 1250-1400
ARTH-312	Art of Italy: 1600-1750
ARTH-317	Art Florence and Rome: 15th Century
ARTH-318	Art Florence and Rome: 16th Century
ARTH-345	History to Architecture Interior and Furniture I†
ARTH-346	History to Architecture Interior and Furniture II†
ARTH-364	Art of Paris
ARTH-366	18th, 19th Century Art
ARTH-368	20th Century Art: 1900-1950
ARTH-369	20th Century Art: Since 1950
ARTH-373	Art of the Last Decade
ARTH-378	Baroque Painting in Flanders
ARTH-379	Renaissance Painting in Flanders
ARTH-392	Theory and Criticism of 20th Century
ARTH-457	Art and Activism
ARTH-521	The Image
ARTH-541	Art and Architecture of Ancient Rome
ARTH-544	Illuminated Manuscripts
ARTH-550	Topics in Art History
ARTH-554	Late Medieval Art
ARTH-558	The Gothic Revival
ARTH-561	Latin American Art
ARTH-566	Early Medieval Art
ARTH-568	Art and Technology: Machine Aesthetic Cyborg
ARTH-572	Art of the Americas
ARTH-573	Conceptual Art
ARTH-574	Dada and Surrealism
ARTH-576	Modernism and Realism
ARTH-577	Displaying Gender
ARTH-578	Edvard Munch
ARTH-581	Russian Realist Art
ARTH-582	Medieval Craft
ARTH-583	Installation Art
ARTH-584	Scandinavian Modernism
ARTH-586	Studies in Material Culture
ARTH-587	The Gothic Cathedral
ARTH-588	Symbols and Symbol-Making

* This course is required for students in majors in the schools of American Crafts, Art, Design, and Photographic Arts & Sciences (BFA programs only).
† This course is required for students majoring in interior design and furniture design.

Additional information

Studio Residency program

The School for American Crafts offers a Studio Residency program for students in ceramics, furniture design, glass, and metals and jewelry design. Residence positions are limited and are awarded after the review of all applicants' portfolios, transcripts, and references. An interview is required. Accepted residents are required to register for one independent study credit during each semester of residence.

Accepted residents are expected to be present in their assigned studio during class hours and to contribute up to 10 hours of work per week in the main studio. These work hours are coordinated and overseen by the faculty in the resident's discipline. In exchange, the school will provide workspace, access to facilities, and supportive instruction. The resident is invited to participate in the full range of studio activities.

Participants may be those seeking additional studio experience prior to undergraduate or graduate study, early career professionals, or teachers on leave who wish to work again in an academic studio environment. The faculty in each discipline make decisions concerning appropriate candidates.

Inquiries should be made to the Studio Residency Program, School for American Crafts, College of Imaging Arts and Sciences, Rochester Institute of Technology, 73 Lomb Memorial Drive, Rochester, NY 14623-5603.

Furniture Design, BFA

cias.rit.edu/schools/american-crafts/undergraduate-woodworking
Richard Tannen, Professor
Andy Buck, Professor
(585) 475-6114, sac@rit.edu

Program overview

The furniture design major engages students in the pursuit of their creative interests while providing a compressive technical background in contemporary woodworking. The major focuses on technical expertise, freeing students to investigate a full range of creative expression and professional interests. A carefully-sequenced curriculum begins with a firm foundation in the use and maintenance of hand tools, proceeding on to more advanced tools and topics in construction and design.

In addition to the intensive Wood Studio, students gain experience in drawing, fundamental design issues, concept development, art history, and business practices. The major also emphasizes self-promotion, professionalism, portfolio development, gallery interactions, and studio operations. During the senior year, students culminate their work in an exhibition at an off-campus gallery. Upon graduation, students are well-prepared to transition from student to professional craftsman in this fine art field.

Furniture design, BFA degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
FDTN-111, 112	Drawing I, II	6
FDTN-121, 122	2D Design I, II	6
FDTN-131, 132	3D Design I, II	6
	LAS Foundation 1: First Year Seminar† (SMTL)	3
	LAS Foundation 2: First Year Writing	3
	Studio Electives‡	6
	YearOne	0
	Wellness Education*	0
Second Year		
ARTH-135, 136	LAS Perspective 2, 3: Survey of Western Art and Architecture I, II	6
CWFD-201, 202	Furniture Design Sophomore I, II	12
CGEN-201	Crafts Drawing Practice	3
CGEN-202	Crafts CADD Drawing	3
	LAS Perspective 1, 4	6
Third Year		
CWFD-301, 302	Furniture Design Junior I, II	12
	Art History Electives**	6
	LAS Elective (SMTL)	3
	LAS Immersion 1	3
	Free Electives	6
Fourth Year		
CWFD-501, 502	Furniture Design Senior I, II	12
CGEN-501	Crafts Promotional Materials	3
CGEN-502	Crafts Business Practice§	3
	LAS Immersion 2, 3	6
	Studio Elective‡	3
	Free Elective	3
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
(SMTL) Refers to science, math, technical literacy requirement.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Studio electives are courses designated by lab or studio contact hours in the course description.
§ CGEN-501 Crafts Business Practices satisfies the upper-level writing requirement in the major program.
** Art history electives are non-studio courses offered in CIAS or the College of Liberal Arts that examine the historical aspects of art, design, crafts, photo, or film.

Art history electives

Students are required to select three art history electives to broaden their understanding of the historical development of the arts. Art history electives include:

COURSE	
ARTH-135	Survey of Western Art and Architecture I*
ARTH-136	Survey of Western Art and Architecture II*
ARTH-221	Contemporary Design Issues
ARTH-311	Art of Italy: 1250-1400
ARTH-312	Art of Italy: 1600-1750
ARTH-317	Art Florence and Rome: 15th Century
ARTH-318	Art Florence and Rome: 16th Century
ARTH-345	History to Architecture Interior and Furniture I†
ARTH-346	History to Architecture Interior and Furniture II†
ARTH-364	Art of Paris
ARTH-366	18th, 19th Century Art
ARTH-368	20th Century Art: 1900-1950
ARTH-369	20th Century Art: Since 1950
ARTH-373	Art of the Last Decade
ARTH-378	Baroque Painting in Flanders
ARTH-379	Renaissance Painting in Flanders
ARTH-392	Theory and Criticism of 20th Century
ARTH-457	Art and Activism
ARTH-521	The Image
ARTH-541	Art and Architecture of Ancient Rome
ARTH-544	Illuminated Manuscripts
ARTH-550	Topics in Art History
ARTH-554	Late Medieval Art
ARTH-558	The Gothic Revival
ARTH-561	Latin American Art
ARTH-566	Early Medieval Art
ARTH-568	Art and Technology: Machine Aesthetic Cyborg
ARTH-572	Art of the Americas
ARTH-573	Conceptual Art
ARTH-574	Dada and Surrealism
ARTH-576	Modernism and Realism
ARTH-577	Displaying Gender
ARTH-578	Edvard Munch
ARTH-581	Russian Realist Art
ARTH-582	Medieval Craft
ARTH-583	Installation Art
ARTH-584	Scandinavian Modernism
ARTH-586	Studies in Material Culture
ARTH-587	The Gothic Cathedral
ARTH-588	Symbols and Symbol-Making

* This course is required for students in majors in the schools of American Crafts, Art, Design, and Photographic Arts & Sciences (BFA programs only).
† This course is required for students majoring in interior design and furniture design.

Additional information

Studio Residency program

The School for American Crafts offers a Studio Residency program for students in ceramics, furniture design, glass, and metals and jewelry design. Residence positions are limited and are awarded after the review of all applicants' portfolios, transcripts, and references. An interview is required. Accepted residents are required to register for one independent study credit during each semester of residence.

Accepted residents are expected to be present in their assigned studio during class hours and to contribute up to 10 hours of work per week in the main studio. These work hours are coordinated and overseen by the faculty in the resident's discipline. In exchange, the school will provide workspace, access to facilities, and supportive instruction. The resident is invited to participate in the full range of studio activities.

Participants may be those seeking additional studio experience prior to undergraduate or graduate study, early career professionals, or teachers on leave who wish to work again in an academic studio environment. The faculty in each discipline make decisions concerning appropriate candidates.

Inquiries should be made to the Studio Residency Program, School for American Crafts, College of Imaging Arts and Sciences, Rochester Institute of Technology, 73 Lomb Memorial Drive, Rochester, NY 14623-5603.

Furniture Design, AOS

cias.rit.edu/schools/american-crafts/other-woodworking-furniture-design-aos-degree

Andy Buck, Professor
(585) 475-2636, aabsac@rit.edu
Richard Tannen, Professor
(585) 475-2636, rdtfaa@rit.edu

Program overview

As an internationally recognized school that merges art with craft, the School for American Crafts is a leader in crafts education. The school's majors provide an educational experience that balances technical expertise with aesthetic expression in the creative and practical understanding of wood, metal, clay, and glass. Educational objectives seek to stimulate creative imagination and technical invention, develop knowledge of process and command of skills, and foster appreciation not only of the crafts but also the related arts. The school's majors strive to inspire the student to seek continual improvement through analysis and self evaluation.

Curriculum

The associate of occupational studies degree in furniture design is a highly-focused, two-year course of study. Students learn how to use and care for basic hand tools and begin to explore the technical and visual potential of wood. Over the two-year experience, increasingly sophisticated techniques and design concepts are be introduced. Students complete courses in two-dimensional design, three-dimensional design, freehand drawing, technical drawing, furniture history, and crafts business practices.

Furniture Design, AOS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
CGEN-201	Crafts Drawing Practice	3
FDTN-111	Drawing I	3
CWFD-201	Furniture Design Sophomore I	6
FDTN-131	3D Design I	3
CGEN-202	Crafts CADD Drawing	3
FDTN-112	Drawing II	3
CWFD-202	Furniture Design Sophomore II	6
FDTN-132	3D Design II	3
	Wellness Education*	0
Second Year		
FDTN-121	2D Design I	3
CWFD-301	Furniture Design Junior I	6
CGEN-501	Crafts Promotional Materials	3
FDTN-122	2D Design II	3
	Art History Electives†	6
CWFD-302	Furniture Design Junior II	6
CGEN-502	Crafts Business Practice‡	3
Total Semester Credit Hours		**60**

(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing Associate's degrees are required to complete one Wellness course.
† Art history electives are non-studio courses offered in CIAS or COLA that examine the historical aspects of art, design, crafts, photo or film.
‡ Crafts Business Practices (CGEN-501) satisfies the upper-level writing requirement in the major program.

Glass, BFA

cias.rit.edu/schools/american-crafts/undergraduate-glass

Michael Rogers, Professor
Robin Cass, Professor
(585) 475-6114, sac@rit.edu

Program overview

The glass major focuses on comprehensive instruction, exposing students to artistic perspectives and opinions. The curriculum fosters effective artistic expression by teaching both techniques and idea realization within the field of glass. Foundations courses assist students in finding their voice and empowering them to identify a personal definition for their work. Students study the fundamentals of blowing, casting, and cold-forming. Idea generation, development, execution, and presentation are also explored. Self-promotion, gallery interaction, and business practices are especially emphasized, allowing students to pursue careers immediately after graduation.

Curriculum

Glass, BFA degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
FDTN-111, 122	Drawing I, II	6
FDTN-121, 122	2D Design I, II	6
FDTN-131, 132	3D Design I, II	6
	LAS Foundation 1: First Year Seminar† (SMTL)	3
	LAS Foundation 2: First Year Writing	3
	Studio Electives‡	6
	YearOne	0
	Wellness Education*	0
Second Year		
	LAS Perspective 1, 4	6
ARTH-135, 136	LAS Perspective 2, 3: Survey of Western Art and Architecture I, II	6
CGLS-201	Glass Sophomore I	6
CGEN-201	Crafts Drawing Practice	3
CGLS-202	Glass Sophomore II	6
CGEN-202	Crafts CADD Drawing	3

COURSE		SEMESTER CREDIT HOURS
Third Year		
CGLS-301, 302	Glass Junior I, II	12
	Art History Electives	6
	LAS Elective (SMTL)	3
	Free Electives	6
	LAS Immersion 1	3
Fourth Year		
CGLS-501, 502	Glass Senior I, II	12
CGEN-501	Crafts Promotional Materials	3
CGEN-502	Crafts Business Practice	3
	LAS Immersion 2, 3	6
	Free Elective	3
	Studio Elective‡	3
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
(SMTL) Refers to science, math, technical literacy requirement.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Studio electives are courses designated by lab or studio contact hours in the course description.

Art history electives

Students are required to select three art history electives to broaden their understanding of the historical development of the arts. Art history electives include:

COURSE	
ARTH-135	Survey of Western Art and Architecture I*
ARTH-136	Survey of Western Art and Architecture II*
ARTH-221	Contemporary Design Issues
ARTH-311	Art of Italy: 1250-1400
ARTH-312	Art of Italy: 1600-1750
ARTH-317	Art Florence and Rome: 15th Century
ARTH-318	Art Florence and Rome: 16th Century
ARTH-345	History to Architecture Interior and Furniture I†
ARTH-346	History to Architecture Interior and Furniture II†
ARTH-364	Art of Paris
ARTH-366	18th, 19th Century Art
ARTH-368	20th Century Art: 1900-1950
ARTH-369	20th Century Art: Since 1950
ARTH-373	Art of the Last Decade
ARTH-378	Baroque Painting in Flanders
ARTH-379	Renaissance Painting in Flanders
ARTH-392	Theory and Criticism of 20th Century
ARTH-457	Art and Activism
ARTH-521	The Image
ARTH-541	Art and Architecture of Ancient Rome
ARTH-544	Illuminated Manuscripts
ARTH-550	Topics in Art History
ARTH-554	Late Medieval Art
ARTH-558	The Gothic Revival
ARTH-561	Latin American Art
ARTH-566	Early Medieval Art
ARTH-568	Art and Technology: Machine Aesthetic Cyborg
ARTH-572	Art of the Americas
ARTH-573	Conceptual Art
ARTH-574	Dada and Surrealism
ARTH-576	Modernism and Realism
ARTH-577	Displaying Gender
ARTH-578	Edvard Munch
ARTH-581	Russian Realist Art
ARTH-582	Medieval Craft
ARTH-583	Installation Art
ARTH-584	Scandinavian Modernism
ARTH-586	Studies in Material Culture
ARTH-587	The Gothic Cathedral
ARTH-588	Symbols and Symbol-Making

* This course is required for students in majors in the schools of American Crafts, Art, Design, and Photographic Arts and Sciences (BFA programs only).
† This course is required for students majoring in interior design and furniture design.

Additional information

Studio Residency program

The School for American Crafts offers a Studio Residency program for students in ceramics, furniture design, glass, and metals and jewelry design. Residence positions are limited and are awarded after the review of all applicants' portfolios, transcripts, and references. An interview is required. Accepted residents are required to register for one independent study credit during each semester of residence.

Accepted residents are expected to be present in their assigned studio during class hours and to contribute up to 10 hours of work per week in the main studio. These work hours are coordinated and overseen by the faculty in the resident's discipline. In exchange, the school will provide workspace, access to facilities, and supportive instruction. The resident is invited to participate in the full range of studio activities.

Participants may be those seeking additional studio experience prior to undergraduate or graduate study, early career professionals, or teachers on leave who wish to work again in an academic studio environment. The faculty in each discipline make decisions concerning appropriate candidates.

Inquiries should be made to the Studio Residency Program, School for American Crafts, College of Imaging Arts and Sciences, Rochester Institute of Technology, 73 Lomb Memorial Drive, Rochester, NY 14623-5603.

Metals and Jewelry Design, BFA

cias.rit.edu/schools/american-crafts/undergraduate-metalcrafts
Leonard Urso, Professor
Carlos Caballero-Perez, Professor, Administrative Chair, School for American Crafts
(585) 475-6114, sac@rit.edu

Program overview

The metals and jewelry design major focuses on fostering a learning environment in which students are exposed to and learn about metalsmithing techniques and design. Students have the opportunity to learn about hollowware, jewelry, sculpture, and furniture within the metals environment. Distinguished faculty assist students in building skills for life after graduation, such as soldering, fabrication, stone setting, silversmithing, forging, and casting. Students also develop drawing and rendering skills in order to enhance their design ideas and artistic methods. During the final year, students culminate their studies by presenting their work in a senior exhibition. Graduates of this program develop a strong body of work, a portfolio, and a resume, which assists them in a successful transition towards achieving their professional goals and objectives.

Curriculum

Metals and jewelry design, BFA degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
FDTN-111, 112	Drawing I	6
FDTN-121	2D Design I	3
FDTN-131, 132	3D Design I, II	6
FDTN-122	2D Design II	3
	LAS Foundation 1: First Year Seminar† (SMTL)	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Studio Electives‡	6

COURSE		SEMESTER CREDIT HOURS
Second Year		
ARTH-135	LAS Perspective 2: Survey of Western Art and Architecture I	3
ARTH-136	LAS Perspective 3: Survey of Western Art and Architecture II	3
CMTJ-201, 202	Metals and Jewelry Design Sophomore I, II	12
CGEN-201	Crafts Drawing Practice	3
CGEN-202	Craft CADD Drawing	3
	LAS Perspective 1, 4	6
Third Year		
CMTJ-301, 302	Metals and Jewelry Design Junior I, II	12
	LAS Elective (SMTL)	3
	Art History Electives**	6
	Free Electives	6
	LAS Immersion 1	3
Fourth Year		
CMTJ-501, 502	Metals and Jewelry Design Senior I, II	12
CGEN-501	Crafts Promotional Materials	3
CGEN-502	Crafts Business Practices§	3
	Free Elective	3
	LAS Immersion 2, 3	6
	Studio Elective‡	3
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
(SMTL) Refers to science, math, technical literacy requirement.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Studio electives are courses designated by lab or studio contact hours in the course description.
§ Crafts Business Practices (CGEN-502) satisfies the upper-level writing requirement in the major.
** Art history electives are non-studio courses offered in CIAS or the College of Liberal Arts that examine the historical aspects of art, design, crafts, photo, or film and Animation.

Art history electives

Students are required to select three art history electives to broaden their understanding of the historical development of the arts. Art history electives include:

COURSE	
ARTH-135	Survey of Western Art and Architecture I*
ARTH-136	Survey of Western Art and Architecture II*
ARTH-221	Contemporary Design Issues
ARTH-311	Art of Italy: 1250-1400
ARTH-312	Art of Italy: 1600-1750
ARTH-317	Art Florence and Rome: 15th Century
ARTH-318	Art Florence and Rome: 16th Century
ARTH-345	History to Architecture Interior and Furniture I†
ARTH-346	History to Architecture Interior and Furniture II†
ARTH-364	Art of Paris
ARTH-366	18th, 19th Century Art
ARTH-368	20th Century Art: 1900-1950
ARTH-369	20th Century Art: Since 1950
ARTH-373	Art of the Last Decade
ARTH-378	Baroque Painting in Flanders
ARTH-379	Renaissance Painting in Flanders
ARTH-392	Theory and Criticism of 20th Century
ARTH-457	Art and Activism
ARTH-521	The Image
ARTH-541	Art and Architecture of Ancient Rome
ARTH-544	Illuminated Manuscripts
ARTH-550	Topics in Art History
ARTH-554	Late Medieval Art
ARTH-558	The Gothic Revival
ARTH-561	Latin American Art
ARTH-566	Early Medieval Art
ARTH-568	Art and Technology: Machine Aesthetic Cyborg
ARTH-572	Art of the Americas
ARTH-573	Conceptual Art
ARTH-574	Dada and Surrealism
ARTH-576	Modernism and Realism
ARTH-577	Displaying Gender
ARTH-578	Edvard Munch
ARTH-581	Russian Realist Art
ARTH-582	Medieval Craft
ARTH-583	Installation Art
ARTH-584	Scandinavian Modernism
ARTH-586	Studies in Material Culture
ARTH-587	The Gothic Cathedral
ARTH-588	Symbols and Symbol-Making

* This course is required for students enrolled in majors in the schools of American Crafts, Art, Design, and Photographic Arts and Sciences (BFA programs only).
† This course is required for students majoring in interior design and furniture design.

Additional information

Studio Residency program

The School for American Crafts offers a Studio Residency program for students in ceramics, furniture design, glass, and metals and jewelry design. Residence positions are limited and are awarded after the review of all applicants' portfolios, transcripts, and references. An interview is required. Accepted residents are required to register for one independent study credit during each semester of residence.

Accepted residents are expected to be present in their assigned studio during class hours and to contribute up to 10 hours of work per week in the main studio. These work hours are coordinated and overseen by the faculty in the resident's discipline. In exchange, the school will provide workspace, access to facilities, and supportive instruction. The resident is invited to participate in the full range of studio activities.

Participants may be those seeking additional studio experience prior to undergraduate or graduate study, early career professionals, or teachers on leave who wish to work again in an academic studio environment. The faculty in each discipline make decisions concerning appropriate candidates.

Inquiries should be made to the Studio Residency Program, School for American Crafts, College of Imaging Arts and Sciences, Rochester Institute of Technology, 73 Lomb Memorial Drive, Rochester, NY 14623-5603.

School of Art

Illustration, BFA

cias.rit.edu/art
William R. Finewood, Program Chair
(585) 475-7562, facpgd@rit.edu

Program overview

Illustration majors solve communication problems by translating concepts and ideas into images. They study traditional and electronic media and design to prepare themselves for their professional goals.

Curriculum

Illustration, BFA degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
FDTN-111, 112	Drawing I, II	6
FDTN-121, 122	2D Design I, II	6
FDTN-131	3D Design I	3
FDTN-141	4D Design I	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
ARTH-135, 136	LAS Perspective 2, 3: Survey of Western Art and Architecture I, II	6
	YearOne	0
	Wellness Education*	0
Second Year		
	LAS Perspective 1, 4	6
	Art History Elective‡	3
	Illustration Core Courses** (SMTL)	12
	Studio Electives§	6
	Illustration Elective††	3

COURSE		SEMESTER CREDIT HOURS
Third Year		
ILLS-313	Illustration II	3
	Illustration Electives††	12
	Studio Elective§	3
	Art History Elective‡	3
	Free Elective	3
	LAS Immersion 1, 2	6
Fourth Year		
ILLS-413	Illustration III	3
ILLS-501	Illustration Portfolio (WI)	3
	Illustration Electives††	6
	Studio Electives§	6
	Free Electives	6
	LAS Immersion 3	3
	LAS Elective (SMTL)	3
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
(SMTL) Refers to science, math, technical literacy requirement.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡Illustration students are required to take 6 credit hours of art history electives.
§ Studio elective courses are those designated with studio/lab contact hours listed in the course description.
** Illustration core courses include Illustration I (ILLS-213), Anatomical Illustration (ILLS-214), Digital Illustration I (ILLS-219), and Dimensional Illustration I (ILLS 218).
†† Illustration electives include Digital Illustration II (ILLS-319), Dimensional Illustration II (ILLS-358), Illustrative Design (ILLS-359), Editorial Illustration (ILLS-364), Digital Mixed Media (ILLS-369), Zoological and Botanical Illustration (ILLS-363), Digital Editorial (ILLS-379), Pop-Up Books (ILLS-368), Journalistic Illustration (ILLS-462), Illustration History (ILLS-461), Book Illustration (ILLS-465), Advertising Illustration (ILLS-469), Personal Focus (ILLS-466), Animating Digital Illustration (ILLS-467), Sketchbook Illustration (ILLS-472), Caricature Illustration (ILLS-477), Political Cartooning (ILLS-482), Fantastic Illustration (ILLS-468), Illustration Co-op (ILLS-499), Illustration Internship (ILLS-498), Illustration Independent Study (ILLS-599)

Electives

Students may select electives that enhance their studies or allow them to pursue an area of personal or professional interest. Electives are available in graphic design, illustration, graphic visualization, industrial design, interior design, fine arts studio, environmental design, ceramics, glass, metals, textiles, woodworking, film making, photography, and imaging technology. To be eligible for these electives, students must complete the foundation program or have the permission of the instructor. Additional selections are offered as special topics courses.

Art history electives

Students are required to select three art history electives to broaden their understanding of the historical development of the arts. Art history electives include:

COURSE	
ARTH-135	Survey of Western Art and Architecture I*
ARTH-136	Survey of Western Art and Architecture II*
ARTH-221	Contemporary Design Issues
ARTH-311	Art of Italy: 1250-1400
ARTH-312	Art of Italy: 1600-1750
ARTH-317	Art Florence and Rome: 15th Century
ARTH-318	Art Florence and Rome: 16th Century
ARTH-345	History to Architecture Interior and Furniture I†
ARTH-346	History to Architecture Interior and Furniture II†
ARTH-364	Art of Paris
ARTH-366	18th, 19th Century Art
ARTH-368	20th Century Art: 1900-1950
ARTH-369	20th Century Art: Since 1950
ARTH-373	Art of the Last Decade
ARTH-378	Baroque Painting in Flanders
ARTH-379	Renaissance Painting in Flanders
ARTH-392	Theory and Criticism of 20th Century
ARTH-457	Art and Activism
ARTH-521	The Image
ARTH-541	Art and Architecture of Ancient Rome
ARTH-544	Illuminated Manuscripts
ARTH-550	Topics in Art History
ARTH-554	Late Medieval Art
ARTH-558	The Gothic Revival
ARTH-561	Latin American Art
ARTH-566	Early Medieval Art
ARTH-568	Art and Technology: Machine Aesthetic Cyborg
ARTH-572	Art of the Americas
ARTH-573	Conceptual Art
ARTH-574	Dada and Surrealism
ARTH-576	Modernism and Realism
ARTH-577	Displaying Gender
ARTH-578	Edvard Munch
ARTH-581	Russian Realist Art
ARTH-582	Medieval Craft
ARTH-583	Installation Art
ARTH-584	Scandinavian Modernism
ARTH-586	Studies in Material Culture
ARTH-587	The Gothic Cathedral
ARTH-588	Symbols and Symbol-Making

* This course is required for students in majors in the schools of American Crafts, Art, Design, and Photographic Arts and Sciences (BFA programs only).
† This course is required for students majoring in interior design and furniture design.

Fine Arts Studio, BFA

cias.rit.edu/art
Elizabeth Kronfield, Program Chair
(585) 475-7562, facpgd@rit.edu

Program overview

The fine arts studio major serves the student who is interested in a career in the fine arts across a variety of two- and three-dimensional disciplines and media, both traditional and technological. While painting, printmaking, and sculpture are the areas of greatest emphasis, new forms of expression are encouraged through course discipline work.

Curriculum

Fine arts studio, BFA degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
FDTN-111, 112	Drawing I, II	6
FDTN-121, 122	2D Design I, II	6
FDTN-131, 132	3D Design I, II	6
	LAS Foundation 1: First Year Seminar† (SMTL)	3
	LAS Foundation 2: First Year Writing	3
ARTH-135	LAS Perspective 2: Survey of Western Art and Architecture I	3
ARTH-136	LAS Perspective 3: Survey Western Art and Architecture II	3
	YearOne	0
	Wellness Education*	0
Second Year		
FDTN-141	4D Design	3
FNAS-201	Introduction to New Forms	3
FNAS-202	Introduction to Non-Toxic Printmaking	3
FNAS-203	Introduction to Painting	3
FNAS-204	Introduction to Sculpture	3
FNAS-205	Introduction to Fine Art Drawing	3
	LAS Perspective 1	3
	CIAS Studio Elective§	3
	Open Elective	3
	LAS Immersion 1	3
Third Year		
FNAS-305	Fine Art Drawing: Figure	3
FNAS-514	Ideation and Series	3
	FAS (Major)‡	9
	Art History Elective§	3
	CIAS Studio Elective**	3
	LAS Elective (SMTL)	3
	LAS Immersion 2, 3	6
Fourth Year		
FNAS-401	Senior Show	3
FNAS-517	Business Practices (WI)	3
	FAS (Major)†	9
	Art History Elective§	3
	Free Elective	6
	LAS Perspective 4	3
	CIAS Studio Elective**	3
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
(SMTL) Refers to science, math, technical literacy requirement.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ FAS (Major) refers to any combination of 500-level FNAS courses (painting, non-toxic printmaking, sculpture, or new forms). Any of the four choices may be repeated up to 4 times (12 credit hours) as part of the 18 credit requirement.
§ Illustration students are required to take 6 credit hours of art history electives.
** CIAS studio elective courses are those designated with studio/lab contact hours listed in the course description.

Electives

Students may select electives that enhance their studies or allow them to pursue an area of personal or professional interest. Electives are available in graphic design, illustration, graphic visualization, industrial design, interior design, fine arts studio, environmental design, ceramics, glass, metals, textiles, woodworking, film making, photography, and imaging technology. To be eligible for these electives, students must complete the foundation program or have the permission of the instructor. Additional selections are offered as special topics courses.

Art history electives

Students are required to select three art history electives to broaden their understanding of the historical development of the arts. Art history electives include:

COURSE	
ARTH-135	Survey of Western Art and Architecture I*
ARTH-136	Survey of Western Art and Architecture II*
ARTH-221	Contemporary Design Issues
ARTH-311	Art of Italy: 1250-1400
ARTH-312	Art of Italy: 1600-1750
ARTH-317	Art Florence and Rome: 15th Century
ARTH-318	Art Florence and Rome: 16th Century
ARTH-345	History to Architecture Interior and Furniture I†
ARTH-346	History to Architecture Interior and Furniture II†
ARTH-364	Art of Paris
ARTH-366	18th, 19th Century Art
ARTH-368	20th Century Art: 1900-1950
ARTH-369	20th Century Art: Since 1950
ARTH-373	Art of the Last Decade
ARTH-378	Baroque Painting in Flanders
ARTH-379	Renaissance Painting in Flanders
ARTH-392	Theory and Criticism of 20th Century
ARTH-457	Art and Activism
ARTH-521	The Image
ARTH-541	Art and Architecture of Ancient Rome
ARTH-544	Illuminated Manuscripts
ARTH-550	Topics in Art History
ARTH-554	Late Medieval Art
ARTH-558	The Gothic Revival
ARTH-561	Latin American Art
ARTH-566	Early Medieval Art
ARTH-568	Art and Technology: Machine Aesthetic Cyborg
ARTH-572	Art of the Americas
ARTH-573	Conceptual Art
ARTH-574	Dada and Surrealism
ARTH-576	Modernism and Realism
ARTH-577	Displaying Gender
ARTH-578	Edvard Munch
ARTH-581	Russian Realist Art
ARTH-582	Medieval Craft
ARTH-583	Installation Art
ARTH-584	Scandinavian Modernism
ARTH-586	Studies in Material Culture
ARTH-587	The Gothic Cathedral
ARTH-588	Symbols and Symbol-Making

* This course is required for students in majors in the schools of American Crafts, Art, Design, and Photographic Arts and Sciences (BFA programs only).
† This course is required for students majoring in interior design and furniture design.

Medical Illustration, BFA

cias.rit.edu/art
Glen Hintz, Administrative Chair
(585) 475-7562, facpgd@rit.edu

Program overview

Combining art and science, medical illustrators provide visual support for the health science and medical instruction fields. From traditional carbon dust renderings to three-dimensional, animated digital imagery, medical illustration spans the fullest range of artistic media. Building on a foundation of drawing and design, students learn how to translate anatomical and surgical sketches into instructional illustrations, courtroom exhibitions, computer graphics, ads, and more.

The major combines the study of the visual arts with science, including gross anatomy. Through collaboration with area hospitals, students are able to draw from direct observation of operations in progress. Digital technology integrated into the studio environment enables students to create highly polished, sophisticated images and well-designed, interactive, educational media presentations that include motion graphics and sound.

Curriculum

Medical illustration, BFA degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
FDTN-111, 112	Drawing I, II	6
FDTN-121, 122	2D Design I, II	6
FDTN-131	3D Design I	3
FDTN-141	4D Design	3
MEDG-101, 102	Human Biology I (SMTL) and Lab	4
MEDS-250, 251	Human Biology II (SMTL) and Lab	4
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education	0
Second Year		
ILLS-214	Anatomic Illustration	3
ILLM-507	Computer Applications In Medical Illustration	3
	Illustration Electives‡	6
MEDS-250, 260	Anatomy and Physiology I, II	8
ARTH-135, 136	LAS Perspective 2, 3: Survey Western Art and Architecture I, II	6
	LAS Perspective 1, 4	6
Third Year		
ILLM-501	Human Gross Anatomy	6
ILLM-502	Illustrating Human Anatomy	3
ILLM-503	3D Modeling Organic Forms	3
ILLM-508	Scientific Visualization	3
ILLM-506	3D Animation Organic Forms	3
	CIAS Studio Elective§	3
	LAS Immersion 1, 2	6
	Free Elective	3
Fourth Year		
ILLM-512	Surgical Illustration	3
ILLM-515, 516	Contemporary Media I, II	6
ILLM-517	Portfolio and Business (WI)	3
	CIAS Studio Electives§	6
	LAS Immersion 3	3
	Free Electives	6
	LAS Elective	3
Total Semester Credit Hours		**124**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
(SMTL) Refers to science, math, technical literacy requirement.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Illustration electives include the following: Illustration I (ILLS-213), Digital Illustration I (ILLS-219), and Zoological and Botanical Illustration (ILLS-323).
§ CIAS Studio Elective courses are those designated with studio/lab hours listed in the course description.

Electives

Students may select electives that enhance their studies or allow them to pursue an area of personal or professional interest. Electives are available in graphic design, illustration, graphic visualization, industrial design, interior design, fine arts studio, environmental design, ceramics, glass, metals, textiles, woodworking, filmmaking, photography, and imaging technology. To be eligible for these electives, students must complete the foundation program or have the permission of the instructor. Additional selections are offered as special topics courses.

Art history electives

Students are required to select three art history electives to broaden their understanding of the historical development of the arts. Art history electives include:

COURSE	
ARTH-135	Survey of Western Art and Architecture I*
ARTH-136	Survey of Western Art and Architecture II*
ARTH-221	Contemporary Design Issues
ARTH-311	Art of Italy: 1250-1400
ARTH-312	Art of Italy: 1600-1750
ARTH-317	Art Florence and Rome: 15th Century
ARTH-318	Art Florence and Rome: 16th Century
ARTH-345	History to Architecture Interior and Furniture I†
ARTH-346	History to Architecture Interior and Furniture II†
ARTH-364	Art of Paris
ARTH-366	18th, 19th Century Art
ARTH-368	20th Century Art: 1900-1950
ARTH-369	20th Century Art: Since 1950
ARTH-373	Art of the Last Decade
ARTH-378	Baroque Painting in Flanders
ARTH-379	Renaissance Painting in Flanders
ARTH-392	Theory and Criticism of 20th Century
ARTH-457	Art and Activism
ARTH-521	The Image
ARTH-541	Art and Architecture of Ancient Rome
ARTH-544	Illuminated Manuscripts
ARTH-550	Topics in Art History
ARTH-554	Late Medieval Art
ARTH-558	The Gothic Revival
ARTH-561	Latin American Art
ARTH-566	Early Medieval Art
ARTH-568	Art and Technology: Machine Aesthetic Cyborg
ARTH-572	Art of the Americas
ARTH-573	Conceptual Art
ARTH-574	Dada and Surrealism
ARTH-576	Modernism and Realism
ARTH-577	Displaying Gender
ARTH-578	Edvard Munch
ARTH-581	Russian Realist Art
ARTH-582	Medieval Craft
ARTH-583	Installation Art
ARTH-584	Scandinavian Modernism
ARTH-586	Studies in Material Culture
ARTH-587	The Gothic Cathedral
ARTH-588	Symbols and Symbol-Making

* This course is required for students in majors in the schools of American Crafts, Art, Design, and Photographic Arts and Sciences (BFA programs only).
† This course is required for students majoring in interior design and furniture design.

School of Design

3D Digital Design, BFA

cias.rit.edu/design
Marla Schweppe, Program Chair
(585) 475-2754, mkspph@rit.edu

Program overview

Students in the 3D digital design major learn to use 3D computer graphics in computer and video games, medical and scientific simulations, data visualization, models for architects and engineers, motion or broadcast graphics, instructional media accident reconstruction, and more. Traditional design skills using commercial 3D software are integrated with principles relating to time, motion, and lighting.

Curriculum

3D digital design, BFA degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
DDDD-101	Introduction to Modeling and Motion (SMTL)	3
DDDD-102	Introduction to Visual Design	3
DDDD-103	Imaging for 3D	3
FDTN-131	3D Design I	3
FDTN-132	3D Design II	3
FDTN-141	4D Design	3
ARTH-135	LAS Perspective 2: Survey of Western Art and Architecture I	3
ARTH-136	LAS Perspective 3: Survey of Western Art and Architecture II	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
DDDD-201	Modeling Strategies	3
DDDD-202	Layers and Effects	3
DDDD-203	Scripting	3
DDDD-206	Service Project	3
DDDD-207	Lighting, Materials, and Rendering	3
DDDD-208	Anatomical Figure Drawing	3
FDTN-121	2D Design I	3
	LAS Perspective 1, 4	6
	Programming Elective	3
Third Year		
DDDD-301	Professional Practice (WI)	3
DDDD-302	History of Digital Graphics	3
DDDD-306	Project Planning and Production	3
	3DDG Major Electives	6
	Free Electives	6
	LAS Immersion 1, 2	6
	Art/Design/Crafts/Photo/Film History Elective‡	3
Fourth Year		
DDDD-401	Senior Thesis Testing and Documentation	3
DDDD-402	Senior Thesis I	3
DDDD-403	Senior Thesis II	3
	3DDG Major Electives	9
	Free Electives	6
	LAS Immersion 3	3
	LAS Elective (SMTL)	3
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Art history electives are non-studio courses offered in the colleges of Imaging Arts and Sciences or Liberal Arts that examine the historical aspects of art, design, crafts, photography, or film.

Art history electives

Students are required to select one art history elective to broaden their understanding of the historical development of the arts. Art history electives include:

COURSE	
ARTH-135	Survey of Western Art and Architecture I*
ARTH-136	Survey of Western Art and Architecture II*
ARTH-221	Contemporary Design Issues
ARTH-311	Art of Italy: 1250-1400
ARTH-312	Art of Italy: 1600-1750
ARTH-317	Art Florence and Rome: 15th Century
ARTH-318	Art Florence and Rome: 16th Century
ARTH-345	History to Architecture Interior and Furniture I†
ARTH-346	History to Architecture Interior and Furniture II†
ARTH-364	Art of Paris
ARTH-366	18th, 19th Century Art
ARTH-368	20th Century Art: 1900-1950
ARTH-369	20th Century Art: Since 1950
ARTH-373	Art of the Last Decade
ARTH-378	Baroque Painting in Flanders
ARTH-379	Renaissance Painting in Flanders
ARTH-392	Theory and Criticism of 20th Century
ARTH-457	Art and Activism
ARTH-521	The Image
ARTH-541	Art and Architecture of Ancient Rome
ARTH-544	Illuminated Manuscripts
ARTH-550	Topics in Art History
ARTH-554	Late Medieval Art
ARTH-558	The Gothic Revival
ARTH-561	Latin American Art
ARTH-566	Early Medieval Art
ARTH-568	Art and Technology: Machine Aesthetic Cyborg
ARTH-572	Art of the Americas
ARTH-573	Conceptual Art
ARTH-574	Dada and Surrealism
ARTH-576	Modernism and Realism
ARTH-577	Displaying Gender
ARTH-578	Edvard Munch
ARTH-581	Russian Realist Art
ARTH-582	Medieval Craft
ARTH-583	Installation Art
ARTH-584	Scandinavian Modernism
ARTH-586	Studies in Material Culture
ARTH-587	The Gothic Cathedral
ARTH-588	Symbols and Symbol-Making

* This course is required for students enrolled in majors in the schools of American Crafts, Art, Design, and Photographic Arts and Sciences (BFA programs only).
† This course is required for students majoring in interior design and furniture design.

Graphic Design, BFA

cias.rit.edu/design
Nancy Ciolek, Program Chair
(585) 475-7472, nacfad@rit.edu

Program overview

Graphic design is the study and practice of communicating ideas and information through printed, environmental, and digital presentations. Typography and images are integrated to express messages that interest, inform, and persuade intended audiences. With the addition of visual movement, navigation, and sound, digital presentations also are developed. Using research, critical thinking, creativity, and a range of problem-solving principles, graphic designers solve complex visual communication problems within the constraints of time, space, budget, and technology. Areas of study include publication design, signage and environmental design, corporate identity, interactive media, packaging design, and information design.

Curriculum

The BFA in graphic design integrates major courses, studio and open electives, the liberal arts, and art/design history. Computer skills, design perspectives, career preparation, and exposure to the related areas of publishing, photography, engineering, and information technology are integrated into the curriculum.

Graphic design, BFA degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
FDTN-121	2D Design I	3
FDTN-131	3D Design I	3
FDTN-111	Drawing I	3
ARTH-135	LAS Perspectives 2: Survey of Western Art and Architecture I	3
	LAS Foundation 1: First Year Seminar†	3
GRDE-106	2D Graphic Design	3
GRDE-107	Time Based Design	3
FDTN-112	Drawing II	3
ARTH-136	LAS Perspectives 3: Survey of Western Art and Architecture II	3
	LAS Foundation 2: First Year Writing	3
	Wellness Education*	0
Second Year		
GRDE-201	Typography	3
GRDE-202	Design Imagery	3
GRDE-205	History of Graphic Design (WI)	3
	LAS Perspectives 1, 4	6
	Studio Electives‡	6
GRDE-206	Typography and Imagery	3
GRDE-207	Interactive Media Design (SMTL)	3
MAAT-383	Design Production	3
Third Year		
GRDE-301	Information Design	3
GRDE-302	Web and User Interface Design	3
	Art History Elective§	3
	Studio Electives‡	6
	LAS Immersion 1, 2	6
GRDE-306	Professional Practices	3
GRDE-307	Design Systems and Methodology	3
GRDE-308	Environmental Graphic Design	3
Fourth Year		
GRDE-411	Senior Portfolio Development	3
	Senior Graphic Design Electives**	6
	Free Electives	9
	LAS Immersion 3	3
GRDE-402	Senior Capstone Project	3
	LAS Elective (SMTL)	3
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
(SMTL) Refers to science, math, technical literacy requirement.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Studio elective courses are those designated with studio/lab hours listed in the course description.
§ Art history elective courses include Women Pioneers in Design (GRDE-323), 20th Century Editorial Design History (GRDE-326), Graphic Design in Film (GRDE-367).
** Graphic design electives include Senior Internship (GRDE-498), Branding and Identity Design (GRDE-421), Editorial Design (GRDE-418), Advertising Design (GRDE-428), Advanced Information Design (GRDE-423), Advanced Interactive and Web Design (GRDE-422).

Art history electives

Students are required to select three art history electives to broaden their understanding of the historical development of the arts. Art history electives include:

COURSE	
ARTH-366	18/19th Century Art
ARTH-382	Medieval Craft
ARTH-386	Latin American Art
ARTH-384	Late Medieval Art
ARTH-383	Installation Art
ARTH-374	Illuminated Manuscripts
ARTH-386	History of Things: Studies in Material Culture
ARTH-376	Early Medieval Art
ARTH-377	Displaying Gender
ARTH-372	Art of the Americas
ARTH-388	The Gothic Revival

COURSE	
ARTH-387	The Gothic Cathedral
ARTH-371	Art and Architecture of Ancient Rome
ARTH-392	Theory and Criticism of 20th Century Art
ARTH-373	Art of the Last Decade
ARTH-369	20th Century Art Since 1950
ARTH-368	20th Century Art: 1900-1950
ARTH-457	Art and Activism
ARTH-511	Art and Architecture of Italy: 1250-1400
ARTH-512	Art and Architecture in Italy: 1600-1750
ARTH-518	Art and Architecture in Florence and Rome: The Sixteenth Century
ARTH-517	Art and Architecture in Florence and Rome: The Fifteenth Century
ARTH-573	Conceptual Art
ARTH-581	Realisms and Avant-Gardes in Russian Art
ARTH-576	Modernism and Its Other: Realism and Expressionism
ARTH-571	Extreme Abstraction
ARTH-521	The Image
ARTH-584	Scandinavian Modernism
ARTH-578	Edvard Munch
ARTH-574	Dada and Surrealism
ARTH-568	Art and Technology: from the Machine Aesthetic to the Cyborg Age
ARTH-588	Symbols and Symbol-Making: Psychoanalytic Perspectives on Art

Additional information

Professional memberships

The School of Design maintains memberships in a variety of professional organizations, including Industrial Designers Society of America, ACM Siggraph, Society of Environmental Graphic Designers, American Society of Interior Designers, American Institute of Architects, ICOGRADA, American Institute of Graphic Arts, and International Interior Design Association.

Industrial Design, BFA

cias.rit.edu/design

Josh Owen, Program Chair
(585) 475-5257, josh.owen@rit.edu

Program overview

Industrial design involves the integration of form and function as products are designed and created by combining materials, process, computer-aided design, and human factors. Blending technical instruction with studio assignments, studies also include package, exhibit, and furniture design. Aesthetic sensitivity, technical competence, and analytical thought are developed and applied to meet the challenge of designing products for human needs.

Curriculum

The BFA in industrial design integrates major courses, studio and open electives, the liberal arts, and art/design history. Computer skills, design perspectives, career preparation, and exposure to the related areas of publishing, photography, engineering, and information technology are integrated into the curriculum.

Industrial design, BFA degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
FDTN-121, 122	2D Design I, II	6
FDTN-131, 132	3D Design I, II	6
FDTN-111	Drawing I	3
ARTH-135	LAS Perspective 2: Survey of Western Art and Architecture I	3
ARTH-136	LAS Perspectives 3: Survey of Western Art and Architecture II	3
IDDE-102	Design Drawing	3
	LAS Foundation 1: First Year Seminar† (SMTL)	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
IDDE-201, 202	Sophomore ID Studio I, II	6
IDDE-206	ID Form	3
IDDE-207	ID Digital Drawing	3
IDDE-211	Human Factors	3
IDDE-212	Integrated CAD	3
IDDE-221	History of Industrial Design	3
	LAS Perspective 1, 4	6
	Free Elective	3
Third Year		
IDDE-301, 302	Junior ID Studio I, II	8
IDDE-306	Materials and Processes	3
IDDE-307	Graphic Tactics	3
IDDE-311	ID Career Planning	3
	Studio Electives‡	6
	LAS Immersion 1, 2	6
	Art History Elective§	3
Fourth Year		
IDDE-406	Professional Practice	3
IDDE-407, 408	ID Senior Thesis I, II	6
IDDE-501, 502	Senior ID Studio I, II	8
	Free Electives	6
	LAS Immersion 3	3
	Studio Elective‡	3
	LAS Elective (SMTL)	3
Total Semester Credit Hours		**124**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
(SMTL) Refers to science, math, technical literacy requirement.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Studio elective courses are those designated with studio/lab hours listed in the course description.
§ Art history electives are non-studio courses offered in CIAS or COLA that examine the historical aspects of art, design, crafts, photo or film.

Art history electives

Students are required to select three art history electives to broaden their understanding of the historical development of the arts. Art history electives include:

ARTH-135	Survey of Western Art and Architecture I*
ARTH-136	Survey of Western Art and Architecture II*
ARTH-221	Contemporary Design Issues
ARTH-311	Art of Italy: 1250-1400
ARTH-312	Art of Italy: 1600-1750
ARTH-317	Art Florence and Rome: 15th Century
ARTH-318	Art Florence and Rome: 16th Century
ARTH-345	History to Architecture Interior and Furniture I†
ARTH-346	History to Architecture Interior and Furniture II†
ARTH-364	Art of Paris
ARTH-366	18th, 19th Century Art
ARTH-368	20th Century Art: 1900-1950
ARTH-369	20th Century Art: Since 1950
ARTH-373	Art of the Last Decade
ARTH-378	Baroque Painting in Flanders
ARTH-379	Renaissance Painting in Flanders
ARTH-392	Theory and Criticism of 20th Century
ARTH-457	Art and Activism
ARTH-521	The Image
ARTH-541	Art and Architecture of Ancient Rome
ARTH-544	Illuminated Manuscripts
ARTH-550	Topics in Art History
ARTH-554	Late Medieval Art
ARTH-558	The Gothic Revival
ARTH-561	Latin American Art
ARTH-566	Early Medieval Art
ARTH-568	Art and Technology: Machine Aesthetic Cyborg
ARTH-572	Art of the Americas
ARTH-573	Conceptual Art
ARTH-574	Dada and Surrealism
ARTH-576	Modernism and Realism
ARTH-577	Displaying Gender
ARTH-578	Edvard Munch
ARTH-581	Russian Realist Art
ARTH-582	Medieval Craft
ARTH-583	Installation Art
ARTH-584	Scandinavian Modernism
ARTH-586	Studies in Material Culture
ARTH-587	The Gothic Cathedral
ARTH-588	Symbols and Symbol-Making

* This course is required for students enrolled in majors in the schools of American Crafts, Art, Design, and Photographic Arts and Sciences (BFA programs only).
† This course is required for students majoring in interior design and furniture design.

Additional information

Professional organizations

The school maintains memberships in a variety of professional organizations, including Industrial Designers Society of America, ACM Siggraph, Society of Environmental Graphic Designers, American Society of Interior Designers, American Institute of Architects, ICOGRADA, American Institute of Graphic Arts, and International Interior Design Association.

Interior Design, BFA

cias.rit.edu/design
Heidi Tomkiewicz, Program Chair
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Program overview

Interior design is the creative integration of form, materials, function, and aesthetics within interior space. Students develop an understanding of, and sensitivity to, history, future technology, environment, economics, architecture, and societal needs by exploring projects that develop aesthetic understanding, technical proficiencies, and preparation for professional certification and licensing. The program is accredited by the Council for Interior Design Accreditation.

Curriculum

The BFA in interior design integrates major courses, studio and open electives, the liberal arts, and art/design history. Computer skills, design perspectives, career preparation, and exposure to the related areas of publishing, photography, engineering, and information technology are integrated into the curriculum.

Interior design, BFA degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
FDTN-121	2D Design I	3
FDTN-131	3D Design I	3
FDTN-111	Drawing I	3
ARTH-135	LAS Perspective 2: Survey of Western Art and Architecture I	3
	LAS Foundation 1: First Year Seminar†	3
FDTN-122	2D Design II	3
FDTN-132	3D Design II	3
INDE-102	Design Drawing I	3
ARTH-136	LAS Perspective 3: Survey of Western Art and Architecture II	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
INDE-201	Introduction to Interior Design	3
INDE-202	Design Drawing II	3
INDE-203	Digital Graphics (SMTL)	3
	Studio Electives‡	6
	LAS Perspective 1	3
INDE-222	Design Issues	3
INDE-207	Color and Lighting	3
INDE-212	Hospitality Design	3
	LAS Perspective 4	3
Third Year		
ARTH-345, 346	History of Architecture, Interiors and Furniture I, II	6
INDE-301	Office Design	3
INDE-303	Materials and Specifications	3
	Studio Electives‡	6
	LAS Immersion 1, 2	6
ARTH-346	Introduction to Design History II	3
INDE-302	Retail Design	3
INDE-304	Building Systems	3
Fourth Year		
INDE-401	Multi-Story/Purpose Design	4
INDE-405	Business Practices and Career Planning (WI)	3
INDE-407	Contract Documents	4
	LAS Immersion 3	3
	Free Electives	9
INDE-402	Special Projects	3
INDE-403	Health Care Design	3
	LAS Elective (SMTL)	3
Total Semester Credit Hours		**122**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
(SMTL) Refers to science, math, technical literacy requirement.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Studio elective courses are those designated with studio/lab hours listed in the course description.

Additional information

Professional memberships

The school maintains memberships in a variety of professional organizations, including Industrial Designers Society of America, ACM Siggraph, Society of Environmental Graphic Designers, American Society of Interior Designers, American Institute of Architects, ICOGRADA, American Institute of Graphic Arts, and International Interior Design Association.

New Media Design, BFA

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Adam Smith, Program Chair
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Program overview

The new media design major addresses the growing demand for college graduates with strong digital imaging skills, highly refined design sensitivities, and the ability to visualize concepts in two- and three-dimensional motion graphics and interactive projects. Students explore all forms of digital media as well as traditional imaging techniques to become creative and skilled multimedia designers. They gain experience in concept development, design development, digital sound, two- and three-dimensional animation, interactivity, programming, digital photography and video, multimedia project development, and digital imaging. Students also explore gaming, entertainment multimedia, virtual reality, and other facets of new media. Students prepare and deliver projects executed in all of the major media formats, including mobile broadcast and the Web. This major shares courses with the new media option of the new media interactive development major in the B. Thomas Golisano College of Computing and Information Sciences.

Curriculum

New media design, BFA degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1	3
FDTN-121	2D Design I	3
FDTN-111	Drawing I	3
NMDE-101	New Media Design Imaging	3
	LAS Foundation 2: First Year Writing	3
FDTN-141	4D Design	3
FDTN-112	Drawing 2	3
NMDE-102	New Media Design Elements I	3
NMDE-103	New Media Design Interactive I	3
	YearOne	0
	Wellness Education*	0
Second Year		
ARTH-135	LAS Perspective 2: Survey of Western Art and Architecture I	3
IGME-101	NM Interactive Design and Algorithmic Problem Solving I (SMTL)	4
IGME-230	Website Design and Implementation	3
NMDE-201	New Media Design Elements II	3
NMDE-202	New Media Design 3D	3
ARTH-136	LAS Perspective 3: Survey of Western Art and Architecture II	3
IGME-102	NM Interactive Design and Algorithmic Problem Solving II	4
NMDE-204	New Media Design Animation	3
NMDE-203	New Media Design Interactive II	3
	Studio Elective	3
Third Year		
	LAS Perspective 4	3
	Art/Design/Craft/Photo History Electives	6
NMDE-305	New Media Design Motion Graphics	3
NMDE-302	New Media Design Graphical User Interface	3
	Free Electives	6
	LAS Immersion 1	3
NMDE-301	New Media Design Elements III	3
NMDE-303	New Media Design Interactive III	3
Fourth Year		
	LAS Immersion 2, 3	6
	LAS Elective (SMTL)	3
NMDE-401	New Media Design Career Skills	3
NMDE-404	New Media Design Interactive IV	3
	Free Electives	9
NMDE-411	New Media Design Team Project	3
Choose one of the following:		3
NMDE-406	New Media Design Experimental	
NMDE-408	New Media Design Virtual Entertainment	
Total Semester Credit Hours		**122**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
(SMTL) Refers to science, math, technical literacy requirement.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Art history electives

Students are required to complete two art history electives to broaden their understanding of the historical development of the arts. Art history electives include:

COURSE	
ARTH-366	18/19th Century Art
ARTH-382	Medieval Craft
ARTH-386	Latin American Art
ARTH-384	Late Medieval Art
ARTH-383	Installation Art
ARTH-374	Illuminated Manuscripts
ARTH-386	History of Things: Studies in Material Culture
ARTH-376	Early Medieval Art
ARTH-377	Displaying Gender
ARTH-372	Art of the Americas
ARTH-388	The Gothic Revival
ARTH-387	The Gothic Cathedral
ARTH-371	Art and Architecture of Ancient Rome
ARTH-392	Theory and Criticism of 20th Century Art
ARTH-373	Art of the Last Decade
ARTH-369	20th Century Art Since 1950
ARTH-368	20th Century Art: 1900-1950
ARTH-457	Art and Activism
ARTH-511	Art and Architecture of Italy: 1250-1400
ARTH-512	Art and Architecture in Italy: 1600-1750
ARTH-518	Art and Architecture in Florence and Rome: The Sixteenth Century
ARTH-517	Art and Architecture in Florence and Rome: The Fifteenth Century
ARTH-573	Conceptual Art
ARTH-581	Realisms and Avant-Gardes in Russian Art
ARTH-576	Modernism and Its Other: Realism and Expressionism
ARTH-571	Extreme Abstraction
ARTH-521	The Image
ARTH-584	Scandinavian Modernism
ARTH-578	Edvard Munch
ARTH-574	Dada and Surrealism
ARTH-568	Art and Technology: from the Machine Aesthetic to the Cyborg Age
ARTH-588	Symbols and Symbol-Making: Psychoanalytic Perspectives on Art

School of Film and Animation

Film and Animation, BFA

cias.rit.edu/film
Malcolm Spaull, Administrative Chair
(585) 475-2779, mgscdm@rit.edu

Program overview

The BFA degree program in film and animation is for students who recognize the moving image as an expressive force uniquely important to modern life. The school develops students' production skills and acquaints them with film, video, and animation as creative media.

Curriculum

The curriculum emphasizes production, with students beginning their first semester working in 16mm film and animation, and continues with production work in every semester. Students may choose one of two options: animation or production. The school's goal is to prepare students who are able to produce, creatively and practically, their own independent work and/or fulfill professional production responsibilities in any medium suitable to their interests and abilities.

Through lectures and laboratories, students develop individual skills in moving-image communications and learn the aesthetic principles governing the art. Technology and technique are never taught as an end in themselves but in terms of learning to use the tools necessary to achieve a creative goal in relation to the audience.

Students in the film and animation major produce several short films or animations by working through all phases of production, from scripting, production planning, and budgeting to shooting, editing, and sound design. Students further their learning of visual and sound artistry through hands-on experience with camera and sound equipment. Film, video, and animation projects are designed by individual students. A wide variety of styles and intentions is expressed in the department's work.

Utilizing research, critical thinking, creativity, and a range of problem-solving principles, students are taught to address complex motion imaging work flow issues within the constraints of time, space, budget, and technology. Graduates enjoy a variety of career opportunities, from feature film and television post-production to imaging equipment design and essential motion imaging technology research and development.

Film and animation (animation option), BFA degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
SOFA-101	Production I	3
SOFA-106	Film Syntax	2
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
SOFA-107	Principles of Animation	4
SOFA-111	Film Viewings	1
SOFA-121	LAS Perspective 2: Animation Survey	3
SOFA-122	Fundamentals of Computers and Imaging Technology (SMTL)	3
SOFA-228	Animation Scriptwriting and Storyboard	3
	LAS Perspective 1	3
	YearOne	0
	Wellness Education*	0
Choose one of the following:		3
SOFA-108	Drawing for Animation	
SOFA-209	Object and Character Creation	
Second Year		
Choose one of the following:		3
SOFA-203	2D Animation I: Dynamics	
SOFA-215	Animation I	
SOFA-205	Basic Sound Recording	3
SOFA-217	Animation Production Workshop I	4
SOFA-224	Tradigital Animation	3
SOFA-225	Performance Resources for Animation	3
SOFA-227	Animation Pre-Production	3
Choose one of the following:		3
SOFA-216	3D Animation II	
SOFA-218	Concept and Character Design	
SOFA-541	History and Aesthetics of Animation	3
	CIAS/SOFA Elective	3
	LAS Perspective 3	3
Third Year		
SOFA-302	Business and Careers in Animation	3
SOFA-317	Animation Production Workshop II	4
	Open Elective	3
	CIAS/SOFA Electives‡	6
	LAS Perspective 4	3
	LAS Elective (SMTL)	3
	CIAS/SOFA History and Aesthetics course‡	3
	LAS Immersion I	3
Choose one of the following:		3
SOFA-323	2D Animation II: Performance	
SOFA-575	3D Lighting and Rendering	
SOFA-306	Senior Thesis Seminar	1
Fourth Year		
SOFA-406	Senior Thesis I	4
SOFA-407	Senior Thesis I	4
SOFA-408	Senior Forum	1
	CIAS/SOFA History and Aesthetics course‡	3
	Electives	6
	LAS Immersion 2, 3	6
	CIAS/SOFA Electives§	3
Total Semester Credit Hours		**121**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
(SMTL) Refers to science, math, technical literacy requirement.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ History and aesthetics courses include History and Aesthetics of Animation (SOFA-241) and History and Aesthetics: Animation Stories (SOFA-242).
§ SOFA electives include the following courses: Alternative Frame by Frame (SOFA-582), Character Design (SOFA-577), After Effects for Animators (SOFA-576), 3D Lighting and Rendering (SOFA-575), Particles and Dynamics (SOFA-581), Programming for 3D Animators (SOFA-586), Building the 3D Character (SOFA-583), Advanced Object and Character Creation (SOFA-309), Digital Sculpting (SOFA-587), Fusion Production (SOFA-573), Concept Design and Development (SOFA-574), or DVD Authoring (SOFA-388).

Film and animation (production option), BFA degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
SOFA-101	Production I	3
SOFA-102	Production II	3
SOFA-106	Film Syntax	2
SOFA-111	Film Viewings	1
SOFA-112	Fundamentals of Screenwriting	3
SOFA-121	LAS Perspective 2: LAS Perspective 1: Animation Survey	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
SOFA-122	Fundamentals of Computers and Imaging Technology (SMTL)	3
	History and Aesthetics course‡	3
	LAS Perspective 1	3
	YearOne	0
	Wellness Education*	0
Second Year		
SOFA-202	Production Processes	4
SOFA-205	Basic Sound Recording	3
SOFA-206	Directing the Actor	3
SOFA-208	Dramatic Structure	3
	LAS Perspective 3, 4	6
	SOFA Production Workshop**	4
	SOFA Craft Choice††	3
	CIAS/SOFA Elective§	3
	Elective	3
Third Year		
SOFA-301	Business and Careers in Film	3
SOFA-306	Senior Thesis Seminar	1
	SOFA Production Workshop**	4
	CIAS/SOFA History and Aesthetics courses‡	6
	CIAS/SOFA Electives§	6
	LAS Elective (SMTL)	3
	SOFA Craft Choice††	3
	Elective	3
	LAS Immersion 1	3
Fourth Year		
SOFA-406	Senior Thesis I	4
SOFA-407	Senior Thesis II	4
SOFA-408	Senior Forum	1
	CIAS/SOFA History and Aesthetics course‡	3
	Electives	6
	LAS Immersion 2, 3	6
	CIAS/SOFA Elective§	3
Total Semester Credit Hours		**121**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
(SMTL) Refers to science, math, technical literacy requirement.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ History and aesthetics courses include Film Sound Theory-Music (SOFA-262), Film Sound Theory-Effects (SOFA-261), Documentary Film History (SOFA-366), International Film History (SOFA-362), New Documentary Issues (SOFA-361).
§ SOFA elective courses include Audio Introduction for Media (SOFA-165), Digital Effects and Compositing (SOFA-271), Cinematography and Lighting (SOFA-263), 30-Second Commercial Production (SOFA-266), Writing The Feature I (SOFA-363), Writing The Feature II (SOFA-364), Mixing and Sound Design (SOFA-372), Underwater Cinematography (SOFA-272), Advanced Production Immersion (SOFA-371).
** SOFA production workshop courses include Documentary Workshop (SOFA-211),Fiction Workshop (SOFA-212), Radical Cinema Workshop (SOFA-213).
†† SOFA craft choice courses include Advanced Sound Recording (SOFA-321), Camera Choreography (SOFA-322), Advanced Editing (SOFA-323), Advanced Directing the Actor (SOFA-324), Advanced Acting for Film (SOFA-325), Writing the Short Film (SOFA-326).

Admission requirements

For information on undergraduate admission, including freshman and transfer admission guidelines, please refer to the Undergraduate Admission section of this bulletin.

Portfolio guidelines: Specific instructions on portfolio submission for applicants to the film and animation major are available in the college's introductory section of this bulletin or on the college website (cias.rit.edu/prospective-students/portfolio-guide). The review committee is looking for work that is original in concept and content. It does not necessarily need to be motion media, but should be visual or aural.

Examples include films/videos, photos, drawings, paintings, sculpture, stop-motion puppets, scripts, storyboards, and original music.

Writing policy

The School of Film and Animation has a minimum writing requirement within each of its majors. A copy of the school's official writing competency policy may be obtained from the department or from the Office of Academic Student Services.

Additional information

Summer session

The School of Film and Animation offers a limited selection of courses during the summer term. These range from beginning courses to those requiring a substantial background. For information on summer courses, please contact the school.

Memberships

The school maintains memberships in a number of professional organizations, including: Animation World Network, College Art Association, Rochester Audio Visual Association, Society of Motion Picture and Television Engineers, University Film and Video Association, Siggraph, and BEA. The school also is a certified Apple Training Center for Professional Applications.

Motion Picture Science, BS

cias.rit.edu/schools/film-animation/undergraduate-motion-picture-science
David Long, Program Chair
(585) 475-5724; dllppr@rit.edu

Program overview

The BS degree in motion picture science provides a science- and engineering-based education in the fundamental imaging technologies used for the motion picture industry. By joining a core curriculum in practical filmmaking from the College of Imaging Arts and Sciences and imaging science from the College of Science, this major trains students in the art and science of feature film, television, and animation production. Topics include film and digital image capture, film scanning, digital image manipulation, color science, visual effects, and digital and traditional projection. New facilities provide students with hands-on experience on the same equipment being used in major motion picture production today.

Utilizing research, critical thinking, creativity, and a range of problem-solving principles, students are taught to address complex motion imaging workflow issues within the constraints of time, space, budget, and technology. Graduates enjoy a variety of career opportunities, from feature film and television post-production to imaging equipment design and essential motion imaging technology research and development.

Curriculum

Motion picture science, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
SOFA-101, 102	Production I, II	6
SOFA-103	Film/Video Materials and Technology	3
SOFA-111	Film Viewings	1
IMGS-180	Introduction to Computing and Control	3
IMGS-181	LAS Foundation 1: Innovative Freshmen Experience	3
ENGL-150	LAS Foundation 2: First Year Writing	3
PHYS-211	LAS Perspective 5: University Physics I	4
MATH-181, 182	LAS Perspective 7A, 7B: Project-Based Calculus I, II	8
	YearOne	0
	Wellness Education*	0
Second Year		
PHYS-212	LAS Perspective 6: University Physics II	4
	LAS Perspective 1, 2, 3	9
IMGS-221	Vision and Psychophysics	3
IMGS-251	Radiometry	3
IMGS-261	Linear and Fourier Methods for Imaging	4
SOFA-121	Animation Survey	3
SOFA-202	Production Processes	4
SOFA-205	Basic Sound Recording	3
Third Year		
IMGS-321	Geometric Optics	3
IMGS-251	Radiometry	3
IMGS-361, 362	Digital Imaging Processing I, II	6
Choose one of the following:		3
SOFA-209	Object and Character Creation	
SOFA-531	Digital Effects and Compositing	
SOFA-311	Image Capture and Production Technology	3
SOFA-312	Digital Post-Production Technology (WI)	3
	Program Elective	3
	LAS Immersion 1	3
	Free Elective	3
Fourth Year		
SOFA-313	Film Projection and Digital Cinema	3
SOFA-401, 402	Senior Project I, II	6
	Program Electives	6
	LAS Perspective 4	3
	LAS Immersion 2, 3	6
	Free Electives	6
Total Semester Credit Hours		**124**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
(SMTL) Refers to science, math, technical literacy requirement.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Additional information

Professional student organizations

The School of Film and Animation maintains memberships in a number of professional organizations: Animation World Network, College Art Association, Rochester Audio Visual Association, Society of Motion Picture and Television Engineers, University Film and Video Association, Siggraph, and BEA. The school also is a certified Apple Training Center for Professional Applications.

School of Media Sciences

Media Arts and Technology, BS

cias.rit.edu/schools/media-sciences/undergraduate-media-arts-and-technology

Program overview

In the media arts and technology major students learn how to create, transform, and publish text and images. This might mean publishing to the Web, to a cell phone, to an iPod or iPad, or any other medium. This major reflects the convergence of technologies that enable content to be created, stored, and re-purposed across multiple output media, as well as shared among millions of people, while simultaneously personalizing each message. Students build skills in traditional publishing, database management, and new media production in preparation for working closely with designers, photographers, marketers, IT professionals, and all of the players in the publishing process.

In their sophomore year, students begin a concentration comprised of four courses from one of the following areas: advertising and media strategy, contemporary publishing, content management, digital imaging and pre-media, print production, print quality, or 3-D computer graphics. The concentration gives students an opportunity to gain in-depth knowledge in an area of particular interest to them.

Graduates find challenging positions with advertising and marketing agencies, publishers, news organizations, print media firms, website developers, corporate communication departments, direct marketers, and a host of other firms across many industries.

Curriculum

Media arts and technology, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MAAT-101	Foundations	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1, 2	6
	LAS Electives 1, 2	6
MAAT-106	Typography and Page Design	3
MAAT-107	Imaging	3
	LAS Foundation 2: First Year Writing	3
MATH-101	LAS Perspective 7A: College Algebra	3
Second Year		
MAAT-206	Print Production Workflow	3
MAAT-271	Webpage Production I	3
MAAT-272	Webpage Production II	3
MAAT-302	Professional & Technical Writing	3
	LAS Perspective 3, 4	6
STAT-145	LAS Perspective 7B: Introduction to Statistics I	3
STAT-146	LAS Elective 3: Introduction to Statistics II	4
	Free Electives	6
MAAT-010	Cooperative Education Orientation	0
	Cooperative Education‡	Co-op
Third Year		
MAAT-301	Database Publishing	3
MAAT-306	Cross Media Publishing	3
MAAT-307	Media Business Basics	3
	LAS Perspective 5**	3
	LAS Perspective 6: Lab Science	3
	LAS Immersion 1, 2	6
	LAS Elective 4: Lab Science	3
	Program/Professional Elective	6
Fourth Year		
MAAT-401	Team Project	3
	LAS Immersion 3	3
	LAS Electives 5, 6, 7	9
	Program/Professional Electives§	6
	Free Electives 3, 4 5	9
Total Semester Credit Hours		**121**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
(SMTL) Refers to science, math, technical literacy requirement.
* Please see Wellness Education Requirement for more information. The school maintains memberships in a variety of professional organizations, including Industrial Designers Society of America, ACM Siggraph, Society of Environmental Graphic Designers, American Society of Interior Designers, American Institute of Architects, ICOGRADA, American Institute of Graphic Arts, and International Interior Design Association.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2013-14 academic year.
‡ The minimum requirement for cooperative education includes a total of 20 weeks and can be broken down by the following options: (a) two summer quarters, (b) one academic quarter and one summer quarter, or (c) one academic quarter and an intersession.
§ Program/Professional electives require adviser approval.
** Students will satisfy this requirement by taking either a 3- or 4- credit hour lab science course. It a science course consists of separate lecture and laboratory sections, students must take both the lecture and the lab portions to satisfy the requirement. The lecture section alone will not fulfill the requirement.

Accelerated 4+1 MBA option

An accelerated 4+1 option is available for students who wish to earn a BS in media arts and technology and an MBA. The option is offered in conjunction with Saunders College of Business and allows students to obtain both degrees in five years of study.

School of Photographic Arts and Sciences

cias.rit.edu/photography
Therese Mulligan, Chair
(585) 475-2884, mtmpph@rit.edu

The School of Photographic Arts and Sciences prepares students for a wide range of careers in photographic and related imaging fields. The principles of imaging are taught through courses investigating the tools and processes used to make pictorial-, data-, and information-based images. Students are encouraged to take advantage of Rochester's historic connection with photography. A comprehensive schedule of activities and events—including exhibitions, lectures, seminars, and visiting artists—is offered by the city's array of cultural institutions.

Programs of study

The school offers the following majors:

- Photographic and Imaging Arts
- Photographic and Imaging Technologies

Photographic and Imaging Arts, BFA

cias.rit.edu/photography
Therese Mulligan, Administrative Chair
(585) 475-2762, mtmpph@rit.edu

Program overview

For more than 100 years, the School of Photographic Arts & Sciences has been dedicated to creative and professional enrichment, preparing students for distinguished careers in fine and applied arts and the photographic sciences. The school offers a BFA program in photographic and imaging arts with options in advertising photography, fine art photography, photojournalism, and visual media. The major has a rigorous curriculum and was designed with individual achievement in mind. It features an immersive and hands-on perspective geared towards creativity and innovation. Enrollment in photography classes begins on day one of the first year in the major. Theoretical and experimental components lead to the development of broad-based skills required of professionals in today's ever-changing image culture, art world, and industries. With access to more than 150 unique photography, video, multimedia, Web-based, and publication courses, students are challenged using real-world problems to produce successful real-world results.

Options

Students in the photographic and imaging arts major choose one of four options: advertising photography, fine art photography, photojournalism, or visual media.

Advertising photography option

The advertising photography option prepares students for a diverse and rewarding career in the field of visual communications. Students learn to create photographs and moving media for a wide range if commercial uses, including national and trade commercial publications, editorial photography as seen in magazines and other publications, and real-life business applications.

The option provides flexibility and specialization within the course curriculum. Advanced courses allow students to pursue a specific direc-

tion in their work, such as still life, portraiture, architecture, or fashion. The flexibility of the option also enables students to take elective courses from other majors across the college, such as graphic design, print media, or fine art photography, in order to enrich personal visual expression. Advertising students also study the inner workings of the photographic and imaging industries in both required and elective courses. All advertising photography courses emphasize visual communications and professional business practices.

The faculty consists of both full- and part-time professors—all of whom have extensive hands-on experience as professional photographers. Students work collaboratively to conceive and execute cutting-edge and strategic images and moving media that have real-world application in the advertising industry. Students build a strong professional portfolio throughout their time in the major.

Photographic and imaging arts (advertising photography option), BFA degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
PHAR-101, 102	Photo Arts I, II	8
PHPS-106, 107	Photo Technology I, II (SMTL)	6
FDTN-111	Drawing I	3
	LAS Perspective 1	3
ARTH-135	LAS Perspective 2: Survey Western Art and Architecture I	3
ARTH-136	LAS Perspective 3: Survey Western Art and Architecture II	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
FDTN-121	2D Design I	3
FDTN-141	4D Design	3
Choose two of the following:		6
PHAR-201	Elements: Fine Art	
PHAR-202	Elements: Advertising	
PHAR-203	Elements: Photojournalism	
PHAR-204	Elements: Visual Media	
PHAR-211, 212	Histories and Aesthetics of Photography I, II	6
	Free Electives	6
	LAS Elective	3
	LAS Perspective 4	
Third Year		
PHAP-301, 302	Advertising Photography I, II	6
	Advertising Photography Specialization Courses‡	6
	Advertising Photography Professional Electives	6
	CIAS Elective§	3
	LAS Immersion 1, 2	6
	Free Elective	3
Fourth Year		
Choose one of the following:		3
PHAP-311	Photographing People	
PHAP-312	Projects in Still Life Photography	
PHAP-313	Light Control Manipulation	
PHAP-403	Portfolio Development	3
	Advertising Photography Capstone II	3
	Advertising Photography Specialization Course‡	3
	CIAS Electives§	9
	Free Electives	3
	LAS Immersion 3	3
	Advertising Photography Professional Elective	3
Total Semester Credit Hours		**122**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
(SMTL) Refers to science, math, technical literacy requirement.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students choose three of the following advertising photography sequence courses: The Collaborative Composite Image (PHAP-306), Technology and Image Making (PHAP-307), On Location Lighting Photography (PHAP-308), Photographing People (PHAP-311), Projects in Still Life Photography (PHAP-312), Lighting Control and Manipulation (PHAP-314), Editorial Photography (PHAP-313), XL: Summer AD Core (PHAP-320), Architectural Photography (PHAP-326), Fashion Photography (PHAP-327), Food Photography (PHAP-328), People Illustration Photography (PHAP-336), Production Photography (PHAP-337), Advertising and Design Photography (PHAP-401).
§ CIAS elective refers to any course in the College of Imaging Arts and Sciences.

Advertising photography internships

Our students apply for internships with some of the nation's most respected print and online advertising venues, advertising agencies, and advertising photographers. They work behind the camera in a variety of editorial, commercial and studio environments and have the opportunity to learn from photographers, picture editors, art directors and other professionals. Students receive assistance from their professors, as well as from the Office of Cooperative Education and Career Services, in identifying and applying for internships. Internships provide real-world work experience, which is an invaluable part of our students' educational experience.

Fine art photography option

The fine art photography option prepares students for a career in the fine arts as visual artists, educators, or freelance artists. The primary goal is to nurture the artist's personal aesthetic vision through photographic expression. Studying the theoretical and practical skills needed to create thought-provoking and meaningful images develops technical, conceptual, and aesthetic abilities, and furthers students' goals as contemporary image-makers. Graduates are employed in a number of professional fine-art related institutions such as museums, archives, studios, and commercial galleries.

?The interdisciplinary curriculum enables students to explore other related fields in the fine arts, including painting, drawing, sculpture, graphic design, video, film, animation, printmaking and printing, computer graphics, and web publishing. Foundation and specialized courses include digital imaging workflow, alternative processes, new media, history and aesthetics of photography, and exhibition display.

?Students have the opportunity to enroll in independent projects, educational internships, or co-ops in galleries, workshops, or other art and imaging centers. Students may choose to spend a year abroad earning credit in an applicable field of their choosing. Upon graduation, students are prepared to pursue a career in a variety of fine art fields, commercial photography industries, or print and electronic media businesses.

Photographic and imaging arts (fine art photography option), BFA degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
PHAR-101, 102	Photo Arts I, II	8
PHPS-106, 107	Photo Technology I, II (SMTL)	6
FDTN-111	Drawing I	3
	LAS Perspective 1	3
ARTH-135	LAS Perspective 2: Survey of Western Art and Architecture I	3
ARTH-136	LAS Perspective 3: Survey of Western Art and Architecture II	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
Choose two of the following:		6
PHAR-201	Elements: Fine Art	
PHAR-202	Elements: Advertising	
PHAR-203	Elements: Photojournalism	
PHAR-204	Elements: Visual Media	
PHAR-211, 212	Histories and Aesthetics of Photography I, II	6
FDTN-121	2D Design	3
FDTN-141	4D Design	3
	LAS Perspective 4	3
	Free Electives	6
	LAS Elective	3

COURSE		SEMESTER CREDIT HOURS
Third Year		
PHFA-301, 302	Fine Art Core I, II	6
Choose two of the following:		6
PHFA-311	Contemporary Issues	
PHFA-355	Color Photography Seminar	
PHFA-359	Constructed Image	
PHFA-361	Retouch and Restore	
PHFA-362	The Fine Print Workflow	
PHFA-363	Black and White I	
PHFA-364	Black and White II	
PHFA-365	Art and the Internet	
PHFA-366	Advanced Retouching Composite Image	
PHFA-375	Zone System and Fine Print	
PHFA-518	New York City Fine Art Photography Field Trip	
PHFA-556	Moving Media I	
PHFA-557	Moving Media II	
	Fine Art Photography Electives	6
	CIAS Elective††	3
	LAS Immersion 1, 2	6
	Free Elective	3
Fourth Year		
Choose one of the following:		3
PHFA-311	Contemporary Issues	
PHFA-355	Color Photo Seminar	
PHFA-359	Constructed Image	
PHFA-361	Retouch and Restore	
PHFA-362	The Fine Print Workflow	
PHFA-363	Black and White I	
PHFA-364	Black and White II	
PHFA-365	Art and the Internet	
PHFA-366	Advanced Retouching Composite Image	
PHFA-375	Zone System and Fine Print	
PHFA-518	New York City Fine Art Photography Field Trip	
PHFA-556	Moving Image I	
PHFA-557	Moving Image II	
PHFA-401	Professional Development for Artists	3
PHFA-402, 403	Fine Art Portfolio I, II	6
	CIAS Electives††	9
	Free Electives	3
	LAS Immersion 3	3
	Fine Art Photography Elective	3
Total Semester Credit Hours		**122**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
(SMTL) Refers to science, math, technical literacy requirement.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Motion media sequence has two required courses, Moving Media I (PHFA-373) and Moving Media II (PHFA-374), plus one of the following courses: Art and the Internet (PHFA-345), Color Photography Seminar (PHFA-355), or Constructed Image (PHFA-159).
§ Analog sequence has two required courses, Black and White I (PHFA-363) and Black and White II (PHFA-364), plus one of the following courses: Color Photography Seminar (PHFA-355) or Zone System and Fine Print (PHFA-375).
** Digital media sequence has two required courses, Retouch and Restore (PHFA-361) and The Fine Print Workflow (PHFA-362), plus one of the following courses: Art and the Internet (PHFA-345), Color Photography Seminar (PHFA-355), or Advanced Retouching composite Image (PHFA-366).
†† CIAS elective refers to any course in the College of Imaging Arts and Sciences.

Fine art photography internships

Students apply for internships with some of the nation's most respected print and online photo venues, museums, galleries, advertising agencies and photo archives. They work behind the camera or in creative collaboration on a variety of photo-related professional and cultural activities and have the opportunity to learn from photographers, picture editors, art directors, curators and other professionals in the always exciting world of fine art photography. Students receive assistance from their professors, as well as from the Office of Cooperative Education and Career Services, in identifying and applying for internships. Internships provide real-world work experience, which is an invaluable part of our students' educational experience.

Career opportunities in fine art photography

Graduates find careers as exhibiting artists, photo educators, picture editors, art directors, photographers' representatives, photographic archivists or curators, museum and gallery staff, multimedia specialists, self-employed photographers, custom-image printers, and film/video artists or animators. Many students choose to pursue graduate work and earn an MFA degree in the arts.

Photojournalism option

Photojournalism documents the emotions, drama, suspense, and exhilaration of real-life events and people for diverse media outlets, including print (newspaper, magazines, and books) and electronic (television and Web-based) media. As storytellers, photojournalists create images, both still and moving, that document our culture, evoking both the momentous and the everyday circumstances of contemporary life and society.

The photojournalism option consists of required core courses and electives. Students take required courses in picture editing and multimedia, including sound, video-gathering, and editing. This combination of courses offers unique opportunities to develop a lifelong career in photojournalism and visual communication.

Students participate in professional organizations such as the student chapter of the National Press Photographers Association (NPPA). In addition to attending regional and national conferences sponsored by NPPA, they may also contribute to the creation of special publications centered on community activity and awareness, and provide staff support to RIT's student-run magazine, The Reporter.

Photographic and imaging arts (photojournalism option), BFA degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
PHAR-101, 102	Photo Arts I, II	8
PHPS-106, 107	Photo Technology I, II (SMTL)	6
FDTN-111	Drawing I	3
	LAS Perspective 1	3
ARTH-135	LAS Perspective 2: Survey Western Art and Architecture I	3
ARTH-136	LAS Perspective 3: Survey Western Art and Architecture II	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
Choose two of the following:		6
PHAR-201	Elements: Fine Art	
PHAR-202	Elements: Advertising	
PHAR-203	Elements: Photojournalism	
PHAR-204	Elements: Visual Media	
PHAR-211, 212	History and Aesthetics I, II	6
FDTN-121	2D Design I	3
FDTN-141	4D Design	3
	LAS Perspective 4	3
	Free Electives	6
	LAS Elective	3
Third Year		
PHPJ-301	Foundations of Photojournalism	3
PHPJ-302	Photojournalism I	3
PHPJ-307	Ethics and the Law	3
PHPJ-315	Multimedia for Photojournalism I	3
	CIAS Elective§	3
	LAS Immersion 1, 2	6
	Photojournalism Electives‡	6
	Free Elective	3
Fourth Year		
Choose one of the following:		3
PHPJ-365	Documentary I	
MAAT-106	Typography and Page Design	
MAAT-356	Multimedia Strategies	
Choose one of the following:		3
PHPJ-361	Working on Location	
PHAP-308	Location Photography	
SOFA-566	Documentary History	
COMM-461	Multi-platform Journalism	
PHPJ-401	Senior Project	3
PHPJ-402	Photojournalism Portfolio	3
	CIAS Electives§	9
	Free Elective	3
	LAS Immersion 3	3
	Photojournalism Elective‡	3
Total Semester Credit Hours		**122**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
(SMTL) Refers to science, math, technical literacy requirement.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Photojournalism electives include Picture Editing I (PHPJ-306), Picture Editing II (PHPJ-311), Multi Media for Photojournalism (PHPJ-315), Multi Media Editing (PHPJ-319), Multi Media for Photojournalism II (PHPJ-355), Alternate Influences (PHPJ-356), Working On Location (PHPJ-361), Documentary I (PHPJ-365), Documentary II (PHPJ-366), NYC Photojournalism Trip (PHPJ-370), DC Photojournalism Trip (PHPJ-375), Web Publishing (PHPS-315), Cross Media Workflow (MAAT-306), Image Process Workflow (MATT-367), Reporting and Writing (COMM-162), News Editing (COMM-262), Multi-platform Journalism (COMM-461).
§ CIAS elective refers to any course in the College of Imaging Arts and Sciences.

Photojournalism internships

Students apply for internships with some of the nation's most respected newspapers and magazines. They work behind the camera on a variety of stories and have the opportunity to learn from photographers, editors, and other professionals in the newsroom. Students receive assistance from their professors, as well as from the Office of Cooperative Education and Career Services, in identifying and applying for internships. Internships provide real-world work experience, which is an invaluable part of our students' educational experience.

Career opportunities in photojournalism

Photojournalism graduates go to work for some of today's best newspapers, magazines, and websites. A significant number of our students also become self-employed freelance photographers. They seek freelance assignments with news organizations, picture agencies, stock photo agencies, and editorial photographers.

National Press Photographers Association

Photojournalism students are the driving force in our National Press Photographers Associate (NPPA) student chapter. Students regularly attend activities sponsored by the NPPA. The chapter hosts guest speakers and alumni who share their experiences in photojournalism and review student portfolios. Chapter members participate each year in NPPA short courses and publish their own website.

Visual media option

The visual media option integrates the graphic communication professions of photography, graphic design, and print media. This option prepares students for a career as a visual media and communication specialist, fulfilling current and future employment demands for photographically-skilled professionals who can work effectively with graphic designers, print media specialists, and multi-media professionals.

Courses emphasize photographic proficiency, both in photographic and digital imaging techniques, and has a specialized focus on graphic design or print media. The curriculum offers real-world business experience through a series of courses exploring applied management processes, including the development of business plans, project management skills, production planning, and personnel practices. Students take several college-wide electives to broaden their skills and knowledge.

Photographic and imaging arts (visual media option), BFA degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
PHAR-101, 102	Photo Arts I, II	8
PHPS-106, 107	Photo Technology I, II (SMTL)	6
FDTN-111	Drawing	3
	LAS Perspective 1	3
ARTH-135	LAS-Perspective 2: Survey Western Art and Architecture I	3
ARTH-136	LAS-Perspective 3: Survey Western Art and Architecture II	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
Choose two of the following:		6
PHAR-201	Elements: Fine Art	
PHAR-202	Elements: Advertising	
PHAR-203	Elements: Photojournalism	
PHAR-204	Elements of Visual Media	
PHAR-211, 212	Histories and Aesthetics of Photography I, II	3
FDTN-121	2D Design I	3
FDTN-141	4D Design	3
	LAS Perspective 4	3
	Free Electives	6
	LAS Elective	3
Third Year		
Choose one of the following business sequences:		9
	Marketing‡	
	Management§	
Choose one of the following specialization sequences:		9
	Print Media**	
	Graphic Design††	
	CIAS Elective‡‡	3
	LAS Immersion 1, 2	6
	Visual Media Electives	6
	Free Elective	3
Fourth Year		
PHVM-301	Visual Media Career Research	3
PHVM-401	Visual Media Capstone	3
	CIAS Electives‡‡	9
	Free Electives	3
	LAS Immersion 3	3
	Visual Media Elective	3
Total Semester Credit Hours		**122**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
(SMTL) Refers to science, math, technical literacy requirement.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Marketing sequence courses include Principles of Marketing (MKTG-230), Internet Marketing (MKTG-320), and Product and Services Commercialization (MKTG-340).
§ Management sequence courses include Organizational Behavior (MGMT-215), Managerial Skills (MGMT-320), and Digital Entrepreneurship (MGMT-360).
** Print media sequence courses include Foundations (MAAT-101), Type and Page Design (MAAT-106), plus one of the following: Print Production and Workflow (MAAT-206) or Database Publishing (MAAT-301).
†† Graphic Design sequence courses include Graphic Design (GRDE-106), Time-based Design (GRDE-107), and Typography (GRDE-201).
‡‡ CIAS elective refers to any course in the College of Imaging Arts and Sciences.

Visual media internships

Students apply for internships with some of the nation's most respected print and online photographic, graphic design, and printing/publishing venues. They work behind the camera or in creative collaboration in a variety of professional photo and multimedia environments, and have the opportunity to learn firsthand from photographers, picture editors, art directors, publishers, designers, and other professionals. Students receive assistance from their professors, as well as from the Office of Cooperative Education and Career Services, in identifying and applying for internships. Internships provide real-world work experience, which is an invaluable part of our students' educational experience.

Additional Information

Accreditation

All four options of the BFA program in photographic and imaging arts as well as the MFA program in imaging arts are accredited by the National Association of Schools of Art and Design (NASAD).

Photographic and Imaging Technologies, BS

cias.rit.edu/photography
Christye Sisson, Program Chair
(585) 475-4228, cpspph@rit.edu

Program overview

The photographic and imaging technologies major has an immersive and flexible curriculum that prepares students for a wide variety of photographic and imaging careers. The major provides a strong foundation in all aspects of technical imaging and photography, from capturing images to understanding the science of how images are created. Cooperative education is required in order for students to gain valuable career experience in their field of applied photographic practice. Students learn technical and scientific photography while also pursuing adjunct sciences, such as physics or biology, that complement their career goals. These emerging career paths are made possible through the evolution of technology, and students are able to integrate complementary studies, such as imaging science, information technology, or microbiology, to best prepare for these exciting opportunities.

Curriculum

Photographic and imaging technologies, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
PHPS-101	Photography I	4
PHPS-106	Photographic Technology I	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1, 2, 7A**, 7B**	12
PHPS-102	Photography II	4
PHPS-107	Photographic Technology II	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
PHPS-201	Scientific Photography I	3
PHPS-206	Careers and Professional Practices	3
PHPS-211	Advanced Principles of Photographic Technology	3
	LAS Perspective 3, 4, 5††, 6††	14
PHPS-202	Scientific Photography II	3
PHPS-207	Vision, Perception and Imaging	3
PHPS-212	Fundamentals of Layout and Design	3
PHPS-499	Cooperative Education (summer)	Co-op
Third Year		
Choose one of the following imaging core sequences:		6
IMPT-321, 322	Programming for Imaging and Photo Technology, Digital Image Processing	
PHBM-316, 317	Digital Media I, II	
	LAS Electives	9
	LAS Immersion 1, 2	6
	Business Elective‡	3
Choose one specialization sequence:		6
IMPT-302, 306	Color Management Technology, e-Sensitonmetry	
IMPT-307, 312	Survey of Non-conventional Imaging, High Speed Imaging	
PHBM-311, 312	Magnified Imaging Systems I, II	
PHBM-321, 322	Ophthalmic Photography I, II	
PHBM-326, 327	Publications & BPC Bulletin I, II	
Fourth Year		
	LAS Immersion 3 (WI)	3
	LAS Electives	12
	Free Electives	6
	Photo Electives§	6
PHPS-402	Photographic and Imaging Technologies Capstone (WI)	3
Total Semester Credit Hours		**124**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Business elective can be any course in Saunders College of Business.
§ Photographic and imaging technologies electives might include Forensic Photography (PHPS-302), Nature and Natural Science Photography (PHPS-303), Historic Processes (PHPS-306), Surgical Photography (PHPS-307), Panoramic Photography (PHPS-311), Web Publishing (PHPS-315), Scanning Electron Microscopy (PHPS-316), Underwater Digital Photography (PHPS-321), and Advanced Underwater Digital Photography (PHPS-322).
** Student choose two of the following math courses: Algebra and Trigonometry (MATH-101), Pre-Calculus (MATH-111), Statistics (MATH-145), or Calculus for Engineering Technology (MATH-171).
†† Students choose one of the following science sequences: Human Biology and Lab I, II (BIOL-111, 112) or College Physics I, II (PHYS-111, 112).

Options

Students may elect to complete the major without an option, or they may choose to pursue the biomedical photographic communications or imaging and photographic technology options to gain more indepth, specialized study.

Biomedical photographic communications option

The biomedical photographic communications option prepares students for a photographic career in forensics, research, hospitals, and other biological settings such as ophthalmic (eye) clinics and veterinary centers as well as in other life science situations. Foundation courses provide practical experience with traditional and digital photographic equipment and processes, including Web and video. Medical and biological subject matter is explored. In upper-level courses, students examine the use of computers in electronic imaging, desktop publishing, graphics, and multimedia. Course work can be tailored to assist those preparing for the certified retinal angiographer (CRA) exam administered by the Ophthalmic Photographer's Society.

Photographic and imaging technologies (biomedical photographic communications option), BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
PHPS-101	Photography I	4
PHPS-106	Photographic Technology I	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1, 2	6
MATH-101	LAS Perspective 7A: Algebra and Trigonometry	3
MATH-145	LAS Perspective 7B: Statistics	3
PHPS-102	Photography II	4
PHPS-107	Photographic Technology II	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
PHPS-201	Scientific Photography I	3
PHPS-206	Careers and Professional Practices	3
PHPS-211	Advanced Principles of Photographic Technology	3
	LAS Perspective 3, 4	6
BIOM-111, 112	LAS Perspective 5, 6: Human Biology and Lab I, II	8
PHPS-202	Scientific Photography II	3
PHPS-207	Vision, Perception and Imaging	3
PHPS-212	Fundamentals of Layout and Design	3
PHPS-499	Cooperative Education (summer)	Co-op
Third Year		
PHBM-316	Digital Media I	3
PHBM-317	Digital Media II	3
Choose one of the following specialization sequences:		6
PHBM-311, 312	Magnified Imaging Systems I, II	
PHBM-321, 322	Ophthalmic Photography I, II	
PHBM-326, 327	Publications and BPC Bulletin I, II	
	LAS Electives	9
	LAS Immersion 1, 2	6
	Business Elective‡	3
Fourth Year		
	LAS Immersion 3 (WI)	3
	LAS Electives	12
	Free Electives	6
	Photo Electives§	6
PHPS-402	Photographic and Imaging Technologies Capstone (WI)	3
Total Semester Credit Hours		**124**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Business elective can be any course in Saunders College of Business.
§ Photographic and imaging technologies electives might include Forensic Photography (PHPS-302), Nature and Natural Science Photography (PHPS-303), Historic Processes (PHPS-306), Surgical Photography (PHPS-307), Panoramic Photography (PHPS-311), Web Publishing (PHPS-315), Scanning Electron Microscopy (PHPS-316), Underwater Digital Photography (PHPS-321), and Advanced Underwater Digital Photography (PHPS-322).

Imaging and photographic technology option

The imaging and photographic technology option prepares students for careers in a technical, industrial, or scientific environment. The curriculum combines a foundation in traditional photographic technology with specialized studies in areas as diverse as photo instrumentation, optics, color measurement, high-speed/time-lapse photography, and video production. Computing, programming, electronic imaging, and multimedia are emphasized starting in the first year. Technical courses provide hands-on exposure to state-of-the-art tools and techniques. Students may choose from a variety of technical and photographic course electives such as scanning electron microscopy, high speed photography, and nature photography.

Photographic and imaging technology (imaging and photographic technologies option), BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
PHPS-101	Photography I	4
PHPS-106	Photographic Technology I	3
	LAS Foundation 1: First-Year Seminar†	3
	LAS Perspective 1, 2	6
MATH-111	LAS Perspective 7A: Pre-Calculus	3
MATH-171	LAS Perspective 7B: Calculus for Engineering Technology	3
PHPS-102	Photography II	4
PHPS-107	Photographic Technology II	3
ENGL-150	LAS Foundation 2: Writing Seminar	3
	YearOne	0
	Wellness Education*	0
Second Year		
PHPS-201	Scientific Photography I	3
PHPS-206	Careers and Professional Practices	3
PHPS-211	Advanced Principles of Photographic Technology	3
	LAS Perspective 3, 4	6
PHYS-111, 112	LAS Perspective 5, 6: College Physics I, II	8
PHPS-202	Scientific Photography II	3
PHPS-207	Vision, Perception and Imaging	3
PHPS-212	Fundamentals of Layout and Design	3
PHPS-499	Cooperative Education (summer)	Co-op
Third Year		
IMPT-321	Programming for Imaging and Photo Technology	3
IMPT-322	Digital Image Processing	3
Choose one of the following specialization sequences:		6
IMPT-302, 306	Color Management Technology, e-Sensitometry	
IMPT-321, 322	Programming for Imaging and Photo Technology, Digital Image Processing	
IMPT-307, 312	Non-conventional Imaging, High Speed Imaging	
	LAS Electives	9
	LAS Immersion 1, 2	6
	Business Elective‡	3
Fourth Year		
	LAS Immersion 3 (WI)	3
	LAS Electives	12
	Free Electives	6
	Photo Electives§	6
PHPS-402	Photographic and Imaging Technologies Capstone (WI)	3
Total Semester Credit Hours		**124**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
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Cooperative education

Students are required to complete one cooperative education experience before graduation. Co-ops are paid, professional, full- or part-time positions and offer an opportunity for students to gain experience in the field. They are generally completed between the second and third academic years. The Office of Cooperative Education and Career Services assists students in identifying and applying to co-op placements. Some recent co-op placements include Harvard University, the Mayo Clinic, Smithsonian, Georgetown University, Case Western Reserve University, Carl Zeiss Microscopy, and Nikon Scientific Instruments.

Additional information

Career opportunities

An employment survey of graduates indicates that 85 percent are employed within three months of graduation. Graduates are employed as ophthalmic photographers, forensic photographers, surgical photographers, photomicrographers, medical photographers, latent finger print examiners, core imaging facility managers, technical support engineers, imaging specialists, imaging engineers, public relations photographers, research associates, dermatology photographers, research photographers, and entrepreneurs.

Photographic Sciences Student Association

The Photographic Sciences Student Association promotes professional and social interaction among students and professionals from the imaging and photographic technology industries. The association regularly invites alumni in professional imaging fields to present lectures and demonstrations.

Lorraine Justice, BFA, Edinboro University; MFA, Ph.D., The Ohio State University—Dean

Twyla Cummings, BS, MS, Wright State University; Ph.D., Union Institute and University—Paul and Louise Miller Distinguished Professor; Senior Associate Dean; Professor

Robin Cass, BFA, Rhode Island School of Design; MFA, NYSCC at Alfred University—Associate Dean of Undergraduate Studies; Professor

Zerbe Sodervick, BFA, University of Nebraska; MFA, Pratt Institute—Associate Professor

School for American Crafts

Andy Buck, BA, Virginia Commonwealth University; MFA, Rhode Island School of Design—Professor

Juan Carlos Caballero-Perez, BFA, MFA, Rochester Institute of Technology—Administrative Chair, School for American Crafts, Professor

Wendell Castle, BFA, MFA, University of Kansas—Artist-in-Residence; Chair in Contemporary Crafts; Professor

Richard A. Hirsch, BS, State University College at New Paltz; MFA, Rochester Institute of Technology—Professor

Albert Paley, BFA, MFA, Temple University—Artist-in-Residence; Charlotte Fredericks Mowris Professor in Contemporary Craft; Professor

Michael Rogers, BA, MA, Western Illinois University; MFA, University of Illinois—Professor

Jane Shellenbarger, BFA, Kansas City Art Institute; MFA, Southern Illinois University at Edwardsville—Assistant Professor

David Schnuckel, BFA, Anderson University; MFA, Rochester Institute of Technology—Visiting Professor

Richard Tannen, BS, Cornell University; Certificate, Boston University—Professor

Leonard A. Urso, BFA, MFA, State University College at New Paltz—Professor

School of Art

Michael Amy, BA, Vrige Universiteit Brussel (Belgium); MA, Ph.D., New York University—Professor

Donald Arday, BFA, Cleveland Institute of Art; MFA, Syracuse University—Professor

Denton Crawford, BFA, University of South Florida; MFA, University of Georgia—Visiting Assistant Professor

Mary Delmastro, BS, University of Rochester; MA, Syracuse University—Visiting Assistant Professor

Robert Dorsey, BFA, Rochester Institute of Technology; MFA, Syracuse University—Professor

William Finewood, BA, State University College at Geneseo; MFA, Syracuse University—Associate Professor

Emily Glass, BFA, State University College at Potsdam; MFA, Kansas State University—Visiting Assistant Professor

Glen Hintz, BA, Lafayette College; MS, The Medical College of Georgia—Administrative Chair, School of Art; Associate Professor

Keith Howard, Diploma, National Art School (Australia); MA, New York University—Associate Professor

Elizabeth Kronfield, BFA, Bowling Green State University; MFA, University of Georgia—Associate Professor

Thomas Lightfoot, BA, BFA, University of Connecticut; MFA, Instituto Allende (Mexico); MA, Ed.D., Columbia University Teachers College—Associate Professor

Heidi Nickisher, BA, University of California at Santa Barbara; MA, California State University, Fullerton; Ph.D., University of Buffalo—Senior Lecturer

Luvon Sheppard, BFA, MS, Rochester Institute of Technology—Professor

Alan Singer, BFA, The Cooper Union; MFA, Cornell University—Professor

Sarah Thompson, BA, University of California at San Diego; MA, Ph.D., University of California at Santa Barbara—Assistant Professor

School of Design

Jason Arena, BS, University of Buffalo; MFA, Pratt Institute—Associate Professor

Deborah Beardslee, BFA, Syracuse University; MFA, Virginia Commonwealth University—Associate Professor

Mary Bernardo, BA, Valparaiso University; MFA, School of the Art Institute of Chicago—Assistant Professor

Peter Byrne, MFA, York University (Canada)—Administrative Chair, School of Design; Professor

Graham C. Carson, BFA, Indiana University of Pennsylvania; MFA, Rochester Institute of Technology—Lecturer

Nancy A. Ciolek, BFA, MFA, Indiana State University—Program Chair, Graphic Design; Associate Professor

Daniel DeLuna, BFA, Ball State University; MFA, Pratt Institute—Associate Professor

Regina Ferrari, BFA, Wayne State University; MFA, Virginia Commonwealth University—Senior Lecturer

Carol Fillip, BS, State University of New York at Buffalo; MFA, Rochester Institute of Technology—Associate Professor

Shaun Foster, BBA, University of Wisconsin; MFA, Rochester Institute of Technology—Assistant Professor

Lorrie Frear, BFA, MFA, Rochester Institute of Technology—Associate Professor

Kelly Gagliardo, BFA, Rochester Institute of Technology; MA, Marymount University—Assistant Professor

Mitchell Goldstein, BFA; Rhode Island School of Design; MFA, Virginia Commonwealth University—Assistant Professor

David Halbstein, BA, MA, William Patterson University—Assistant Professor

Therese M. Hannigan, BFA, MS, Rochester Institute of Technology—Associate Professor

Joyce Hertzson, BFA, Rhode Island School of Design; MFA, Indiana University—Professor

Chris B. Jackson, BFA, Alfred University; MFA, Rochester Institute of Technology—MFA Graduate Program Director, Visual Communication Design; Professor

Patti J. Lachance, BFA, Herron School of Art and Design, Indiana and Purdue Universities; MFA, Rochester Institute of Technology—Associate Professor

Bruce Leonard, BID, Syracuse University—Lecturer

Alex Lobos, BID, Universidad Rafael Landivar (Guatemala); MFA, University of Notre Dame—Assistant Professor

Mindy Magyar, BS, Cornell University; MBA, University of Pennsylvania; MFA, Cranbrook Academy of Art—Assistant Professor

Bruce I. Meader, BFA, MFA, Carnegie Mellon University—Professor

Marianne O'Loughlin, BA, St. Bonaventure University; BFA, MFA, Rochester Institute of Technology—Associate Professor

Josh Owen, BA, BFA, Cornell University; MFA, Rhode Island School of Design—Program Chair, Industrial Design; Professor

R. Roger Remington, BFA, Rochester Institute of Technology; MS, University of Wisconsin—Vignelli Professor of Design

Stan Rickel, BID, Pratt Institute; MID, Syracuse University—Graduate Director, Industrial Design; Associate Professor

Stephen Scherer, BFA, Bradley University—Lecturer

Marla Schweppe, BA, University of Kansas; MA, The Ohio State University—3D Digital Graphics Program Chair; Professor

Amos Scully, BFA, Rochester Institute of Technology; MFA, California College of Arts and Crafts—Associate Professor

Kim Sherman, BS, State University College at Cortland; MFA, Rochester Institute of Technology—Senior Lecturer

Adam Smith, BFA, MFA, Rochester Institute of Technology—Program Chair, New Media Design; Associate Professor

Marissa Tiorne, B.Arch., University of Kentucky; M.Arch II, Cornell University—Lecturer

School of Film and Animation

Cat Ashworth, BFA, Arizona State University; MFA, State University of New York at Buffalo—Associate Professor

Charles Bandla, BA, State University College at Fredonia; MFA, Rochester Institute of Technology—Lecturer

Jack Beck, BA, Denison University; MFA, University of Iowa—Program Chair, Live Action Production; Associate Professor

Adrianne Carageorge, BA, Florida State University; MFA, Ohio University—Associate Professor

Ricardo Figueroa, BS, MS, University of Puerto Rico at Mayaguez (Puerto Rico)—Associate Professor

Mark Foggetti, BS, Rochester Institute of Technology—Senior Lecturer

Tom Gasek, BFA, Rochester Institute of Technology; MFA, Art Institute of Boston—Graduate Director, Film and Animation; Associate Professor

Peter Kiwitt, BFA, Emerson College; MFA, American Film Institute—Assistant Professor

Brian Larson, BFA, Colorado State University; MFA, Miami International University—Assistant Professor

David Long, BS, University of Texas; MS, University of Rochester—Program Chair, Motion Picture Science; Associate Professor

Stephanie Maxwell, BA, University of California at Los Angeles; MFA, San Francisco Art Institute—Program Chair, Animation; Professor

Peter Murphey, BFA, Massachusetts College of Art; MFA, The Art Institute of Boston—Assistant Professor

Atia Quadri, BFA, National College of the Arts, Lahore (Pakistan); MFA, Pratt Institute—Assistant Professor

Mark Reisch, BFA, Savannah College of Art and Design; Certificate, Emeryville—Visiting Assistant Professor

David Sluberski, BA, State University College at Fredonia—Lecturer

Malcolm Spaull, BS, St. Lawrence University; MFA, Rochester Institute of Technology—Administrative Chair; Professor

School of Media Sciences

Barbara Birkett, BA, Aquinas College; MBA, University of Michigan; MBA, Rochester Institute of Technology; CPA, Maryland; Ph.D., Capella University—Associate Professor

Christopher Bondy, BS, New York Institute of Technology; MS, Rochester Institute of Technology—Gannett Distinguished Professor

Shu Chang, BS, Berea College; Ph.D., University of Minnesota—Melbert B. Cary Jr. Professor

Robert Y. Chung, BA, Eastern Washington State University; MS, Rochester Institute of Technology—Robert K. Fawcett Distinguished Professor

Robert Eller, AB, MA, University of Missouri—Visiting Professor

Elena Fedorovskaya, MS, Ph.D., Lomonosov Moscow State University (Russia)—Paul and Louise Miller Distinguished Professorship

Christine Heusner, BA, Elmira College; MFA, Rochester Institute of Technology—Lecturer

Myrtle Jones, BA, University of Illinois; MA, New York University—Assistant Professor

Bruce Myers, BFA, Montclair State University; MS, Ph.D., New York University—Assistant Professor

Michael P. Riordan, BS, State University College at New Paltz; MS, Rochester Institute of Technology—Lecturer

Frank J. Romano, BA, City University of New York—Professor Emeritus

School of Photographic Arts and Sciences

Roberley Ann Bell, BFA, University of Massachusetts at Amherst; MFA, State University of New York at Alfred—Professor

Eileen Bushnell, BFA, University of Massachusetts at Amherst; MFA, Indiana State University—Associate Professor

Frank Cost, BS, Eisenhower College; MS, Rochester Institute of Technology—Program Chair, Visual Media; James E. McGhee Professor

Meredith Davenport, BFA, Rochester Institute of Technology; MFA, Hunter College—Assistant Professor

Denis Defibaugh, BS, MS, Rochester Institute of Technology—Professor

Stephen Diehl, BS, University of Miami; BS, MS, Rochester Institute of Technology—Associate Professor

Rachel Ferraro, BFA, Rochester Institute of Technology—Lecturer

Gregory Halpern, BA, Harvard University; MFA, California College of the Arts—Assistant Professor

Angela Kelly, Diploma, Trent Polytechnic; Diploma Ed., Mary Ward College; MA, Columbia College—Associate Professor

Ted Kinsman, BS, University of Oregon; MS, Syracuse University—Assistant Professor

Susan Lakin, BFA, Art Center College of Design; MFA, University of California—Program Chair, Advertising Photography; Associate Professor

Dan Larkin, BFA, Rochester Institute of Technology; MFA, Bard College—Associate Professor

Doug Manchee, BA, MA, San Francisco State University—Associate Professor

Clay Patrick McBride, MPS, School of Visual Arts—Lecturer

Therese Mulligan, BA, University of Missouri-Kansas City; MA, Michigan State University; Ph.D., University of New Mexico—Administrative Chair, Photographic Arts and Sciences; Professor

Laurie O'Brien, BA, San Francisco State University; MFA, California Institute of the Arts—Assistant Professor

Willie Osterman, BFA, Ohio University; MFA, University of Oregon—Program Chair, Fine Art Photography; Professor

Ahndraya Parlato, BA, Bard College; MFA, California College of the Arts—Lecturer

Michael R. Peres, BA, Bradley University; BS, MS, Rochester Institute of Technology—Associate Chair, Photographic Arts and Sciences; Professor

Douglas Ford Rea, BS, Union College; MFA, Rochester Institute of Technology—Professor

Patricia Russotti, BS, Empire College; MS, Ed.S., Indiana University—Associate Professor

Nanette Salvaggio, BS, Rochester Institute of Technology—Lecturer

Nitin Sampat, BS, University of Bombay (India); MS, Rochester Institute of Technology—Minor Coordinator, Imaging Systems; Associate Professor

Christine Shank, MFA, Miami University; MFA, Texas Women's University—Assistant Professor

William Snyder, BS, Rochester Institute of Technology—Program Chair, Photojournalism; Professor

Christye Sisson, BS, MS, Rochester Institute of Technology—Program Chair, Photo Sciences; Associate Professor

Loret Steinberg, BA, MFA, Indiana University at Bloomington—Associate Professor

Ken White, BA, Princeton University; MA, MFA, University of New Mexico—Associate Professor

Susan McWhinney, AA, College of the Redwoods; BFA, MFA, California Institute of the Arts—Assistant Professor

Carla Williams, BA, Princeton University; MFA, MA, University of New Mexico at Albuquerque—Graduate Director, Imaging Arts; Assistant Professor

Thomas Zigon, BS, MS, Rochester Institute of Technology—Assistant Professor

Distinguished Professorships

Ann Mowris Mulligan Distinguished Professorship in Contemporary Crafts

Established: 1999

Donor: Ann Mowris Mulligan

Purpose: The holder must have a distinguished record of excellent teaching, wide recognition as a renowned artist, and a demonstrated commitment to students' career development in the craft industry.

Held by: Leonard Urso

Gannett Center for Integrated Publishing Sciences

Established: 1987

Donor: Gannett Foundation

Purpose: The distinguished professor is engaged in research and academic study to address problems in the news and information business.

Held by: Christopher Bondy

Artist-in-Residence Professorship

Established: 1984

Purpose: To work with apprentice woodworkers and participate in conferences and lectures at RIT.

Held by: Wendell Castle

Charlotte Fredericks Mowris Professorship in Contemporary Crafts

Established: 1973

Donor: Mrs. Charles F. Mowris

Purpose: To perpetuate interest in the School for American Crafts through the work of faculty and students as talented craftspeople.

Held by: Albert Paley

Melbert B. Cary Jr. Professorship in Graphic Arts

Established: 1969

Donor: Mary Flagler Cary Charitable Trust

Purpose: To provide a permanent memorial for Mr. Cary, a former president of the American Institute of Graphic Arts, and to perpetuate his interest in the field.

Held by: Shu Chang, Ph.D.

Gravure Research Professor

Established: 2004

Purpose: To promote gravure education in the curriculum.

Held by: Open

James E. McGhee Professorship in Photographic Management

Established: 1967

Donor: Master Photodealers and Finishers Association and friends of Mr. McGhee

Purpose: To provide a permanent memorial for Mr. McGhee, a former vice president of Eastman Kodak Company and lifelong friend of the photofinishing industry.

Held by: Frank Cost

Paul and Louise Distinguished Professorship

Established: 1979

Donor: Frank E. Gannett Newspaper Foundation

Purpose: To honor the former chairman of the board of the Gannett Company and perpetuate his interest in good management practices in the News Media Industry using Cross Media distribution.

Held by: Elena Fedorovskaya, Ph.D.

Roger K. Fawcett Distinguished Professorship in Publications Color Management

Established: 1991

Donor: World Color Press, Fawcett family, and industry colleagues

Purpose: The endowed chair, the only one of its kind in the nation, was established to address color quality and productivity in both the magazine and the newspaper publishing industries as well as promotion of RIT color research activities.

Held by: Robert Chung

College of Liberal Arts

James J. Winebrake, Dean
rit.edu/cla

Programs of study

	Bachelor of Science degrees in:	Page
	Advertising and Public Relations	109
	Communication *Tracks available in: health communication; rhetoric, media and culture; and technical communication.*	110
	Criminal Justice	112
	Economics	113
	International and Global Studies *Focus areas available by region (Africa, Asia, Europe, Latin America, the Middle East, or Indigenous Studies) or by topic (global justice, international business, peace studies, sustainable futures, or transnational gender studies).*	114
	Journalism	115
	Museum Studies *Tracks available in: art conservation, management, or public history.*	116
	Philosophy *Specializations available in: philosophy of mind and cognitive science, philosophy of science and technology, applied ethics, philosophy of social sciences and political philosophy, philosophy of art and aesthetics, history of philosophy, and philosophy and law.*	117
	Political Science *Tracks available in: politics and the life sciences, digital politics and organization, and political institutions.*	119
	Psychology *Tracks available in: clinical psychology, cognitive psychology, social psychology, or visual perception.*	120
#	Public Policy *Concentrations available in: biotechnology, computer crime policy, computer software policy, energy policy, engineering policy, environmental policy, and information and communications policy.*	121
	Sociology and Anthropology *Tracks available in: archaeology, cultural anthropology, sociology, and urban studies.*	123

Accelerated BS/MS option available.

The College of Liberal Arts plays three important roles at RIT: it offers a variety of undergraduate and graduate degree programs in the social sciences and humanities; it provides general education courses required of all students pursuing baccalaureate and associate degrees; and it creates opportunities for students and the RIT community to participate in cultural and academic experiences such as theater, music, creative writing, public speaking, and lectures.

The college offers undergraduate degree programs in advertising and public relations, communication, criminal justice, economics, international and global studies, journalism, museum studies, philosophy, political science, psychology, public policy, and sociology and anthropology. Liberal Arts Exploration is a two-year undeclared option for students who are undecided about their choice of liberal arts major.

Recognizing that future leaders will work in an increasingly interconnected and complex world, the College of Liberal Arts provides students with a rigorous curriculum in the liberal arts. This curriculum is designed to help them forge comprehensive links between a major field of study and the ethical, social, cultural, and communicative demands of the contemporary world. As a result, the general education requirements for undergraduate students include introductory and upper-level courses in the humanities and the social and behavioral sciences.

The liberal arts curriculum seeks to help students develop specific kinds of knowledge, such as:

- understanding the connections among humanistic, professional, and technological studies;
- building critical awareness of the interactions among society, culture, science, and technology;
- developing awareness of and respect for diverse social and cultural perspectives;
- understanding local, national, and global forms of citizenship and community;
- acquiring knowledge and honing critical understanding of the responsibilities and rights of living in a participatory democracy;
- examining human development and behavior;
- broadening critical awareness of the interactions between society and the environment;
- creating, interpreting, and evaluating artistic expression and understanding the aesthetic dimension of other forms of expression and experience;
- understanding the nature and implications of work and career;
- thinking critically and creatively;
- reasoning through ethical and moral questions in the context of one's judgments and practice;
- demonstrating proficiency in written, oral, visual, and nonverbal forms of communication; and
- demonstrating proficiency in the analysis and interpretation of quantitative and qualitative data.

Admission requirements
For more information on undergraduate admission, including freshman and transfer admission guidelines, please refer to the Undergraduate Admission section of this bulletin.

Financial aid and scholarships
Please refer to the Financial Aid and Scholarships section of this bulletin for information regarding financial aid, scholarships, loans, and grants.

Faculty
College of Liberal Arts faculty members are recruited from the top graduate schools, and nearly all have doctorate or other terminal degrees. They are dedicated to providing students with outstanding educational experiences and access to cutting-edge research.

Cooperative education/Internships
Students in the College of Liberal Arts have the option of participating in cooperative education or internship opportunities that provide hands-on experience as well as the opportunity to further develop their skills in a chosen profession.

Advising
Liberal arts academic advising: Upon entry into the College of Liberal Arts, each student is assigned a faculty advisor and an academic advisor. The faculty advisor helps students formulate career goals and offers support with cooperative education. The academic advisor offers support with registration and scheduling.

Liberal arts general education advising: The advising staff in the college's Office of Student Services offers support to all RIT students as they select liberal arts courses to fulfill the required general education curriculum for their degree programs. The advising staff provides guidance that is consistent with the general education policies of the university. The office also evaluates liberal arts courses as transfer credits for all RIT students.

Academic enrichment
Honors Program: Students who demonstrate a high level of achievement at the high school level may be invited to join the Honors program. These students will participate in Honors course work throughout their program of study and experiential learning activities under the guidance of a faculty mentor. Honors students will be selected during the admissions process.

Study Abroad: RIT encourages all students to consider a study abroad program. Students may study full time at a variety of host schools and are able to select courses that fulfill requirements in their academic field of study and/or RIT liberal arts general education requirements. RIT's Study Abroad Office has information about foreign study options and opportunities.

Minors: RIT offers students more than 80 minors to choose from to enhance their academic program or further develop a personal area of interest. For a detailed list of minors, including courses, please refer to the Minors section of this bulletin.

Research: Students have the opportunity to collaborate with faculty members on exciting research projects. Students are encouraged to work with faculty on projects and to present their findings at the college's annual Student Research Conference, which highlights students' research findings. The college also hosts the annual Conference for Undergraduate Research in Communication. This conference invites students from all over the Northeast to showcase their research pursuits with peers from other institutions.

Professional student organizations: The college maintains memberships in the following professional organizations: Lambda Pi Eta (National Honor Society for Communication), Omicron Delta Epsilon (International Honor Society for Economics), the Public Relations Student Society of America, and Sigma Iota Rho.

Special opportunities
Accelerated 4+1 MBA options: Some programs offer accelerated, five-year BS/MBA degree options. These degrees offer students the opportunity to earn a bachelor's degree and an MBA degree in less time than pursuing each degree individually. Please refer to individual programs, the *Graduate Bulletin,* or the college's website for more information.

Double majors: The college offers a number of double majors to assist students in obtaining two areas of expertise. Please refer to individual programs or the college's website for more information.

Graduate study: The college offers the following graduate degree programs: experimental psychology; communication and media technologies; criminal justice; science, technology, and public policy; and school psychology. Please refer to the *Graduate Bulletin* or the college's website for more information.

Part-time, evening and online options: Many of the college's programs may be completed on a part-time basis. Please refer to the Office of Part-time and Graduate Enrollment's or the college's website for more information.

Summer course offerings: The college offers a number of summer courses in English, foreign languages, science and humanities, and social sciences as well as degree program courses in the college's academic areas of study. Please contact the Liberal Arts Office of Student Services, the Office of Part-time Enrollment Services, or visit the college's website for more information.

Advertising and Public Relations, BS

rit.edu/apr
Patrick Scanlon, Department Chairperson
(585) 475-2449, pmsgsl@rit.edu

Program overview
The fields of advertising and public relations are rapidly changing now that the Internet and mobile devices like smart phones and tablets have influenced the way professionals create messages. Unique opportunities and exciting challenges lie ahead in the advertising and public relations field. The major combines advertising, public relations, and marketing to address the overlapping roles of communication professionals.

Students are prepared to create persuasive messages for a variety of traditional and emerging media platforms. They learn to analyze audiences, write copy, select media, and manage campaigns. The major also features a senior thesis and one semester of work experience gained through an internship and/or cooperative education.

Curriculum

Students develop skills through a core of required communication courses, which cover communication theory, visual communication, public relations, advertising, writing, campaign planning and management, media planning, public speaking, and digital design. A professional core of four marketing courses, chosen by the student, provides a deeper understanding and appreciation of marketing. Electives and liberal arts courses complete the curriculum.

Advertising and public relations, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
COMM-212	Public Relations	3
COMM-201	Public Speaking	3
	LAS Perspective 1, 2, 5	9
MATH-101	LAS Perspective 7A: College Algebra	3
	LAS Foundation 1: First Year Seminar†	3
COMM-211	Principles of Advertising	3
COMM-223	Digital Design in Communication	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
COMM-202	Mass Communications	3
COMM-221	Public Relations Writing (WI)	3
	LAS Perspective 3, 4, 6	9
	LAS Electives	6
COMM-304	Intercultural Communication	3
	Communication Elective	3
STAT-145	LAS Perspective 7B: Introduction to Statistics	3
Third Year		
MKTG-230	Principles of Marketing	3
COMM-321	Copywriting and Visualization	3
	LAS Immersion 1, 2, 3	9
	LAS Elective	6
COMM-322	Campaign Management and Planning	3
	Professional Core Course	3
COMM-301	Theories of Communication	3
COMM-499	Cooperative Education	Co-op
Fourth Year		
COMM-401	Quantitative Research Methods	3
COMM-402	Qualitative Research Methods	3
	Professional Core Courses	6
	LAS Electives	6
COMM-421	Media Planning	3
COMM-501	Senior Thesis in Communication	3
COMM-497	Communication Portfolio	0
	Free Electives	6
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Senior thesis

Students conduct original research on a subject of their choosing. Two faculty members advise students on how to investigate their topic, select a research method, implement the project, and present their findings. Students often present their research at conferences.

Cooperative education

Students are required to complete one block of internship experience or cooperative education, giving students the opportunity to apply their classroom learning to a professional work environment. There are many opportunities, including positions with advertising agencies and public relations firms as well as businesses and nonprofit organizations. The Office of Cooperative Education and Career Services assist students in identifying and applying to internship or co-op positions.

Additional information

Advisers

Every student is assigned a professional academic adviser and a faculty mentor in the department of communication. The professional adviser assists with course planning and registration; the faculty mentor provides advising about career development and planning, including information about research opportunities, graduate school, and jobs. Peer mentors, who are upper-level advertising and public relations students, are also available to answer questions about classes, clubs on campus, student-run activities, and other matters from the student's perspective.

Faculty

Nearly all of the department's 18 faculty members hold the highest degrees in their fields. Many have won awards for teaching, and all have been published within their areas of expertise.

Careers

Upon graduation, students are well-qualified for positions in business, government, and the not-for-profit sectors. The major also prepares students to pursue graduate studies in a variety of fields. The department of communication offers an MS degree in communication and media technologies. Visit the program website or refer to the Graduate Bulletin for more information.

Accelerated 4+1 MBA option

An accelerated 4+1 MBA option is available for students who wish to earn a BS in advertising and public relations and an MBA. The program is offered in conjunction with Saunders College of Business and allows students to obtain both degrees in five years of study.

Communication, BS

rit.edu/ptc
Patrick Scanlon, Department Chairperson
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Program overview

The communication major combines advanced education in the theory and practice of spoken, written, and technology-mediated communication with focused study in a communication track and instruction in a professional or technical program related to the selected track. This unique combination fosters an understanding of the central concepts and processes associated with the field of communication as well as a communication sub-discipline, and a working familiarity with the principles and practices of a particular professional/technical field. Graduates are qualified for a number of different functions as communication specialists within a specific professional area. Their career opportunities are numerous and varied. The degree also prepares them for graduate work in communication and related academic disciplines.

Curriculum

Students develop skills through a core of required communication courses, which cover communication theory, visual communication, public speaking, mass communication, communication law and ethics, technology-mediated communication, and research methods. Students then focus their studies by selecting a track in technical communication, health communication, or media, rhetoric, and culture. A professional core of four courses related to the selected track may be taken from minors within the colleges of Business, Imaging Arts and Sciences, or Science. Students may also customize a concentration using courses from other RIT colleges. With approval of an academic adviser, students

may design their own professional core. Electives and liberal arts courses complete the curriculum.

Communication, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
COMM-101	Human Communication	3
COMM-201	Public Speaking	3
	LAS Perspective 1, 2, 3, 5	12
MATH-101	LAS Perspective 7A: College Algebra	3
	LAS Foundation 1: First Year Seminar†	3
COMM-202	Mass Communications	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
COMM-341	Visual Communication	3
COMM-342	Communication Law and Ethics	3
	Free Elective	3
	LAS Perspective 4, 6§	6
STAT-145	LAS Perspective 7B: Introduction to Statistics I	3
Choose one of the following:		3
COMM-302	Interpersonal Communication	
COMM-304	Intercultural Communication	
COMM-303	Small Group Communication	
COMM-343	Technology-Mediated Communication (WI)	3
	Professional Core‡	3
	LAS Immersion 1	3
Third Year		
	Track Courses	6
	LAS Immersion 2, 3	6
	Professional Core‡	6
	Free Elective	3
	Communication Elective	3
COMM-301	Theories of Communication	3
COMM-401	Quantitative Research Methods	3
COMM-499	Cooperative Education (summer)	Co-op
Fourth Year		
	Track Courses	6
	Professional Core‡	3
	LAS Electives	15
COMM-402	Qualitative Research Methods	3
COMM-501	Senior Thesis in Communication	3
COMM-497	Communication Portfolio	0
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Professional core may be fulfilled by selecting a 300-level (or higher) course from a discipline outside the liberal arts.
§ Students will satisfy this requirement by taking either a 3- or 4-credit hour lab science course. If a science course consists of separate lecture and laboratory sections, the student must take both the lecture and lab portions to satisfy the requirement.

Tracks

Health communication

Required Course	
COMM-344	Health Communication
Electives	
Choose three of the following	
COMM-212	Public Relations
COMM-221	Public Relations Writing
COMM-223	Digital Design in Communication
COMM-322	Health Campaign Management and Planning
COMM-361	Reporting in Specialized Fields: Health

Rhetoric, media and culture

Electives	
Choose four of the following	
COMM-305	Persuasion
COMM-306	Rhetoric of Race Relations
COMM-356	Critical Practice in Social Media
COMM-357	Communication, Gender and Media
COMM-xxx	Political Communication
COMM-xxx	Rhetoric of Social Change

Technical communication

Required Course	
COMM-142	Introduction to Technical Communication
Electives	
Choose three of the following	
COMM-223	Digital Design in Communication
COMM-345	Ethics in Technical Communication
COMM-440	Visual Communication of Technical Information
COMM-441	Writing the Technical Manual
ENGL-361	Technical Writing

Cooperative education

Students complete one semester of cooperative education. Co-op is paid, practical work experience that deepens students' knowledge of their academic fields, allows them to determine their suitability for a particular professional position, and increases their chances for employment upon graduation. Many students use the extra income earned on co-op to help offset college expenses.

There is a broad range of co-op opportunities, and there is no restriction on geographic location as long as the position is related to communication. The Office of Cooperative Education and Career Services assists students in identifying and applying to co-op and permanent positions with a large and diverse number of employers. Students have held co-ops across the United States at such organizations as Greenpeace, Bausch & Lomb, the Rochester Memorial Art Gallery, the Chicago Hearing Society, Eastman Kodak Co., City of New York Parks & Recreation, and the U.S. House of Representatives.

Additional information

Advisers

Every student is assigned a professional academic adviser and a faculty mentor in the department of communication. The professional adviser assists with course planning and registration; the faculty mentor provides advising about career development and planning, including information about research opportunities, graduate school, and jobs. Peer mentors, who are upper-level communication students, are also available to answer questions about classes, clubs on campus, student-run activities, and other matters from the student's perspective.

Faculty

Nearly all 18 faculty members in the department of communication hold the highest degrees in their fields. All have proven teaching ability and are committed to professional growth in their areas of expertise. The department also offers students the opportunity to participate in specialized course work and research with faculty members.

Careers

Upon graduation, students are prepared for immediate employment and long-term professional growth within the broad field of communication. Graduates qualify for positions in business, government, and the not-for-profit sector, and are employed as technical editors and writers, sales and marketing coordinators, document specialists, broadcast news and segment researchers, public relations practitioners, and staff members for various federal and state government officials.

Graduate study

The major prepares students for graduate study in law, public relations, communication, health services, and management. The department of communication offers an MS degree in communication and media technologies. Please refer to the Graduate Bulletin or the department website for more information.

Criminal Justice, BS

rit.edu/criminaljustice

LaVerne McQuiller Williams, Department Chairperson
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Program overview

The criminal justice major offers students a broad education, preparing them for a wide range of careers in federal and local criminal justice agencies. The major also provides continuing education for professionals already employed in criminal justice positions and offers a strong academic foundation for graduate or law school. The program is unique in its broad core curriculum, the scope of professional course offerings, and an intensive field experience where students blend knowledge gained in the classroom with a career-oriented internship.

RIT's approach to the study of criminal justice combines theoretical perspectives with practical experience. The emphasis within the areas of crime, criminal behavior, social control mechanisms, administration, planning, and management is on problem-solving techniques based on the growing body of research in the field as well as students' own guided research.

The Center for Public Safety Initiatives is housed in the criminal justice department and works with the Rochester Police Department and other community groups. Several students work at CPSI and gain valuable experience working with crime mapping, data gathering, and data analysis. Students work closely with faculty on various projects, including Operation IMPACT, Ceasefire and Project Safe Neighborhoods, and the Rochester Police Department. The CPSI supports the development, implementation, and evaluation of criminal justice and community-based anti-crime and anti-violence interventions.

Curriculum

Criminal Justice, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
CRIM-100	Seminar in Criminal Justice	3
	Professional/Technical Elective	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1, 2, 3, 4, 5‡	15
	LAS Foundation 2: First Year Writing	3
CRIM-110	Introduction to Criminal Justice	3
	YearOne	0
	Wellness Education*	0
Second Year		
	Free Electives	6
	Criminal Justice Electives	6
	LAS Perspective 6, 7A, 7B	9
	LAS Elective	3
	LAS Immersion 1, 2	6
Third Year		
CRIM-300	Quantitative Methods for Criminal Justice	3
	Criminal Justice Electives	6
CRIM-350	Theories of Crime and Criminality	3
	LAS Electives	9
	LAS Immersion 3	3
CRIM-400	Research Methods	3
	Free Elective	3
Fourth Year		
CRIM-550	Field Experience	3
	Criminal Justice Electives	9
	LAS Electives	9
	Free Electives	6
CRIM-500	Seminar in Criminal Justice and Public Policy (WI)	3
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3 or 4 credit hour lab science course. If a science course consists of separate lecture and laboratory sections, students must take both the lecture and lab portions to satisfy the requirement.

Field experience

During their senior year, students have the opportunity to complete an internship at a number of agencies and organizations in the areas of law, law enforcement, institutional and non-institutional corrections, courts, juvenile advocacy and counseling programs, and security. For one semester, students work 25-hours-a-week under an agency field supervisor and meet regularly with advisers and peers who are doing field placements in other agencies. Placements are individualized to fit a student's career objectives.

Cooperative education

Students have the opportunity to participate in cooperative education and may apply for co-op employment after two semesters of full-time study. Cooperative education provides a working experience in a criminal justice-related field but does not carry academic credit hours.

Additional information

Career planning

Students are assigned a faculty adviser who assists in formulating career goals and planning a field of study to achieve professional aspirations. Through core courses, students are exposed to the widest possible range of perspectives from which to view crime and the nature of criminal justice administration, thus broadening their career options.

Career opportunities

Many graduates are engaged in law enforcement careers in agencies at all levels of government, including the Federal Bureau of Investigation, Secret Service, U.S. Marshals Service, Naval Intelligence Service, U.S. Customs and Border Patrol, Immigration and Naturalization Service, Centers for Disease Control, Department of the Interior, and the National Park Service, among others. The Rochester Police Department, Monroe County Sheriff's Department, and suburban departments throughout the Rochester area employ our graduates. A number have advanced in rank to positions of command, including several chiefs and deputy chiefs.

Other alumni work as correctional officers, counselors, probation officers, and parole officers; with many advancing to administrative positions. A significant number of alumni have used the program as a foundation for law school and have entered the legal profession as prosecutors, public defenders, and private practice lawyers. Many graduates serve in U.S. Attorneys General offices. Others serve the legal profession as investigators or paralegals.

Consistent with the liberal arts/social science nature of the major, some graduates have attained advanced degrees in related areas and entered teaching careers at the secondary and college levels. Others have become psychologists, social workers, drug and alcoholism counselors, youth service specialists, and victim assistance/rape crisis counselors. Many have completed advanced degrees in business, public policy, public administration, criminology, and criminal justice.

Pre law study

The major provides a solid undergraduate foundation for students wishing to pursue law school or other law-related fields. The American Bar Association cites strong analytical and problem-solving skills, critical reading abilities, and excellent communication and research skills as crucial for law school acceptance and success, while the Law School

Admission Council encourages students to gain an understanding of the forces that have shaped human experience. Students build these skills by combining a broad liberal arts background with intensive study in criminal justice. During their senior year, pre law students spend one semester, working 25-hours-a-week, as interns working with attorneys in the office of the district attorney, public defender, or state attorney general; with private law firms; or in any number of public or private organizations dealing with litigation. RIT's Pre Law Association publishes student research papers each year in Legal Research at RIT.

Honors program

Students with a 3.0 grade point average at the end of their junior year may apply for admission to the departmental Honors program. Honors students complete research, which involves original research or problem solving under the direction of a faculty member. The program provides excellent experience and evidence of independent work for potential employers or graduate and law schools.

Faculty

Eight full-time faculty members hold advanced degrees, have had professional experience in criminal justice, have proven teaching ability, and are committed to continuing professional growth in their areas of expertise. They spend many non-teaching hours in their offices with an open-door policy, in order to assist students with academic or personal concerns and questions. The full-time faculty members are supplemented by a strong cadre of adjunct instructors, many of whom are leading criminal justice practitioners in the region.

Graduate study

The criminal justice department offers a master of science degree that focuses on program analysis and evaluation. Please see the Graduate Bulletin for more information.

Economics, BS

rit.edu/economics

Jeffrey Wagner, Department Chairperson
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Program overview

The economics major emphasizes the quantitative analytical approach to dealing with economic problems in both the public and private sectors, providing students with marketable skills and the intellectual foundation for career growth. Graduates are prepared for entry-level managerial and analytical positions in both industry and government and to pursue graduate studies in economics, business, and law.

Curriculum

The economics curriculum develops communication, computational, and management skills in addition to economic reasoning and quantitative abilities. The major's required courses develop students' abilities to apply economic analysis to real-world problems. Liberal arts courses enhance oral and written communication skills. Business courses include accounting and finance. Quantitative analytical skills are developed by a course sequence that includes computer science, mathematics, and statistics. Free electives allow students to pursue advanced study in their individual areas of interest and/or develop a double major. Along with finance, marketing, mathematics, statistics, or computer science, there are many other possibilities. Faculty advisers help students develop professional options that assist them in attaining their career goals.

Cooperative education

Cooperative education is optional. Students who participate in co-op may find positions with financial and brokerage institutions, government offices, and large corporations. Co-op can be completed during any semester, including summer, after the sophomore year. The Office of Cooperative Education and Career Services assists students in identifying and applying to co-op positions.

Economics, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
ECON-100	Foundational Seminar in Economics	1
ECON-101	Principles of Microeconomics	3
MATH-171	LAS Perspective 7A: Calculus A	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1, 2, 5**	9
STAT-145	Introduction to Statistics I	3
ECON-201	Principles of Macroeconomics	3
MATH-172	LAS Perspectives 7B: Calculus B	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
ECON-402	Intermediate Macroeconomic Theory (WI)	3
	LAS Perspective 3, 4	6
ECON-405	International Trade and Finance	3
	Track Courses	6
ECON-403	Econometrics I	3
	Free Elective	3
	LAS Immersion 1	3
	LAS Elective	3
Third Year		
ECON-401	Intermediate Microeconomic Theory	3
ECON-404	Mathematical Methods: Economics	3
	Track Courses	3
ISTE-105	Web Foundations	3
	LAS Immersion 2, 3	6
	Free Electives	6
	LAS Elective	3
	LAS Perspective 6	3
Fourth Year		
Choose one of the following:		
	Track Courses	9
	LAS Electives	12
	Free Electives	6
ECON-407	Industrial Organization	3
Total Semester Credit Hours		**121**

Please see New General Education Curriculum-Liberal Arts and Sciences (LAS) in the Graduation Requirements section of this bulletin for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
** Students will satisfy this requirement by taking either a 3- or 4-credit hour lab science course. If a science course consists of separate lecture and laboratory sections, the student must take both the lecture and lab portions to satisfy the requirement.

Capstone experience

Students are required to complete a creative capstone experience. Students may publish a paper in a refereed journal, present a paper at a professional conference or at an RIT-sponsored conference, present research at an approved exhibit at Imagine RIT: Innovation and Creativity Festival, or fulfill a comparable creative capstone requirement in the student's primary major (if economics is the secondary major).

Additional information

Double major

Because of the flexibility of the economics curriculum, many students choose to pursue a double major in a secondary field of study. Even with a double major, students are able to graduate in four years.

Accelerated 4+1 MBA option

An accelerated 4+1 option is available for students who wish to earn a BS in economics and an MBA. The option is offered in conjunction with Saunders College of Business and allows students to obtain both degrees in five years of study.

Academic enrichment

Economics faculty members serve as mentors and are available to enhance students' personal and professional growth. Students may work as teaching assistants for professors in economics courses or learn about research techniques as research assistants for faculty. For both of these activities, students receive a stipend. Finally, students can engage in independent or joint research with a faculty member, receiving academic credit and obtaining funding for their research needs.

International and Global Studies, BS

rit.edu/sociology/international

Michael Laver, Program Director
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Program overview

The impact of global change is dramatic and far-reaching, altering the dynamics of everyday life on a planetary scale. The international and global studies major assesses and analyzes salient issues including consumer capitalism, media culture, forms of communication, economic development, gender and health, migration, border wars, political violence, sustainable futures, and human security.

Curriculum

The major offers a range of courses from anthropology, economics, fine arts, history, international business, modern language and culture studies, political science, public policy, and sociology. The program focuses on the dynamic interplay of international and supranational processes, an approach that features an integrated analysis of globalization via the dynamics of cultural, technological, media, business, monetary, diplomatic, and information exchange. Through the holistic and humanistic analysis of globalization, students consider the consequences of global processes for human rights, ethnic conflict, health, environmental sustainability, economic justice, violence and human security, and the predicaments of democracy and civil society.

Field specializations

The major offers specializations that allow students to choose a regional focus (Africa, Asia, Europe, Latin America, the Middle East, or Indigenous Studies) or a topical focus (sustainable futures, global justice, peace and conflict studies, international business, or transnational gender studies).

Foreign language

The major requires students to study a foreign language. RIT offers instruction in Arabic, Chinese, French, German, Italian, Japanese, Portuguese, Russian, and Spanish. Language certification also is available for students who are proficient in a language other than English, including American Sign Language.

International experience

Students are encouraged to gain a global perspective through an international experience. This can include study abroad or an international co-op or internship. Study abroad opportunities are available in any part of the world, or students can study at one of RIT's global campuses in Croatia, Dubai, or Kosovo. Students may also fullfil the international requirement by completing an internship or co-op at an international company.

International and global studies, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
INGS-101	Global Studies	3
ANTH-210	Culture and Globalization	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
	LAS Perspective 1, 7A	6
POLS-110	LAS Perspective 3: Introduction to International Relations	3
	LAS Elective	3
	Modern Language (beginning level) 1, 2‡	6
	YearOne	0
	Wellness Education*	0
Second Year		
POLS-330	Human Rights in Global Perspective	3
	Modern Language (intermediate level) 1, 2‡	6
SOCI-302	Qualitative Research	3
	Field Specialization Elective	3
	Globalization Concentration Electives	6
STAT-145	LAS Perspective 7B: Introduction to Statistics I	3
ECON-101	LAS Perspective 4: Principles of Microeconomics	3
	LAS Immersion 1	3
Choose one of the following:		
INGS-597	Study Abroad§	
INGS-598	Internship§	
Third Year		
ECON-449	Comparative Economic Systems	3
	Modern Language (advanced level) 1‡	3
	Globalization Concentration Elective	3
	Field Specialization Electives	6
	Advanced Study Course	3
ISTE-105	Web Foundations	3
	LAS Immersion 2, 3	6
	LAS Perspective 5**	3
Fourth Year		
INGS-501	Capstone Seminar (WI)	3
	Field Specialization Elective	3
	Advanced Study Course	3
	LAS Perspectives 2, 6	6
	LAS Electives	9
	Free Electives	6
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Modern language: Students without prior proficiency in a foreign language should take the beginning level language sequence as prerequisite(s) for the intermediate level in the LAS electives.
§ After the first year, students are required to complete an international experience by choosing either a study abroad experience or an internship or co-op. The requirement may be completed during the summer or during the academic year.
** Students will satisfy this requirement by taking either a 3 or 4 credit hour lab science course. If a science course consists of separate lecture and laboratory sections, the student must take both the lecture and lab portions to satisfy the requirement.

Additional information

Faculty

Faculty members have distinguished records of research in Latin America, the Caribbean, China, Japan, Korea, West and North Africa, the Middle East, Native North America, and Europe. A number have teaching experience abroad; collaborate with transnational teams on issues of human trafficking, genocide, political violence, environmental sustainability, and global justice; and have achieved international recognition through prestigious grants, fellowships, and publications.

Career opportunities

Students are well-prepared to pursue careers in government, diplomatic or security service, international business, and not-for-profit initiatives. Graduates also are prepared for competitive graduate programs in fields as diverse as international law, international development, global education, administration, public policy, and the social sciences.

Journalism, BS

rit.edu/journalism

Patrick Scanlon, Department Chairperson
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Program overview

The journalism major prepares students to gather, critically analyze, and synthesize verbal and visual information to communicate accurate and clear news stories across multiple media platforms. In addition to writing and reporting, students prepare audio and visual content for dissemination in a variety of media, making them a valuable asset to any future employer specializing in news reporting and factual storytelling.

The major is enhanced by RIT's reputation for using cutting-edge technology, yet is grounded in the traditional reporting and writing skills needed by professional journalists. The major prepares students for a converged digital media world. They learn the conceptual and practical skills demanded by the digital newsroom through a combination of journalism, communication, and applied professional courses, along with a professional core of courses from the colleges of Business, Computing and Information Sciences, and Imaging Arts and Sciences.

Curriculum

Students develop skills through a core of required communication courses, which cover news writing, news editing, multi-platform journalism, communication theory, mass communications, law and press ethics, and computer-assisted reporting. A professional core of four courses, chosen from the colleges of Business, Computing and Information Sciences, or Imaging Arts and Sciences, introduces students to photojournalism, multimedia, Web development, digital entrepreneurship, and building a Web business. Journalism electives, free electives, and liberal arts courses complete the curriculum.

Senior project

In a senior capstone course students apply what they've learned to a project similar to one they would encounter in their profession. Students produce a long-form piece of journalism, a website, and a digital portfolio of selected works.

Journalism, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
COMM-271	Introduction to Journalism	3
COMM-272	Reporting and Writing I (WI)	3
	LAS Perspective 1, 2, 3, 4	12
	LAS Foundation 1: First Year Seminar†	3
COMM-261	History of Journalism	3
COMM-273	Reporting and Writing II	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
COMM-301	Theories of Communication	3
COMM-274	News Editing	3
	LAS Perspective 5‡, 6, 7A, 7B	12
COMM-263	Computer Assisted Reporting	3
	Professional Core Course	3
	LAS Immersion 1, 2	6
Third Year		
COMM-361	Reporting in Specialized Fields	3
	Professional Core Courses	6
	Free Electives	6
	LAS Immersion 3	3
	LAS Electives	9
COMM-362	Law and Ethics of the Press	3
	Cooperative Education (summer)	Co-op
Fourth Year		
COMM-461	Multi-platform Journalism	3
	Professional Core Course	3
	Free Electives	9
	LAS Electives	12
COMM-561	Senior Project	3
COMM-497	Communication Portfolio	0
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3 or 4 credit hour lab science course. If a science course consists of separate lecture and laboratory sections, the student must take both the lecture and the lab portion.

Cooperative education

Students are required to complete one semester of cooperative education or an internship experience. This experience gives students the opportunity to apply their classroom learning to a professional work environment. Past co-op positions have been at newspapers, including the Democrat and Chronicle, Rochester's daily newspaper. The Office of Cooperative Education and Career Services assists students in identifying and applying to co-op and internship positions as well as permanent placement upon graduation.

Additional information

Advisers

Every student is assigned a professional academic adviser and a faculty mentor in the department of communication. The professional adviser assists with course planning and registration; the faculty mentor provides advising about career development and planning, including information about research opportunities, graduate school, and jobs. Peer mentors, who are upper-level journalism students, are available to answer questions about classes, clubs on campus, student-run activities, and other matters from the student's perspective.

Faculty

Nearly all 18 faculty members in the department of communication hold the highest degrees in their fields. Many have won awards for teaching, and all have been published within their areas of expertise.

Careers

Journalism majors have a wide range of career options to choose from. It is expected that the market for writers and editors will increase by nearly 20 percent in the next few years, and graduates with experience in new media technologies will have a significant edge. The program also is ideal for those interested in pursuing graduate study in journalism or communication. The department of communication offers an MS degree in communication and media technologies. Please consult RIT's Graduate Bulletin for more information.

Museum Studies, BS

rit.edu/museumstudies

Tina Olsin Lent, Program Director
(585) 475-2460, tnlgsh@rit.edu

Program overview

The bachelor of science degree in museum studies is an innovative, interdisciplinary, technically-based major that prepares students for careers in museums, archives, photo collections, and libraries.

Curriculum

The major includes a set of introductory and advanced core courses to familiarize students with the fundamentals of museum studies, including the history, theory, and practice of institutional collecting, conservation, and the technical investigation of art. To broaden and deepen their knowledge, students choose a professional track in art conservation, management, or public history.

Internship

The major requires students to complete a 200-hour internship in a cultural institution. This experience gives students the opportunity to apply what they've learned in the classroom to a professional setting and gain valuable work experience before they graduate.

Professional tracks

The professional tracks (art conservation, management, and public history) include course work that meets the criteria established by professionals in the field and reflects current opinion about necessary skill sets. Since 2000, the International Council of Museums (ICOM) and the Committee on Museum Professional Training (COMPT) have called for revisions in the training of museum professionals that reflect evolving needs for management, leadership, information technology, fundraising, and grant writing skills—all of which are included in the management track. The art conservation track features the traditional criteria for entry into the field as well as course work in chemistry and studio arts, two areas that have been identified as deficient in other undergraduate programs. The public history track offers students core courses in learning how to think historically, make a sound historical argument, and present history effectively to a public audience.

Museum studies (art conservation track), BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MUSE-220	Introduction to Museums and Collecting	3
ARTH-135, 136	Survey of Western Art and Architecture I, II	6
	LAS Foundation 1: First Year Seminar†	3
CHMG-141, 145	LAS Perspective 5: General and Analytical Chemistry I w/ Lab	4
	LAS Perspectives 1, 2	6
	Studio Art Course (CCER, CGLS, CMTJ, CWFD)	3
ENGL-150	LAS Foundation 2: First Year Writing	3
CHMG-142, 146	LAS Perspective 6: General and Analytical Chemistry II w/ Lab	4
	YearOne	0
	Wellness Education*	0
Second Year		
MUSE-222	Panel Painting	3
	Studio Art Course (CCER, CGLS, CMTJ, CWFD)	3
CHMO-231, 235	Organic Chemistry I w/ Lab	4
	LAS Perspective 3, 4, 7A, 7B	12
MUSE-223	Historic Photographic Processes	3
CHMO-232, 236	Organic Chemistry II w/ Lab	4
	LAS Immersion 1	3
Third Year		
	LAS Immersion 2, 3	6
FDTN-111, 112	Drawing I, II	6
Choose one of the following:		3
FDTN-121	2D Design 1	
FDTN-131	3D Design 1	
Choose one of the following:		3
FDTN-122	2D Design 2	
FDTN-132	3D Design 2	
	LAS Electives	6
	Free Electives	6
Fourth Year		
MUSE-438	Conservation and Analysis	3
MUSE-490	Senior Thesis	3
	Studio Art Courses (CCER, CGLS, CMTJ, CWFD)	8
	LAS Electives	6
MUSE-356	Interactive Design for Museums	3
	Free Elective	3
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Museum studies (management track), BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MUSE-220	Introduction to Museums and Collecting	3
ARTH-135, 136	Survey of Western Art and Architecture I, II	6
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1, 2, 3, 4	12
MUSE-221	Introduction to Public History	3
ENGL-150	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
MUSE-358	Legal and Ethical Issues for Collecting Institutions	3
MUSE-449	Special Topics: Museums in the Digital Age	3
MUSE-355	Fundraising, Grant Writing, and Marketing for Nonprofit Institutions	3
	LAS Perspective 5‡, 6, 7A, 7B	12
MUSE-224	History and Theory of Exhibitions	3
MUSE-449	Special Topics: Museum Education and Interpretation	3
MUSE-449	Special Topics: Architecture and Historical Preservation	3
Third Year		
MUSE-354	Exhibition Design	3
MUSE-449	Special Topics: Archival Studies	3
MUSE-449	Special Topics: Museum Informatics	3
MUSE-449	Special Topics: Technology and Visitor Outreach	3
	LAS Immersion 1, 2, 3	9
MUSE-357	Collections Management and Museum Administration	3
MGMT-320	Organizational Behavior	3
MUSE-489	Research Methods	3
Fourth Year		
MUSE-490	Senior Thesis	3
MGMT-415	Digital Entrepreneurship	3
	Free Electives	6
	LAS Electives	12
MUSE-356	Interactive Design for Museums	3
MGMT-460	Leadership in Organizations	3
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3- or 4-credit hour lab science course. If a science course consists of separate lecture and laboratory sections, the student must take both the lecture and lab portions to satisfy the requirement.

Museum studies (public history track), BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MUSE-220	Introduction to Museums and Collecting	3
MUSE-221	Introduction to Public History	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1, 2, 3, 4, 5‡, 7A	18
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
HIST-101	Making History	3
Choose one of the following:		3
ISTE-105	Web Foundations	
IGME-110	Introduction to Interactive Media	
	LAS Perspective 6, 7B	6
	LAS Immersion 1, 2	6
MUSE-224	History and Theory of Exhibitions	3
HIST-301	Great Debates	3
	Elective	3
Choose one of the following:		3
ISTE-205	Digital Creation	
IGME-101	Interactive Media Development I	
Third Year		
MUSE-354	Exhibition Design	3
MUSE-355	Fundraising, Grant Writing and Marketing	3
MUSE-489	Research Methods	3
	Electives	6
Choose one of the following:		3
	Elective	
IGME-102	Interactive Media Development II	
	LAS Immersion 3	3
MUSE-357	Collections Management and Museum Administration	3
Choose one of the following:		3
ISTE-305	Rapid Online Presence	
IGME-xxx	Web Design and Development	
	LAS Elective	3
Fourth Year		
MUSE-490	Senior Thesis	3
	IGME Elective	3
	LAS Electives	15
	Free Electives	6
MUSE-356	Interactive Design for Museums	3
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3- or 4-credit hour lab science course. If a science course consists of separate lecture and laboratory sections, the student must take both the lecture and lab portions to satisfy the requirement.

Additional information

Career opportunities

Upon graduation students are prepared to work in institutions that collect cultural objects, such as museums, historical sites, historical societies, libraries, archives, and corporations. Students are also prepared to further their education in graduate programs in museum studies, art history, informatics, arts management, library and information studies, or an MBA.

Advisers

Every student is assigned a faculty adviser who provides academic advising and career counseling. All of the faculty members in museum studies hold the highest degrees in their field and all have been published within their areas of expertise.

Philosophy, BS

rit.edu/philosophy
John T. Sanders, Program Director
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Program overview

Most of the skills required for student and career success—how to learn, how to apply that learning in professional and personal environments, and how to communicate that knowledge—are central to philosophical training. Philosophy students are taught to evaluate complex problems, identify and examine underlying principles, investigate issues from diverse perspectives, and communicate clearly in both written and oral forms.

The philosophy major provides a thorough grounding in the three main areas of philosophy (history, value theory, and reasoning/epistemology), as well as a four-course specialization within philosophy. Students combine philosophy with a core competence (or even a double major) in another discipline, encouraging them to creatively pursue cross-disciplinary relationships. The major concludes with a senior thesis integrating philosophy with a field of application.

Curriculum

Students develop skills through a core of philosophy courses which cover the history of philosophy, value theory, and reasoning/epistemology. Students choose four courses in an area of philosophical specialization. Examples of approved areas include: philosophy of mind and cognitive science, philosophy of science and technology, applied ethics, philosophy of the social sciences and political philosophy, philosophy of art and aesthetics, history of philosophy, or philosophy of law. Students also complete a professional core of courses designed to provide foundational knowledge in a professional/technical discipline outside of philosophy, which complements their studies. Philosophy electives, general electives, and liberal arts courses complete the curriculum.

Senior thesis

Building on their philosophy specialization and their professional core, students investigate a particular question in depth through research. Students choose a faculty member to serve as a primary adviser and to help identify a subject topic. The finished thesis is discussed and examined by a committee including two other faculty members.

Philosophy, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
PHIL-201	Ancient Philosophy	3
	Professional/Technical Core Courses	6
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1, 2, 7A	9
PHIL-203	Modern Philosophy	3
PHIL-204	Introduction to Logic	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
PHIL-202	Foundations of Moral Philosophy	3
	Program Electives	9
	Professional/Technical Core Courses	6
	LAS Perspective 3, 4, 5‡, 7B	12
Third Year		
	Program Electives	6
	Free Electives	6
	Professional/Technical Core Course	3
	LAS Electives	6
	LAS Perspective 6	3
	Specialization Course	3
	LAS Immersion 1	3

COURSE		SEMESTER CREDIT HOURS
Fourth Year		
	Specialization Courses	9
PHIL-416	Seminar in Philosophy	3
	LAS Immersion 2, 3	6
	LAS Electives	9
PHIL-595	Senior Thesis in Philosophy	3
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3- or 4-credit hour lab science course. If a science course consists of separate lecture and laboratory sections, student must take both the lecture and lab portions to satisfy the requirement.

Specializations

Philosophy of mind and cognitive science

This specialization covers the philosophical issues involved in studying intelligence, cognition, identity, consciousness, rationality, creativity and emotion, especially as such concepts and categories are invoked by computer and cognitive scientists, and as they are applied in relation to natural and artificial systems.

COURSE	
Electives	
Choose four of the following	
PHIL-302	Symbolic Logic
PHIL-404	Philosophy of Mind
PHIL-407	Philosophy of Action
PHIL-414	Philosophy of Language
PHIL-401	Great Thinkers*
PHIL-416	Seminar in Philosophy*
PHIL-449	Special Topics*

Philosophy of science and technology

This specialization examines the concepts, methodologies, and philosophical implications of science and technology, and explores the underlying theories, practices, and consequences of science and technology and their role in shaping societies and their values.

COURSE	
Electives	
Choose four of the following	
PHIL-302	Symbolic Logic
PHIL-307	Philosophy of Technology
PHIL-310	Theories of Language
PHIL-314	Philosophy of Vision and Imaging
PHIL-402	Philosophy of Science
PHIL-401	Great Thinkers*
PHIL-416	Seminar in Philosophy*
PHIL-449	Special Topics*

Applied ethics

This specialization examines the ethical underpinnings of different professions as well as the ethical presuppositions and implications of technology, engineering, science, management, and other disciplines. Attention is also given to ethics education within the professions and to the role professional ethicists can play in different professional and organizational settings.

COURSE	
Electives	
Choose four of the following	
PHIL-304	Philosophy of Law
PHIL-305	Philosophy of Peace
PHIL-306	Professional Ethics
PHIL-308	Environmental Philosophy
PHIL-401	Great Thinkers*
PHIL-416	Seminar in Philosophy*
PHIL-449	Special Topics*

Philosophy of social sciences and political philosophy

This specialization examines philosophical issues arising from social and political life as well as the disciplines that study them.

COURSE	
Electives	
Choose four of the following	
PHIL-304	Philosophy of Law
PHIL-305	Philosophy of Peace
PHIL-308	Environmental Philosophy
PHIL-309	Feminist Theory
PHIL-403	Social and Political Philosophy
PHIL-405	Philosophy of Social Sciences
PHIL-401	Great Thinkers*
PHIL-416	Seminar in Philosophy*
PHIL 449	Special Topics*

Philosophy of art and aesthetics

This specialization examines how different philosophical frameworks conceive of the various arts and crafts and the forms of creative experience and production with which they are engaged; explores the relationship between aesthetic perception and other forms of experience and judgment, between art and society, between art and ethics, and between art and technology.

COURSE	
Electives	
Choose four of the following	
PHIL-303	Philosophy of Art/Aesthetics
PHIL-313	Philosophy of Film
PHIL-314	Philosophy of Vision and Imaging
PHIL-413	Philosophy and Literary Theory
PHIL-401	Great Thinkers*
PHIL-416	Seminar in Philosophy*
PHIL-449	Special Topics*

History of philosophy

This specialization explores the development and connection of philosophical ideas, concepts, and movements throughout time through an in-depth analysis of major transformative moments and figures, and examines how philosophical positions result from an ongoing conversation with previous thinkers.

COURSE	
Electives	
Choose four of the following	
PHIL-311	East Asian Philosophy
PHIL-312	American Philosophy
PHIL-406	Contemporary Philosophy
PHIL-408	Critical Social Theory
PHIL-409	Existentialism
PHIL-410	Medieval Philosophy
PHIL-412	Nineteenth Century Philosophy
PHIL-401	Great Thinkers*
PHIL-416	Seminar in Philosophy*
PHIL-449	Special Topics*

Philosophy and law

This specialization prepares students for law school and other advanced studies by focusing on the skills and topics important to the study of the law. The courses provide an examination of the theoretical and ethical foundations of the law and an understanding of the logical and epistemological skills useful in evaluating and constructing legal arguments. In addition, a grounding in these topics and skills is valuable in a range of professions outside the legal field.

COURSE	
Electives	
Choose four of the following	
PHIL-302	Symbolic Logic
PHIL-304	Philosophy of Law
PHIL-306	Professional Ethics
PHIL-310	Theories of Knowledge
PHIL 403	Social and Political Philosophy

COURSE	
PHIL-401	Great Thinkers*
PHIL-416	Seminar in Philosophy*
PHIL-449	Special Topics*

* These courses are eligible only when their topic is relevant. Permission to include these courses in a specialization must be approved by the department.

Additional information

Advising

Each student is assigned a faculty adviser who assists in planning course schedules, professional/technical core requirements, and a philosophy specialization area.

Faculty

The philosophy department's faculty are outstanding teachers. They are active scholars, publishing regularly in journals, editing and authoring books, and organizing and delivering papers at conferences at RIT and elsewhere in the United States and abroad.

Political Science, BS

rit.edu/politicalscience

Sean Sutton, Department Chairperson
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Program overview

The bachelor of science degree in political science tightly integrates the traditional fields of American government and international relations in order to prepare students for a life and career in an increasingly globalized world. Moreover, the major includes three tracks for students to choose from: politics and life sciences, digital politics and organization, and political institutions. Through these tracks students study the influence of recent advances in biology and biotechnology on how we understand ourselves as human beings and citizens, or the use of information technology for political organization and communication. There are few undergraduate political science majors in the country that so fully incorporate both these fields into their curricula, including the opportunity to take courses from the biology and information technology departments as part of their program requirements. The major prepares principled leaders and responsible citizens for fruitful careers in the public and private sectors.

Curriculum

Core courses

The major consists of four core courses designed to introduce students to the general themes of political science. The major culminates in a capstone course, which ties together the themes of the program through a seminar and significant writing project.

Political science, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
POLS-110	American Politics	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspectives 1, 2, 6, 7A, 7B	15
POLS-120	Introduction to International Relations	3
	Political Science Elective	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
POLS-290	Politics and the Life Sciences	3
	Political Science Electives	6
	LAS Perspectives 3, 4, 5‡	9
	LAS Immersion 1, 2	6
POLS-295	Cyberpolitics	3
	Free Elective	3
Third Year		
	Political Science Track Courses	6
	Political Science Electives	6
	Free Electives	6
	LAS Immersion 3	3
	LAS Electives	9
Fourth Year		
POLS-530	Political Science Capstone (WI)	3
	Political Science Track Course	3
	Political Science Electives	6
	LAS Electives	12
	Free Electives	6
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3- or 4-credit hour lab science course. If a science course consists of separate lecture and laboratory sections, student must take both the lecture and lab portions to satisfy the requirement.

Program tracks

The overarching goal of the political science major is to prepare students for the challenges of a life and a career in a world that is increasingly globalized, where the application of biotechnology and biomedicine become common, and where social computing shape and influence democratic government and the wider community. Students are required to choose one track for in depth study on the political impact of modern biology and biotechnology, the changing role of political institutions in a globalized world, or the development and implementation of technologies that increasingly influence political organization and communication.

Politics and the life sciences

BIOL-201	Cell Biology and Molecular Biology
BIOL-265	Evolutionary Biology
BIOL-293	Evolution, Creationism and Intelligent Design
BIOL-321	Genetics
STSO-421	Environmental Policy
POLS-410	Evolutionary International Relations
POLS-415	Evolution and Law
POLS-420	Primate Politics

Digital politics and organization

MGIS-320	Database Management Systems
MGIS-425	Database Systems Development
POLS-305	Political Parties and Voting
COMM-410	Technology Mediated Communication
ISTE-140	Web I
ISTE-230	Introduction to Database and Data Modeling
ISTE-240	Web II
ISTE-305	Rapid Online Presence
ISTE-330	Database Connectivity and Access
IGME-431	Digital Video for the WWW

Political institutions

POLS-210	Comparative Politics
POLS-220	Global Political Economy
POLS-310	The Congress
POLS-315	The American Presidency
POLS-325	International Law and Organizations
POLS-425	Constitutional Law

Program electives

Students are required to take seven political science electives from the department's American politics and international relations/comparative government offerings with a minimum of three courses from each area. This requirement recognizes the increasing interdependence of domestic and international politics in this era of globalization. Students focus their studies on American politics, international relations, and comparative politics to provide an integrated national and global political perspective.

Additional information

Double majors

Students may pursue a double major in political science and a secondary area. Students have combined political science with a double major in diverse fields such as computer science, criminal justice, economics, and philosophy.

Accelerated 4+1 MBA option

An accelerated 4+1 option is available for students who wish to earn a BS in political science and an MBA. The option is offered in conjunction with Saunders College of Business and allows students to obtain both degrees in five years of study.

Experiential education

Beginning in the third year, students may participate in optional learning experiences that may include an internship and/or cooperative education (co-op), which provides students with hands-on experience in a variety of environments, from government agencies, non-profits, nongovernmental agencies, to political campaigns. Through these experiences, students gain employment experience as well as the opportunity to further develop skills in their chosen profession.

Study abroad

A study abroad opportunity enhances student's understanding of global politics and culture. Students may study full time at a variety of host schools and are able to select courses in their major as well as liberal arts courses. To learn more about the Study Abroad program, please visit rit.edu/studyabroad.

Career opportunities

A degree in political science prepares students for careers in law; local, state, and national government; foreign service; business; government relations; and other areas of the private and public sector in which knowledge of the political process and the strengths and limitations of modern democracy and modern society is appropriate. In addition, students are well-prepared for graduate study in a variety of fields, ranging from business and law to political science and public policy.

Advising

Each student is assigned a faculty adviser who assists with course registration, scheduling, course selection, academic concerns, and career counseling.

Faculty

The political science faculty have extensive experience in the classroom and are well-published in their fields of expertise. Faculty members have broad backgrounds in addition to their political science training, including criminal justice, literature, philosophy, political campaigning, political polling, and public policy. Several members have worked for the United Nations and in Washington, D.C., think tanks.

Psychology, BS

rit.edu/psychology
Andrew M. Herbert, Department Chairperson
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Program overview

The bachelor of science degree in psychology provides students with a strong grounding in the discipline of psychology, integrated with a technological focus. Upon entry, students are assigned a faculty adviser to mentor their progress through the program. Curriculum planning and career discussions occur with each student's faculty mentor.

Curriculum

The program is unique and encompasses four key elements: a choice of five upper-level interdisciplinary tracks, a solid grounding in experimental methodology and statistics, the capstone sequence of courses, and a cooperative education requirement.

Interdisciplinary tracks

Students choose from two of the following interdisciplinary tracks: biopsychology; clinical psychology; cognitive psychology; social psychology; or visual perception. Current research and technology are integrated into these tracks to produce a focused and career-oriented psychology program. The tracks represent some active fields of research in psychology, and students receive training that provides a strong foundation for graduate school and employment in related fields.

The biopsychology track studies brain function as the basis of behavior. It focuses on topics such as lateralization, cortical specialization, brain injury, and psychopharmacology. Psychophysiological measures (including EEG, EMG, and skin conductance) are covered in depth along with the relationship between brain chemistry and behavior. Students perform laboratory work on the brain and its relationship to attention, memory, language, perception, and psychological disorders.

The clinical psychology track emphasizes the scientific and empirical foundations of clinical and applied work. Empirically based methods are introduced to understand and modify human psychological problems. This track prepares students for graduate programs in mental health.

The cognitive psychology track uses an interdisciplinary approach to study processes such as judgment, decision making, memory, learning, language, problem solving, and attention. The track explores the interaction of human factors, psychology, and technology.

The social psychology track introduces to the complexity of human behavior in groups. Behavior in pairs, small groups and larger aggregates is covered in different classes. Like the other tracks, students learn by doing studies and reading relevant literature.

The visual perception track focuses on human perceptual systems. Vision is presented as the integration of anatomy, physiology, and behavior. Students learn psychophysical methods. The track covers cutting-edge topics such as color perception, perception of 2D features, 3D perception and our interactions with objects, and neural plasticity.

Cooperative education

The program requires students to complete a cooperative education experience for one semester. This is normally done in the summer after the junior year, but can be done in any semester after the second year in the program. The co-op experience is in a psychology-related field and does not carry academic credit.

Psychology, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
PSYC-101	Introduction to Psychology	3
STAT-145	LAS Perspective 7A: Introduction to Statistics I	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1, 2	6
	Free Elective	3
	Pre-track Courses	6
	LAS Foundation 2: First Year Writing	3
STAT-146	LAS Perspective 7B: Introduction to Statistics II	3
	YearOne	0
	Wellness Education*	0
Second Year		
PSYC-250	Research Methods I (WI)	3
	Pre-track Course	3
	Breadth Courses	6
	LAS Perspective 3, 4	6
BIOG-101, 103	LAS Perspective 5	4
PSYC-251	Research Methods 2 (WI)	3
BIOG-102, 104	LAS Perspective 6	4
	LAS Elective	3
Third Year		
	Breadth Course	3
	Track Courses	9
	LAS Immersion 1, 2, 3	9
	LAS Electives	9
Fourth Year		
	Psychology Capstone‡	6
	Track Course	3
	LAS Electives	9
	Free Electives	12
Total Semester Credit Hours		**122**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students may choose one of the following courses to fulfill the psychology capstone: PSYC-402 (WI), PSYC-501, or PYSC-510 (WI).

Additional information

Career opportunities

The unique requirements of this major ensure that each student is well-prepared for advanced study in psychology or a related field, employment in industry or in human service agencies, or other career opportunities.

Public Policy, BS

rit.edu/publicpolicy

Sandra Rothenberg, Department Chairperson
(585) 475-6032, srothenberg@saunders.rit.edu

Program overview

The public policy major explores the intersection of public policy, technology, and our natural world. The major provides students with an opportunity to integrate their interests in science, technology, government, economics, and other social science fields. The BS degree combines an understanding of these fields with the analytical tools needed to study the impact of public policy on society. Students acquire policy analysis skills, with particular attention on analyzing policies that emerge in a technology-based society. The program has many key features, including:

Science and technology—Students are trained in the vernacular, methodologies, and problem-solving approaches of the sciences and technologies relevant to their chosen policy study concentration, and they possess a well-grounded familiarity in that area.

Interdisciplinary—Public policy core courses ensure the major provides integration of diverse disciplines. This sequence makes up the core of the curriculum and enables students to integrate diverse subjects and apply them to the analysis of public policy.

Integrated qualitative and quantitative skills—The major balances both quantitative and qualitative approaches to the analysis of public policy so that students are able to achieve a full systems-level grasp of policy issues.

Solid grounding in liberal arts—While our students have quantitative and qualitative training, by the end of their academic career they also will have completed liberal arts courses with a broad disciplinary range. It is this grounding in humanistic values, combined with technology and science, that makes the major both balanced and unique.

Curriculum

The curriculum is designed to train students to think and analyze policy in terms of complex, interconnected systems. This training is in high demand in the public, private, and nonprofit sectors.

Public policy colloquium

This required, non-credit-bearing colloquium meets twice each semester. The colloquium is used to bring in policy practitioners and academics to talk about careers, research, and special topics. The colloquium series helps build and sustain a sense of community among policy majors by providing a context for their course work and research.

Public policy, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
PUBL-101	Foundations of Public Policy	3
ECON-101	Microeconomics	3
	LAS Perspective 1, 2, 5‡, 7A§	12
	LAS Foundation 1: First Year Seminar†	3
STSO-201	Science, Technology, and Policy	3
ECON-201	Macroeconomics	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
PUBL-201	Ethics, Values and Public Policy	3
STSO-220	Environment and Society	3
STAT-145	LAS Perspective 7B: Statistics I	3
	LAS Perspective 3, 4, 6	9
	Free Electives	6
PUBL-210	Qualitative Methods and Analysis	3
	Concentration Course	3
Third Year		
PUBL-301	Public Policy Analysis	3
	LAS Immersion 1, 2, 3	9
	Free Electives	6
	LAS Elective	3
PUBL-302	Decision Analysis	3
POLS-455	Comparative Public Policy	3
	Concentration Course	3
Fourth Year		
PUBL-500	Senior Project (WI)	3
	Concentration Courses	9
	Free Electives	6
	LAS Electives	9
PUBL-510	Technology Innovation and Public Policy	3
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3- or 4-credit hour lab science course. If a science course consists of separate lecture and laboratory sections, student must take both the lecture and lab portions to satisfy the requirement.
§ Students choose one of the following calculus options Elementary Calculus (MATH-161) or Project-based Calculus I (MATH-181).

Concentrations

Student must complete a five course concentration in one of the following areas: biotechnology policy, computer crime policy, computer software policy, energy policy, engineering policy, environmental policy,

or information and telecommunications policy. With the help of a faculty adviser, students can customize a concentration based on their interests and professional aspirations. Students apply skills acquired in general public policy courses to specific policy areas. Many concentration courses, including those that provide a firm grounding in science and technology, are offered through other majors and colleges of the university. This gives students an opportunity to interact and study with researchers and faculty from a broad range of disciplines.

Biotechnology policy

STSO-240	Social Consequences of Technology
STSO-421	Environmental Policy
BIOL-105	General Biology I
BIOL-106	General Biology II
MEDS-110	Microbiology in Health and Disease

Computer crime policy

PUBL-520	Information and Communications Policy
STSO-240	Social Consequences of Technology
CRIM-110	Introduction to Criminal Justice System
CRIM-210	Technology in Criminal Justice
CRIM-290	Computer Crime
NSSA-101	NSSA Fundamentals

Computer software policy

PUBL-520	Information and Communications Policy
STSO-240	Social Consequences of Technology
MATH-191	Discrete Mathematics for Computing
CSCI-141	Computer Science I
CSCI-142	Computer Science II
SWEN-261	Introduction to Software Engineering

Energy policy

STSO-330	Energy and the Environment
STSO-550	Sustainable Communities
ECON-420	Environmental Economics
ECON-421	Natural Resource Economics
PUBL-530	Energy Policy

Engineering policy

EEEE-120	Digital Systems I
EEEE-220	Digital Systems II
EEEE-281	Circuits I
EEEE-381	Electronics I with Lab
ISEE-250	Engineering Economy
MECE-104	Engineering Design Tools
MECE-103	Statics
MECE-305	Materials Science
MECE-306	Thermodynamics
MECE-110	Fluid Mechanics I
MECE-210	Thermal Fluids Lab I
PHYS-211	University Physics I
PHYS-212	University Physics II

Environmental policy

STSO-220	Environment and Society
STSO-422	Great Lakes
STSO-330	Energy and the Environment
STSO-421	Environmental Policy
STSO-325	History of the Environmental Sciences
STSO-521	Biodiversity and Society
PHIL-308	Environmental Philosophy
ECON-420	Environmental Economics
ECON-421	Natural Resource Economics
ESHS-150	Principles of Environmental Sustainability, Health and Safety
ESHS-310	Solid and Hazardous Waste Management
ESHS-480	Environmental Health and Safety Law
BIOL-211	Invertebrate Zoology
BIOL-212	Vertebrate Zoology
CHMG-142	General Chemistry II
CHMG-146	General Chemistry II Lab
CHMO-231	Organic Chemistry

Information and communications policy

MGMT-215	Organizational Behavior
MGMT-420	Managing Innovation and Technology
MGIS-120	Business Computer Applications
MGIS-201	Business Information Systems
STSO-240	Social Consequences of Technology
STSO-550	Sustainable Communities
PUBL-510	Technological Innovation and Public Policy
PUBL-520	Information and Communications Policy
COMM-101	Human Communication
COMM-202	Mass Communications
COMM-362	Law and Ethics of the Press
ENVS-250	Applications of Geographic Information Systems
ISTE-105	Web Foundations
ISTE-120	Computational Problem Solving I
ISTE-121	Computational Problem Solving II

Additional information

Accelerated dual degree option

Students have the option of completing a five-year, accelerated dual degree leading to a BS in public policy and an MS in science, technology, and public policy. The BS/MS option provides graduates with a considerable advantage in many policy-related careers.

Public policy, BS degree/Science, technology and public policy, MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
PUBL-101	Foundations of Public Policy	3
ECON-101	Microeconomics	3
	LAS Perspective 6‡, 7A	6
	LAS Perspective 1, 2	6
	LAS Foundation 1: First Year Seminar†	3
STSO-201	Science, Technology, and Policy	3
ECON-201	Macroeconomics	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
PUBL-201	Values and Public Policy	3
STSO-220	Environment and Society	3
STAT-145	LAS Perspective 7B: Statistics I	3
	LAS Perspective 3, 4, 5	9
	Free Electives	6
PUBL-210	Qualitative Methods and Analysis	3
	Concentration Course	3
Third Year		
PUBL-301	Public Policy Analysis	3
	LAS Immersion 1, 2	6
	Free Electives	6
	LAS Elective	3
PUBL-302	Decision Analysis	3
POLS-455	Comparative Public Policy	3
	Concentration Courses	6
Fourth Year		
PUBL-500	Senior Project (WI)	3
	LAS Immersion 3	3
	Concentration Courses	6
	Free Electives	6
	LAS Electives	9
PUBL-510	Technology Innovation and Public Policy	3
PUBL-700	Readings in Public Policy	3
PUBL-703	Program Evaluation and Research Design	3
Fifth Year		
PUBL-701	Graduate Policy Analysis	3
STSO-710	Science and Technology Policy Seminar	3
	Graduate Electives	9
PUBL-702	Graduate Decision Analysis	3
PUBL-799	Thesis	6
Total Semester Credit Hours		**150**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3- or 4-credit hour lab science course. If a science course consists of separate lecture and laboratory sections, student must take both the lecture and lab portions to satisfy the requirement.

Cooperative education

Students may complete a co-op or internship within the private, public, or nonprofit sectors. The co-op experience makes our students attractive to a wide range of agencies, businesses, and organizations.

Employment opportunities

Exciting career opportunities await professionals who can integrate an understanding of science and technology with public policy decision making. Graduates are uniquely positioned to take advantage of the growing job market in public policy, with career options in a range of fields within the private, government, and nonprofit sectors.

Faculty

Faculty have extensive experience in the classroom and as practitioners in their respective fields. In addition to public policy, faculty members have a broad range of backgrounds, including physics, engineering, law, environmental science, energy management, and information technology.

Sociology and Anthropology, BS

rit.edu/sociology/anthro
Robert Ulin, Program Director
(585) 475-3969, rcugla@rit.edu

Program overview

The sociology and anthropology major is dedicated to understanding and appreciating social and cultural complexity and diversity across the globe and through time. Students are exposed to critical perspectives, theories, and research skills that are necessary to engage complex global and local issues that crosscut the economy, politics, society, gender, ethnicity, and culture. Understanding societies past and present better prepares us to face the challenges of a rapidly changing world and to assume positions of leadership that promote vision and equity.

This integrated, interdisciplinary degree program explores the common scholarly roots and creative differences of sociology and anthropology, through which students gain a synergistic set of perspectives and skills that prepare them for social analysis in the widest array of social and cultural settings. Students develop a specialization by choosing one of four tracks: archaeology, cultural anthropology, sociology, or urban studies.

Graduates pursue careers in medicine and public health, law, business, international development, the non-profit sector, urban planning, architecture, social work, education, and government, among other possibilities.

Curriculum

Sociology and anthropology (archaeology track), BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
	LAS Foundation 2: First Year Writing	3
ANTH-103	Archaeology and the Human Past	3
Choose one of the following sociology core courses:		3
SOCI-102	Foundations of Sociology	
SOCI-103	Urban Experience	
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1, 2, 3, 4, 5‡	15
	Track Elective §	3
	YearOne	0
	Wellness Education*	0
Second Year		
ANTH/SOCI-201	Writing About Society and Culture (WI)	3
ANTH/SOCI-301	Social and Cultural Theory	3
ANTH/SOCI-302	Qualitative Research	3
ANTH-215	Field Methods in Archaeology	3
ANTH-230	Great Discoveries in Archaeology	3
ANTH-250	Themes in Archaeological Research	3
	LAS Perspective 6, 7A, 7B	9
	LAS Immersion 1	3
Third Year		
ANTH/SOCI-303	Quantitative Research	3
ANTH-255	Regional Archaeology	3
	Track Electives§	15
	LAS Immersion 2, 3	6
	LAS Elective	3
Choose one of the following:		
ANTH-498	Practicum	0
ANTH-499	Cooperative Education	Co-op
Fourth Year		
Choose one of the following:		3
ANTH-501	Senior Research Project	
ANTH-502	Scholar's Thesis I	
Choose one of the following:		3
	Track Elective§	
ANTH-503	Scholar's Thesis II	
	Free Electives	6
	LAS Electives	18
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3- or 4-credit hour lab science course. If a science course consists of separate lecture and laboratory sections, students must take both the lecture and lab portions to satisfy the requirement. The lecture section alone will not fulfill the requirement.
§ Students choose from among the following archaeology track electives: Native North Americans (ANTH-260), Archaeology of Cities (ANTH-315), Historic Archaeology (ANTH-355), Humans and their Environment (ANTH-360), Islamic Culture and the Middle East (ANTH-365), Native American Repatriation (ANTH-375), Archaeological Science (ANTH-415), Exploring Ancient Technology (ANTH-420), Garbage Archaeology (ANTH-435), Survey of Metallurgy (ANTH-440), Applications Geographic Information System (ENVS-250).

Sociology and anthropology (cultural anthropology track), BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
ANTH-102	Cultural Anthropology	3
Choose one of the following sociology core courses:		3
SOCI-102	Foundations of Sociology	
SOCI-103	Urban Experience	
	LAS Perspective 1, 2, 3, 4, 5‡	15
	Track Elective§	3
	YearOne	0
	Wellness Education*	0

COURSE		SEMESTER CREDIT HOURS
Second Year		
ANTH/SOCI-201	Writing About Society and Culture (WI)	3
ANTH/SOCI-301	Social and Cultural Theory	3
ANTH/SOCI-302	Qualitative Research	3
	Track Electives§	9
	LAS Perspective 6, 7A, 7B	9
	LAS Immersion 1	3
Third Year		
ANTH/SOCI-303	Quantitative Research	3
	Track Electives§	18
	LAS Immersion 2, 3	6
	LAS Elective	3
Choose one of the following:		
ANTH-498	Practicum	0
ANTH-499	Cooperative Education	Co-op
Fourth Year		
Choose one of the following:		3
ANTH-501	Senior Research Project	
ANTH-502	Scholar's Thesis I	
Choose one of the following:		3
	Track Elective§	
ANTH-503	Scholar's Thesis II	
	Free Electives	6
	LAS Electives	18
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3- or 4-credit hour lab science course. If a science course consists of separate lecture and laboratory sections, students must take both the lecture and lab portions to satisfy the requirement. The lecture section alone will not fulfill the requirement.
§ Students choose from among the following cultural anthropology track electives: Culture and Globalization (ANTH-210), Language and Culture (ANTH-220), Globalizing Africa (ANTH-225), Immigration to the U.S. (ANTH-235), Muslim Youth Cultures (ANTH-240), Ritual and Performance (ANTH-245), Native North Americans (ANTH-260), Native Americans in Film (ANTH-265), Cuisine, Culture, and Power (ANTH-270/INGS-270), Global Islam (ANTH-275), Sustainable Development (ANTH-280), Religion and Culture (ANTH-285), African Popular Cultures (ANTH-310), Bodies and Culture (ANTH-325), Cultural Images of War (ANTH-330), Culture and Politics in Latin America (ANTH-335), Divided Europe (ANTH-340), Genocide and Post-Conflict Justice (ANTH-345), The Global Economy and the Grassroots (ANTH-350), Media and Globalization (ANTH-370), Native American Repatriation (ANTH-375), Nationalism and Identity (ANTH-380), Global Cities (ANTH-410), Global Sexualities (ANTH-425), Visual Anthropology (ANTH-430).

Sociology and anthropology (sociology track), BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
	LAS Foundation 2: First Year Writing	3
SOCI-102	Foundations of Sociology	3
Choose one of the following anthropology core courses:		3
ANTH-102	Cultural Anthropology	
ANTH-103	Archaeology and the Human Past	
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1, 2, 3, 4, 5‡	15
	Track Elective§	3
	YearOne	0
	Wellness Education*	0
Second Year		
ANTH/SOCI-201	Writing About Society and Culture (WI)	3
ANTH/SOCI-301	Social and Cultural Theory	3
ANTH/SOCI-302	Qualitative Research	3
SOCI-225	Social Inequality	3
SOCI-235	Women, Work and Culture	3
SOCI-220	Minority Group Relations	3
	LAS Perspective 6, 7A, 7B	9
	LAS Immersion 1	3
Third Year		
ANTH/SOCI-303	Quantitative Research	3
	Track Electives§	18
	LAS Immersion 2, 3	6
	LAS Elective	3
Choose one of the following:		
SOCI-498	Practicum	0
SOCI-499	Cooperative Education	Co-op
Fourth Year		
Choose one of the following:		3
SOCI-501	Senior Research Project	
SOCI-502	Scholar's Thesis I	
Choose one of the following:		3
	Track Elective§	
SOCI-503	Scholar's Thesis II	
	LAS Electives	18
	Free Electives	6
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3- or 4-credit hour lab science course. If a science course consists of separate lecture and laboratory sections, students must take both the lecture and lab portions to satisfy the requirement. The lecture section alone will not fulfill the requirement.
§ Students choose from among the following sociology track electives: Urban Experience (SOCI-103), African American Culture (SOCI-210), Changing Family (SOCI-215), Sociology of Work (SOCI-230), Deaf Culture in America (SOCI-240), Gender and Health (SOCI-245), Globalization and Security (SOCI-250), U.S. Housing Policy (SOCI-310), Global Exiles of War and Terror (SOCI-315), Population and Society (SOCI-320), Urban Poverty (SOCI-345), Social Change (SOCI-350).

Sociology and anthropology (urban studies track), BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
	LAS Foundation 2: First Year Writing	3
SOCI-103	Urban Experience	3
Choose one of the following anthropology core courses:		3
ANTH-102	Cultural Anthropology	
ANTH-103	Archaeology and the Human Past	
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1, 2, 3, 4, 5‡	15
	Track Elective§	3
	YearOne	0
	Wellness Education*	0
Second Year		
ANTH/SOCI-201	Writing About Society and Culture (WI)	3
ANTH/SOCI-301	Social and Cultural Theory	3
ANTH/SOCI-302	Qualitative Research	3
	Track Electives§	9
	LAS Perspective 6, 7A, 7B	9
	LAS Immersion 1	3
Third Year		
ANTH/SOCI-303	Quantitative Research	3
	Track Electives§	18
	LAS Immersion 2, 3	6
	LAS Elective	3
Choose one of the following:		
ANTH/SOCI-498	Practicum	0
ANTH/SOCI-499	Cooperative Education	Co-op
Fourth Year		
Choose one of the following:		3
ANTH/SOCI-501	Senior Research Project	
ANTH/SOCI-502	Scholar's Thesis I	
Choose one of the following:		3
	Track Elective§	
ANTH/SOCI-503	Scholar's Thesis II	
	LAS Electives	18
	Free Electives	6
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3- or 4-credit hour lab science course. If a science course consists of separate lecture and laboratory sections, students must take both the lecture and lab portions to satisfy the requirement. The lecture section alone will not fulfill the requirement.
§ Students choose from among the following urban studies track electives: Immigration to the U.S. (ANTH-235), Archaeology of Cities (ANTH-315), Global Cities (ANTH-410), Urban Economics (ECON-440), Applications Geographic Information Systems (ENVS-250), State and Local Politics (POLS-250), Minority Group Relations (SOCI-220), Community and Economic Development: Rochester (SOCI-325), Urban Deviance (SOCI-330), Urban Cultures (SOCI-335), Urban Planning and Policy (SOCI-340), Urban Poverty (SOCI-345), Diversity in the City (SOCI-410), Sustainable Communities (STSO-550).

Additional information

Cooperative education and field experience

Students apply their classroom knowledge with opportunities for hands-on learning through cooperative education assignments, internships, archaeological or ethnographic fieldwork, laboratory analysis, and study abroad.

Liberal Arts Exploration, Undeclared

rit.edu/exploration
John S. Smithgall, Program Director
(585) 475-2444, jssgla@rit.edu

Program overview

Liberal arts exploration is an undeclared option designed to allow students to complete required liberal arts, mathematics, and science courses while actively pursuing career exploration and receiving individualized academic advising. Students may stay in the option for up to two years (or 60 credit hours) before they must choose a major. The option offers students the flexibility and time to explore a variety of majors within the College of Liberal Arts without delaying their graduation.

Curriculum

Liberal arts exploration, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
ITDL-101	Career Exploration Seminar	1
	LAS Perspectives	15
	LAS Electives	9
	Wellness Education*	0
Second Year		
	LAS Perspectives	6
	LAS Immersion 1, 2, 3	9
ISTE-105	Web Foundations	3
	LAS Electives	12
Total Semester Credit Hours		**61**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirements for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

James J. Winebrake, BS, Lafayette College; MS, Massachusetts Institute of Technology; Ph.D., University of Pennsylvania—Dean; Professor

M. Ann Howard, BS, Cornell University; JD, Rutgers University—Senior Associate Dean; Professor

Babak Elahi, BA, San Diego State University; MA, University of California at San Diego; Ph.D., University of Rochester—Associate Dean; Professor

John S. Smithgall, BA, Roberts Wesleyan College; MS, University of Rochester—Assistant Dean for Student Services

Communication

Patrick M. Scanlon, BA, Albany University; MA, Ph.D., University of Rochester—Department Chair; Professor

Bruce A. Austin, BA, Rider College; MS, Illinois State University; Ph.D., Temple University—Professor

Keri Barone, BA, MA, State University College at Brockport—Senior Lecturer

Kari Cameron, BS, Nazareth College of Rochester; MS, Rochester Institute of Technology, M.Ed., Nazareth College of Rochester—Lecturer

Grant C. Cos, BA, University of Massachusetts at Amherst; MA, Emerson College; Ph.D., Kent State University—Associate Professor

Andrea Hickerson, BA, Syracuse University; MA, University of Texas at Austin; Ph.D., University of Washington—Assistant Professor

Keith B. Jenkins, BA, University of Arkansas; MA, Ph.D., Florida State University—Director of Undergraduate Degree Programs; Associate Professor

Mike Johansson, MA, Syracuse University—Senior Lecturer

Ammina Kothari, BA, North Central College; MA, University of Oregon; Ph.D., Indiana University—Assistant Professor

Ki-Young Lee, BA, Hanyang University (South Korea); MA, Northwestern University; Ph.D., Michigan State University—Associate Professor

Hinda Mandell, BA, Brandeis University; MA, Harvard University; Ph.D., Syracuse University—Assistant Professor

Lori Marra BS, Nazareth College; MA, University of Rochester—Lecturer

Kelly Norris Martin, BA, John Carroll University; MS, Ph.D., North Carolina State University—Assistant Professor

David R. Neumann, BA, Ithaca College; MA, Ph.D., Bowling Green State University—Professor

Elizabeth Reeves O'Connor, BS, MS, Rochester Institute of Technology—Senior Lecturer

Rudolph Pugliese, BA, State University College at Oneonta; MA, State University College at Brockport; Ph.D., Temple University—Graduate Coordinator; Professor

Jonathan E. Schroeder, BA, University of Michigan; MA, Ph.D., University of California at Berkeley—William A. Kern Professor in Communications

Xiao Wang, BA, Beijing University of Aeronautics and Astronautics (China); MA, Marquette University; Ph.D., Florida State University—Assistant Professor

Tracy R. Worrell, BA, Otterbein University; MA, University of Cincinnati; Ph.D., Michigan State University—Associate Professor

Criminal Justice

Laverne McQuiller Williams, BS, Rochester Institute of Technology; JD, Albany Law School of Union University; MA, Buffalo State College; Ph.D., University at Buffalo—Department Chair, Associate Professor

Irshad Altheimer, BA, Alabama State; MA, Ph.D., Washington State University—Associate Professor

John M. Klofas, BA, College of the Holy Cross; MA, Ph.D., State University of New York at Albany—Professor

John McCluskey, BA, MA, Ph.D., State University of New York at Albany—Graduate Director; Professor

Judy Porter, BA, University of Northern Colorado; MA, New Mexico State University; Ph.D., University of Nebraska at Omaha—Undergraduate Director; Associate Professor

O. Nicholas Robertson, BA, State University College at Geneseo; MA, State University College at Brockport—Lecturer

Christopher Schreck, BA, University of Florida; MA, University of Arizona; Ph.D., Pennsylvania State University—Professor

Jason Scott, BS, Roberts Wesleyan College; MA, Ph.D., State University of New York at Albany—Associate Professor

Tony Smith, BA, MA, Ph.D., State University of New York at Albany—Associate Professor

Joe Williams, BS, Rochester Institute of Technology; MA, State University College at Brockport—Field Experience Coordinator, Lecturer

Economics

M. Jeffrey Wagner, BA, University of Missouri; MA, Ph.D., University of Illinois—Department Chair; Professor

Amit Batabyal, BS, Cornell University; MS, University of Minnesota; Ph.D., University of California at Berkeley— Arthur J. Gosnell Professor in Economics

Bharat Bhole, BA, MA, University of Mumbai (India); Ph.D., University of Southern California—Associate Professor

Jeffrey Burnette, BA, State University of Albany; MA, Ph.D., State University of New York at Buffalo—Senior Lecturer

Javier Espinosa, BS, Miami University; MA, Ph.D., University of Maryland at College Park—Associate Professor

Bridget Gleeson Hanna, BComm, University College at Galway (Ireland); MA, University College at Dublin (Ireland); MA, University of Wisconsin at Madison— Associate Professor

Eddery Lam, BA, MA, Boston University; MA, University of Massachusetts at Amherst; Ph.D., Kansas State University—Assistant Professor

Jeannette C. Mitchell, BA, Westminster College; Ph.D., University of Utah—Undergraduate Program Director; Associate Professor

Nikolaus Robalino, BA, MA, Ph.D., Simon Fraser University—Assistant Professor

Michael J. Vernarelli, AB, University of Michigan; MA, Ph.D., State University of New York at Binghamton—Professor

English

Lisa M. Hermsen, BA, Briar Cliff University; MA, University of Missouri at Columbia; MA, Ph.D., Iowa State University—Department Chair; Associate Professor

Sharon M. Beckford-Foster, BA, MA, Ph.D., York University—Assistant Professor

A. J. Caschetta, BA, Nazareth College of Rochester; MA, University of Missouri; Ph.D., New York University—Senior Lecturer

Babak Elahi, BA, San Diego State University; MA, University of California at San Diego; Ph.D., University of Rochester—Associate Dean; Professor

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Robert C. Ulin, BA, Whittier College; MA, Ph.D., New School for Social Research—Sociology and Anthropology Undergraduate Program Director; Professor

Distinguished Professorships

Caroline Werner Gannett Professorship in the Humanities

Established: 1974

Donor: Mrs. Frank E. Gannett

Purpose: To perpetuate Mrs. Gannett's lifelong interest in education, especially in those fields of study that have a humanistic perspective

Held by: open

Arthur J. Gosnell Professorship in Economics

Established: 1985

Donor: Family and friends of Arthur J. Gosnell

Purpose: To perpetuate the memory of Arthur J. Gosnell through recognition of the importance of good teaching in economics and by facilitating research into public policy questions

Held by: Amit Batabyal

Ezra A. Hale Professorship in Applied Ethics

Established: 1989

Donors: William B. and Patricia F. Hale and Lawyers Cooperative

Publishing Company

Purpose: To establish a permanent memorial to a long-time and valued friend of RIT, Ezra A. Hale, and to provide instruction in applied ethics in keeping with his beliefs in sportsman-like conduct, fair play and honesty

Held by: Wade L. Robison

William A. Kern Professorship in Communication

Established: 1971

Donor: Rochester Telephone Corporation

Purpose: To commemorate the 100th anniversary of that company and to provide a memorial for a former president of the company and a man who served as an RIT trustee from 1959 to 1964

Held by: Jonathan E. Schroeder

Barber B. Conable Jr. Professorship in International Studies

Established: 2004

Donor: The Starr Foundation

Purpose: To honor the late statesman and former World Bank President and ensure that Barber Conable's legacy of principled and innovative leadership in the national and international arenas will be preserved for all time.

Held by: Benjamin N. Lawrance

National Technical Institute for the Deaf

Gerard Buckley, President, NTID; Vice President and Dean, RIT
ntid.rit.edu

Programs of study

Bachelor of Science degrees in:	**Page**
ASL-English Interpretation	137
Associate in Applied Science degree in:	
ASL-English Interpretation	138
Accounting Technology	139
Administrative Support Technology	139
Applied Computer Technology	141
Applied Mechanical Technology	143
Arts and Imaging Studies	144
Computer Aided Drafting Technology	148
Laboratory Science Technology	151
Associate in Occupational Science degree in:	
Applied Computer Technology	142
Arts and Imaging Studies	145
Business Technology	147
Computer Aided Drafting Technology	148
Computer Integrated Machining Technology	149
Laboratory Science Technology	152
Associate in Science degrees in:	
Applied Computer Technology	140
Applied Liberal Arts	143
Business	146
Hospitality and Service Management	150
Certificates in:	
Deaf Cultural Studies-ASL	152
Performing Arts	153
Pre-baccalaureate studies in:	
Arts and Imaging Studies	153
Engineering Studies	154
Liberal Studies	154
Science and Mathematics	155

The National Technical Institute for the Deaf (NTID) provides deaf and hard-of-hearing students with educational programs that lead to meaningful employment in business, industry, government, and education. NTID represents the world's first effort to educate large numbers of deaf and hard-of-hearing students within a college campus planned principally for hearing students. NTID's location benefits deaf and hearing students' academic, personal, social, and communication development. More than 1,200 deaf and hard-of-hearing students from across the United States, as well as from several U.S. territories and other countries, study and reside at RIT.

NTID provides deaf and hard-of-hearing students with technical and pre-professional training in nearly 20 programs. An NTID education prepares students for technical careers in areas such as accounting technology, administrative support technology, applied computer technology, applied liberal arts, applied mechanical technology, arts and imaging studies, business, business technology, computer aided drafting technology, computer integrated machining technology, hospitality and service management, and laboratory science technology. NTID also offers a degree program in American Sign Language-English interpretation.

Deaf and hard-of-hearing students who take courses or matriculate into one of RIT's other colleges may request educational access services, which typically include sign language interpreting services, FM systems, notetaking, or real-time captioning services. Alternative services are provided as required. Students are provided with educational support services such as personal and career counseling and academic advising. In addition, they can request tutoring services.

In support of its national mission, NTID has research, teaching, and learning activities that focus on understanding and enhancing the educational, social, and communication opportunities for deaf and hard-of-hearing individuals. NTID provides services and programs that enhance teaching and learning within the NTID community and beyond via broad-based research activities and dissemination strategies, curriculum development, instructional design and evaluation, and instructional media services.

Over the past five years, 91 percent of deaf and hard-of-hearing graduates who chose to enter the workforce have found employment.

NTID's academic programs

NTID provides student-oriented academic programming to ensure a rich, coherent set of educational experiences for students. NTID offers Associate+Bachelor's degree programs and career-focused associate degrees as well as general education course work in a variety of disciplines.

Associate+Bachelor's degree programs: NTID offers Associate+Bachelor's degree and pre-baccalaureate programs. Associate in science (AS) degrees in applied computer technology, applied liberal arts, business, and hospitality and service management provide a transition to baccalaureate programs in the colleges of Applied Science and Technology, Business, Computing and Information Sciences, and Liberal Arts, respectively. In addition, several of our associate in applied science (AAS) degree programs,

such as administrative support technology, applied mechanical technology, and laboratory science technology, provide students with the necessary skills to enroll in other RIT colleges. Pre-baccalaureate studies programs are designed to prepare qualified students for several specific bachelor's degree programs in other colleges of RIT.

Career-focused programs: Numerous career-focused options and concentrations, designed to lead directly to employment, are available within the following areas: accounting technology, administrative support technology, applied computer technology, arts and imaging studies, business technology, computer-aided drafting technology, computer-integrated machining technology, and laboratory science technology. Laboratories are equipped with the latest technology and maintain a curriculum that represents current industry trends and requirements, based on routine feedback from business and industry advisory groups. These programs lead to the associate degree in applied science and the associate degree in occupational studies. All career-focused programs require one cooperative education experience, typically a minimum of 350 hours scheduled over a ten-week period.

General education: NTID offers an array of general education courses to a broad-based population of NTID students, including those who are undecided about, or underprepared for, matriculation into a program. In addition, NTID offers a degree program in American Sign Language-English interpretation and provides a comprehensive sign language education program for students, faculty, and staff members.

Support and access services: NTID provides comprehensive services in support of students enrolled in more than 200 baccalaureate or graduate programs in RIT's other colleges. The educational support services available include faculty tutoring, audiological assistance, speech-language services, and personal and career counseling. In addition, NTID provides access services that are based upon each student's educational need and typically include sign language interpreting services, FM systems, notetaking, or real-time captioning services. Alternative services also will be provided as required. Academic advising services are provided by the advisors in the student's home college. Through support and access services, students who are deaf are able to participate in all aspects of the RIT community.

Educational opportunities through NTID

Associate+Bachelor's degree programs

Associate+Bachelor's programs offered through NTID prepare qualified students to enroll in baccalaureate degree programs in other colleges of RIT.

Associate in science degree (AS): Certification at this level requires the completion of 30-31 semester credit hours of technical course work, 30-32 semester credit hours in general education courses and other courses as appropriate to the degree. The majority of courses are offered through the other colleges of RIT. This degree prepares students to enter and complete a bachelor's degree programs in the colleges of Applied Science and Technology, Business, Computing and Information Sciences, and Liberal Arts. Admission to these programs is available in the fall semester only.

Pre-baccalaureate studies: The pre-baccalaureate studies program is available as a bridge to baccalaureate degree programs for students who are accepted by NTID and are close to, but not fully ready for, direct entry into a baccalaureate-level program. Pre-baccalaureate programs are offered through the arts and imaging studies, liberal studies, science and mathematics, and engineering studies departments. The pre-baccalaureate studies career exploration option is available to students who are undecided as to their program of study.

The pre-baccalaureate studies program is appropriate for students who need to further develop mathematics, English, or discipline-related skills. This academic option is flexible and individualized and enables students to focus on needed skills while they progress toward their chosen field of study. Students take courses taught by NTID instructional/support faculty along with entry-level courses taught in other RIT colleges.

Career-focused programs

Career-focused programs offered through NTID lead to the associate in applied science degree or the associate in occupational studies degree. These programs permit students to enter their careers directly.

Associate in applied science degree (AAS): Certification at this level requires 48-52 semester credit hours of technical instruction. In addition, students must complete 24 semester credit hours in general education courses, primarily offered through the College of Liberal Arts, as well as other required semester credit hours determined by the program of study. In some programs, this degree prepares students to apply for entry to bachelor's degree programs in other colleges of RIT.

Associate in occupational studies degree (AOS): Certification at this level requires 45-52 semester credit hours of technical instruction. In addition to satisfactorily completing technical courses, students must complete 15 semester credit hours in the NTID general education curriculum, as well as other required semester credits hours determined by the program of study.

Career exploration studies

The career exploration studies program offers opportunities for students to collect information about NTID majors and career paths before deciding on a program of study. It also assists students who need additional academic preparation and study in order to be ready for their chosen major.

This option allows students the opportunity to do an intensive career search while they develop a better understanding of themselves through career and personal counseling; the Career Decision Workshop series; intensive sampling of various majors at RIT/NTID; use of a computer guidance program in the Career Resource and Testing Center; interest testing; and interpretation of aptitude, ability, and achievement tests. In addition, students take courses in mathematics, English, social and physical sciences, the humanities, and Deaf cultural studies/American Sign Language (ASL). Some students also may take introductory courses in specific programs of study and general education courses and be involved in extracurricular or other college-oriented activities.

An academic counselor is assigned to help students evaluate the information and make career decisions. Students can remain in the career exploration studies program for two academic semesters. Additional semesters in the program are possible with the approval of the program director.

Educational opportunities in other RIT colleges

In addition to NTID's programs, qualified deaf and hard-of-hearing students may enroll as baccalaureate or master's degree students in one of the more than 200 professional programs offered through RIT's other colleges and degree-granting entities: College of Applied Science and Technology, Saunders College of Business, B. Thomas Golisano College of Computing and Information Sciences, Kate Gleason College of Engineering, College of Health Sciences and Technology, College of Imaging Arts and Sciences, College of Liberal Arts, Center for Multidisciplinary Studies, College of Science, and Golisano Institute for Sustainability. NTID students also may take classes in the other RIT colleges individually, on a course-by-course basis.

Each of RIT's colleges has NTID instructional/support faculty that provide services for deaf and hard-of-hearing students. These services include tutoring, and personal and career counseling. The department of access services provides sign language interpreting services, notetaking, and real-time captioning services for deaf and hard-of-hearing students taking courses in the other eight colleges of RIT and for campus activities outside the classroom. FM systems and alternative services will be provided as required. Academic advising services are provided by the student's home college.

Deaf and hard-of-hearing students who wish to enroll in a program in another RIT college must meet that college's admission requirements. Furthermore, deaf and hard-of-hearing students supported by NTID also must meet NTID admission requirements, submit an audiological record completed by a certified audiologist (CCC-A), and complete standard RIT admission forms. Please see the Admissions section for more information. Qualified students may choose to enroll in courses taught through the other eight colleges of RIT for several reasons: as part of the elective requirements in their NTID programs; to complete their programs of study at NTID, then continue their education at another RIT college; to enter a program of another RIT college directly from high school; or to enroll directly into a program in one of RIT's colleges from another postsecondary program.

CAREER-FOCUSED AND ASSOCIATE+BACHELOR'S DEGREE PROGRAMS OF NTID	RELATED EDUCATIONAL PROGRAMS OF OTHER RIT COLLEGES
Leading to associate degrees	Leading to bachelor's or master's degrees in the other RIT colleges; students may request educational access services such as sign language interpreting services, FM systems, notetaking, or real-time captioning services. Alternative services also will be provided as required.

NTID PROGRAMS	OTHER RIT COLLEGES	OTHER RIT PROGRAMS		
Administrative Support Technology	Center for Multidisciplinary Studies	• Applied Arts and Science		
Applied Computer Technology Concentrations: • PC Technical Support • Networking and Cyber Security AS Program	College of Computing and Information Sciences	• Computer Science • Game Design and Development • Information Technology	• Computing Security • Medical Informatics	• Networking and System Administration • Software Engineering
Applied Liberal Arts	College of Liberal Arts	• Advertising and Public Relations • Criminal Justice • Communication • Economics	• International and Global Studies • Journalism • Museum Studies • Philosophy	• Political Science • Psychology • Public Policy • Sociology and Anthropology
Applied Mechanical Technology	College of Applied Science and Technology	• Manufacturing Engineering Technology • Mechanical Engineering Technology		
Arts and Imaging Studies Concentrations: • Graphic Design • Graphic Production	College of Imaging Arts and Sciences	**School for American Crafts** • Ceramics • Furniture Design • Glass • Metals and Jewelry Design • Undeclared Crafts **School of Art** • Fine Arts Studio • Illustration • Medical Illustration • Undeclared Art and Design	**School of Design** • 3D Digital Design • Graphic Design • Industrial Design • Interior Design • New Media Design **School of Film and Animation** • Film and Animation • Motion Picture Science **School of Media Sciences** • Media Arts and Technology	**School of Photographic Arts and Sciences** • Photography and Imaging Arts (Advertising Photography option, Fine Art Photography option, Photojournalism option, Visual Media option) • Photographic and Imaging Technologies (Biomedical Photographic Communication option, Imaging and Photographic Technology option)
Business Studies Accounting Technology Business Business Technology	College of Business	• Accounting • Finance • International Business • Management	• Management Information Systems • Marketing • New Media Marketing	
Computer Aided Drafting Technology	College of Applied Science and Technology	• Civil Engineering Technology		
	College of Imaging Arts and Sciences	• Interior Design		
Computer Integrated Machining Technology	College of Applied Science and Technology	• Manufacturing Engineering Technology		
Hospitality and Service Management Concentrations: • Hotel and Resort Management • Food and Beverage Management	College of Applied Science and Technology	• International Hospitality and Service Management (concentrations in International Hotel and Resort Management or Food and Beverage Management)		
Laboratory Science Technology	Center for Multidisciplinary Studies, College of Science	• Applied Arts and Science • Environmental Management and Technology	• Biology • Biotechnology and Molecular Bioscience	• Chemistry • Environmental Science • Biochemistry

Note: In addition to the Associate+Bachelor's degree and career-focused programs noted above, NTID also offers pre-baccalaureate studies. This program is available as a bridge for qualified students accepted by NTID and interested in enrolling in another RIT college but not yet ready to enter a baccalaureate-level program.

First-Year Experiences Programming

NTID programs

Beginning with a summer orientation program, NTID provides a special array of curricular and co-curricular activities to help maximize each student's potential for success in the first year. These experiences are designed to enhance students' bonding with the community while providing time and support to select and enter into a major and/or progress within a career program.

First-year students qualified to enter NTID in the fall semester are required to participate in a summer orientation program called the Summer Vestibule Program. This program includes:

- placement testing in English and mathematics
- orientation/transition to college life activities
- career sampling
- counseling
- application to a career-focused or Associate+Bachelor's degree program, career exploration studies, pre-baccalaureate studies, or baccalaureate program

This summer program is followed by additional first-year experiences that allow students to work with a counselor to select courses and activities that meet individual goals and needs. Components of first-year experiences programming include:

- enrollment in the Freshman Seminar (NCAR-100) during the first semester; this course helps students identify personal, social, and academic skills that lead to a successful college experience
- completion of preparatory courses, as needed
- work with an academic adviser and counselor
- participation in career exploration and introductory courses, when and if appropriate
- completion of degree requirements, as appropriate
- participation in co-curricular and mentoring activities of choice
- if undecided, declaring a major and degree level by the end of the first year

RIT's other colleges

Students who qualify to enter baccalaureate programs in other colleges of RIT participate in the first-year programming and activities designed by the affiliated instructional/support faculty and the colleges. Most first-year students enrolled in colleges other than NTID are required to:

- participate in the summer orientation options and in RIT's MyOrientation program as well as NTID's support service orientation workshops
- enroll in the YearOne ACSC-010 course during the first semester
- participate in opportunities to explore and select a major, if needed
- work with an academic adviser and counselor

NTID General Education Curriculum–Liberal Arts and Sciences (LAS)

The NTID general education curriculum-liberal arts and sciences (LAS) supports the preparation of students for lifelong learning, for success in their chosen fields, and for their role in society as well-educated and knowledgeable citizens. The general education curriculum provides for a broad academic base of courses, with some organized into foundation and perspective categories. In general, AOS students complete all of their general education requirements through course work in the college of NTID, whereas students in the AAS and AS programs complete some required course work in the other colleges of RIT.

Students must complete a minimum number of general education credits for each degree. The general education distribution requirements chart shows the credit hour and distribution requirements for NTID AS, AAS, and AOS degrees. Students enrolled in colleges other than NTID should consult with their program departments about required general education courses.

NTID General Education Requirements

	AS Degree	AAS Degree	AOS Degree
Foundation	6*	6*	9†
ASL-Deaf Cultural Studies	—	(3)‡	—
Perspectives	15§	15§	6**
Electives	9††	3‡‡	—
Minimum Total General Education Semester Credit Hours	**30**	**24**	**15**

** RIT LAS Foundation courses First Year Writing: Writing Seminar (UWRT-150) (or another approved First Year Writing course) and First Year Seminar.*

† Career English I, II (NENG-212, 213) and mathematics (NMTH-120 or higher).

‡ A 3-credit ASL-Deaf cultural studies course, to be taken at NTID or another college of RIT; will satisfy RIT general education requirements only if it is a General Education committee-approved course.

§ One course from each RIT LAS perspective category: ethical (P1), artistic (P2), global (P3), social (P4), and scientific principles (P6). P6 should be NSCI-250 level or higher for AS; NSCI-120 level or higher for AAS.

*** Two courses from NTID LAS perspective categories: ASL-Deaf cultural studies; communication, social, and global awareness; creative and innovative exploration; and scientific processes. See program for specific requirements.*

†† One NTID mathematics course (NMTH-250 and higher) or a College of Science mathematics course, plus two RIT (non-NTID) general education elective courses.

‡‡ One NTID mathematics course (NMTH-120 or higher).

AS and AAS foundation and perspectives—RIT's framework for general education specifies the requirements for NTID AS and AAS students, including foundation and perspective courses. (See NTID general education requirements chart.)

All AS and AAS students are required to take two foundation courses: First Year Seminar and a First Year Writing (FYW) course approved by the RIT University Writing Program. NTID AS and AAS students are advised to take First Year Writing: Writing Seminar (UWRT-150). This course provides students with experience in writing, reading and critical thinking techniques needed for success in LAS general education courses. Deaf and hard-of-hearing students are advised to earn a passing grade in the First Year Writing course before taking any additional general education courses, other than science and mathematics.

Placement into a First Year Writing course, such as FYW: Writing Seminar (UWRT-150), is based on the Writing Placement Exam or upon the satisfactory completion of Critical Reading and Writing (UWRT-100). AS and AAS students who enter NTID with English skills below the level required for their degree of choice will need to successfully complete additional courses before taking the First Year Writing course.

Deaf and hard-of-hearing students enrolled in AS and AAS degree programs are required to take general education courses that satisfy RIT's LAS perspectives 1-ethical, 2-artistic, 3-global, 4-social and 6-scientific principles. (See RIT graduation requirements

for a description of the perspective categories.) For many of the perspective courses, students can choose between sections taught by either NTID faculty members or by faculty members from other colleges of RIT, including the College of Liberal Arts.

Where general education courses are taught by NTID faculty members, instructors communicate directly with students utilizing a variety of communication strategies that include sign language, spoken language, printed/visual aids, Web-based instructional materials and individual tutoring. The faculty member is responsible for facilitating communication in the classroom.

General education courses in the other colleges of RIT include both deaf and hearing students. Educational access services, such as sign language interpreting services, FM systems, notetaking, or real-time captioning services may be requested by students. Alternative services will be provided as required. Students also may request educational support services such as tutoring or academic advising.

NTID AOS General Education Framework

AOS students take three NTID foundation courses and two NTID perspective courses, following the specific requirements determined by each AOS program. Approved student learning outcomes associated with the NTID AOS general education framework ensure that students are provided with courses and experiences consistent with NTID's mission, strategic direction, and values. General education AOS courses typically also incorporate aspects of ASL-Deaf cultural studies, critical thinking, and communication. To the extent possible and when appropriate, AOS courses promote community service and active learning components and support writing.

NTID AOS LAS Foundation Courses

Career English—Courses in this category expose students to basic reading and writing that might be encountered in the workplace.

Mathematics—Courses in this category help students identify and understand the role that mathematics plays in the world.

NTID AOS Perspective Courses

Communication, Social, and Global Awareness—Courses in this category promote an understanding of self and advocacy in relation to one's interactions with others in personal, professional, and civic lives. Courses address social dynamics as they vary across communities, ranging from local to global. Courses introduce students to contrasting cultural approaches to allow communication in situations such as face-to face, electronic format (such as e-mail or text), and group presentation situations.

Creative and Innovation Exploration—Courses in this category explore the creative process that leads to technological innovation, artistic expression and their products, in a variety of forms, while examining the influence of society and culture on the process and its end results. These courses provide insight into the creative process through innovative approaches to assignments or projects.

Scientific Processes—Courses in this category apply methods of scientific inquiry and problem solving in a laboratory or field experience. Science is more than a collection of facts, so students will be expected to participate in the processes of science as they collect and analyze data, and state conclusions.

Course placement

The goal of assessment for course placement is to ensure that students begin their studies at the appropriate level. Assessment for initial course placement will be made during summer orientation in the following areas: mathematics, American Sign Language, and writing and reading.

NTID science and mathematics curriculum

AS and AAS students are required to take a science course that satisfies RIT perspective 6 scientific principles as well as a mathematics course that satisfies a general education elective. AS students typically take two additional mathematics and/or science courses as electives. All AOS programs require an NTID mathematics foundation course and some require an NTID scientific processes perspective course.

AS and AAS students, as well as AOS students, typically take mathematics and science courses in the college of NTID. These courses foster the reasoning and problem-solving skills that are a part of the foundation of their technical studies. In addition, the NTID science and mathematics curriculum provides an opportunity to develop the mathematical and scientific literacy demanded in today's society. (See typical courses listings in each program for specific requirements.)

American Sign Language-Deaf Cultural Studies curriculum

NTID deaf and hard-of-hearing students have an opportunity to study American Sign Language and learn about their heritage as deaf people through the ASL-Deaf cultural studies (ASL-DCS) curriculum. AAS students are required to complete one ASL-DCS course taken at NTID or at another college of RIT. The ASL-DCS course will satisfy a general education AAS requirement only if it is simultaneously a General Education Committee-approved perspective category course. AOS students can take ASL-DCS courses to satisfy NTID perspective requirements.

NTID English program

The NTID English program is designed to enable students to develop their English literacy skills. The program includes course sequences that offer instruction in reading and writing.

Students who plan to graduate with the AOS degree are required to complete 6 credits of English. Career English I and II (NENG-212 and 213) provide the English literacy skills needed for career-focused associate degrees. Students who enter NTID with English skills below the level required for their degree of choice will need to successfully complete additional courses before taking the required English courses.

The course sequence Analytical Reading & Writing I and II (NENG-221 and 222) and Bridge to College English I and II (NENG-231 and 232) is for students who demonstrate strong potential for improving their skills sufficiently to access the University Writing Program's curriculum for the AS and AAS degrees. A grade of C or better is required at the completion of each course in order to progress through the sequence, and each course must be taken in conjunction with its co-requisite course. Students who earn a D in one or both courses may repeat the course(s) once and must earn a grade of C or better before enrolling in the next sequential course.

Admission Information

Costs of attending RIT through NTID

The total cost of attending RIT through NTID sponsorship includes tuition, room, board, and fees. Charges to NTID-sponsored students are updated each year. The cost of books and supplies is students' responsibility. These costs vary depending on each student's program of study. The estimated cost for books and supplies for the 2014-15 academic year is $1,050.

New students attending the Summer Vestibule Program will be charged a fee. Students participating in cooperative education are not charged tuition or fees for that particular term. They will be charged room, board, and residence hall fees, however, if they live on campus while participating in a co-op.

All students are required to carry accident and sickness insurance. Students may choose insurance coverage through RIT, or they may waive this coverage if they provide evidence of other insurance coverage. Waiver cards will be sent to all accepted students during the summer and will be available at registration. The fee for health insurance for 2014-15 is approximately $1,300.

Deaf and hard-of-hearing applicants

Deaf and hard-of-hearing students may apply for admission to any of RIT's colleges. All applicants with a hearing loss should check the appropriate box on the application and submit an audiological record completed by a certified audiologist (CCC-A) in order to qualify for educational access and support services as well as NTID's federally supported tuition rate. Send application materials to the NTID Office of Admissions. For further details regarding application requirements, please refer to the information in the Undergraduate Admission section of this bulletin.

Transfer credit

Deaf and hard-of-hearing students may transfer into an NTID program, or they may qualify to enroll directly in a program in another RIT college with NTID sponsorship. The transfer credit of deaf students accepted to the Summer Vestibule Program will be evaluated in the fall, when they are accepted into a specific program.

Campus visits

Deaf and hard-of-hearing students who wish to visit RIT may contact NTID's Office of Admissions at (585) 475-6700 (voice/TTY), by videophone at (585) 743-1366, or via e-mail at visitNTID@rit.edu. Students may take tours of campus and arrange personal interviews. Both of these are strongly encouraged but are not required for admission.

Facilities

A modern academic and residential building complex on the RIT campus is designed to meet the specific needs of deaf and hard-of-hearing students. Lyndon Baines Johnson Hall and Hugh L. Carey Hall house laboratories, offices, communication studies and services centers, classrooms, and a theater. These classrooms and laboratories support the latest technologies for teaching and include high-resolution projection displays, digital document displays, DVDs, FM systems, Internet access, smart display boards, and other computer-based services. In addition, classrooms are specifically designed to meet the unique needs of both students and teachers.

The Communication Service for the Deaf (CSD) Student Development Center, interconnecting Johnson Hall and The Commons, which is an adjacent dining hall, is the focal point for students, faculty, and staff to engage in social events and community activities. In addition to a large multipurpose space for formal and informal lectures, small meeting rooms and offices provide workspace for student government groups, clubs, and organizations.

Sebastian and Lenore Rosica Hall, adjoining The Commons, is NTID's center for sponsored research. Rosica Hall is the home for several research centers which promote collaboration between faculty and staff. Rosica Hall also boasts an Innovation Center which will be a place where students, faculty, and mentors will work together using multidisciplinary collaborative innovation teams to turn their ideas into realities.

NTID's main academic building, Johnson Hall, boasts a state-of-the-art learning center. Using the latest technologies available, this center provides academic experiences, tutorial services, and course enrichment opportunities for all students. It provides students with access to networked computer workstations, videoconferencing capability, and a special technology-centered classroom.

One of the features of Johnson Hall is the Joseph F. and Helen C. Dyer Arts Center. This 7,000-square-foot facility features art exhibits as well as NTID's permanent art collection. The center also incorporates art-related educational activities, such as lectures and demonstrations, while serving as a multiuse facility. Johnson Hall also includes the Panara Theatre, a 500-seat facility where theatrical productions are produced simultaneously in American Sign Language and English. The theater also hosts a wide range of cultural activities from all over the world, enriching student life and broadening students' world view.

All residence hall rooms, campus apartments, classrooms, laboratories, and administrative areas can access the campus-wide computer network with wired or wireless connections.

All RIT and NTID residence halls are aggressively maintained and provide students with an appealing, highly functional living environment. Special rooms have been created to serve physically challenged students. Students are encouraged to bring their own computers to connect to the campus network and Internet from their rooms. A selection of apartment units also is available. Visual emergency strobe lights and visual doorbells are present throughout residence halls, apartments, and academic buildings.

Television, a basic part of the college's communication network, is used for both education and entertainment. Campus cable connections are provided in residence hall rooms, classrooms, and various other locations. The system supports 22 channels of basic service, which includes ABC, CBS, NBC, Fox, WB, PBS, a local news channel, a local public access channel, and several channels used on campus for distribution of educational programming. This basic service is free, although students may elect to purchase full cable service from the Rochester cable system provider.

A well-equipped television facility provides studio services to produce class and self-instruction media for use within the university.

Telecommunications

NTID students can access telephone services through TTY, VRS, and computer-based relay services. CapTel service also is available in New York state.

Public videophones are available to students in several on campus locations. Students who have their own videophones are encouraged to bring them to campus at move-in, and students who do not yet have videophones will be encouraged to work with the VRS provider of their choice to acquire one.

Communication skills

Communication competence is considered an important component of the student's educational experience at NTID. Students have opportunities to develop skills through a wide range of curricular and co-curricular activities that promote communication success in educational, social, and work situations. The communication studies and services department, the department of American Sign Language and interpreting education, and the department of cultural and creative studies provide intensive support and instruction for the development of communication skills. Faculty and staff conduct assessments and provide coursework, workshops, and individualized instruction. They also work collaboratively with instructional/support faculty and professional staff.

Hearing aid shop

The NTID Hearing Aid Shop provides the RIT community with services related to hearing loss, hearing aids, and cochlear implants. Students may visit the shop to receive information about hearing loss and cochlear implants or to schedule clinical appointments, obtain new ear molds and batteries, have hearing aids repaired and other services. The shop is located in Johnson 3130 and can be contacted by calling (585) 475-6473 (voice/TTY).

NTID counseling and academic advising services

Every NTID-supported student is assigned a counselor in the NTID counseling and academic advising services department. Counselors provide individual, personal, social, and career counseling to all of their students as well as academic advising services to students enrolled in NTID associate degree programs. In addition, counselors work closely with students and faculty in students' academic programs to help students achieve academic success. Counselors also consult and network extensively with families and internal and external resources with the goal of helping students achieve personal, career, and educational success. Most counselors assist in the teaching of the Freshman Seminar course and the Career Decision Workshop Series. Students can contact their assigned counselors to arrange for appointments.

Career resource and testing center

The innovative Career Resource and Testing Center provides NTID students with useful educational, career, and assessment services. Print, video, and online sources of information allow students to learn about personal interests, values, and skills as well as suitable college and career options. Computerized guidance and assessment programs allow students to compare their personal characteristics with occupations. The center also supports our college's Career Decision Making course, which helps undecided students develop a personal career plan. The center is coordinated by a professional counselor from NTID Counseling and Academic Advising Services and is open weekdays. For additional information or an appointment, call Katie Zuris, Staff Assistant for NTID Counseling and Academic Advising Services at (585) 475-6468 (V), (585) 286-4570 (VP) or e-mail: crzncd@rit.edu.

NATIONAL TECHNICAL INSTITUTE FOR THE DEAF FIXED CHARGES 2014-2015 (DOMESTIC STUDENTS)

	Summer Vestibule Program Aug. 12-23, 2014	NSSO* Aug. 20-21, 2014	Fall Semester Aug. 25-Dec. 18, 2014	Spring Semester Jan. 26-May 21, 2015
Tuition	$702	0	$7,020	$7,020
Room	$181	0	$3,379	$3,379
Board (standard meal plan)	$176	0	$2,405	$2,405
Student fees†	0	0	$256	$256
Orientation fee‡	0	0	$225	0
Student sickness insurance fee§	0	0	$1,300	0
Total	**$1,059**	**0**	**$14,585**	**$13, 060**

** NSSO (NTID Support Service Orientation) workshops for NTID-supported students accepted to other RIT colleges.*

† Student fees are required of all full-time students and include: student health fee ($126 per semester) and student activities fee ($130 per semester).

‡ Charge to defray cost of fall Orientation program, for freshmen and new students only.

§ Student sickness insurance fee is estimated.

Notes: Required books and supplies will impact these figures.

The standard academic year includes fall and spring semesters.

New students accepted to the Summer Vestibule Program will be charged according to the prorated fee schedule indicated above.

Students in co-op will not be charged tuition or fees for that particular semester and will be charged room and board only if they live on campus while they work.

Incidental personal expenses for students average $50-60 per month. This accounts for such things as local transportation, laundry and dry cleaning, toiletries, entertainment, hearing aid batteries, etc.

Mental health/psychological counseling

Mental health counseling services for deaf and hard-of-hearing students are part of a range of services at the RIT Counseling Center. Individual and group therapy are offered for psychological and adjustment issues such as depression, anxiety, family conflicts, relationships, college success, and identity issues. Mental health emergency services and crisis intervention are provided by the RIT Counseling Center on a 24-hour basis in collaboration with other campus service providers. The Counseling Center also coordinates medication consultation and management, when appropriate, through the RIT psychiatrist.

Psychoeducational programs and workshops also are offered on a variety of topics, including body image, stress management, depression, and social skills.

Counseling Center staff provides consultation about mental health issues and deafness on campus, locally, nationally, and internationally.

Cooperative education

A feature of most RIT academic programs, including those offered through NTID, is cooperative education. Co-op provides students with the opportunity to gain hands-on experience in their chosen career field. NTID AAS and AOS programs require a co-op education experience. A majority of students complete the co-op experience during the summer. However, co-op can be completed any time during the year, consistent with a student's course schedule.

Employment

Employment of deaf and hard-of-hearing graduates is a high priority for NTID. To help ensure that graduates obtain program-related employment, NTID's Center on Employment assigns each new student an adviser experienced in employment assistance in the various academic concentrations. To help prepare them for obtaining cooperative education experiences and full-time employment, students in AAS and AOS programs take required job preparation courses.

The center's employment advisers are in constant contact with potential employers throughout the United States. In addition, the center hosts an annual job fair attended by national employers. Such services have contributed to a high employment rate of deaf and hard-of-hearing graduates. Over the past five years, 91 percent of deaf and hard-of-hearing graduates who chose to enter the workforce have found employment.

Research

NTID is a nationally known center of research on deafness. Faculty and staff at NTID conduct research to understand how deaf and hard-of-hearing students learn, work, and live in society. The dual mission of the research program at NTID is to gather new information and to make this information available to students, parents, teachers, and other professionals. Students may become involved in this research by volunteering to participate in a research study, by becoming a research assistant, or by conducting their own research under the supervision of NTID faculty and staff members.

ASL-English Interpretation, BS

www.ntid.rit.edu/aslie
Kim Brown Kurz, Chairperson
(585) 286-5511 (VP), kbknss@rit.edu

Program overview

On-the-job responsibilities

The BS degree program in ASL-English interpretation prepares sign language interpreters for work in settings where deaf, hard-of-hearing, and hearing people interact and communicate. This degree allows students to develop foundation skills for general interpreting, with opportunities to explore specialized fields such as those in educational and medical settings, and/or community interpreting.

Places of employment

Graduates will find work in a variety of settings, including elementary, secondary, and post-secondary educational institutions; community service organizations; hospitals or clinics; vocational rehabilitation agencies; business/industry; and government agencies.

Admission requirements

In addition to RIT's general admissions procedures, the ASL-English interpretation major requires applicants to complete admission materials from the NTID Admissions Office.

Academic preparation

Applicants are required to have at least a high school diploma or equivalent. High school preparation should include a college preparatory program with a minimum of four years of English (with a minimum of a B average), three years of science and mathematics, and two years of a foreign language.

Applicants must demonstrate beginning ASL competency.

The middle 50 percent of accepted NTID applicants possess SAT scores of 1530-1940. Equivalent ACT composite scores are 22-29. Both SAT and ACT tests may be submitted.

For those applicants who have had college experience, college transcripts should document a GPA of 3.0 or better, with evidence of very good performance in English courses. A writing sample will be judged on vocabulary, grammar, structure, style, and creativity.

To succeed in this program, students must be able to understand a speaker who is behind them; understand a speaker who is far away; focus on what a speaker is saying in a noisy room; and understand recorded voices through headphones. To see a list of the major skills and abilities needed to study sign language interpreting, please visit the section "Is Interpreting the Career for Me?" on our website.

Curriculum

ASL-English interpretation, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
INTP-125	American Sign Language II	4
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1, 2, 3, 4, 7A, 7B	18
INTP-126	American Sign Language III	4
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0

COURSE		SEMESTER CREDIT HOURS
Second Year		
INTP-210	Introduction to the Field of Interpreting	3
INTP-225	American Sign Language IV	3
	Deaf Cultural Studies Elective	3
	LAS Elective	3
	LAS Perspective 5‡, 6	7
INTP-215	Processing Skills Development	3
INTP-220	Discourse Analysis	3
INTP-226	American Sign Language V	3
	Deaf Cultural Studies Elective	3
Third Year		
INTP-310	Interpreting I	3
INTP-325	American Sign Language VI	3
INTP-315	Practical and Ethical Applications	3
	LAS Elective	3
	Free Elective	3
INTP-326	American Sign Language VII	3
INTP-335	Interpreting II: English to ASL	3
INTP-336	Interpreting II: ASL to English	3
	Professional/Technical Elective	3
	LAS Immersion 1	3
Fourth Year		
INTP-350	Practicum and Seminar I	3
INTP-435	Interpreting III: English to ASL	3
INTP-436	Interpreting III: ASL to English	3
	Professional/Technical Elective	3
	LAS Immersion 2, 3	6
INTP-440	Transliteration	3
INTP-450	Practicum and Seminar II	3
INTP-460	Issues in Interpreting (WI)	3
	Free Elective	3
Total Semester Credit Hours		**123**

Please see General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.
(WI) refers to writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking a 4-credit hour lab science course. Students may select one of the lab science courses listed below to fulfill this requirement. Both the lecture and the laboratory sections must be taken. Human Biology I (MEDG-101) and Human Biology Lab 1 (MEDG-103), Human Biology II (MEDG-102) and Human Biology Lab II (MEDG-104), Field Biology (BIOG-110), General Biology I (BIOL-101) and General Biology Lab I (BIOL-103), General Biology II (BIOL-102) and General Biology Lab II (BIOL-104), Introductory Biology I (BIOL-121), Introductory Biology II (BIOL-122), General-Organic-Biochemistry I (CHMG-111), College Physics I (PHYS-111), College Physics II (PHYS-112)

ASL-English Interpretation, AAS

www.ntid.rit.edu/aslie
Kim Brown Kurz, Chairperson
(585) 286-5511 (VP), kbknss@rit.edu

Program overview

On-the-job responsibilities

The ASL-English interpretation major prepares entry-level sign language interpreters for work in settings where deaf, hard-of-hearing, and hearing people interact and communicate. The degree allows students to develop foundation skills.

Places of employment

Graduates will find entry work in a variety of settings, including elementary, secondary, and post-secondary educational institutions; community service organizations; vocational rehabilitation agencies; business/industry; and government agencies.

Admission requirements

In addition to RIT's general admissions procedures, the ASL-English interpretation major requires applicants to complete admission materials from the NTID Admissions Office.

Academic preparation

Direct entry to the associate degree option is available for students who demonstrate proficiency at the ASL III (INTP-126) level and are ready to enter ASL IV (INTP-225) (see course descriptions). It is strongly recommended that applicants possess a BS degree. (Note: Candidates for national interpreter certification must possess a baccalaureate degree.) For those applicants who have had college experience, college transcripts should document a GPA of 3.0 or better, with evidence of very good performance in English courses. A writing sample will be judged on vocabulary, grammar, structure, style, and creativity.

To succeed in this major, students must be able to understand a speaker who is behind them; understand a speaker who is far away; focus on what a speaker is saying in a noisy room; and understand recorded voices through headphones. To see a list of the major skills and abilities needed to study sign language interpreting, please visit the section "Is Interpreting the Career for Me?" on our website.

Curriculum

ASL-English interpretation, AS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
INTP-210	Introduction to the Field of Interpreting	3
INTP-225	American Sign Language IV	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1, 2, 3	9
INTP-215	Processing Skills Development	3
INTP-220	Discourse Analysis	3
INTP-226	American Sign Language V	3
	LAS Foundation 2: First Year Writing	3
	Wellness Education*	0
Second Year		
INTP-310	Interpreting I	3
INTP-315	Practical and Ethical Applications	3
INTP-325	American Sign Language VI	3
	LAS Perspective 4, 6	6
INTP-326	American Sign Language VII	3
INTP-335	Interpreting II: English to ASL	3
INTP-336	Interpreting II: ASL to English	3
INTP-350	Practicum and Seminar I	3
	LAS Elective: Mathematics	3
Total Semester Credit Hours		**60**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Accounting Technology, AAS

www.ntid.rit.edu/businessstudies/accounting-technology
Mary Lou Basile, Chairperson, Business Studies
(585) 475-6460 (V/TTY), mlbnbt@rit.edu

Program overview

The AAS degree in accounting technology prepares students for entry-level employment in accounting-related occupations. Students learn the functions of the complete accounting cycle for service, merchandising, and manufacturing businesses.

On-the-job responsibilities

Graduates will use computers to maintain and reconcile various financial records, verify business records, and perform other clerical and administrative duties.

Places of employment

Graduates will find employment in a variety of settings, including business, industry, and government, as well as self-employment. Positions for which graduates qualify include junior accounting technician, cost accounting clerk, accounts receivable/payable clerk, payroll clerk, general accounting clerk, and microcomputer accounting clerk.

Prerequisites

English: Placement into a First Year Writing course, such as FYW: Writing Seminar (UWRT-150). Students typically enter First Year Writing with reading scores equivalent to 10.0 on the California Reading Test. However, students who complete AAS degrees typically enter NTID with reading scores equivalent to 9.0 on the California Reading Test.

Mathematics: Any math course numbered NMTH-120 or higher is required. Typically, students entering this program will have completed at least two years of high school mathematics.

Science: Typically, students entering this major will have completed at least two years of high school science.

Curriculum

Accounting technology, AAS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NCAR-100	Freshman Seminar	1
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1	3
NAST-160	Spreadsheet Applications for Business	3
NACC-130	Personal Finance	3
NAST-140	Essential Document Production	3
	ASL-Deaf Cultural Studies‡	
	LAS Foundation 2: First Year Writing	3
NMTH-120	Mathematics§	3
NACC-201	Accounting 1	3
NBUS-200	Orientation to Business	3
NAST-150	Advanced Document Production	3
	Wellness Education*	0
Second Year		
	LAS Perspective 2, 3, 4	9
NAST-210	Essentials of Business Communication	3
NACC-202	Accounting 2	3
NAST-215	Integrated Document Production	3
NAST-220	Database Applications for Business	3
NACC-203	Accounting 3	3
NBUS-217	Fundamentals of Management	3
NBUS-213	Applied Ethics for Business	3
NACC-299	Cooperative Education	Co-op
Third Year		
	LAS Perspective 6	3
NACC-204	Accounting Capstone	3
NBUS-223	Fundamentals of Marketing	3
ECON-101	Principles of Microeconomics	3
	Free Elective	3
Total Semester Credit Hours		**76**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ A 3-credit ASL-Deaf Cultural Studies course, to be taken at NTID or another college of RIT; will count for RIT General Education credit if it is simultaneously a General Education Committee approved Perspective Category course.
§ Any mathematics course numbered NMTH-120 or higher.

Additional information

Microsoft certification

The department operates an authorized testing center for Microsoft Office Specialist. Preparatory courses are offered for several exams each semester.

Administrative Support Technology, AAS

www.ntid.rit.edu/businessstudies/administrative-support-technology
Mary Lou Basile, Chairperson
(585) 475-6460 (V/TTY), mlbnbt@rit.edu

Program overview

The AAS degree program in administrative support technology provides students with opportunities to develop skills needed in processing information using a variety of integrated office software applications as well as appropriate professional interpersonal communication skills. Graduates will input, manipulate, and retrieve data; use interactive office software and e-mail; learn information processing skills for applications such as word processing, spreadsheet, presentation, and database; and perform other office duties.

The Associate+Bachelor's degree program provides students with the foundation needed for transfer into a bachelor's degree program. Students begin their studies in the associate of applied science program in administrative support technology. Upon successful completion of five semesters of the AAS program, and with a minimum GPA of 2.5, students may enroll in RIT's Center for Multidisciplinary Studies to pursue a bachelor's degree in applied arts and science. More information is available at www.rit.edu/NTID/astAplusB.

Places of employment

Graduates will find employment in a variety of settings, including business, industry, government, and education. Positions for which graduates qualify include administrative assistant, office assistant, word processor, and secretary.

Prerequisites

English: Placement into a First Year Writing course, such as FYW: Writing Seminar (UWRT-150). Students typically enter First Year Writing with reading scores equivalent to 10.0 on the California Reading Test. However, students who complete AAS degrees typically enter NTID with reading scores equivalent to 9.0 on the California Reading Test.

Mathematics: Mathematics course (NMTH-120) or higher is required. Typically, students entering this program will have completed at least two years of high school mathematics.

Science: Typically, students entering this program will have completed at least two years of high school science.

Curriculum

Administrative support technology, AAS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NCAR-100	Freshman Seminar	1
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1	3
NAST-140	Essential Document Production	3
NACC-130	Personal Finance	3
NAST-160	Spreadsheet Applications for Business	3
	ASL-Deaf Cultural Studies‡	
UWRT-150	LAS Foundation 2: First Year Writing	3
NMTH-120	Mathematics§	3
NAST-150	Advanced Document Production	3
NBUS-200	Orientation to Business	3
NACC-201	Accounting 1	3
	Wellness Education*	0
Second Year		
	LAS Perspective 3, 4, 6	9
NAST-220	Database Applications for Business	3
NAST-215	Integrated Document Production	3
NAST-210	Essentials of Business Communication	3
NBUS-213	Applied Ethics for Business	3
NAST-225	Business Graphics	3
NAST-240	Administrative Support Technology Seminar	3
NBUS-217	Fundamentals of Management	3
NAST-299	Cooperative Education	Co-op
Third Year		
	LAS Perspective 2	3
NBUS-223	Fundamentals of Marketing	3
NAST-230	Desktop Publishing for Business	3
NBUS-221	Essentials of Human Resource Management	3
	Free Elective	3
Total Semester Credit Hours		**76**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ A 3-credit ASL-Deaf Cultural Studies course, to be taken at NTID or another college of RIT; will count for RIT General Education credit if it is a General Education Committee approved course.
§ Any mathematics course numbered NMTH-120 or higher.

Additional information

Microsoft certification

As an authorized testing center for Microsoft Office Specialist, preparatory courses are offered to prepare students for several exams each semester.

Applied Computer Technology, AS

www.ntid.rit.edu/ics/a-plus-b-act
Elissa Olsen, Chairperson
(585) 475-2225 (V), emondp@rit.edu

Program overview

The associate in science in applied computer technology is an Associate+Bachelor's degree program designed to prepare deaf and hard-of-hearing students to enter and successfully complete a bachelor's degree in the B. Thomas Golisano College of Computing and Information Sciences. NTID's AS degree is a program specifically designed so that students can enroll in one of the following majors in the Golisano College: networking and systems administration or information technology. Coordination between the two colleges maximizes the number of credits a student may apply toward the baccalaureate degree. Admission to this major is available for the fall semester only.

Prerequisites

The following prerequisites are necessary for admission into the applied computer technology AS major:

ACT: Composite test score of 18 or better

English: Placement into a First Year Writing course, such as FYW: Writing Seminar (UWRT-150).

Mathematics: Entrance into NTID's NMTH-275 Advanced Math.

To transfer into the Golisano College, students must possess a GPA of 2.8 or higher upon graduating with the AS degree in applied computer technology.

Students in the applied computer technology major receive a foundation in computer hardware, networking, and computer applications.

Curriculum

Applied computer technology, AS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NCAR-100	Freshman Seminar	1
	LAS Foundation 1: First Year Seminar†	3
NMTH-275	Advanced Math	3
NACA-172	Website Development	3
NACA-150	Network and Security Fundamentals	3
NACA-160	Programming Fundamentals I	3
	LAS Foundation 2: First Year Writing	3
MATH-161	Applied Calculus	4
NACA-161	Programming Fundamentals II	3
ISTE-190	Foundations of Modern Information Processing	3
	LAS Perspective 1	3
	Wellness Education*	0
Second Year		
ISTE-121	Computational Problem Solving in the Information Domain II	4
NACA-174	Website Implementation	3
MATH-131	Discrete Mathematics	4
	LAS Perspective 2, 3, 4, 6	12
ISTE-240	Web II	3
ISTE-230	Introduction to Database and Data Modeling	3
ISTE-260	Designing the User Experience	3
Total Semester Credit Hours		**64**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Applied Computer Technology, AAS

www.ntid.rit.edu/ics/act

Elissa Olsen, Chairperson
(585) 475-2225 (V), emondp@rit.edu

Program overview

Computers are important to all parts of the economy, and the number of careers that involve work with computers is constantly expanding. Students in the AAS degree program in applied computer technology take courses to prepare them for careers that involve maintaining computer software and hardware, installing and maintaining computer networks, and working with a variety of computer applications.

Program concentrations

Students will select a concentration in computer technical support or networking and cyber security in the second year.

Computer technical support: This concentration develops skills specific to working with office professionals to solve computer-related problems. These skills prepare students to work at a help desk responding to a client's computer problems and performing setup, upgrades, and repairs to computers and computer peripherals.

Networking and cyber security: Students in this concentration develop skills specific to network and network security support. The skills include server setup, support and administration, network setup, troubleshooting and repair, identifying and implementing security policies, and installing appropriate hardware and software to support a secure and robust network.

On-the-job responsibilities

Students work as computer technicians, computer support specialists, network technicians, network security technicians, and network administrators.

Places of employment

Graduates can expect to work in a variety of environments, including banks, insurance companies, large stores, manufacturing companies, public utilities, government agencies, health care agencies, hospitals, and many other kinds of departments and businesses that use computers and networks.

Prerequisites

Successful completion of a sampling experience in applied computer technology, either through the Summer Vestibule Program or equivalent career exploration course, is a prerequisite for this program, as are the following:

English: Placement into a First Year Writing course, such as the FYW: Writing Seminar (UWRT-150). Students typically enter First Year Writing with reading scores equivalent to 10.0 on the California Reading Test. However, students who complete AAS degrees typically enter NTID with reading scores equivalent to 9.0 on the California Reading Test.

Mathematics: Placement into Mathematics in Society (NMTH-140) or a higher-level course. Typically, students entering this program will have completed at least three years of high school mathematics.

Science: Typically, students entering this major will have completed at least two years of high school science.

Curriculum

Applied computer technology (computer technical support concentration), AAS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NCAR-100	Freshman Seminar	1
	ASL-Deaf Cultural Studies‡	
NACT-150	Introduction to PC Hardware	3
NACT-160	Networking Essentials	3
NACT-170	Introduction to Web Development	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Elective§	3
NACT-151	Windows Operating Systems	3
NACT-161	Client-Server Networks	3
NACT-155	Non-Windows Operating Systems	3
	LAS Foundation 2: First Year Writing	3
	LAS Perspective 1	3
	Wellness Education*	0
Second Year		
NACT-200	Help Desk Support	3
NACT-250	Computer and Data Security	3
NACT-230	Introduction to Programming	3
NACT-240	World of Work	3
NACT-251	Digital Systems Integration	3
NACT-252	Server Management and Security	3
NACT-235	Introduction to Database Applications	3
	LAS Perspective 2, 3, 4	9
NACT-299	Cooperative Education	Co-op
Third Year		
NACT-295	ACT Technical Capstone	3
	Professional/Technical Electives**	6
	LAS Perspective 6	3
Total Semester Credit Hours		**73**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.

* Please see Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.

† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

‡ A 3-credit ASL-Deaf Cultural Studies course, to be taken at NTID or another college of RIT; will count for RIT General Education credit if it is a General Education Committee approved course.

§ NTID mathematics course NMTH-120 or higher. It is recommended that students take NMTH-140 Mathematics in Society.

** ACT program electives include A+ Certification Prep (NACT-255), LAN/WAN Design (NACT-260), Network Security (NACT 261), Network+ Certification Prep (NACT-265), Network Defense Technologies (NACT-266), Web Applications (NACT-270), and Client-Side Scripting (NACT-271). Additional electives from another NTID major can be taken with approval from the ICS Department Chair.

Applied computer technology (networking and cyber security concentration), AAS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NCAR-100	Freshman Seminar	1
	ASL-Deaf Cultural Studies‡	
NACT-150	Introduction to PC Hardware	3
NACT-160	Networking Essentials	3
NACT-170	Introduction to Web Development	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Elective§	3
NACT-151	Windows Operating Systems	3
NACT-161	Client-Server Networks	3
NACT-155	Non-Windows Operating Systems	3
	LAS Foundation 2: First Year Writing	3
	LAS Perspective 1	3
	Wellness Education*	0
Second Year		
NACT-200	Help Desk Support	3
NACT-260	LAN WAN Design	3
NACT-230	Introduction to Programming	3
NACT-240	World of Work	3
NACT-261	Network Security	3
NACT-262	Fundamentals of Systems Administration	3
NACT-235	Introduction to Database Applications	3
	LAS Perspective 2, 3, 4	9
NACT-299	Cooperative Education	Co-op
Third Year		
NACT-295	ACT Technical Capstone	3
	Professional/Technical Electives**	6
	LAS Perspective 6	3
Total Semester Credit Hours		**73**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ A 3-credit ASL-Deaf Cultural Studies course, to be taken at NTID or another college of RIT; will count for RIT General Education credit if it is a General Education committee-approved course.
§ NTID mathematics course NMTH-120 or higher. It is recommended that students take NMTH-140 Mathematics in Society.
** ACT program electives include Computer and Data Security (NACT-250), Digital Systems Integration (NACT-251), A+ Certification Prep (NACT-255), Network+ Certification Prep (NACT-265), Network Defense Technologies (NACT-266), Web Applications (NACT-270), and Client-Side Scripting (NACT-271). Additional electives from another NTID major can be taken with approval from the ICS Department Chair.

Applied Computer Technology, AOS

www.ntid.rit.edu/ics/act

Elissa Olsen, Chairperson
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Program overview

Computers are important to all parts of the economy, and the number of careers that involve work with computers is constantly expanding. Students in the AOS degree program in applied computer technology take courses to prepare them for careers that involve maintaining computer software and hardware, installing and maintaining computer networks, and working with a variety of computer applications.

Program concentrations

Students select a concentration in computer technical support or networking cyber security in their second year.

Computer technical support: This concentration develops skills specific to working with office professionals to solve computer-related problems. These skills prepare students to work at a help desk responding to a client's computer problems and performing setup, upgrades, and repairs to computers and computer peripherals.

Networking and cyber security: Students in this concentration develop skills specific to network and network security support. The skills include server setup, support and administration, network setup, troubleshooting and repair, identifying and implementing security policies, and installing appropriate hardware and software to support a secure and robust network.

On-the-job responsibilities

Students work as computer technicians, computer support specialists, network technicians, network security technicians, and network administrators.

Places of employment

Graduates can expect to work in a variety of environments, including banks, insurance companies, large stores, manufacturing companies, public utilities, government agencies, health care agencies, hospitals, and many other kinds of departments and businesses that use computers and networks.

Prerequisites

Successful completion of a sampling experience in applied computer technology, either through the Summer Vestibule Program or equivalent career exploration course, is a prerequisite for this major, as are the following:

English: Placement into Career English I (NENG-212) or above. Students successfully completing the AOS degree typically enter with reading scores equivalent to 8.0 on the California Reading Test.

Mathematics: Placement into Mathematics in Society (NMTH-140) or a higher-level course. Typically, students entering this major will have completed at least three years of high school mathematics.

Science: Typically, students entering this major will have completed at least two years of high school science.

Curriculum

Applied computer technology (computer technical support concentration), AOS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NCAR-100	Freshman Seminar	1
NACT-150	Introduction to PC Hardware	3
NACT-160	Networking Essentials	3
NACT-170	Introduction to Web Development	3
NENG-212	NTID LAS Foundation: Career English I	3
	NTID LAS Foundation: Mathematics†	3
NACT-151	Windows Operating Systems	3
NACT-161	Client-Server Networks	3
NACT-155	Non-Windows Operating Systems	3
NENG-213	NTID LAS Foundation: Career English II	3
	Wellness Education*	0
Second Year		
NACT-200	Help Desk Support	3
NACT-250	Computer and Data Security	3
NACT-230	Introduction to Programming	3
NACT-240	World of Work	3
NACT-251	Digital Systems Integration	3
NACT-252	Server Management and Security	3
NACT-235	Introduction to Database Applications	3
	NTID LAS Perspective‡	3
NACT-299	Cooperative Education	Co-op
Third Year		
NACT-295	ACT Technical Capstone	3
	Professional/Technical Electives§	6
	NTID LAS Perspective‡	3
Total Semester Credit Hours		**64**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.
† NTID mathematics course NMTH-120 or higher. It is recommended that students take NMTH-140 Mathematics in Society. Students who place above NMTH-140 can take math or a 3-credit course from any non-science perspective category.
‡ NTID LAS Perspective courses may be from any of these three Perspective categories: ASL-Deaf Cultural Studies; Communication, Social & Global Awareness; and Creative and Innovative Exploration.
§ ACT program electives include A+ Certification Prep (NACT-255), LAN WAN Design (NACT-260), Network Security (NACT 261), Network+ Certification Prep (NACT-265), Network Defense Technologies (NACT-266), Web Applications (NACT-270), Client-side Scripting (NACT-271). Additional electives from another NTID major can be taken with approval from the ICS Department Chair.

Applied computer technology (networking and cyber security concentration), AOS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NACT-150	Introduction to PC Hardware	3
NACT-160	Networking Essentials	3
NACT-170	Introduction to Web Development	3
NCAR-100	Freshman Seminar	1
NENG-212	NTID LAS Foundation: Career English I	3
	NTID LAS Foundation: Mathematics†	3
NACT-151	Windows Operating Systems	3
NACT-161	Client-Server Networks	3
NACT-155	Non-Windows Operating Systems	3
NENG-213	NTID LAS Foundation: Career English II	3
	Wellness Education*	0
Second Year		
NACT-200	Help Desk Support	3
NACT-260	LAN WAN Design	3
NACT-230	Introduction to Programming	3
NACT-240	World of Work	3
NACT-261	Network Security	3
NACT-262	Fundamentals of Systems Administration	3
NACT-235	Introduction to Database Applications	3
	NTID LAS Perspective‡	3
NACT-299	Cooperative Education	Co-op
Third Year		
NACT-295	ACT Technical Capstone	3
	Professional/Technical Electives§	6
	NTID LAS Perspective‡	3
Total Semester Credit Hours		**64**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.
† NTID mathematics course NMTH-120 or higher. It is recommended that students take NMTH-140 Mathematics in Society. Students who place above NMTH-140 can take math or a 3 credit-course from any non-science perspective category
‡ NTID LAS Perspective courses may be from any of these three Perspective categories: ASL-Deaf Cultural Studies; Communication, Social & Global Awareness; and Creative and Innovative Exploration.
§ ACT program electives include Computer and Data Security (NACT-250), Digital Systems Integration (NACT-251), A+ Certification Prep (NACT-255), Network+ Certification Prep (NACT-265), Network Defense Technologies (NACT-266), Web Applications (NACT-270), Client-side Scripting (NACT-271). Additional electives from another NTID major can be taken with approval from the ICS Department Chair.

Applied Liberal Arts, AS

www.ntid.rit.edu/liberalstudies/asbs
Jennifer L. Gravitz, Chairperson
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Program overview

The associate in science degree in applied liberal arts is designed to prepare deaf and hard-of-hearing students to enter and successfully complete a bachelor's degree in the College of Liberal Arts, which offers majors in advertising and public relations, communication, criminal justice, economics, international and global studies, journalism, museum studies, philosophy, political science, psychology, public policy, and sociology and anthropology.

By the end of the first year, students choose a College of Liberal Arts major they wish to enroll in after completing the AS degree. During the second year, students take four professional courses in their chosen liberal arts major. In addition, as a part of their AS course work, students complete one mathematics and once science course to meet the graduation requirements of their major.

The AS degree maximizes the number of credits a student may transfer toward a baccalaureate degree within the College of Liberal Arts. Admission to this major is available throughout the academic year.

Prerequisites

ACT: Composite test score of 18 and above.

English: Placement into Critical Reading and Writing (UWRT-100), or a First Year Writing course, such as FYW: Writing Seminar (UWRT-150).

Mathematics: Placement into NMTH-250 or higher from NTID, COS or another RIT college. Students will enroll in the mathematics course required by their prospective baccalaureate program. Typically, students entering this major will have completed at least three years of high school mathematics.

Science: Readiness for NSCI-250 or higher from NTID, COS or another RIT college. Students will enroll in the science course required by their prospective baccalaureate program. Typically, students entering this major will have completed at least two years of high school science.

Enrollment requirements

To enroll in the College of Liberal Arts, students must have a grade-point average of 2.5 or higher upon graduating with the AS degree in applied liberal arts.

Curriculum

Applied liberal arts, AS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NCAR-100	Freshman Seminar	1
UWRT-100	Critical Reading and Writing	3
NSCI-250	LAS Perspective 6†	3
	NTID LAS: NTID Mathematics‡	3
	NTID LAS Elective§	3
	LAS Foundation 1: First Year Seminar††	3
	LAS Foundation 2: First Year Writing	3
	LAS Perspective 1, 2, 3	9
NMTH-250	Elementary Statistics	3
	Wellness Education*	0
Second Year		
	Professional/Technical Electives**	12
	LAS Perspective 4	3
	LAS Electives‡	6
	LAS Immersion 1, 2, 3	9
Total Semester Credit Hours		**61**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.
† NTID science course numbered NSCI-250 or higher, or College of Science course required by chosen professional area.
‡ Mathematics and science courses as required by chosen professional area.
§ NTID course numbered NCOM-201 or higher, or NHSS-260 or higher.
** Four courses in a College of Liberal Arts professional area of study.
†† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Applied Mechanical Technology, AAS

www.ntid.rit.edu/engineering/a-plus-b-amt
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Program overview

The AAS in applied mechanical technology is an Associate+Bachelor's degree program that prepares students to enter and successfully complete a baccalaureate program in the College of Applied Science and Technology in manufacturing engineering technology or mechanical engineering technology. Students strengthen their skills by taking courses taught by NTID faculty.

These courses systematically address the preparatory challenges that deaf and hard-of-hearing students face upon entry to the majors in the College of Applied Science and Technology.

Students in the applied mechanical technology major receive a comprehensive foundation in engineering fundamentals: precision measurement, precision machining, computer aided design applications, strength of materials, and machine design. Upon successful completion of the AAS degree in applied mechanical technology, students enroll in the bachelor's degree program in either manufacturing engineering technology or mechanical engineering technology.

Prerequisites

ACT: Composite test score of 18 or higher

English: Placement into a First Year Writing course, such as FYW: Writing Seminar (UWRT-150) or Critical Reading and Writing (UWRT-100).

Mathematics: Entrance into NTID's Trigonometry (NMTH-220) course.

Science: Entrance into the College of Science's College Physics I (PHYS-111) course; however, students who did not take physics in high school are recommended to take a bridging physics course at NTID, such as Concepts of College Physics (NSCI-270).

Enrollment requirements

Students who graduate in good standing from NTID and have maintained a grade of C or better in the six NTID applied mechanical technology technical courses should be well-prepared for the College of Applied Science and Technology.

Curriculum

Applied mechanical technology, AAS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NCAR-100	Freshman Seminar	1
NETS-101	Fundamentals of Engineering	3
NETS-110	Foundations of Materials	2
NETS-111	Foundations of Materials Lab	1
MATH-171	LAS Elective: Calculus A	3
UWRT-100	Critical Reading and Writing	3
	LAS Foundation 1: First Year Seminar†	3
NETS-120	Manufacturing Processes	3
NETS-150	Mechanical Design and Fab	3
NETS-151	Mechanical Design and Fab Lab	1
MATH-172	Calculus B	3
PHYS-111	LAS Perspective 6: College Physics I	4
	LAS Foundation 2: First Year Writing	3
	Wellness Education*	0
Second Year		
MCET-220	Principles of Statics	3
MCET-210	Materials in Engineering Design	2
MCET-211	Materials in Engineering Design Lab	1
PHYS-112	College Physics II	4
	LAS Perspective 1, 2, 3, 4	12
MCET-221	Strength of Materials	3
EEET-215	Circuits/Electronics	2
EEET-216	Circuits/Electronics Lab	1
MATH-211	Elements of Multivariable Calculus and Differential Equations	3
Total Semester Credit Hours		**64**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Arts and Imaging Studies, AAS

www.ntid.rit.edu/ais
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Program overview

People who work in the arts and imaging field are responsible for designing, organizing, and producing print and web-based media for business, communication, publishing, manufacturing, entertainment, and advertising markets. This is a very large, exciting field that requires a variety of computer-based and traditional visual skills. The arts and imaging studies major provides opportunities for students to enter various careers ranging from creative to highly technical positions at various degree levels.

The arts and imaging studies major includes a core component of eight courses (24 semester credit hours) plus a required cooperative work experience. The core courses provide a solid foundation for continuing in advanced courses, a baccalaureate program, and employment. Several of the core courses are scheduled during the first year, and additional courses are completed during the second year.

In addition to the core courses taken in the first year, students immediately begin course work in their concentration. Students may choose a concentration in graphic design or graphic production. Both concentrations consist of six courses (18 semester credit hours.)

All students entering the major will be given an aptitude assessment experience. As a result of this assessment profile, students will be counseled and placed into an initial concentration: graphic design for students with creative aptitude and interest; graphic production for students with technical/production aptitude and interest. The assessment is not final. Based on success and demonstrated capabilities, students may request or be counseled to change their program concentration.

The program's curriculum includes six credits of program electives which will enable the students to develop additional skills and knowledge to better prepare them for employment and/or for continued education.

All students gain real work experience through one term of required cooperative education employment. They also complete a required portfolio workshop course in which they refine and complete their portfolio as needed for an application to a baccalaureate program (BFA or BS in RIT's College of Imaging Arts and Sciences) or for the search for employment.

STEM and the AIS program

Education in STEM (science, technology, engineering, math) careers is a major emphasis for students, parents, and counselors as they consider which college programs match students' interests and aptitudes. Funding for STEM career preparation is often a driving factor. The NTID arts and imaging studies major definitely is a STEM-career program. Graphic design is listed in the technology/ computer science STEM disciplines. Graphic design and production for print, the Web, and digital media cannot happen without the immersion of computer technology.

On-the-job responsibilities

Depending on their concentration and elective course selection, graduates use computer-based methods to produce drawings, layouts, illustrations, and digital photographic images; prepare documents for print, the web, and digital distribution; produce interactive digital media; perform digital retouching and restoration of photographic images; produce composite digital images; design and produce websites; produce computer animations; plan and produce short edited videos; and operate electrophotographic digital printing and inkjet systems, simple bindery, and finishing equipment.

Places of employment

Graduates usually find employment in a variety of commercial, corporate, government, and educational settings. Examples include computer graphics firms, advertising agencies, art studios, printing or manufacturing plants, prepress companies, in-house printing or marketing departments, book and magazine publishing houses, newspaper facilities, government agencies, industrial training or media departments, educational media centers, and educational institutions.

Graduates may qualify for positions such as production graphic artist, graphic designer, digital photo artist, digital photography technician, digital prepress technician, video technician, website designer, website technician, and digital printing systems operator.

Prerequisites

Successful completion of a sampling experience offered during the Summer Vestibule Program and also during the academic year is required. The sampling activities provide opportunities for students to learn about the arts and imaging field, identify career opportunities, and evaluate their interest and aptitude for a degree program.

ACT: minimum score=18

English: Placement into the Critical Reading and Writing (UWRT-100) course.

Mathematics: Placement into the Mathematics in Society (NMTH-140) course. Typically, students entering this major will have completed at least two years of high school mathematics.

Science: Typically, students entering this major will have completed at least two years of high school science.

Curriculum

Arts and imaging studies, AAS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NCAR-100	Freshman Seminar	1
NAIS-120	Principles of Design and Color	3
NAIS-130	Raster and Vector Graphics	3
Choose one of the following:		3
NGRD-111	Drawing I‡	
NGRP-110	Digital Photography I§	
	LAS Foundation 1: First Year Seminar‡‡	3
NMTH-120	LAS Elective: Mathematics**	3
	ASL-Deaf Cultural Studies†	
NAIS-140	Graphic Design and Typography I	3
NAIS-150	Page Layout I	3
NAIS-160	Web Design I	3
	LAS Foundation 2: First Year Writing	3
NSCI-120	LAS Perspective 6††	3
	Wellness Education*	0
Second Year		
NAIS-201	Employment Seminar	3
Choose two of the following:		6
NGRD-240	Graphic Design and Typography II‡	
NGRD-221	History of Graphic Design‡	
NGRP-231	Image Preparation§	
NGRP-245	Color Theory and Management§	
	Professional/Technical Elective	3
	LAS Perspective 1	3
Choose two of the following:		6
NGRD-255	Publication Design‡	
NGRD-256	Identity Design‡	
NGRP-252	PDF Production and Workflow§	
NGRP-250	Page Layout II§	
NAIS-291	Production Workshop	3
	LAS Perspective 2, 3	6
NAIS-299	Cooperative Education	Co-op
Third Year		
NAIS-292	Portfolio Workshop	3
	Professional/Technical Elective	3
Choose one of the following:		3
NGRD-230	Digital Illustration‡	
NGRP-270	Specialty Graphics Imaging§	
	LAS Perspective 4	3
Total Semester Credit Hours		**73**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.
† A 3-credit ASL-Deaf Cultural Studies course, to be taken at NTID or another college of RIT; will count for RIT General Education credit if it is a General Education Committee-approved course.
‡ NGRD courses/Graphic Design concentration
§ NGRP courses/Graphic Production concentration
** Any mathematics course numbered NMTH-120 or higher.
†† Any science course numbered NSCI-120 or higher.
‡‡ The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Electives

COURSE	
NGRD-115	Visual Idea Development
NGRD-211	Drawing II
NGRD-222	Art History
NGRD-257	Animation
NGRD-258	Cartooning
NGRP-210	Digital Photography II
NGRP-220	Videography
NGRP-232	Image Manipulation
NGRP-251	Publication Production
NGRP-260	Web Design II
NGRP-261	Interactive Digital Media
NGRP-275	Digital Printing Systems
NAIS-199	Independent Study
NAIS-289	Special Topics

Arts and Imaging Studies, AOS

www.ntid.rit.edu/ais
Kenneth F. Hoffmann, Chairperson
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Program overview

People who work in the arts and imaging field are responsible for designing, organizing, and producing print and Web-based media for business, communication, publishing, manufacturing, entertainment, and advertising markets. This is a large, exciting field that requires a variety of computer-based and traditional visual skills. The arts and imaging studies major provides opportunities for students to enter various careers ranging from creative to highly technical positions at various degree levels.

The arts and imaging studies major includes eight required core courses (24 semester credit hours) plus a required cooperative education experience. The core courses provide a solid foundation for continuing in advanced courses, a baccalaureate program, and employment. Several of the core courses are scheduled during the first year, and additional courses are completed during the second year.

In addition to the core courses taken in the first year, students immediately begin course work in their concentration. Students may choose a concentration in graphic design or graphic production. Both concentrations consist of six courses (18 credit hours).

All students entering the major will be given an aptitude assessment experience. As a result of this assessment profile, students will be counseled and placed into an initial concentration: graphic design for students with creative aptitude and interest; graphic production for students with technical/production aptitude and interest. The assessment is not final. Based on success and demonstrated capabilities, students may request or be counseled to change their concentration.

The curriculum includes six credits of program electives which will enable the students to develop additional skills and knowledge to better prepare them for employment and/or for continued education.

All students gain real work experience through one term of required cooperative education employment. They also complete a required portfolio workshop course in which they refine and complete their portfolio as needed for an application to a baccalaureate program or for the search for employment.

STEM and the AIS program

Education in STEM (science, technology, engineering, math) careers is a major emphasis for students, parents, and counselors as they consider which college programs match students' interests and aptitudes. Funding for STEM career preparation is often a driving factor. The NTID arts and imaging studies major definitely is a STEM-career program. Graphic design is listed in the technology/ computer science STEM disciplines. Graphic design and production for print, the Web, and digital media cannot happen without the immersion of computer technology.

On-the-job responsibilities

Depending on the specific concentration and elective course selection, graduates use computer-based methods to produce drawings, layouts, illustrations, and digital photographic images; prepare documents for print, the web, and digital distribution; produce interactive digital media; perform digital retouching and restoration of photographic images; produce composite digital images; design and produce websites; produce computer animations; plan and produce short edited videos; and operate electrophotographic digital printing and inkjet systems, simple bindery, and finishing equipment.

Places of employment

Graduates usually find employment in a variety of commercial, corporate, government, and educational settings. Examples include computer graphics firms, advertising agencies, art studios, printing or manufacturing plants, prepress companies, in-house printing or marketing departments, book and magazine publishing houses, newspaper facilities, government agencies, industrial training or media departments, educational media centers, and educational institutions.

Graduates may qualify for positions such as production graphic artist, graphic designer, digital photo artist, digital photography technician, digital prepress technician, video technician, website designer, website technician, and digital printing systems operator.

Prerequisites

Successful completion of a sampling experience offered during the Summer Vestibule Program and also during the academic year is required. The sampling activities provide opportunities for students to learn about the arts and imaging field, identify career opportunities, and evaluate their interest and aptitude for a degree program.

ACT: minimum score = 15

English: Placement into Career English I (NENG-212) or above. Students successfully completing AOS degrees typically enter with reading scores equivalent to 8.0 on the California Reading Test.

Mathematics: Placement into the Mathematics in Society (NMTH-140) course. Typically, students entering this major will have completed at least two years of high school mathematics.

Science: Typically, students entering this major will have completed at least two years of high school science.

Curriculum

Arts and imaging studies, AOS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NAIS-120	Principles of Design and Color	3
NAIS-130	Raster and Vector Graphics	3
Choose one of the following:		3
NGRD-111	Drawing I‡	
NGRP-110	Digital Photography I§	
NENG-212	NTID LAS Foundation: Career English I	3
NCAR-100	Freshman Seminar	1
NAIS-140	Graphic Design and Typography I	3
NAIS-150	Page Layout I	3
NAIS-160	Web Design I	3
NENG-213	NTID LAS Foundation: Career English II	3
NMTH-120	NTID LAS Foundation: Mathematics†	3
	Wellness Education*	0
Second Year		
NAIS-201	Employment Seminar	3
Choose two of the following:		6
NGRD-240	Graphic Design and Typography II‡	
NGRD-221	History of Graphic Design‡	
NGRP-231	Image Preparation§	
NGRP-245	Color Theory and Management§	
	Professional/Technical Elective	3
Choose two of the following:		6
NGRD-255	Publication Design‡	
NGRD-256	Identity Design‡	
NGRP-252	PDF Production and Workflow§	
NGRP-250	Page Layout II§	
NAIS-291	Production Workshop	3
	NTID LAS Perspective**	3
NAIS-299	Cooperative Education	Co-op
Third Year		
NAIS-292	Portfolio Workshop	3
	Professional/Technical Elective	3
Choose one of the following:		3
NGRD-230	Digital Illustration‡	
NGRP-270	Specialty Graphics Imaging§	
	NTID LAS Perspective**	3
Total Semester Credit Hours		**64**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.

* Please see Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.

‡ NGRD courses/Graphic Design concentration

§ NGRP courses/Graphic Production concentration

† Any mathematics course numbered NMTH-120 or higher; students who place above NMTH-140 can take math or a 3-credit course from any of the four NTID LAS Perspective categories: ASL-Deaf Cultural Studies; Communication, Social & Global Awareness; Creative and Innovative Exploration; and Scientific Processes.

**NTID LAS Perspective courses may be from any of these three Perspective categories: ASL-Deaf Cultural Studies; Communication, Social & Global Awareness; and Creative and Innovative Exploration.

Electives

COURSE	
NGRD-115	Visual Idea Development
NGRD-211	Drawing II
NGRD-222	Art History
NGRD-257	Animation
NGRD-258	Cartooning
NGRP-210	Digital Photography II
NGRP-220	Videography
NGRP-232	Image Manipulation
NGRP-251	Publication Production
NGRP-260	Web Design II
NGRP-261	Interactive Digital Media
NGRP-275	Digital Printing Systems
NAIS-199	Independent Study
NAIS-289	Special Topics

Business, AS

www.ntid.rit.edu/businessstudies

Mary Lou Basile, Chairperson
(585) 475-6460 (V/TTY), mlbnbt@rit.edu

Program overview

The AS degree in business is an Associate+Bachelor's degree program designed to prepare deaf and hard-of-hearing students to enter and successfully complete a bachelor's degree program in Saunders College of Business. Saunders College is accredited by the Association to Advance Collegiate Schools of Business International (AACSB), the premier accrediting organization for business schools. Upon completion of the AS program, students with a minimum GPA of 2.5 will enroll in Saunders College, where they complete their bachelor's degree in accounting, finance, international business, management, management information systems, marketing, or new media marketing. Admission to this major is available during the fall semester only.

Prerequisites

ACT: composite test score of 18 and above.

English: Placement into a First Year Writing course, such as FYW: Writing Seminar (UWRT-150). Students who qualify for Critical Reading and Writing (UWRT-100) will be considered for admission if they are at NMTH-250 or higher in mathematics.

Mathematics: Placement into mathematics NMTH-250 or higher. Typically, students entering this major will have completed at least three years of high school mathematics.

Science: Placement into science NSCI-250 or higher. Typically, students entering this major will have completed at least two years of high school science.

Admission requirements

To enroll in one of the bachelor degree programs in Saunders College of Business, students must have a minimum grade-point average of 2.5 upon graduation with the AS degree in business.

Business, AS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NCAR-100	Freshman Seminar	1
	LAS Foundation 1: First Year Seminar‡	3
MGIS-101	Computer Based Analysis	1
NSCI-250	LAS Perspective 6†	3
STAT-145	Introduction to Statistics I	3
NBUS-211	World of Business and Innovation	3
	LAS Perspective 1, 2	6
UWRT-150	LAS Foundation 2: First Year Writing	3
NACC-205	Financial Accounting	3
STAT-146	Introduction to Statistics II	4
NBUS-225	Introduction to Entrepreneurship	3
	Wellness Education*	0
Second Year		
NACC-206	Managerial Accounting	3
COMM-253	Communication	3
ECON-101	Principles of Microeconomics	3
	LAS Perspective 3, 4	6
INTB-225	Global Business Environment	3
MATH-161	LAS Elective: Applied Calculus	4
NBUS-227	Principles of Marketing	3
MGMT-215	Organizational Behavior	3
ECON-201	Principles of Macroeconomics	3
Total Semester Credit Hours		**64**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.
† Any science course numbered NSCI-250 or higher may fulfill this requirement.
‡ The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Additional information

Microsoft certification

As an authorized testing center for Microsoft Office Specialist, preparatory courses are offered for several exams each semester.

Business Technology, AOS

www.ntid.rit.edu/businessstudies
Mary Lou Basile, Chairperson
(585) 475-6460 (V/TTY), mlbnbt@rit.edu

Program overview

The business technology AOS degree program includes technical course work in accounting, computers, payroll, general office skills, and word processing/information processing skills. Students complete a sequence of courses that provides either an accounting technology or administrative support technology concentration.

This is a nontransfer occupational program, with primary emphasis on preparation for immediate employment.

Places of employment

Graduates of this major will find employment in a variety of settings, including business, industry, government, and education.

On-the-job responsibilities

Graduates will input, manipulate, and retrieve data; use interactive software, e-mail, and information processing skills; and use computers to maintain and reconcile various financial records. Positions for which graduates qualify include general office clerk, accounts receivable/payable clerk, payroll records clerk, word processing technician, cost accounting clerk, and microcomputer accounting clerk.

Prerequisites

English: Placement into Career English I (NENG-212) or above. Students successfully completing AOS degrees typically enter with reading scores equivalent to 8.0 on the California Reading Test.

Mathematics: Math course (NMTH-120) or higher is required. Typically, students entering this major will have completed at least two years of high school mathematics.

Science: Typically, students entering this major will have completed at least two years of high school science.

Curriculum

Business technology (administrative support technology option), AOS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NCAR-100	Freshman Seminar	1
NENG-212	NTID LAS Foundation: Career English I	3
NAST-140	Essential Document Production	3
NACC-130	Personal Finance	3
NAST-160	Spreadsheet Applications for Business	3
NENG-213	NTID LAS Foundation: Career English II	3
NMTH-120	NTID LAS Foundation: Mathematics†	3
NAST-150	Advanced Document Production	3
NBUS-200	Orientation to Business	3
NACC-201	Accounting I	3
	Wellness Education*	0
Second Year		
NAST-215	Integrated Document Production	3
NAST-210	Essentials of Business Communication	3
NAST-220	Database Applications for Business	3
NBUS-213	Applied Ethics for Business	3
NAST-225	Business Graphics	3
NBUS-217	Fundamentals of Management	3
	NTID LAS Perspective‡	3
NAST-240	Administrative Support Technology Seminar	3
NAST-299	Cooperative Education	Co-op
Third Year		
	NTID LAS Perspective‡	3
NAST-230	Desktop Publishing for Business	3
NBUS-223	Fundamentals of Marketing	3
	Free Elective	3
Total Semester Credit Hours		**64**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information.
† Any mathematics course numbered NMTH-120 or higher. Students who place above NMTH-120 can take math or a 3-credit course from any non-science perspective category.
‡ NTID LAS Perspective courses may be from any of these three Perspective categories: ASL-Deaf Cultural Studies; Communication, Social & Global Awareness; and Creative and Innovative Exploration.

Business technology (accounting technology option), AOS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NCAR-100	Freshman Seminar	1
NENG-212	NTID LAS Foundation: Career English I	3
NAST-140	Essential Document Production	3
NACC-130	Personal Finance	3
NAST-160	Spreadsheet Applications for Business	3
NENG-213	NTID LAS Foundation: Career English II	3
NMTH-120	NTID LAS Foundation: Mathematics†	3
NAST-150	Advanced Document Production	3
NBUS-200	Orientation to Business	3
NACC-201	Accounting I	3
	Wellness Education*	0
Second Year		
NAST-215	Integrated Document Production	3
NAST-210	Essentials of Business Communication	3
NAST-220	Database Applications for Business	3
NACC-202	Accounting 2	3
	NTID LAS Perspective‡	3
NBUS-213	Applied Ethics for Business	3
NBUS-217	Fundamentals of Management	3
NACC-203	Accounting 3	3
NACC-299	Cooperative Education	Co-op

COURSE		SEMESTER CREDIT HOURS
Third Year		
	NTID LAS Perspective‡	3
NACC-204	Accounting Capstone	3
NBUS-223	Fundamentals of Marketing	3
	Free Elective	3
Total Semester Credit Hours		**64**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.
† Any mathematics course numbered NMTH-120 or higher. Students who place above NMTH-120 can take math or a 3-credit course from any non-science perspective category.
‡ NTID LAS Perspective courses may be from any of these three Perspective categories: ASL-Deaf Cultural Studies; Communication, Social & Global Awareness; and Creative and Innovative Exploration.

Additional information

Microsoft certification

The department operates an authorized testing center for Microsoft Office Specialist. Preparatory courses are offered for several exams each semester.

Computer Aided Drafting Technology, AAS

www.ntid.rit.edu/engineering/cadt
Dino Laury, Chairperson
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Program overview

People who work in computer aided drafting technology use their skills to create two- and three-dimensional drawings on the computer. These drawings are used to visually represent buildings, bridges, canals, and houses. Computer-aided drafting operators (technicians) take the sketches of an engineer, architect, or designer and produce a set of technical drawings.

In addition to a strong emphasis on computer-aided drafting, the major provides students with a background in mathematics, building systems, construction regulations, site utilities, and materials and methods used in the architecture, engineering, and construction industries.

Students earning an AAS degree and satisfying the entry requirements in a specific major have the option of finding employment or continuing to work towards a baccalaureate degree. Transfer requirements vary by major.

On-the-job responsibilities

Graduates will enter businesses and industries that need technical employees with skills in computer drafting technology and a broad knowledge of applications and procedures. Graduates will work for architectural, engineering, or construction firms creating engineering drawings.

Places of employment

Graduates will find work in a variety of settings, including government agencies and architectural, construction, and engineering firms. Positions for which graduates qualify include drafters/technicians for architectural, highway design, and civil environments.

Prerequisites

English: Placement in a First Year Writing course, such as FYW: Writing Seminar (UWRT-150). Students typically enter First Year Writing with reading scores equivalent to 10.0 on the California Reading Test. However, students who complete AAS degrees typically enter NTID with reading scores equivalent to 9.0 on the California Reading Test.

Mathematics: Placement in Trigonometry (NMTH-220). Typically, students entering this program will have completed at least three years of high school mathematics.

Science: Placement into Principles of Physics (NSCI-201) or a higher-level course. Typically, students entering this program will have completed at least three years of high school science. High school physics would be beneficial.

Curriculum

Computer aided drafting technology, AAS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NCAR-100	Freshman Seminar	1
	ASL-Deaf Cultural Studies‡	
NCAD-112	Computing Tools for ET	3
NCAD-150	Engineering Graphics in AEC	3
	LAS Perspective 1	3
	LAS Foundation 1: First Year Seminar†	3
NMTH-220	LAS Elective: Trigonometry	3
NCAD-170	Construction CAD I	3
NCAD-108	Data Collection and Analysis	3
NCAD-180	Civil Technology Graphics	3
NMTH-275	Advanced Mathematics	3
	LAS Foundation 2: First Year Writing	3
	Wellness Education*	0
Second Year		
NCAD-220	Construction CAD II	3
NCAD-255	Construction Materials and Methods I	3
NCAD-275	Principles of Structural Systems	3
NSCI-201	LAS Perspective 6: Principles of Physics	3
NCAD-201	Job Search Process for CADT	3
NCAD-230	Construction CAD III	3
NCAD-265	Construction Materials and Methods II	3
NCAD-285	MEP Systems	3
NCAD-280	GIS Fundamentals	3
	LAS Perspective 2	3
NCAD-299	Cooperative Education	Co-op
Third Year		
NCAD-240	Advanced Construction CAD	3
NCAD-250	Presentation Graphics	3
	Professional/Technical Elective§	3
	LAS Perspective 3, 4	6
Total Semester Credit Hours		**76**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ A 3-credit ASL-Deaf Cultural Studies course, to be taken at NTID or another college of RIT, will count for RIT General Education credit if it is a General Education Committee-approved course.
§ Choose one from the following list of courses, or another course by departmental approval, Principles of Design and Color (NAIS-120), Raster and Vector Graphics (NAIS-130), Scenic and Lighting Technology (NHSS-223), Materials of Construction w/ Lab (CVET-140, 141), Surveying w/ Lab (CVET-160, 161). Permission required for CVET-140, 141 and CVET-160, 161.

Computer Aided Drafting Technology, AOS

www.ntid.rit.edu/engineering/cadt
Dino Laury, Chairperson
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Program overview

People who work in computer aided drafting technology use their skills to create two- and three-dimensional drawings on the computer. These drawings are used to visually represent buildings, bridges, canals, and houses. Computer aided drafting operators (technicians) take the sketches of an engineer, architect, or designer and produce a set of technical drawings.

In addition to a strong emphasis on computer aided drafting, the major gives students a background in mathematics, building systems, construction regulations, site utilities, and materials and methods used in the architecture, engineering, and construction industries.

On-the-job responsibilities

Graduates will enter businesses and industries that need technical employees with skills in computer aided drafting technology and a broad knowledge of applications and procedures. Graduates will work in architectural, engineering, or construction firms creating engineering drawings.

Places of employment

Graduates of this major will find work in a variety of settings, including engineering firms, government agencies, and architectural and construction firms. Positions for which graduates qualify include drafters/technicians for architectural, highway design, and civil environments.

Prerequisites

Successful completion of a sampling experience either through the Summer Vestibule Program or an equivalent career exploration course is a prerequisite, as are the following:

English: Placement into Career English I (NENG-212) or above. Students successfully completing an AOS degree typically enter with reading scores equivalent to 8.0 on the California Reading Test.

Mathematics: Placement into Integrated Algebra (NMTH-212) or a higher-level course. Typically, students entering this major will have completed at least three years of high school mathematics.

Science: Placement into Physics of Matter (NSCI-154) or a higher-level course. Typically, students entering this major will have completed at least three years of high school science. High school physics would be beneficial.

Curriculum

Computer aided drafting technology, AOS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NCAD-112	Computing Tools for ET	3
NCAD-150	Engineering Graphics in AEC	3
NENG-212	NTID LAS Foundation: Career English I	3
NMTH-212	NTID LAS Foundation: Integrated Algebra	3
NCAR-100	Freshman Seminar	1
NCAD-170	Construction CAD I	3
NCAD-108	Data Collection and Analysis	3
NCAD-180	Civil Technology Graphics	3
NMTH-220	Trigonometry	3
NENG-213	NTID LAS Foundation: Career English II	3
	Wellness Education*	0
Second Year		
NCAD-220	Construction CAD II	3
NCAD-255	Construction Materials and Methods I	3
NCAD-275	Principles of Structural Systems	3
NSCI-154	NTID LAS Perspective: Physics of Matter	3
NCAD-201	Job Search Process for CADT	3
NCAD-230	Construction CAD III	3
NCAD-265	Construction Materials and Methods II	3
NCAD-285	MEP Systems	3
NCAD-280	GIS Fundamentals	3
NCAD-299	Cooperative Education	Co-op
Third Year		
NCAD-240	Advanced Construction CAD	3
NCAD-250	Presentation Graphics	3
	Professional/Technical Elective‡	3
	NTID LAS Perspective†	3
Total Semester Credit Hours		**67**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.

* Please see Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.

† NTID LAS Perspective course may be from any of these three Perspective categories: ASL-Deaf Cultural Studies; Communication, Social & Global Awareness; and Creative and Innovative Exploration.

‡ Choose one from the following list of courses, or another course by departmental approval, Principles of Design and Color (NAIS-120), Raster and Vector Graphics (NAIS-130), Scenic and Lighting Technology (NHSS-223), Materials of Construction w/ Lab (CVET-140, 141), Surveying w/ Lab (CVET-160, 161). Permission required for CVET-140, 141 and CVET-160, 161.

Computer Integrated Machining Technology, AOS

www.ntid.rit.edu/engineering/cimt

Dino Laury, Chairperson
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Program overview

Students in the computer integrated machining technology major are prepared for employment in precision machining and/or precision optics manufacturing occupations. These include tool and die making, mold making, instrument making, manufacturing of optical elements, and computer numerical control machining (CNC). Graduates are successfully employed in both large manufacturing corporations and small contract manufacturing shops. In addition, graduates can continue their education in manufacturing and engineering technology programs.

On-the-job responsibilities

Graduates will set up and operate lathes, milling machine tools, grinders, polishers, and computer numerical controlled machine tools; shape material into precision parts by conventional and nonconventional processes; follow blueprints; and use advanced measuring techniques to inspect work.

Places of employment

Graduates will find work in a variety of settings, including manufacturing, metal and/or precision optics manufacturing industries, engineering firms, and engineering research firms. Positions for which graduates qualify include entry-level and apprenticeship programs for positions such as a tool and die maker, instrument maker, mold maker, pattern maker, model maker, machinist, computer numerical control operator, or computer numerical control programmer trainee. Graduates who choose precision optics electives are also qualified for an entry-level position as a precision optics manufacturing technician. Graduates also work for companies that produce optical elements for a variety of applications.

Prerequisites

Successful completion of a sampling experience either through the Summer Vestibule Program or an equivalent career exploration course is a prerequisite, as are the following:

English: Placement into Career English I (NENG-212) or above. Students successfully completing AOS degrees typically enter with reading scores equivalent to 8.0 on the California Reading Test.

Mathematics: Placement into Foundations of Algebra (NMTH-180) or a higher-level course. Typically, students entering this major will have completed at least three years of high school mathematics.

Science: Typically, students entering this major will have completed at least two years of high school science.

Curriculum

Computer integrated machining technology, AOS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NCIM-131	Computer Integrated Machining Technology I	3
	NTID LAS Foundation: Mathematics†	3
NENG-212	NTID LAS Foundation: Career English I	3
NCAR-100	Freshman Seminar	1
NCIM-101	Blueprint Reading I	3
NENG-213	NTID LAS Foundation: Career English II	3
NMTH-206	Trigonometry for Coordinate Analysis	3
NCIM-121	Precision Measurement I	3
NCIM-132	Computer Integrated Machining Technology II	3
NCIM-102	Blueprint Reading II	3
Second Year		
NCIM-233	Computer Integrated Machining Technology III	3
NCIM-251	CNC I	3
NCIM-241	Precision Optics Manufacturing I	3
NSCI-200	NTID LAS Perspective: Physics of Light	3
NCIM-201	Job Search Process for CIMT	2
	Wellness Education*	0
NCIM-234	Computer Integrated Machining Technology IV	3
NCIM-252	CNC II	3
NCIM-242	Precision Optics Manufacturing II	3
	Professional/Technical Elective	3
NCIM-299	Cooperative Education	Co-op
Third Year		
NCIM-235	Computer Integrated Machining Technology V	3
NCIM-236	Computer Integrated Machining Technology V Lab	3
	NTID LAS Perspective‡	3
	Professional/Technical Elective	3
Total Semester Credit Hours		**66**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.
† Any mathematics course numbered NMTH-180 or higher
‡ NTID LAS Perspective course may be from any of these three Perspective categories: ASL-Deaf Cultural Studies; Communication, Social & Global Awareness; and Creative and Innovative Exploration

Electives

Students choose electives from the following list:

COURSE	
NCIM-207	Industrial Materials
NCIM-222	Precision Measurement II
NCIM-237	Precision Grinding
NCIM-243	Optical Testing

Hospitality and Service Management, AS

www.ntid.rit.edu/businessstudies/asbs-hospitality
Mary Lou Basile, Chairperson
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Program overview

The associate in science degree in hospitality and service management is an Associate+Bachelor's degree program designed to prepare deaf and hard-of-hearing students to enter and successfully complete a baccalaureate program in the College of Applied Science and Technology's School of International Hospitality and Service Innovation.

Upon completion of the AS program with a minimum GPA of 2.5, students will enroll in the College of Applied Science and Technology, where they will pursue a bachelor's degree in international hospitality and service management. AS students may choose one of two concentrations: hotel and resort management or food and beverage management. Admission to this major is available for the fall semester only.

Prerequisites

ACT: composite test score of 18 and above.

English: Placement into a First Year Writing course, such as FYW: Writing Seminar (UWRT-150). Students who qualify for Critical Reading and Writing (UWRT-100) will be considered for admission if they are at NMTH-250 or higher in mathematics.

Mathematics: Placement into mathematics NMTH-210 or higher. Typically, students entering this major will have completed at least three years of high school mathematics.

Science: Placement into science NSCI-250 or higher. Typically, students entering this major will have completed at least two years of high school science.

Admission requirements

To enroll in the College of Applied Science and Technology's School of International Hospitality and Service Innovation, the student must present a grade point average of 2.5 or higher upon graduation with the associate in science degree.

Curriculum

Hospitality and service management (hotel and resort management option), AS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NCAR-100	Freshman Seminar	1
	LAS Foundation 1: First Year Seminar**	3
NSCI-250	LAS Perspective 6†	3
HSPT-131	Hotel Management and Operations	3
HSPT-181	Principles of Food, Hotel and Tourism Operations	3
	LAS Perspective 1, 2	6
UWRT-150	LAS Foundation 2: First Year Writing	3
	LAS Elective‡	3
HSPT-232	Hospitality, Real Estate and Facilities Management	3
HSPT-284	Hospitality, Industry Sales and Marketing	3
HSPT-499	Cooperative Education	Co-op
Second Year		
	Professional/Technical Electives§	6
HSPT-281	Service Management in a Global Economy	3
ECON-101	Principles of Microeconomics	3
	LAS Perspective 3, 4	6
MATH-101	College Algebra	3
NACC-205	Financial Accounting	3
HSPT-235	International Destinations	3
HSPT-334	International Resort Management	3
	Wellness Education*	0
Total Semester Credit Hours		**61**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.
† Any science course numbered NSCI-250 or higher
‡ Any mathematics course numbered NMTH-250 or higher
§ Choose a course from one of the following HSPT or FOOD program options: International Food Marketing and Distribution, International Hotel and Resort Management, and Entertainment and Event Management. See chart below.
** The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Hospitality and service management (food and beverage management option), AS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NCAR-100	Freshman Seminar	1
	LAS Foundation 1: First Year Seminar**	3
NSCI-250	LAS Perspective 6†	3
FOOD-121	Principles of Food Production	3
HSPT-181	Principles of Food, Hotel and Tourism Operations	3
	LAS Perspective 1, 2	6
UWRT-150	LAS Foundation 2: First Year Writing	3
	Mathematics‡	3
FOOD-123	Sanitation and Safety	1
FOOD-223	Food and Beverage Management	3
HSPT-284	Hospitality Industry Sales and Marketing	3
HSPT-499	Cooperative Education	Co-op
Second Year		
	Professional/Technical Electives§	6
HSPT-281	Service Management in a Global Economy	3
ECON-101	Principles of Microeconomics	3
	LAS Perspective 3, 4	6
MATH-101	College Algebra	3
NACC-205	Financial Accounting	3
FOOD-224	Serving Alcohol Safely	1
FOOD-226	Restaurant Operations	4
	Wellness Education*	0
Total Semester Credit Hours		**61**

Please see the NTID General Education Curriculum-Liberal Arts and Sciences (LAS) for more information.
* Please see Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.
† Any science course numbered NSCI-250 or higher
‡ Any mathematics course numbered NMTH-250 or higher
§ Choose a course from one of the following HSPT or FOOD program options: Entertainment and Event Management, International Food Marketing and Distribution, and International Hotel and Resort Management. See chart below.
** The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Electives

Entertainment and Event Management

HSPT-234	Negotiation and Conflict Resolution
HSPT-244	Meeting Event Management
HSPT-246	Casino Management
HSPT-248	Project Management for Events
HSPT-336	International Risk Assessment and Hospitality Law
HSPT-345	Venue Management

International Food Marketing and Distribution

FOOD-151	International Food Distribution
FOOD-454	Food Processing Quality and Integrity
PACK-301	Packaging Materials

International Hotel and Resort Management

HSPT-234	Negotiation and Conflict Resolution
HSPT-336	International Risk Assessment and Hospitality Law

Laboratory Science Technology, AAS

www.ntid.rit.edu/scimath/laboratory-science-technology
Matthew A. Lynn, Interim Chairperson
(585) 475-5923 (V), (585) 286-4751 (VP), malntm@rit.edu

Program overview

The laboratory science technology major, with its foundation of course sequences in chemistry, biology, and instrumental analysis, was developed primarily from an industry perspective to prepare students for employment as laboratory technicians. The major has several significant factors that set it apart, including the application of real-world analyses and a state-of-the-art instrumentation laboratory. Graduates are prepared to work in a broad range of fields, including chemical, biological, biotechnical, pharmaceutical, environmental, industrial, forensic, and food analysis.

Students earning an AAS degree have the option of finding employment or continuing to work toward a baccalaureate degree. Under the program's agreement with RIT's Center for Multidisciplinary Studies, individuals who maintain a grade-point average of 3.0 or higher may enroll in the center's bachelor's degree program. Students may then complete a BS degree in applied arts and science with a concentration in biotechnology studies. For more information, please visit www.ntid.rit.edu/scimath/a-plus-b-lst.

On-the-job responsibilities

Technicians are involved with the collection and preparation of samples and standards. They also perform instrumental, volumetric, gravimetric, and biological analyses. Additional job responsibilities may include the interpretation and reporting of experimental results and data.

Places of employment

The major prepares graduates for technical jobs in municipal, public, private, and industrial laboratories.

Prerequisites

English—AAS: Placement in a First Year Writing course, such as FYW: Writing Seminar (UWRT-150). Students typically enter First Year Writing with reading scores equivalent to 10.0 on the California Reading Test. However, students who complete AAS degrees typically enter NTID with reading scores of 9.0 on the California Reading Test.

Mathematics: Placement in Integrated Algebra (NMTH-212) or higher. Typically, students entering this major will have completed at least three years of high school mathematics.

Science: Typically, students entering this major will have completed at least two years of high school science. Completion of high school chemistry is required.

Curriculum

Laboratory science technology, AAS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NCAR-100	Freshman Seminar	1
NLST-120	Laboratory Tools	3
NLST-171	Fundamentals of Chemistry I	3
NSCI-161	LAS Perspective 6: Fundamentals of Biology I	3
NMTH-212	Integrated Algebra‡	3
	LAS Foundation 1: First Year Seminar**	3
	ASL-Deaf Cultural Studies†	
	LAS Perspective 1	3
NLST-172	Fundamentals of Chemistry II	3
NSCI-162	Fundamentals of Biology II	3
NLST-220	Analytical Chemistry	4
	LAS Foundation 2: First Year Writing	3
	Wellness Education*	0

COURSE		SEMESTER CREDIT HOURS
Second Year		
NLST-250	Quantitative Instrumental Analysis	4
NLST-240	Biotechnology I	3
NLST-230	Principles of Organic Chemistry	4
NLST-225	Laboratory Applications	3
NLST-232	Laboratory Mathematics	3
NLST-255	Chemical Separations and Chromatography	4
NLST-245	Biotechnology II	3
NLST-235	Principles of Biochemistry	3
NLST-260	Laboratory Methods	3
	LAS Perspective 2	3
NLST-299	Cooperative Education	Co-op
Third Year		
	Professional/Technical Electives§	6
	LAS Perspective 3, 4	6
Total Semester Credit Hours		**77**

See NTID General Education Curriculum-Liberal Arts and Sciences (LAS) requirements for more information.
* See Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.
† A 3-credit ASL-Deaf Cultural Studies course, to be taken at NTID or another college of RIT; will count for RIT General Education credit if it is a General Education Committee-approved course.
‡ Students placing above NMTH-212 must take a higher-level NMTH or MATH (College of Science) course as appropriate.
§ Approved technical electives are Chemical Technology (NLST-270) or any of the following with departmental approval: NSCI-120 or above, NMTH-212 or above, BIOL-101 (or equivalent), BIOL-121 (or equivalent), CHMG-141 (or equivalent), STAT-145 (or equivalent), STAT-155 (or equivalent), or MATH-161 (or equivalent).
** The First Year Seminar requirement is replaced by an LAS Elective for 2014-15.

Laboratory Science Technology, AOS

www.ntid.rit.edu/scimath/laboratory-science-technology
Matthew A. Lynn, Interim Chairperson
(585) 475-5923 (V), (585) 286-4751 (VP), malntm@rit.edu

Program overview

The laboratory science technology major, with its foundation of course sequences in chemistry, biology, and instrumental analysis, was developed primarily from an industry perspective to prepare students for employment as laboratory technicians. The major has several significant factors that set it apart, including the application of real-world analyses and a state-of-the-art instrumentation laboratory. Graduates are prepared to work in a broad range of fields, including chemical, biological, biotechnical, environmental, industrial, forensic, and food analysis.

On-the-job responsibilities

Technicians are involved with the collection and preparation of samples and standards. They also perform instrumental, volumetric, gravimetric, and biological analyses. Additional job responsibilities may include the interpretation and reporting of experimental results and data.

Places of employment

The major prepares graduates for technical jobs in municipal, public, private, and industrial laboratories.

Prerequisites

English—AOS: Placement into Career English I (NENG-212) or above. Students successfully completing AOS degrees typically enter with reading scores equivalent to 8.0 on the California Reading Test.

Mathematics: Placement into Integrated Algebra (NMTH-212) or above. Typically, students entering this major will have completed at least three years of high school mathematics.

Science: Typically, students entering this major will have completed at least two years of high school science. Completion of high school chemistry is required.

Curriculum

Laboratory science technology, AOS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
NLST-120	Laboratory Tools	3
NLST-171	Fundamentals of Chemistry I	3
NSCI-161	Fundamentals of Biology I	3
NMTH-212	NTID LAS Foundation: Integrated Algebra†	3
NENG-212	NTID LAS Foundation: Career English I	3
NCAR-100	Freshman Seminar	1
NLST-172	Fundamentals of Chemistry II	3
NSCI-162	Fundamentals of Biology II	3
NLST-220	Analytical Chemistry	4
NENG-213	NTID LAS Foundation: Career English II	3
	Wellness Education*	0
Second Year		
NLST-250	Quantitative Instrumental Analysis	4
NLST-240	Biotechnology I	3
NLST-230	Principles of Organic Chemistry	4
NLST-225	Laboratory Applications	3
NLST-255	Chemical Separations and Chromatography	4
NLST-245	Biotechnology II	3
NLST-235	Principles of Biochemistry	3
NLST-260	Laboratory Methods	3
NLST-299	Cooperative Education	Co-op
Third Year		
NLST-232	Laboratory Mathematics	3
	Technical Electives‡	6
	NTID LAS Perspective§	3
Total Semester Credit Hours		**68**

See NTID General Education Curriculum-Liberal Arts and Sciences (LAS) requirements for more information.
* See Wellness Education Requirement for more information. Students completing associate degrees are required to complete one Wellness course.
† Students placing above NMTH-212 can take a higher-level NMTH course or any course from a non-science LAS Perspective area.
‡ Courses that can be used as a technical elective include Chemical Technology (NLST-270), NSCI-120 or above with departmental approval, and NMTH-220 or above with departmental approval.
§ This LAS Perspective course may be from any of the following three Perspective categories: ASL-Deaf Cultural Studies; Communication, Social & Global Awareness; or Creative and Innovative Exploration.

Deaf Cultural Studies-American Sign Language, Cert.

www.ntid.rit.edu/academics/special-certificate-programs
J. Matt Searls, Program Contact
(585) 475-5707, jmsdhd@rit.edu

Program overview

The Deaf cultural studies-American Sign Language certificate offers deaf and hard-of-hearing students the opportunity to understand the deaf community as an entity unto itself and within the context of society as a whole.

Knowledge, skills, and abilities learned through this program of study include: understanding the structure of ASL and the application of linguistic principles to other languages (specifically English); enhancement of bilingual skills to improve communication; increased knowledge of Deaf culture and Deaf history; a heightened sense of self-concept, self-esteem, and self-confidence; improved presentation skills; and enhanced literacy and critical thinking skills.

Candidates for this certificate must complete or have already completed an undergraduate degree program at NTID/RIT.

Curriculum

Deaf cultural studies-ASL, certificate, typical course sequence

COURSE		SEMESTER CREDIT HOURS
Choose three of the following courses:		9
NHSS-159	Deaf Community in the Modern World	
NHSS-260	Deaf People and Civil Rights	
NHSS-270	Multiculturalism in the Deaf Community	
NASL-275	Structure of ASL	
NHSS-269	Visual Expressions of Deafhood	
NHSS-279	Seminar in Deaf Cultural Studies	
Total Semester Credit Hours		**9**

Performing Arts, Cert.

www.ntid.rit.edu/academics/special-certificate-programs
Aaron Kelstone, Program Director
(585) 286-1659, abwnpa@rit.edu

Program overview

The performing arts certificate provides students with an additional set of marketable skills. Students develop knowledge of standard theatrical operating procedures as well as principles and practices of theater accessibility for deaf people, allowing them to work in professional, regional, and community theater. The certificate also provides a solid foundation for both deaf and hearing students who wish to pursue further education in film, video, theater, and related forms of performing arts.

The certificate includes knowledge of theater terminology, practices, and protocols; issues in script analysis; ASL translation and accessibility; and experience in performance and technical theater. Students take Theatre Practicum I (NHSS-248), then select three additional courses in areas such as stagecraft, acting, scenic and lighting technology, and scenic painting and props, to name a few. Candidates for this certificate must complete or have already completed an undergraduate program at NTID/RIT.

Curriculum

Performing arts, certificate, typical course sequence

COURSE		SEMESTER CREDIT HOURS
NHSS-248	Theatre Practicum I	1
Choose three of the following courses:		9
NHSS-120	Introduction to Performing Arts	
NHSS-122	Introduction to Stagecraft	
NHSS-130	Acting I	
NHSS-132	Sign Mime, Creative Movement, and Visual Theatre	
NHSS-134	Dance I: Jazz and Hip-Hop	
NHSS-223	Scenic and Lighting Technology	
NHSS-224	Scenic Painting and Props	
NHSS-225	Costume, Mask, and Stage Make-Up	
NHSS-231	Acting II	
NHSS-235	Dance II: Modern Dance and Ballet	
NHSS-240	Theatre History Through Deaf Eyes	
NHSS-249	Seminar in Performing Arts	
Total Semester Credit Hours		**10**

Pre-baccalaureate Studies

General information

The pre-baccalaureate studies program is available to students who are accepted by NTID and are close to, but not fully ready for, direct entry into a baccalaureate-level program through one of the other colleges of RIT. It is a bridge program for qualified students, based on academic transcripts, scores on admissions tests, and other evidence that supports a reasonable expectation of success in baccalaureate course work. Qualified students who are undecided as to a program of study may choose the pre-baccalaureate studies career exploration option.

Enrollment in the pre-baccalaureate studies program is appropriate for students who need to further develop mathematics, English, or discipline-related skills. The academic program is flexible and individualized and allows students to focus on needed skills while concurrently progressing toward their chosen field of study. Students may take courses taught by NTID faculty, as well as entry-level courses taught in other RIT colleges. While in the program, students receive academic advising as well as career counseling.

Students cannot receive a degree in pre-baccalaureate studies. Rather, they will apply for admission into a baccalaureate program as soon as they are academically ready and the college offering their chosen baccalaureate program reviews their application for admission. After completing an entire academic year in the program, a student must transfer to a degree-granting program in NTID or one of the other colleges of RIT.

Arts and Imaging Studies

Kenneth F. Hoffmann, Chairperson
Visual Communication Studies Department

Students entering pre-baccalaureate studies in arts and imaging studies will typically be required to have:

ACT: minimum score of 18

English: Placement into a First Year Writing course, such as FYW: Writing Seminar (UWRT-150)

Mathematics: Placement into mathematics course NMTH-120 or higher for BFA degrees or NMTH-250 or higher for BS degrees

Science: Placement into science NSCI-120 or higher for BFA degrees or NSCI-250 or higher for BS degrees

Pre-baccalaureate studies, arts and imaging studies (schools of American Crafts, Art, and Design), typical course sequence

COURSE		SEMESTER CREDIT HOURS
NGRD-115	Visual Idea Development	3
NGRD-111, 211	Drawing I, II	6
NAIS-120	Principles of Design and Color	3
NAIS-130	Raster and Vector Graphics	3
NGRD-140	Graphic Design and Typography I	3
	LAS-General Education	12
NCAR-100	Freshman Seminar	1
	Elective	3
Total Semester Credit Hours		**34**

Please see the General Education Curriculum–Liberal Arts and Sciences (LAS) in the Graduation Requirements section of this bulletin for more information.

Note: Portfolio of original artwork is required to determine admission. See the College of Imaging Arts and Sciences support coordinator for further information.

Pre-baccalaureate studies, arts and imaging studies (School of Photographic Arts and Sciences), BFA degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
NGRP-110, 210	Digital Photography I, II	6
NGRD-111	Drawing I	3
NAIS-120	Principles of Design and Color	3
NAIS-130	Raster and Vector Graphics	3
NGRD-115	Visual Idea Development	3
NGRD-140	Graphic Design and Typography I	3
	LAS-General Education	12
NCAR-100	Freshman Seminar	1
Total Semester Credit Hours		**34**

Please see the General Education Curriculum–Liberal Arts and Sciences (LAS) in the Graduation Requirements section of this bulletin for more information.

Pre-baccalaureate studies, arts and imaging studies (School of Photographic Arts and Sciences), BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
NGRP-110	Digital Photography I	3
NAIS-120	Principles of Design and Color	3
NAIS-130	Raster and Vector Graphics	3
NGRP-231	Image Preparation	3
NGRP-232	Image Manipulation	3
	Math Course†	3
	Science Course‡	3
	LAS-General Education	12
NCAR-100	Freshman Seminar	1
Total Semester Credit Hours		**34**

Please see the General Education Curriculum–Liberal Arts and Sciences (LAS) in the Graduation Requirements section of this bulletin for more information.
† Students may choose any mathematics course numbered NMTH-120 or higher.
‡ Students may choose any science course numbered NSCI-120 or higher.

Pre-baccalaureate studies, arts and imaging studies (film and animation option), typical course sequence

COURSE		SEMESTER CREDIT HOURS
NGRP-220	Videography	3
SOFA-107	Principles of Animation	3
SOFA-103	Film/Video Materials and Technology	3
SOFA-106	Film Syntax	3
	Theatre Electives/Performing Arts†	3-9
	LAS-General Education	12
NCAR-100	Freshman Seminar	1
Total Semester Credit Hours		**28-34**

Please see the General Education Curriculum–Liberal Arts and Sciences (LAS) in the Graduation Requirements section of this bulletin for more information.
† Please see the College of Imaging Arts and Sciences support coordinator for a list of current theatre electives.

Pre-baccalaureate studies, arts and imaging studies (School of Media Sciences), typical course sequence

COURSE		SEMESTER CREDIT HOURS
NAIS-130	Raster and Vector Graphics	3
NAIS-150	Page Layout I	3
NGRP-231	Image Preparation	3
NGRP-232	Image Manipulation	3
NGRP-245	Color Theory and Management	3
	Math Course†	3
	Science Course‡	3
	LAS-General Education	12
NCAR-100	Freshman Seminar	1
Total Semester Credit Hours		**34**

Please see the General Education Curriculum–Liberal Arts and Sciences (LAS) in the Graduation Requirements section of this bulletin for more information.
† Students may choose any mathematics course numbered NMTH-120 or higher.
‡ Students may choose any science course numbered NSCI-120 or higher.

Engineering Studies

Dino Laury, Chairperson, Engineering Studies

Pre-baccalaureate studies, engineering option, typical course sequence

COURSE		SEMESTER CREDIT HOURS
NCAR-100	Freshman Seminar	1
	First Year Seminar	3
	Pre-baccalaureate Courses†	0-3
	Major Courses	6
PHYS-211, 212	University Physics I, II	8
	LAS-General Education	6
MATH-181, 182	Project-based Calculus I, II‡	8
Total Semester Credit Hours		**32-35**

Please see the General Education Curriculum–Liberal Arts and Sciences (LAS) in the Graduation Requirements section of this bulletin for more information.
† Pre-baccalaureate courses strengthen students' skills in critical thinking, learning strategies, and specific discipline areas.
‡ Alternative mathematics courses may be required as prerequisites, depending on placement. If pursuing the physics option, students must choose the physics sequence.

Pre-baccalaureate studies, engineering technology option, typical course sequence

COURSE		SEMESTER CREDIT HOURS
NCAR-100	Freshman Seminar	1
	First Year Seminar	3
	Pre-baccalaureate Courses†	0-3
	Undeclared Engineering Technology Seminar	1
	Major Courses	6
	LAS-General Education	6
PHYS-111	College Physics I	4
MATH-111	Pre-Calculus	3
MATH-171, 172	Calculus A, B‡	6
Total Semester Credit Hours		**30-33**

Please see the General Education Curriculum–Liberal Arts and Sciences (LAS) in the Graduation Requirements section of this bulletin for more information.
† Pre-baccalaureate courses strengthen students' skills in critical thinking, learning strategies, and specific discipline areas.
‡ Alternative mathematics courses may be required as prerequisites, depending on placement. If pursuing the physics option, students must choose the physics sequence.

Liberal Studies

Jennifer L. Gravitz, Chairperson, Liberal Studies

Students entering pre-baccalaureate studies in liberal studies will typically be required to have:

ACT: Minimum composite score of 19 with a reading score of 20 and all other skill area scores of 18 or higher

English: Placement into Critical Reading and Writing (UWRT-100)

Mathematics: Placement into the NTID Advanced Mathematics (NMTH-275) course or higher

Pre-baccalaureate studies, liberal arts, typical course sequence

COURSE		SEMESTER CREDIT HOURS
NCAR-100	Freshman Seminar	1
	First Year Major Courses	6
	LAS-General Education*	6-9
	Mathematics or Science Course‡	3
	NTID Humanities or Social Science Courses§	3
	Pre-Baccalaureate Courses†	6-9
Total Semester Credit Hours		**25-31**

* Please see the NTID General Education Curriculum–Liberal Arts and Sciences for more information. Depending on placement, the writing sequence may begin with Critical Reading and Writing (UWRT-100) or a First Year Writing course, such as FYW: Writing Seminar (UWRT-150). Students should also choose a course that satisfies one of the RIT LAS Perspectives: ethical (P1), artistic (P2), global (P3), or social (P4).
† Pre-baccalaureate courses strengthen students' skills in critical thinking, learning strategies, and specific discipline areas.
‡ Students may choose one of the following: NMTH-210, NMTH-250, NMTH-260, or a science course numbered NSCI-250 or higher.
§ Students may choose one of the following: any communication studies course numbered NCOM-201 or higher, or any humanities and social sciences course numbered NHSS-260 or higher.

Science and Mathematics

Matthew A. Lynn, Interim Chairperson, Science and Mathematics

Students entering pre-baccalaureate studies in science or mathematics will typically be required to have:

ACT: Minimum composite score of 19 with reading and mathematics scores of 20 and English and science scores of 18

English: Placement into Critical Reading and Writing (UWRT-100)

Mathematics: Placement in NTID Advanced Mathematics (NMTH-275) course or higher

Pre-baccalaureate studies (biology, biotechnology, environmental science, environmental management, or medical sciences), typical course sequence

COURSE		SEMESTER CREDIT HOURS
NCAR-100	Freshman Seminar	1
	Pre-baccalaureate courses#	3-6
BIOL-101, 102	General Biology I, II	6
BIOL-103, 104	General Biology Lab I, II	2
	LAS General Education*	9
MATH-101	College Algebra	3
MATH-161	Applied Calculus‡	3
	Total Semester Credit Hours	27-30

Pre-baccalaureate courses are an available option to strengthen students' skills in critical thinking, learning strategies, and specific discipline areas.

* Please see Liberal Arts General Education Requirements for more information. Depending on placement, the writing sequence may begin with Critical Reading and Writing (UWRT-100) or FYW: Writing Seminar (UWRT-150).

‡ Alternative mathematics courses may be required as prerequisites, depending on placement.

Pre-baccalaureate studies in science (chemistry option), typical course sequence

COURSE		SEMESTER CREDIT HOURS
NCAR-100	Freshman Seminar	1
	Pre-baccalaureate courses#	3-6
CHMG-141, 142	General and Analytical Chemistry I, II	6
CHMG-145, 146	General and Analytical Chemistry Labs I, II	2
MATH-181, 182	Project-Based Calculus I, II	6
	LAS General Education*	9
	Total Semester Credit Hours	27-30

Pre-baccalaureate courses are available to strengthen students' skills in critical thinking, learning strategies, and specific discipline areas.

* Please see Liberal Arts General Education Requirements for more information. Depending on placement, the writing sequence may begin with Critical Reading and Writing (UWRT-100) or FYW: Writing Seminar (UWRT-150).

Pre-baccalaureate studies in science (math or physics option), typical course sequence

COURSE		SEMESTER CREDIT HOURS
NCAR-100	Freshman Seminar	1
	Pre-baccalaureate courses#	3-6
Choose one of the following course sequences:		8
CHMG-141, 142, 145, 146	General and Analytical Chemistry I, II and Labs I, II	
PHYS-211, 212	University Physics I, II§	
Choose one of the following course sequences:		6
MATH-171, 172	Calculus A, B‡	
MATH-181, 182	Project-Based Calculus I, II‡	
	LAS General Education*	9
	Total Semester Credit Hours	27-30

Pre-baccalaureate courses are an option to strengthen students' skills in critical thinking, learning strategies, and specific discipline areas.

‡ Alternate mathematics courses may be required as prerequisites, depending on placement.

* Please see Liberal Arts General Education Requirements for more information. Depending on placement, the writing sequence may begin with Critical Reading and Writing (UWRT-100) or FYW: Writing Seminar (UWRT-150).

§ If pursuing the physics option, students must choose the physics sequence.

Gerard J. Buckley, BS, Rochester Institute of Technology; MSW, University of Missouri; Ed.D., University of Kansas—President, NTID and Vice President and Dean, RIT; Associate Professor

Gary L. Long, BA, University of Akron; MA, Ph.D., Texas Christian University—Interim Associate Dean for Research; Associate Professor

Academic Affairs

Stephen F. Aldersley, BS, University of Surrey (United Kingdom); MA, College of St. Rose; Ed.D., University of Rochester—Associate Vice President for Academic Affairs; Professor

Linda M. Bryant, BS, Nazareth College of Rochester; MS, Gallaudet University; Ed.D., University of Rochester—Interim Associate Dean for Student and Academic Services; Associate Professor

Marianne Gustafson, BS, Northwestern University; MS, Syracuse University—Associate Dean for Curriculum and Special Projects; Professor

Geoffrey S. Poor, AAS, Seattle Central Community College; BA, Vassar College; MA, Nazareth College of Rochester—Coordinator, Office of ASL Training and Evaluation; Professor

Kathryn L. Schmitz, BA, Duke University; MS, Rochester Institute of Technology; Ph.D., University at Buffalo—Associate Dean for Academic Administration; Associate Professor

American Sign Language and Interpreting Education

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Visual Communications Studies

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Thomas J. Policano, BS, University of Rochester; MFA, University at Buffalo—Associate Professor

Thomas Raco, BFA, MFA, Rochester Institute of Technology; Ed.D., University at Buffalo—Professor

Sidonie M. Roepke, BFA, MST, MS, Rochester Institute of Technology—Professor

Ernie Roszkowski, BFA, Rochester Institute of Technology—Lecturer

Heather L. Smith, AAS, BS, MFA, Rochester Institute of Technology—Lecturer

Kurt Stoskopf, BFA, MFA, Rochester Institute of Technology—Associate Professor

Michael J. Voelkl, BFA, MST, Rochester Institute of Technology—Associate Professor

Andrea M. Zuchegno, BS, MS, Rochester Institute of Technology—Assistant Professor

Business Studies

Mary Louise Basile, BA, LeMoyne College; MA, University at Albany; MBA, Rochester Institute of Technology—Chairperson; Professor

W. Scot Atkins, BS, MS, Rochester Institute of Technology; Ed.D., University of St. Thomas—Assistant Professor

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E. William Clymer, AAS, BS, MBA, Rochester Institute of Technology; M.Ed., Syracuse University—Associate Professor

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Michael Kane, BS, MS, Rochester Institute of Technology; MS, Gallaudet University—Lecturer

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Mark J. Pfuntner, BS, MBA, Rochester Institute of Technology—Associate Professor

Anne Strauch, AAS, BS, MBA, Rochester Institute of Technology—Lecturer

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Charlotte L. V. Thoms, BS, Youngstown State University; MS, Ed.D., University of Rochester—Associate Professor

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Communication Studies and Services

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Catherine C. Clark, BA, Bradley University; MS, University of Louisville; AuD, Salus University—Associate Professor

John M. Conklin, AAS, Orange County Community College; BS, State University College at Brockport; MS, State University College at Geneseo— Assistant Professor

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Cultural and Creative Studies

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Erin Auble, BA, Emerson College; MST, Rochester Institute of Technology—Lecturer

Julie J. Cammeron, BA, University of Great Falls; MED, Gallaudet University—Associate Professor

Patricia A. Durr, BA, LeMoyne College; MS, University of Rochester—Associate Professor

Luane Davis Haggerty, BA, City University of New York at Hunter College; MA, Goddard College; Ph.D., Antioch University—Senior Lecturer

Aaron Weir Kelstone, BA, MA, Cleveland State University; Ph.D., Northeastern University—Senior Lecturer

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Engineering Studies

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Eugene P. Galasso, BA, St. John Fisher College—Lecturer

Diane J. Heyden, AAS, Erie Community College; BS, State University of New York Empire State College; MS, Rochester Institute of Technology—Assistant Professor

Marcus Holmes, AAS, BS, MS, Rochester Institute of Technology—Senior Lecturer

William R. LaVigne, B.Arch., University of Notre Dame; MS, Rochester Institute of Technology—Assistant Professor

Sidney L. McQuay, AAS, Williamsport Community College; BS, MS, State University College at Oswego; Ph.D., University of Connecticut—Associate Professor

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Edward A. Schwenzer, BA, MS, University of Rochester—Lecturer

Information and Computing Studies

Elissa M. Olsen, AAS, BS, MS, Rochester Institute of Technology—Chairperson; Assistant Professor

Karen Beiter, BS, MS, Rochester Institute of Technology—Assistant Professor

Christopher Campbell, BS, Rochester Institute of Technology; MS, University of Phoenix—Lecturer

Tao Eng, BS, MS, Rochester Institute of Technology—Senior Lecturer

Mark Jeremy, AAS, BS, Rochester Institute of Technology—Lecturer

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David E. Lawrence, AAS, BET, University of Akron; MS, Rochester Institute of Technology—Associate Professor

James R. Mallory, AAS, Kent State University; BS, MS, Rochester Institute of Technology—Professor

Myra Bennett Pelz, BA, Rutgers University; MA, New York University; MS, Rochester Institute of Technology—Associate Professor

Tom Simpson, BS, Rochester Institute of Technology; MS, Nazareth College of Rochester—Lecturer

Joseph Stanislow, AAS, BS, Rochester Institute of Technology; MS, Stevens Institute of Technology—Assistant Professor

John V. Sweeney, BS, MS, Michigan State University; MS, Rochester Institute of Technology—Assistant Professor

Brian Trager, BS, MS, Rochester Institute of Technology—Assistant Professor

Werner Zorn, AAS, BS, MS, Rochester Institute of Technology—Lecturer

Liberal Studies

Jennifer L. Gravitz, BS, MS, Rochester Institute of Technology; JD, Albany Law School—Chairperson; Associate Professor

Gerald P. Berent, BS, University of Virginia; Ph.D., University of North Carolina at Chapel Hill—Professor

Pamela R. Conley, AAS, Rochester Institute of Technology; BA, Gallaudet University; MA, State University College at Brockport; MS, University of Rochester—Associate Professor

Kathleen E. Crandall, BA, MA, California State University at Fresno; Ph.D., Northwestern University—Associate Professor

Jessica A. Cuculick, BS, Rochester Institute of Technology; MSW, East Carolina University; Ed.D., University of Rochester—Assistant Professor

Erin A. Esposito, BS, MS, Rochester Institute of Technology—Lecturer

Peter L. Haggerty, BA, Wesleyan University; MA, Rutgers University—Associate Professor

Melinda J. Hopper, BS, MS, Illinois State University; Ph.D., University of Rochester—Lecturer

Clayton Ide, BS, Gallaudet University; MS, Rochester Institute of Technology—Lecturer

Denise S. Kavin, BS, Gallaudet University; MS, Northwestern University; Ed.D., Northern Illinois University—Lecturer

Patricia Kenney, BA, Gallaudet University; BA, MA, California State University in Northridge—Lecturer

Pamela Kincheloe, BA, Rollins College; MA, University of North Carolina at Chapel Hill; Ph.D., Southern Illinois University—Associate Professor

Kenneth Lerner, BA, Beloit College; MS, University of Virginia—Senior Lecturer

Eugene Lylak, BA, University at Buffalo; M.Ed., St. Michael's College; Ed.D., University of Rochester—Professor

Marc Marschark, BA, Cornell University; MA, Ph.D., University of Western Ontario (Canada)—Professor

Brian Milburn, AA, William Rainey Harper College; BS, MS, Rochester Institute of Technology—Lecturer

John E. Panara, AS, Monroe Community College; BS, MA, State University College at Brockport—Assistant Professor

John-Allen Payne, AA, San Diego City College; BA, California State University; MS, San Diego State University; Ph.D., University of Illinois—Associate Professor

Stephanie R. Polowe, BA, Wayne State University; MA, State University College at Brockport; Ed.D., University of Rochester—Professor

Linda A. Rubel, BA, Pennsylvania State University; MA, Ph.D., University of North Carolina at Chapel Hill—Professor

Vincent J. Samar, BA, MA, Ph.D., University of Rochester—Associate Professor

Michael Skyer, BFA, MS, Rochester Institute of Technology—Lecturer

Michael S. Stein, AB, Princeton University; JD, Harvard Law School—Lecturer

Rose Marie Toscano, BS, Portland State University; MA, University of Rochester—Professor

Kathy Varone, BS, State University College at Fredonia; MS, New York University—Lecturer

Jeanne Yamonaco, BA, MS, Nazareth College of Rochester—Senior Lecturer

Master of Science in Secondary Education

Gerald C. Bateman, BS, MS, State University College at Geneseo; Ed.D., University of Rochester—Director; Professor

Carol Lee De Filippo, BA, Newark State College; MS, Purdue University; MS, Ph.D., Washington University—Professor

Susan B. Foster, BA, Northwestern University; BS, University of Maine; M.Ed., Bridgewater State College; Ph.D., Syracuse University—Professor

Ronald R. Kelly, BS, M.Ed., Ph.D., University of Nebraska at Lincoln—Professor

Christopher A.N. Kurz, BS, Rochester Institute of Technology; MS, Ph.D., University of Kansas—Associate Professor

Ila Parasnis, BA, MA, Nagpur University (India); MA, Ph.D., University of Rochester—Professor

Sara Schley, BA, Reed College; MA, Northeastern University; Ed.D., Harvard University—Associate Professor

Michael S. Stinson, BA, University of California at Berkeley; MA, Ph.D., University of Michigan—Professor

Science and Mathematics

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Jason Nordhaus, BA, BS, MS, Ph.D., University of Rochester—Assistant Professor

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Larry K. Quinsland, BA, University of Wisconsin at Madison; MA, MS, University of Wisconsin at Milwaukee; Ph.D., Walden University—Professor

Victoria J. Robinson, BS, MS, University of Illinois at Urbana—Associate Professor

Annemarie D. Ross, BS, MS, Rochester Institute of Technology—Associate Professor

Miriam E. Santana-Valadez, BS, Normal Superior Nueva Galicias; BS, ITESO University (Mexico); MS, St. John Fisher College—Lecturer

Sarah Sarchet, BS, MS, Rochester Institute of Technology—Lecturer

Matthew J. Stefano, BS, MS, Rochester Institute of Technology—Lecturer

Jennifer Swartzenberg, AS, Monroe Community College; BS, MS, Rochester Institute of Technology—Lecturer

David C. Templeton, BA, Wittenberg University; MA, Northwestern University—Associate Professor

Karen Tobin, BS, Rochester Institute of Technology—Lecturer

Sharron M. Webster, BS, MS, Rochester Institute of Technology—Lecturer

Patricia S. Wink, B.Tech., MS, Rochester Institute of Technology—Senior Lecturer

Delelegne Woldmedhin, BS, Haile Selassie University (Ethiopia); MS, Addis Ababa University (Ethiopia); DA, Idaho State University—Assistant Professor

Student and Academic Services

Linda M. Bryant, BS, Nazareth College of Rochester; MS, Gallaudet University; Ed.D., University of Rochester—Interim Associate Dean for Student and Academic Services; Associate Professor

Counseling and Academic Advising Services

Mark J. Rosica, BS, State University College at Oswego; MS, Syracuse University; CAS, Gallaudet University; Postgraduate Certificate, University of Rochester—Chairperson; Associate Professor

Margaret A. Hoblit, BA, San Jose State University; MS, California State University at Sacramento—Assistant Professor

Solange C. Skyer, BS, Rhode Island College; MA, Gallaudet University—Associate Professor

Access Services

Rico Peterson, BA, Nazareth College of Rochester; MFA, University of California at Los Angeles; Ph.D., University of California, Riverside—Assistant Dean and Director; Associate Professor

Center on Access Technology

James J. DeCaro, BS, MS, University at Buffalo; Ph.D., Syracuse University—Director; NTID Dean Emeritus; Professor

The National Advisory Group

Brenda Battat, Executive Director, Hearing Loss Association of America

Joyce Bender, CEO, Bender Consulting Services

Andrew N. Brenneman, Senior National Account Executive, Sprint Nextel

Essie Calhoun, Eastman Kodak Company (retired)

Lisa Dallos, Founder, High IOMedia

Catherine Hunt, The Dow Chemical Company (retired)

Christopher Lehfeldt, Elmwood Dental Group

Jon Levy, Principal, Orange County Department of Education, Regional Deaf and Hard of Hearing Program

Harold Mowl, Superintendent, Rochester School for the Deaf

Leeanne Seaver, Founding Member and Executive Director, Hands and Voices

Michael Tecklenburg, Counsel to House Democratic Leader Nancy Pelosi

Olga Welch, Dean, School of Education, Duquesne University

Angela Officer, Ex-officio member, Sprint Relay

U.S. Government Representatives

The Honorable Charles E. Schumer, Member, U.S. Senate, New York State

The Honorable Louise M. Slaughter, Member, U.S. House of Representatives, New York State

Honorary Members

W. Frank Blount

Nancy R. Horton

Jane Ratcliffe Pulver

College of Science

Sophia Maggelakis, Dean
rit.edu/cos

Programs of study

	Bachelor of Science degrees in:	Page
#	Applied Mathematics	168
#	Applied Statistics	169
	Biochemistry	162
#	Bioinformatics	164
	Biology	166
	Biotechnology and Molecular Bioscience	166
#	Chemistry	162
#	Computational Mathematics	170
#	Environmental Science	167
	Imaging Science	164
#	Physics	171

Accelerated BS/MS option available.

Undergraduates in the College of Science receive a unique education, one that emphasizes the applications of science and mathematics in the professional world while providing a comprehensive liberal arts education in the humanities and social sciences. The College of Science curricula reflects current trends in the application of science and mathematics while preparing students for graduate study or for immediate employment in business, industry, government, and the medical science professions. All of the college's undergraduate programs serve as excellent preparation for graduate, medical, law, or business school.

Within an academic community committed to diversity and student centeredness, our emphasis is on the practical aspects of science and mathematics as found in science and computer laboratories. Students learn important skills in critical and analytical thinking, problem solving, and technical communication. While we are career-oriented, we recognize the value of the liberal arts for the intellectual enrichment of our students. In addition to technical competence, many of the skills acquired through the study of the liberal arts also are required by employers for promotion and career advancement.

Admission requirements

For information on undergraduate admission, including transfer and freshman admission guidelines, please see the Undergraduate Admission section of this bulletin.

Financial aid and scholarships

Please refer to the Financial Aid and Scholarships section of this bulletin for information regarding financial aid, scholarships, loans, and grants.

Faculty

The college has more than 160 faculty members teaching in the fields of science and mathematics. All are committed to the education of undergraduate and graduate students, and most hold a doctoral degree. A variety of faculty expertise means students are likely to find a faculty member with similar interests to serve as a mentor.

Our faculty members are dedicated professors who also practice their professions outside of the classroom, participating in research and professional activities.

Facilities

The College of Science's programs are conducted in two major facilities on campus: Gosnell Hall and the Chester F. Carlson Center for Imaging Science.

Gosnell Hall has nine classrooms, 22 teaching laboratories, and 16 research laboratories that provide space for laboratory course work and student research projects. Some of the facilities within Gosnell Hall have specialized purposes. For example, we have an x-ray and surface science laboratory, an animal care facility, a plasma etching laboratory, an electronics laboratory, a quantum optics laboratory, a confocal microscopy lab, and a nuclear magnetic resonance laboratory.

The Bates Science Study Center in Gosnell Hall provides a comfortable, wireless computing environment for study groups and individual tutoring sessions with faculty. The 60,000 sq. ft. south wing of Gosnell Hall—the Center for Excellence in Mathematics, Science, and Technology—has an additional nine media-supported classrooms, three computer laboratories, two statistical computing laboratories, five science laboratories, a laser light scattering laboratory, a greenhouse, and community areas, including the Bruce and Nora James Atrium.

The Chester F. Carlson Center for Imaging Science has teaching and research facilities, including laboratories for visual perception, digital imaging, astronomical imaging, optics, multi-modal biomedical imaging, video analysis, and remote sensing. There are also laboratories dedicated to the study of optics, magnetism, and granular materials. The Munsell Color Science Laboratory is dedicated to the study of color science.

State-of-the-art computer facilities are available in the college as well as in labs throughout the university. A valuable resource for the college's programs, these facilities utilize computers in the application of mathematics and science. The college also operates an observatory on campus.

Cooperative education/Internships

In RIT's cooperative education plan, a student alternates semesters of paid work experience with on-campus academic study. Co-op employment experience has many advantages. It helps students

gain insight into how classroom learning is applied in real work settings, gives them a chance to experience their professional field of study, and helps them acquire practical experience that is valuable in obtaining employment or applying to a graduate program. Salaries earned from cooperative education experiences enable students to offset a portion of the cost of their education.

Co-op is not a requirement in most of our programs, although it is strongly encouraged. Full participation in a co-op experience means a student will graduate in five years, completing a minimum of two co-op experiences. The Office of Cooperative Education and Career Services assists students in identifying and applying for co-op positions. Students in the environmental science and imaging science majors are encouraged to participate in optional co-op blocks beginning the summer of the second year of their program. Students in the bioinformatics major are required to complete one cooperative education experience.

Research

Our students are encouraged to work with faculty members as they pursue their research. Many joint student-faculty research projects have resulted in publication in professional literature. Student research is conducted in campus laboratories and through field studies. Opportunities for research across disciplines develop from the collaboration of students and faculty who share common interests. The results of student research projects are recognized in weekly forums and at the Undergraduate Research Symposium at the end of summer. The college encourages students to apply for Research Experiences as Undergraduates (REU) at other universities and currently offers two REUs at RIT.

Accreditation

Programs in chemistry and biochemistry are approved by the Committee on Professional Training of the American Chemical Society.

Advising

Each student is assigned an academic adviser who provides counsel on course selection, advice about careers, and information on RIT services. It is common for a science major to have several mentors among the faculty who help with academic, career, and personal questions.

Academic enrichment

Honors Program: Students who demonstrate a high level of achievement at the high school level may be invited to join the Honors program. These students will participate in Honors course work throughout their program of study and experiential learning activities under the guidance of a faculty mentor. Honors students will be selected during the admissions process.

Minors: RIT offers students more than 80 minors to choose from to enhance their major or further develop a personal area of interest. For a detailed list of minors, including courses, please refer to the Minors section of this bulletin.

Study Abroad: RIT encourages all students to consider a study abroad program. Students may study full time at a variety of host schools and are able to select courses that fulfill requirements in their academic field of study and/or RIT liberal arts general education requirements. RIT's Study Abroad Office has information about foreign study options and opportunities.

Professional student organizations: The college maintains memberships in the following professional organizations: Imaging Science and Technology Student Chapter, Honorary Physics Society, the Society of Physics Students, American Society for Biochemistry and Molecular Biology Student Affiliates, American Mathematical Society, Mathematical Society of America, and the Society for Industrial and Applied Mathematics, to name a few.

Special opportunities

Accelerated dual degree options: Some programs offer accelerated, five-year dual BS/MS degree options. These degrees offer students the opportunity to earn a bachelor's degree and a master's degree in less time than pursuing each degree individually. Please refer to individual programs, the *Graduate Bulletin,* or the college's website for more information.

Graduate study: The college offers doctorate degrees in astrophysical sciences and technology, color science, and imaging science; and master of science degrees in applied and computational mathematics, astrophysical sciences and technology, bioinformatics, chemistry, color science, environmental science, and imaging science. For more information regarding these programs, please refer to the *Graduate Bulletin* or visit the college's website.

Actuarial studies: A plan of study is available for students interested a career in the actuarial sciences. Actuarial science is a discipline that applies mathematical and statistical methods to assess risk in the insurance, finance, and other industries. Course work provides a foundation for students who will work as actuaries and also prepares students to take the first actuarial exams. These courses may count for credit in any of the three major programs in the School of Mathematical Sciences, or may be taken independently.

Premedical Studies/Pre-health Professions Advisory Program

The premedical studies and pre-health professions advisory program is designed to provide guidance and assistance to all RIT students who are interested in continuing their education in one of the health professions; e.g., medicine, osteopathy, dentistry, optometry, podiatry, or veterinary science. Faculty members who participate in this program provide advice on the prerequisites (course selection, health-related experiences, extracurricular activities) needed for application to various health-related professional schools. In addition, they provide assistance with the application process.

Enrollment in premedical studies/pre-health professions advisory program

The premedical studies and pre-health professions advisory program is available to students who are enrolled in one of the degree granting programs offered at RIT or to nonmatriculated students taking the premedical core courses or pre-professional prerequisite courses. To enroll in the program, students must contact the premedical studies and pre-health professions office in the College of Health Sciences and Technology.

Science Exploration, Undeclared

rit.edu/scienceexploration
Roger Dube, Program Director
(585) 475-5836, rrdpci@rit.edu

Program overview

Many prospective students are interested in the sciences, but may be undecided as to which major best meets their interests and career aspirations. The science exploration option allows students to investigate the various majors in the College of Science before deciding on a program of study. Students who decide on a major within their first year will not lose time toward the completion of their degree.

Curriculum

The science exploration option is a year long sequence of courses built around a single project aimed at designing, building, and conducting scientific research to achieve a goal. The goal is presented to students on the first day of class. This approach to interdisciplinary technical education emphasizes real-world, hands-on problem solving by student-led teams. It offers participating students a degree of autonomy and responsibility rarely found at the freshman level.

As a result of this course sequence, students in the exploration option develop an in depth appreciation for the specific field in which their team was involved while simultaneously learning about the other College of Science majors through the work of their classmates.

School of Chemistry and Materials Science

Biochemistry, BS

rit.edu/scms
Paul Craig, School Head
(585) 475-6145, Paul.Craig@rit.edu

Program overview

Biochemistry majors often have an interest in combining the life and health sciences with a chemistry degree. Students take a year of general biology in addition to a typical chemistry curriculum. During the upper-level years, students take a substantial core of courses in biochemistry, physical chemistry, the liberal arts, and elective courses in life sciences. Students must take a minimum of two upper-division biology electives.

Employment opportunities for biochemistry students exist in the chemical, pharmaceutical, agricultural, forensic, and rapidly expanding biotechnological fields. Students also are well-prepared to enter advanced degree programs in biochemistry, medicine, pharmacy, dentistry, and veterinary medicine.

Cooperative education

The biochemistry major may be completed in four or five years, depending on the amount of cooperative education a student decides to complete. Co-op may begin as early as the summer after the first year.

Curriculum

Biochemistry, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
CHEM-130	Chemical Connections	3
CHEM-151	General Chemistry	3
MATH-181	LAS Perspective 7A: Project-based Calculus I	4
	LAS Foundation 1: First Year Seminar†	3
BIOL-121	Introductory Biology I	4
CHMO-331	Comprehensive Organic Chemistry I	3
CHMO-335	Comprehensive Organic Chemistry Lab I	1
MATH-182	LAS Perspective 7B: Project-based Calculus II	4
	LAS Foundation 2: First Year Writing	3
BIOL-122	Introductory Biology II	4
	YearOne	0
	Wellness Education*	0
Second Year		
CHMO-332	Comprehensive Organic Chemistry II	3
CHMO-336	Comprehensive Organic Chemistry Lab II	2
CHMA-161	Quantitative Analysis	3
CHMA-165	Analytical Methods Lab	2
MATH-219	Multivariable Calculus or MATH-251 Probability and Statistics	3
	LAS Perspective 1, 2	6
Choose one of the following:		3
CHMA-221	Instrumental Analysis	
CHMA-222	Chemical Separations	
CHMB-402	Biochemistry I	3
PHYS-211	LAS Perspective 5: University Physics I	4
BIOL-201	Cellular and Molecular Biology	4
Third Year		
CHMB-403	Biochemistry 2	3
CHMB-405	Biochemistry Lab (WI)	3
PHYS-212	LAS Perspective 6: University Physics II	4
	LAS Perspective 3, 4	6
	LAS Immersion 1, 2	6
CHMP-441	Physical Chemistry I	3
	Free Elective	3
	Advanced Biology Elective†	3
Fourth Year		
CHMI-351	Inorganic Chemistry I	3
	Advanced Biology Elective†	3
	LAS Elective	6
	LAS Immersion 3	3
	Advanced Chemistry Lab Elective or Biochemistry Research‡	3
	Advanced Biochemistry Elective†	3
	Free Elective	9
Total Semester Credit Hours		**126**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Please consult an adviser for course options.

Chemistry, BS

rit.edu/scms
Paul Craig, School Head
(585) 475-6145, Paul.Craig@rit.edu

Program overview

The chemistry major prepares students for positions in several fields of chemistry, including professional industrial work in processing and laboratory operations, research and experimental work, supervision of technical projects, and managerial positions. A substantial number of students continue their education and earn advanced degrees in chemistry or pursue careers in pharmacy, medicine, and dentistry.

The chemistry major allows for flexibility in the type and number of chemistry and university-wide elective courses taken by the student. The program also provides students the option of planning an elective con-

centration in a complementary field such as imaging science, business, graphic arts, psychology, biology, criminal justice, computer science, engineering, environmental science, forensics, mathematics, packaging science, and physics.

Cooperative education

The chemistry major may be completed in four or five years, depending on the amount of cooperative education experience each student elects to complete. Co-op may begin as early as the summer after the first year. Students may elect to complete the BS degree requirements in a traditional four-year program with three summers of co-op work experience. Students who choose to complete co-op requirements during the academic year will be required to extend the length of their program.

Curriculum

Chemistry, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
CHEM-130	Chemical Connections	3
CHEM-151	General Chemistry	3
MATH-181	LAS Perspective 7A: Project-based Calculus I	4
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1	3
CHMA-161	Quantitative Analysis	3
CHMA-165	Analytical Methods Lab	2
CHMO-331	Comprehensive Organic Chemistry I	3
CHMO-335	Comprehensive. Organic Chemistry Lab I	1
MATH-182	LAS Perspective 7B: Project-based Calculus II	4
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
CHMA-221	Instrumental Analysis	3
CHMO-332	Comprehensive Organic Chemistry II	3
CHMO-336	Comprehensive Organic Chemistry Lab II	2
CHMI-351	Inorganic Chemistry I	3
MATH-219	Multivariable Calculus	3
CHMA-222	Chemical Separations	3
CHMB-402	Biochemistry I	3
PHYS-211	LAS Perspective 5: University Physics I	4
	LAS Perspective 2	3
	LAS Immersion 1	3
Third Year		
CHMP-441	Physical Chemistry I	3
PHYS-212	LAS Perspective 6: University Physics II	4
	LAS Perspective 3, 4	6
	LAS Elective	6
	Free Elective	6
CHMP-442	Physical Chemistry II	3
CHMP-445	Experimental Physical Chemistry (WI)	3
Fourth Year		
CHMI-352	Inorganic Chemistry II	3
	Advanced Chemistry Electives	6
	LAS Immersion 2, 3	6
	LAS Elective	6
	Free Elective	6
	Advanced Chemistry Lab	3
Total Semester Credit Hours		**123**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Accelerated dual degree option

The BS chemistry major may be combined with the MS in materials science and engineering, allowing undergraduate students to acquire both a bachelor's and a master's degree in a total of five years. This option is designed for students who wish to explore the industrial applications of chemistry in the areas of developing new materials (polymers, plastics, natural product substitutes), new processes for producing those materials, and research into new applications for existing materials.

Chemistry, BS degree/Materials science and engineering, MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
CHEM-130	Chemical Connections	3
CHEM-151	General Chemistry	3
MATH-181	LAS Perspective 7A: Project-Based Calculus I	4
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1	3
CHMA-161	Quantitative Analysis	3
CHMA-165	Analytical Methods Lab	2
CHMO-331	Comprehensive Organic Chemistry I	3
CHMO-335	Comprehensive Organic Chemistry I Lab	1
MATH-182	LAS Perspective 7B: Project-Based Calculus II	4
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
CHMA-221	Instrumental Analysis	3
CHMO-332	Comprehensive Organic Chemistry II	3
CHMO-336	Comprehensive Organic Chemistry II Lab	2
CHMI-351	Inorganic Chemistry I	3
MATH-219	Multivariable Calculus	3
	Free Elective	3
CHMA-222	Chemical Separations	3
CHMB-402	Biochemistry I	3
PHYS-211	LAS Perspective 5: University Physics I	4
	LAS Perspective 2	3
	LAS Immersion 1	3
Third Year		
CHMP-441	Physical Chemistry I	3
PHYS-212	LAS Perspective 6: University Physics II	4
	LAS Perspective 3, 4	6
	LAS Elective	6
	Free Elective	6
CHMP-442	Physical Chemistry II	3
CHMP-445	Experimental Physical Chemistry (WI)	3
Fourth Year		
CHMI-352	Inorganic Chemistry II	3
	Advanced Chemistry Electives	6
	LAS Immersion 2, 3	6
	LAS Elective	6
	Advanced Chemistry Lab	3
MTSE-601	Introduction to Material Science	3
MTSE-617	Material Degradation	3
MTSE-702	Introduction to Polymer Science	3
MTSE-703	Solid State Science	3
Fifth Year		
MTSE-790	Thesis	9
MTSE-704	Theoretical Methods	3
	Graduate Electives	6
Total Semester Credit Hours		**150**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Chester F. Carlson Center for Imaging Science

Imaging Science, BS

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Program overview

Imaging science is a multidisciplinary field based on physics, mathematics, computer science, and systems engineering. Students study the theory behind the technologies used to create images, the integration of those technologies into imaging systems, and the application of those systems to solve scientific problems. The imaging science curriculum includes the study of:

- the physical observables associated with the subject of an image, such as reflected or emitted electromagnetic radiation;
- how those observables are captured by devices using optics and detectors such as satellites, digital cameras, and astronomical observatories;
- how the captured observables are processed using computers and specialized software;
- how processed signals are converted into images displayed on paper or electronic devices and perceived by humans; and
- how image quality is assessed and scientific information is extracted.

Concepts presented in the classroom are reinforced through laboratory experiments and a capstone research experience, which can examine a problem in any of several imaging applications such as remote sensing, astronomy, biomedical imaging, manuscript imaging and enhancement, optics, color science, image quality, or visual perception. Both theoretical studies and practical application of technologies are integral parts of the curriculum.

Graduates are in demand by both industry and governmental agencies to work on the design, development, testing, or production of specialized imaging systems or technologies, or to use imaging systems to perform scientific research. Faculty members are deeply committed professionals who divide their time between teaching and the pursuit of scientific advances.

Faculty, staff, and students conduct research sponsored by both industry and the government. The research support ensures that students are exposed to the latest developments in a rapidly expanding field.

Curriculum

Cooperative education experience is not required but is recommended for the summers following the second and third years of the program. Opportunities to participate in research work with faculty are also available during academic and summer semesters.

Imaging science, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
IMGS-180	Introduction to Computing and Control	3
IMGS-181, 182	Innovative Freshman Experience I, II	6
SOFA-103	Film/Video Materials and Technology	3
MATH-181, 182	LAS Perspective 7A, 7B: Project-Based Calculus I, II	8
PHYS-211	LAS Perspective 5: University Physics I	4
	LAS Perspective 1	3
	LAS Foundation 1: First Year Seminar†	3
UWRT-150	LAS Foundation 2: First Year Writing (WI)	3
	YearOne	0
	Wellness Education*	0
Second Year		
MATH-221	Multivariable and Vector Calculus	4
IMGS-221	Vision and Psychophysics	3
PHYS-212	LAS Perspective 6: University Physics II	4
	LAS Perspective 2, 3, 4	9
IMGS-351	Color Science	3
IMGS-261	Linear and Fourier Methods for Imaging	4
IMGS-211	Probability and Statistics for Imaging	3
PHYS-213	Modern Physics I	3
Third Year		
IMGS-251	Radiometry	3
IMGS-321	Geometric Optics	3
IMGS-322	Physical Optics	3
IMGS-341	Interactions Between Light and Matter	3
IMGS-361, 362	Image Processing and Computer Vision I, II	6
	LAS Immersion 1, 2	6
	Free Electives	6
Fourth Year		
IMGS-441	Noise and System Modeling	3
IMGS-451	Imaging Detectors	3
IMGS-475, 476	Advanced Imaging Laboratory I, II	4
IMGS-502, 503	Imaging Science Senior Project I, II (WI)	6
	Imaging Science Elective Track I, II	6
	LAS Immersion 3	3
	LAS Elective	3
Total Semester Credit Hours		**124**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Thomas H. Gosnell School of Life Sciences

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Bioinformatics, BS

rit.edu/bioinformatics

Program overview

Bioinformatics represents the marriage of biotechnology and the computing sciences. Bioinformaticists use computers to analyze, organize, and visualize biological data in ways that increase the understanding of this data and lead to new discoveries. Students are well-qualified for many rewarding careers, including those in bioinformatics software development, biomedical research, biotechnology, comparative genomics, genomics, molecular imaging, pharmaceutical research and development, proteomics, and vaccine development.

The bioinformatics major was developed by faculty in the departments of biological sciences, chemistry, computer science, mathematics and statistics, and information technology, with the guidance from leaders in the bioinformatics and biotechnology industries. The major meets the needs of prospective employers in this challenging and rapidly changing field.

Cooperative education

The major requires the completion of one cooperative education experience, where students participate in applied bioinformatics, using current technologies to gain a practical perspective. More than 65 organizations in industry, government, and academia employ our students in full-time paid positions. Co-op positions may be completed during the summer and/or the academic year. No tuition is charged for co-op participation. If a student elects to pursue co-op during the academic year, they may need to extend the date of graduation beyond the traditional four years.

Bioinformatics, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
BIOL-121	Introductory Biology I	4
BIOL-130	Introduction to Bioinformatics	3
CSCI-141	Introduction to Computer Problem Solving	4
	LAS Foundation 1: First Year Seminar†	3
BIOL-122	Introductory Biology II	4
CSCI-142	Computer Problem Solving with Software Structures	4
	LAS Foundation 2: First Year Writing	3
MATH-161	LAS Perspective 7A: Applied Calculus	4
	YearOne	0
	Wellness Education*	0
Second Year		
BIOL-201	Cellular and Molecular Biology	4
	LAS Perspective 1, 2, 3	9
MATH-190	LAS Perspective 7B: Discrete Math	3
CHMG-141	LAS Perspective 5: General and Analytical Chemistry I	3
CHMG-145	LAS Perspective 5: General and Analytical Chemistry I Lab	1
CSCI-243	The Mechanics of Programming	3
BIOL-321	Genetics	3
STAT-145	Introduction to Statistics I	3
CHMG-142	LAS Perspective 6: General and Analytical Chemistry II	3
CHMG-146	LAS Perspective 6: General and Analytical Chemistry II Lab	1
Third Year		
CSCI-251	Concepts of Parallel and Distributed Systems	3
	LAS Perspective 4	3
BIOL-330	Bioinformatics	3
CHMO-231	Organic Chemistry I	3
CHMO-235	Organic Chemistry I Lab	1
ISTE-230	Introduction to Database and Data Modeling	3
BIOL-450	Genetic Engineering (WI)	5
BIOL-230	Bioinformatics Languages	3
	LAS Immersion 1	3
	Free Elective	3
BIOL-499	Cooperative Education (summer)	Co-op
Fourth Year		
BIOL-425	Ethics in Bioinformatics	3
CHMB-402	Biochemistry I	3
BIOL-340	Genomics	3
STAT-295	Statistical Analysis for Bioinformatics	3
BIOL-430	Bioinformatics Resources	3
BIOL-494	Molecular Modeling and Proteomics	3
CHMB-403	Biochemistry II	3
	LAS Immersion 2, 3	6
	Free Elective	3
Total Semester Credit Hours		**122**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Accelerated dual degree option

The BS program may be combined with the MS program in bioinformatics, allowing undergraduate students to acquire both degrees in as few as five years. Undergraduate students with a minimum overall GPA of 3.2 may apply to the bioinformatics committee for entry before the completion of their third year of study. Students in the dual degree option are required to take graduate-level courses during their fourth year and complete an approved master's thesis during their final year of study.

Bioinformatics, BS/MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
BIOL-121	Introductory Biology I	4
BIOL-130	Introduction to Bioinformatics	3
CSCI-141	Introduction to Computer Problem Solving	4
	LAS Foundation 1: First Year Seminar†	3
BIOL-122	Introduction to Biology II	4
CSCI-141	Computer Problem Solving with Software Structures	4
	LAS Foundation 2: First Year Writing	3
MATH-161	Applied Calculus	4
	YearOne	0
	Wellness Education*	0
Second Year		
BIOL-201	Cellular and Molecular Biology	4
	LAS Perspective 1	3
MATH-190	Discrete Math	3
CHMG-141	General and Analytical Chemistry I	3
CHMG-145	General and Analytical Chemistry I Lab	1
CSCI-243	The Mechanics of Programming	3
BIOL-321	Genetics	3
	LAS Perspective 2	3
STAT-145	Introduction to Statistics I	3
CHMG-142	General and Analytical Chemistry II	3
CHMG-146	General and Analytical Chemistry II Lab	1
	Program Elective	3
Third Year		
CSCI-251	Concepts of Parallel and Distribution Systems	3
	LAS Perspective 3, 4	6
BIOL-330	Bioinformatics	3
CHMO-231	Organic Chemistry I	3
CHMO-232	Organic Chemistry Lab 1	1
ISTE-230	Introduction to Databases and DM	3
BIOL-450	Genetic Engineering (WI)	5
	LAS Immersion 1	3
BIOL-230	Bioinformatics Languages	3
	Program Elective	3
Fourth Year		
	Free Electives	6
CHMB-402	Biochemistry I	3
BIOL-340	Genomics	3
STAT-195	Statistical Analysis for Bioinformatics	3
	LAS Immersion 2, 3	6
BIOL-794	Graduate Molecular Modeling and Proteomics	3
CHMG-403	Biochemistry II	3
Fifth Year		
BIOL-725	Graduate Ethics in Bioinformatics	3
BIOL-635	Bioinformatics Seminar	3
BIOL-730	Graduate Bioinformatics Resources	3
MATH-695	Statistical Models for Bioinformatics	3
	Graduate Electives‡	9
BIOL-790	Thesis	9
Total Semester Credit Hours		**152**

Please see New General Education Curriculum-Liberal Arts and Sciences (LAS) in the Graduation Requirements section of this bulletin for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Graduate electives may be any graduate-level course related to the field of bioinformatics. Consult academic advisers for assistance in course selection.

Biology, BS

rit.edu/lifesciences/biology

Program overview

In the College of Science, biology is something that students do, rather than something they merely learn. Courses present biology as it is done by career biologists, and hands-on laboratory and field experience is emphasized. Scientific knowledge is based on research, and students are encouraged to undertake research projects in the college's laboratories.

The biology major prepares students for rewarding positions in occupations related to the life sciences, including biomedical research, scientific management, science journalism, forensic science, ecology and environmental science, agriculture, genetic counseling, and education.

The major includes all of the course work and support services to prepare students to pursue advanced degrees in medicine, dentistry, veterinary medicine, optometry, podiatry, and chiropractic medicine, as well as a wide range of graduate programs in the life sciences.

Cooperative education

Cooperative education is an optional component of the major. More than 65 organizations in private industry, government, and academia employ biology students in full-time paid positions directly related to the students' academic areas of interest. Co-op positions can be held during the summer and/or during the regular academic year. No tuition is charged for co-op participation. If a student elects to pursue co-op during the regular academic year, they may need to extend the date of graduation beyond the traditional four years.

Curriculum

Biology, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
BIOL-121	Introduction to Biology I and Lab	4
CHMG-141	LAS Perspective 5: General and Analytical Chemistry I	3
CHMG-145	LAS Perspective 5: General and Analytical Chemistry I Lab	1
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1	3
BIOL-122	Introduction to Biology II and Lab	4
CHMG-142	General and Analytical Chemistry II	3
CHMG-146	General and Analytical Chemistry II Lab	1
	LAS Foundation 2: First Year Writing	3
MATH-161	LAS Perspective 7A: Applied Calculus	4
	YearOne	0
	Wellness Education*	0
Second Year		
CHMO-231	Organic Chemistry I	3
CHMO-235	Organic Chemistry I Lab	1
	LAS Perspective 2, 3	6
BIOL-201	Cellular and Molecular Biology	4
CHMO-232	Organic Chemistry II	3
CHMO-236	Organic Chemistry II Lab	1
STAT-145	LAS Perspective 7B: Introduction to Statistics	3
Choose one of the following:		4
BIOL-240	General Ecology (WI)	
BIOL-265	Evolutionary Biology (WI)	
Choose one of the following:		3
BIOL-321	Genetics	
BIOL-365	Introduction to Population Genetics	
Third Year		
PHYS-111	College Physics I and Lab	4
PHYS-112	College Physics II and Lab	4
	Program Electives	15
	LAS Perspective 4	3
	LAS Immersion 1	3
Choose one of the following:		4
BIOL-322	Developmental Biology	
BIOL-313	Comparative Animal Physiology	
Fourth Year		
	Program Electives	20
	Open Electives	6
	LAS Immersion 2, 3	6
Total Semester Credit Hours		**122**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Biotechnology and Molecular Bioscience, BS

rit.edu/lifesciences/biotechnology

Program overview

The BS degree in biotechnology and molecular bioscience prepares students to immediately assume challenging positions in research, development, and management in the field of biotechnology. Students are also well-prepared for positions in the fields of plant biotechnology, human genetics, agriculture, food products, pharmaceuticals and vaccine development, environment and energy, forensic science, and genetic counseling.

The advanced nature of the third- and fourth-year courses, as well as the opportunity to participate in faculty-sponsored undergraduate research, provides a sound foundation to those students wishing to pursue a master's or doctoral degree. The major also can be designed to include the education necessary for the pursuit of a career in a medical field.

Specialized areas of emphasis include recombinant DNA, microbial and plant genetic engineering, mammalian and plant tissue culture, monoclonal antibody production and purification, large-scale fermentation techniques (bacterial and mammalian cell), and methods for characterization and separation of proteins and nucleic acids in yeast, bacterial, viral, and plant systems.

Cooperative education

The major provides students with the option of participating in cooperative education. More than 65 organizations in industry, government, and academia employ biology students in full-time paid positions directly related to students' academic areas of interest. Co-op positions can be held during the summer and/or during the regular academic year. Tuition is not charged while a student is on co-op. If a student elects to pursue a co-op during the regular academic year, they may need to extend the date of graduation beyond the traditional four years.

Curriculum

Biotechnology and molecular bioscience, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
BIOL-121	Introduction to Biology I	4
CHMG-141	LAS Perspective 5: General and Analytical Chemistry I	3
CHMG-145	LAS Perspective 5: General and Analytical Chemistry I Lab	1
	LAS Perspective 1	3
	LAS Foundation 1: First Year Seminar†	3
BIOL-122	Introduction to Biology II	4
CHMG-142	LAS Perspective 6: General and Analytical Chemistry II	3
CHMG-146	LAS Perspective 6: General and Analytical Chemistry II Lab	1
MATH-161	LAS Perspective 7A: Applied Calculus	4
	YearOne	0
	LAS Foundation 2: First Year Writing	3
	Wellness Education	0

COURSE		SEMESTER CREDIT HOURS
Second Year		
BIOL-201	Cell and Molecular Biology w/ Lab	4
BIOL-204	Microbiology w/ Lab	4
CHMO-231	Organic Chemistry I	3
CHMO-235	Organic Chemistry I Lab	1
STAT-145	LAS Perspective 7B: Introduction to Statistics	3
BIOL-321	Genetics	3
BIOL-325	Bioinformatic Analysis of Macromolecules	3
CHMO-232	Organic Chemistry II	3
CHMO-236	Organic Chemistry II Lab	1
	LAS Perspective 2	3
Third Year		
CHMB-402	Biochemistry I	3
	Program Electives	14
	LAS Perspective 3, 4	6
CHMB-403	Biochemistry II	3
	Free Elective	3
	LAS Immersion 1	3
Fourth Year		
	Program Electives	20
	LAS Immersion 2, 3	6
	Free Elective	3
	LAS Elective	3
Total Semester Credit Hours		**121**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Environmental Science, BS

rit.edu/environmental

Program overview

Environmental scientists solve problems relating to power generation, waste reduction and recycling, pollution control, land use and land cover change, preserving biodiversity and ecological services, transportation, forestry, agriculture, economics, and a wide range of other areas. They study our relationship to nature and to each other, developing solutions that prevent or reverse environmental deterioration and work toward sustainability. Meeting these challenges requires problem-solving abilities based in science, mathematics, the social sciences, and other disciplines. The BS program provides students with the education and experiences they need to be successful.

Curriculum

The practice of environmental science demands that students be well-rounded specialists. To accomplish this, each student is required to complete an environmental science concentration in one of the following areas: digital imaging, environmental biology, environmental economics, environmental public policy, mathematics and statistics, or remote sensing. Students also may develop a self-designed concentration in an area of personal interest, subject to approval from an environmental science review committee.

Environmental science, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
ENVS-101	Concepts of Environmental Science	3
ESHS-200	Environmental Geology	3
BIOL-121, 122	Introductory Biology I, II	8
	LAS Perspective 1, 2	6
	LAS Foundation 1: First Year Seminar†	3
ENVS-201	Environmental Workshop	3
ESHS-250	Introduction to Hydrology	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0
Second Year		
STS0-220	Environment and Society	3
ENVS-250	Applications of Geographic Information Systems	4
BIOL-240	General Ecology	4
ESHS-201	Environmental Monitoring and Measurement I	2
CHMG-141, 145	Perspective 5: General and Analytical Chemistry I and Lab	4
MATH-161	Perspective 7A: Applied Calculus	4
ENVS-301	Environmental Science Field Skills	4
BIOL-475	Conservation Biology	3
ESHS-251	Environmental Monitoring and Measurement II	2
CHMG-142, 146	Perspective 6: General and Analytical Chemistry II and Lab	4
Third Year		
STSO-422	Great Lakes	3
STAT-145	Perspective 7B: Introduction to Statistics I	3
	Concentration Courses	6
CHMO-231, 235	Organic Chemistry I and Lab	4
	LAS Perspective 3, 4	6
Choose one of the following:		3
STSO-421	Environmental Policy	
PUBL-210	Introduction to Qualitative Policy Analysis	
STAT-146	Introduction to Statistics II	4
	LAS Immersion 1	3
Fourth Year		
ENVS-551	Environmental Science Capstone I	3
	Concentration Courses	6
	Free Electives	6
	LAS Immersion 2, 3	6
ENVS-552	Environmental Science Capstone II (WI)	3
IMGS-431	Environmental Applications of Remote Sensing	3
Total Semester Credit Hours		**125**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Accelerated dual degree option

Students may apply to the accelerated dual degree (BS/MS) option, which provides them with a considerable advantage over other environmental science graduates in the job market. The curriculum was developed in conjunction with an advisory board of environmental leaders to ensure that students' education meets the current and future needs of the industry. In order to function as an environmental scientist, an individual must have an extensive background in mathematics, physical science, and life science. The BS/MS program is one of the strongest programs available with respect to mathematics and science.

Environmental science, BS/MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
ENVS-101	Concepts of Environmental Science	3
ESHS-200	Environmental Geology	3
BIOL-121, 122	Introductory Biology I, II	8
	LAS Perspective 1, 2	6
	LAS Foundation 1: First Year Seminar†	3
ENVS-201	Environmental Workshop	3
ESHS-250	Introduction to Hydrology	3
	LAS Foundation 2: First Year Writing	3
	YearOne	0
	Wellness Education*	0

COURSE		SEMESTER CREDIT HOURS
Second Year		
STSO-220	Environment and Society	3
ENVS-250	Applications of Geographic Information Systems	4
BIOL-240	General Ecology	4
ESHS-201	Environmental Monitoring and Measurement I	2
CHMG-141, 145	LAS Perspective 5: General and Analytical Chemistry I and Lab	4
MATH-161	LAS Perspective 7A: Applied Calculus	4
ENVS-301	Environmental Science Field Skills	4
BIOL-475	Conservation Biology	3
ESHS-251	Environmental Monitoring and Measurement II	2
CHMG-142, 146	LAS Perspective 6: General and Analytical Chemistry II and Lab	4
Third Year		
STSO-422	Great Lakes	3
STAT-145	LAS Perspective 7B: Introduction to Statistics I	3
	Concentration Courses	6
CHMO-231, 235	Organic Chemistry I and Lab	4
	LAS Perspective 3, 4	6
Choose one of the following:		3
STSO-421	Environmental Policy	
PUBL-210	Qualitative Methods and Analysis	
STAT-146	Introduction to Statistics II	4
	LAS Immersion 1	3
Fourth Year		
ENVS-551	Environmental Science Capstone I	3
	Concentration Courses	6
	Free Elective	3
	LAS Immersion 2, 3	6
ENVS-601	Environmental Science Graduate Studies	3
ENVS-552	Environmental Science Capstone II (WI)	3
IMGS-431	Environmental Applications of Remote Sensing	3
STSO-630	Biodiversity and Society	3
Fifth Year		
	Free Elective	3
	Graduate Public Policy Core Elective	3
	Graduate Science Core Elective	3
	Graduate Elective	3
Choose one of the following:		3
ENVS-790	Environmental Science Thesis	
ENVS-780	Environmental Science Project	3
ENVS-670	Advanced Concepts of Environmental Chemistry	3
ENVS-650	Advanced Applications of GIS	4
ENVS-710	Environmental Science Graduate Research	2
Choose one of the following:		3
ENVS-790	Environmental Science Thesis	
ENVS-780	Environmental Science Project	
Total Semester Credit Hours		**155**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.

Additional information

Cooperative education

Cooperative education is optional for environmental science majors, however, it offers students a great way to get a head start on their career with paid, professional work experience. Students can participate in cooperative education as soon as the summer after their second year of study. Co-op placements are typically with local, state, or federal government agencies, nonprofit environmental organizations, and a host of environmental consulting firms.

Employment opportunities

There is a great need for individuals who have both a strong background in environmental science and the ability to participate in an interdisciplinary problem-solving team. Upon graduation, students will be valued for their broad understanding of environmental science, their depth of knowledge in a particular aspect of environmental science, and their ability to attack and solve tough environmental problems.

School of Mathematical Sciences

Applied Mathematics, BS

rit.edu/sms/academics

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Program overview

The applied mathematics major focuses on the study and solution of problems that can be mathematically analyzed. Industry, academia, and government all have a great need for individuals with this type of education. Students choose a sequence of courses from one of more than 20 application areas that provide them with the knowledge and skills to collaborate on complex problems with scientists, engineers, computer specialists, or other analysts. Some application areas are applied statistics; biology; business; economics; chemistry; electrical, industrial, or mechanical engineering; operations research; and imaging science.

Graduates typically are employed in scientific, engineering, business, or government environments, applying their mathematics background to the analysis and solution of real-world problems.

Curriculum

Applied mathematics, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MATH-181, 182	LAS Perspective 7A, 7B: Project-Based Calculus I, II	8
MATH-199	Mathematics and Statistics Seminar (WI)	1
CSCI-101	Principles of Computing	3
CSCI-141	Computer Science I	4
	LAS Perspective 5†	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing (WI)	3
	LAS Perspective 1	3
	Free Elective	3
	YearOne	0
	Wellness Education*	0
Second Year		
MATH-200	Discrete Mathematics with Introduction to Proofs	3
MATH-221	Multivariable and Vector Calculus	4
MATH-251, 252	Probability and Statistics I, II	6
MATH-231	Differential Equations	3
MATH-241	Linear Algebra	3
	LAS Perspective 2, 3, 4, 6‡	12
Third Year		
MATH-431	Real Variables I	3
MATH-341	Advanced Linear Algebra	3
MATH-441	Abstract Algebra I	3
MATH-411	Numerical Analysis	3
	Program Electives	9
	LAS Immersion 1, 2	6
	Free Elective	3
Fourth Year		
MATH-421	Mathematical Modeling (WI)	3
	LAS Immersion 3	3
	LAS Electives	9
	Program Electives	12
	Free Elective	3
Total Semester Credit Hours		**122**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3 or 4 credit hour lab science course. If a science course consists of separate lecture and laboratory sections, students must take both the lecture and lab portions to satisfy the requirement.

Accelerated dual degree option

Students may be interested in combining the BS in applied mathematics with an MS in applied and computational mathematics for an accelerated option that allows them to earn both degrees following one additional year of study.

Applied mathematics, BS degree/Applied and computational mathematics, MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MATH-181, 182	LAS Perspective 7A, 7B: Project-Based Calculus I, II	8
MATH-199	Mathematics and Statistics Seminar (WI)	1
CSCI-101	Principles of Computing	3
CSCI-141	Computer Science I	4
	LAS Perspective 5‡	4
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing (WI)	3
	LAS Perspective 1	3
	Free Elective	3
	YearOne	0
	Wellness Education*	0
Second Year		
MATH-200	Discrete Mathematics with Introduction to Proofs	3
MATH-221	Multivariable and Vector Calculus	4
MATH-251, 252	Probability and Statistics I, II	6
MATH-231	Differential Equations	3
MATH-241	Linear Algebra	3
	LAS Perspective 2, 3, 4, 6‡	12
Third Year		
MATH-431	Real Variables I	3
MATH-341	Advanced Linear Algebra	3
MATH-441	Abstract Algebra I	3
MATH-661	Numerical Analysis	3
	Program Electives	9
	LAS Immersion 1, 2	6
	Free Elective	3
Fourth Year		
MATH-421	Mathematical Modeling (WI)	3
MATH-605	Stochastic Processes	3
MATH-651	Combinatorics and Graph Theory I	3
	LAS Immersion 3	3
	LAS Electives	9
	Program Electives	6
	Free Elective	3
Fifth Year		
MATH-601	Methods of Applied Mathematics	3
	Graduate Concentration Courses	9
	Graduate Electives	6
MATH-790	Thesis	9
Total Semester Credit Hours		**150**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3 or 4 credit hour lab science course. If a science course consists of separate lecture and laboratory sections, students must take both the lecture and lab portions to satisfy the requirement.

Additional information

Accelerated 4+1 MBA option

An accelerated 4+1 option is available for students who wish to earn a BS in applied mathematics and an MBA. The option is offered in conjunction with Saunders College of Business and allows students to obtain both degrees in five years of study.

Applied Statistics, BS

rit.edu/sms/academics

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Program overview

The applied statistics major provides students with a strong foundation in mathematical and statistical methodology, experience in its applications, a solid background in the use of statistical computing packages, and the skills to communicate the results of statistical analysis. This gives students an advantage in the fields of business, government, and industry, and also prepares them well for advanced study in graduate school.

Students collaborate with specialists in both scientific and non-technical areas to design and conduct experiments and interpret the results. Application areas are very diverse and include product design, biostatistics, actuarial science, quality control, and statistical forecasting.

Curriculum

Applied statistics, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MATH-199	Mathematics and Statistics Seminar I (WI)	1
MATH-181	LAS Perspective 7A: Project-based Calculus I	4
MATH-182	LAS Perspective 7B: Project-based Calculus II	4
CSCI-101	Principles of Computing	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
	LAS Perspective 1, 2, 5, 6‡	14
	YearOne	0
	Wellness Education*	0
Second Year		
MATH-200	Discrete Mathematics with Introduction to Proofs	3
MATH-221	Multivariable and Vector Calculus	4
MATH-251, 252	Probability and Statistics I, II	6
MATH-241	Linear Algebra I	3
	Program Elective	3
	LAS Perspective 3, 4	6
	LAS Immersion 1, 2	6
Third Year		
STAT-325	Design of Experiments (WI)	3
STAT-305	Regression Analysis	3
MATH-255	Actuarial Mathematics	2
MATH-261	Topics in Math of Finance	3
CQAS-511	Statistical Software	3
	Program Electives	6
	LAS Immersion 3	3
	Free Electives	6
Fourth Year		
STAT-405, 406	Mathematical Statistics I, II	6
STAT-445	Statistics Seminar (WI)	3
	Program Electives	9
	LAS Electives	12
Total Semester Credit Hours		**122**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3 or 4 credit hour lab science course. If a science course consists of separate lecture and laboratory sections, students must take both the lecture and lab portions to satisfy the requirement.

Accelerated dual degree option

Applied statistics, BS degree/Applied and computational mathematics, MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MATH-199	Mathematics and Statistics Seminar I (WI)	1
MATH-181, 182	LAS Perspective 7A, 7B: Project-Based Calculus I, II	8
	Program Elective	3
CSCI-101	Principles of Computing	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing	3
	LAS Perspective 1, 2, 3	9
	YearOne	0
	Wellness Education*	0
Second Year		
MATH-200	Discrete Mathematics with Introduction to Proofs	3
MATH-221	Multivariable and Vector Calculus	4
MATH-251, 252	Probability and Statistics I, II	6
MATH-241	Linear Algebra I	3
CQAS-511	Statistical Software	3
	LAS Perspective 4, 5‡, 6‡	11
	LAS Immersion 1	3
Third Year		
STAT-345	Nonparametric Statistics	3
STAT-325	Design of Experiments (WI)	3
STAT-305	Regression Analysis	3
MATH-611	Numerical Analysis	3
	Program Electives	6
	LAS Immersion 2, 3	6
	Free Electives	6
Fourth Year		
STAT-405, 406	Mathematical Statistics I, II	6
STAT-415	Statistical Sampling	3
STAT-445	Statistics Seminar (WI)	3
MATH-645	Graph Theory	3
MATH-605	Stochastic Processes	3
	LAS Electives	12
Fifth Year		
MATH-601	Methods of Applied Mathematics	3
	Concentration Core	9
	Graduate Electives	6
MATH-799	Thesis	9
Total Semester Credit Hours		**150**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking 4 credit hour lab science courses. If a science course consists of separate lecture and laboratory sections, students must take both the lecture and lab portions to satisfy the requirement.

Additional information

Options

Applied statistics actuarial science option: This option prepares students for careers in the actuarial field of modeling, measuring, and managing risk. The goal is to provide the statistical and mathematical foundation to help students enter and succeed in this demanding field. The curriculum is tailored with carefully selected courses in finance, economics, and forecasting.

Applied statistics biostatistics option: This option provides the necessary experience in applied statistics and the biological sciences so students may pursue a career as a biostatistician or advanced study in biostatistics. Students learn about the applications of statistics and biology, medicine, and public health, as well as applications in the rapidly growing field of bioinformatics through course work and opportunities for research with faculty.

Applied statistics quality science option: This option introduces students to statistical and nonstatistical aspects of the quality science from problem definition through solution implementation. Through elective courses, students may prepare to take the American Society for Quality (ASQ) Certified Process Analyst exam, which focuses on quality basics, problem solving and improvement, data analysis, and customer-supplier relations.

Minors

The flexibility of the applied statistics major also allows students to complete a science, liberal arts, or business minor, or to create courses from various minors into a sequence tailored to their career aspirations.

Computational Mathematics, BS

rit.edu/sms/academics

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Program overview

Computational mathematics prepares students for a mathematical career that incorporates extensive computer science skills. In this major, much emphasis is given to the use of the computer as a tool to solve mathematically modeled physical problems. Students often pursue positions as mathematical analysts, scientific programmers, software engineers, or systems analysts. Job opportunities in private industry and government abound in this field.

Curriculum

Computational mathematics, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MATH-181, 182	LAS Perspective 7A, 7B: Project-based Calculus I, II	8
MATH-199	Mathematics and Statistics Seminar (WI)	1
CSCI-141, 142	Computer Science I, II	8
	LAS Perspectives 1, 5‡	6
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing (WI)	3
	YearOne	0
	Wellness Education*	0
Second Year		
MATH-200	Discrete Mathematics with Introduction to Proofs	3
MATH-221	Multivariable and Vector Calculus	4
MATH-251	Probability and Statistics I	3
MATH-231	Differential Equations	3
MATH-241	Linear Algebra	3
CSCI-243	Mechanics of Programming	3
CSCI-262	Introduction to Computer Science Theory	3
	LAS Perspective 6‡	3
	LAS Perspective 3, 2	6
Third Year		
MATH-431	Real Variables I	3
MATH-341	Advanced Linear Algebra	3
MATH-441	Abstract Algebra I	3
MATH-411	Numerical Analysis	3
SWEN-261	Software Engineering	3
	Program Electives	6
	LAS Perspective 4	3
	LAS Immersion 1	3
	LAS Elective	3
Fourth Year		
MATH-421	Mathematical Modeling (WI)	3
MATH-412 or MATH-351	Numerical Linear Algebra or Graph Theory	3
	Program Electives	9
	LAS Immersion 2, 3	6
	LAS Elective	3
	Free Electives	6
Total Semester Credit Hours		**120**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3- or 4-credit hour lab science course. If a science course consists of separate lecture and laboratory sections, the student MUST take both the lecture and lab portions to satisfy the requirement. The lecture alone will not fulfill the requirement.

Accelerated dual degree option

Students may be interested in combining the BS in computational mathematics with an MS in applied and computational mathematics for an accelerated option that allows them to earn both degrees following one year of graduate study.

Computational mathematics, BS degree/Applied computational mathematics, MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
MATH-181, 182	LAS Perspective 7A, 7B: Project-Based Calculus I, II	8
MATH-199	Mathematics and Statistics Seminar (WI)	1
CSCI-141, 142	Computer Science I, II	8
	LAS Perspectives 1, 5‡	6
	LAS Foundation 1: First Year Seminar†	3
	LAS Foundation 2: First Year Writing (WI)	3
	Wellness Education*	0
	YearOne	0
	Free Elective	3
Second Year		
MATH-200	Discrete Mathematics with Introduction to Proofs	3
MATH-221	Multivariable and Vector Calculus	4
MATH-241	Linear Algebra	3
MATH-251	Probability and Statistics I	3
MATH-231	Differential Equations	3
CSCI-243	Mechanics of Programming	3
CSCI-262	Introduction to Computer Science Theory	3
	LAS Perspective 6‡	3
	LAS Perspectives 2, 3	6
Third Year		
MATH-431	Real Variables I	3
MATH-341	Advanced Linear Algebra	3
MATH-441	Abstract Algebra I	3
MATH-411	Numerical Analysis	3
	Program Electives	6
SWEN-261	Software Engineering	3
	LAS Perspective 4	3
	LAS Immersion 1	3
	LAS Elective	3
Fourth Year		
MATH-421	Mathematical Modeling (WI)	3
MATH-412	Numerical Linear Algebra	3
MATH-605	Stochastic Processes	3
MATH-645	Graph Theory	3
	Program Elective	3
	LAS Immersion 2, 3	6
	LAS Elective	3
	Free Electives	6
Fifth Year		
MATH-601	Methods of Applied Mathematics	3
	Concentration Core Courses	9
	Graduate Electives	6
MATH-790	Thesis	9
Total Semester Credit Hours		**150**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Students will satisfy this requirement by taking either a 3- or 4-credit hour lab science course. If a science course consists of separate lecture and laboratory sections, the student MUST take both the lecture and lab portions to satisfy the requirement. The lecture alone will not fulfill the requirement.

School of Physics and Astronomy

Physics, BS

rit.edu/physics
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Program overview

The BS degree in physics can be completed in either four or five years, depending on the number of cooperative education experiences a student chooses to complete. Students may find employment opportunities with industrial, academic, and governmental agencies or may continue their education in master's or doctoral programs in physics or physics-related areas such as astrophysics, biophysics, geophysics, atmospheric science, imaging science, and engineering. Students also are well-prepared for entry into medical, law, or business school.

Curriculum

Physics, BS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
Choose one of the following:		3
CHMG-141	LAS Perspective 5: General and Analytical Chemistry I§	
BIOL-101	LAS Perspective 5: General Biology I§	
Choose one of the following:		1
CHMG-145	LAS Perspective 5: General and Analytical Chemistry I Lab§	
BIOL-103	LAS Perspective 5: General Biology I Lab§	
MATH-181	LAS Perspective 7A: Project-Based Calculus I	4
PHYS-150	Introduction to Special Relativity	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1	3
Choose one of the following:		3
CHMG-142	LAS Perspective 6: General and Analytical Chemistry II§	
BIOL-102	LAS Perspective 6: General Biology II‡	
Choose one of the following:		1
CHMG-146	LAS Perspective 6: General and Analytical Chemistry II Lab§	
BIOL-104	LAS Perspective 6: General Biology II Lab§	
MATH-182	LAS Perspective 7B: Project-Based Calculus II	4
PHYS-216	University Physics I: Physics Majors	4
	LAS Foundation 2: First Year Writing (WI)	3
	YearOne	0
	Wellness Education*	0
Second Year		
MATH-219	Multivariable Calculus	3
PHYS-217	University Physics II: Physics Majors	4
PHYS-225	Introduction to Computational Physics and Programming	3
MATH-231	Differential Equations	3
PHYS-213	Modern Physics I	3
PHYS-222	Electronic Measurements	3
PHYS-275	Sophomore Physics Seminar	1
PHYS-283	Vibrations and Waves	3
	LAS Perspective 2, 3, 4	9
Third Year		
PHYS-214	Modern Physics II	3
PHYS-315	Experiments in Modern Physics	3
PHYS-320	Mathematical Methods in Physics	3
PHYS-330	Classical Mechanics	4
PHYS-316	Advanced Laboratory in Physics	3
PHYS-411	Electricity and Magnetism	4
PHYS-450	Capstone Preparation	1
	Physics Elective‡	3
	LAS Immersion 1, 2	6

COURSE		SEMESTER CREDIT HOURS
Fourth Year		
PHYS-414	Quantum Mechanics	3
PHYS-440	Thermal and Statistical Physics	3
PHYS-451	Capstone Project I	3
PHYS-452	Capstone Project II (WI)	3
	Physics Electives‡	6
	Free Elective	6
	LAS Immersion 3	3
	LAS Elective	3
Total Semester Credit Hours		**124**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Please see academic adviser for a list of physics electives.
§ Students will satisfy this requirement by taking a 4-credit hour lab science course. Students must take both the lecture and lab portions to satisfy the requirement. The lecture section alone will not fulfill the requirement.

Accelerated dual degree option

The department offers an accelerated dual degree option in which students can earn a BS degree in physics and an MS degree in materials science and engineering in approximately five years.

Physics, BS degree/Materials science and engineering, MS degree, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
Choose one of the following:		3
CHMG-141	LAS Perspective 5: General and Analytical Chemistry I§	
BIOL-101	LAS Perspective 5: General Biology I§	
Choose one of the following:		1
CHMG-145	LAS Perspective 5: General and Analytical Chemistry I Lab§	
BIOL-103	LAS Perspective 5: General Biology I Lab§	
MATH-181	LAS Perspective 7A: Project-Based Calculus I	4
PHYS-150	Introduction to Special Relativity	3
	LAS Foundation 1: First Year Seminar†	3
	LAS Perspective 1	3
Choose one of the following:		3
CHMG-142	LAS Perspective 6: General and Analytical Chemistry II§	
BIOL-102	LAS Perspective 6: General Biology II§	
Choose one of the following:		1
CHMG-146	LAS Perspective 6: General and Analytical Chemistry II Lab§	
BIOL-104	LAS Perspective 6: General Biology II Lab§	
MATH-182	LAS Perspective 7B: Project-Based Calculus II	4
PHYS-216	University Physics I: Physics Majors	4
	LAS Foundation 2: First Year Writing (WI)	3
	YearOne	0
	Wellness Education*	0
Second Year		
MATH-219	Multivariable Calculus	3
PHYS-217	University Physics II: Physics Majors	4
PHYS-225	Introduction to Computational Physics and Programming	3
MATH-231	Differential Equations	3
PHYS-213	Modern Physics I	3
PHYS-222	Electronic Measurements	3
PHYS-275	Sophomore Physics Seminar	1
PHYS-283	Vibrations and Waves	3
	LAS Perspective 2, 3, 4	9
Third Year		
PHYS-214	Modern Physics II	3
PHYS-315	Experiments in Modern Physics	3
PHYS-320	Mathematical Methods in Physics	3
PHYS-330	Classical Mechanics	4
PHYS-316	Advanced Laboratory in Physics	3
PHYS-411	Electricity and Magnetism	4
	Physics Elective‡	3
MTSE-702	Polymer Science	3
	LAS Immersion 1, 2	6

COURSE		SEMESTER CREDIT HOURS
Fourth Year		
PHYS-414	Quantum Mechanics	3
PHYS-440	Thermal and Statistical Physics	3
MTSE-601	Materials Science	3
MTSE-617	Material Degradation	3
	Physics Electives‡	6
MTSE-703	Solid State Science	3
MTSE-790	Research and Thesis	3
	LAS Elective	3
	LAS Immersion 3	3
Fifth Year		
MTSE-704	Theoretical Methods in Materials Science and Engineering	3
	Material Science Elective	3
MTSE-790	Research and Thesis	9
	Free Elective	9
Total Semester Credit Hours		**150**

Please see New General Education Curriculum–Liberal Arts and Sciences (LAS) for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness courses.
† The First Year Seminar requirement is replaced by an LAS Elective for the 2014-15 academic year.
‡ Please see academic adviser for a list of physics electives.
§ Students will satisfy this requirement by taking a 4-credit hour lab science course. Students must take both the lecture and lab portions to satisfy the requirement. The lecture section alone will not fulfill the requirement.

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Anthony Vodacek, BS, University of Wisconsin; MS, Ph.D., Cornell University—Professor

Distinguished Professorships

Richard S. Hunter Professorship in Color Science, Appearance, and Technology

Established: 1983

Donors: Mr. and Mrs. Richard S. Hunter

Purpose: To enable RIT to increase its research and educational efforts in the areas of color science, technology, and appearance science in order to benefit the industry and science of color.

Held by: Roy S. Berns

Frederick and Anna B. Wiedman Professorship

Established: 1985

Donor: Frederick Wiedman Jr.

Purpose: To support a truly outstanding scholar and/or teacher in Imaging Science

Held by: Charles Bachmann

Frederick Wiedman Jr. Professorship

Established: 1997

Donor: Frederick Wiedman, Jr.

Purpose: To support a second truly outstanding scholar and/or teacher in Imaging Science.

Held by: Jeff Pelz

Xerox Professorship in Imaging Science

Established: 1996

Donor: Xerox Corporation

Purpose: Established to expand and enhance the research and teaching activities within the Chester F. Carlson Center for Imaging Science.

Held by: James Ferwerda

Academic Affairs

rit.edu/academicaffairs

Neil Hair, Interim Executive Director, Innovative Learning Institute
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Marty Burris, Director, University Studies
rit.edu/universitystudies

David Martins, Director, University Writing Program
rit.edu/writing

Innovative Learning Institute 176

Center for Multidisciplinary Studies

BS, Applied Arts and Science 177

AAS, Applied Arts and Science 178

Diploma, Applied Arts and Science 178

RIT Online 178

Teaching and Learning Services 178

University Studies Program 178

University Writing Program 179

Innovative Learning Institute

rit.edu/ili
Neil Hair, Interim Executive Director
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The Innovative Learning Institute supports systematic experimentation with and adoption of emerging modes and models of teaching and learning, including technology-enhanced and online course formats. ILI strives to provide students with a meaningful, effective, and success-oriented learning experience; to serve as a focal point for research, experimentation, application, and assessment of innovative pedagogy; to formalize and enlarge the scope of experimentation with online and other modes of teaching and learning; and to foster a network of expertise, scholarly work, and innovation in teaching and learning throughout RIT and the world.

ILI is comprised of three entities–the Center for Multidisciplinary Studies, RIT Online, and Teaching and Learning Services–and provides:

- A nexus of research and timely experimentation with emerging teaching and learning technologies and practices for RIT faculty
- Faculty support services for course design and delivery, including academic technology and classroom equipment usage
- Market research and student recruitment support for online programs, as well as a robust virtual campus experience for online
- Individualized, multidisciplinary degrees and certificates for traditional and non-traditional students

Center for Multidisciplinary Studies

rit.edu/cms
Mary Boyd, Interim Director
(585) 475-2234, mcbcms@rit.edu

Through the Center for Multidisciplinary Studies, students interested in more than one area of study have the option of creating personalized undergraduate programs directly related to their interests and aspirations. The diverse nature of this degree program values student's ideas and provides a multidisciplinary approach to learning that can be applied to the professional environment.

Like the center itself, students participating in the multidisciplinary studies program are anything but typical. Some are full-time undergraduate students with nontraditional ideas about what they want in a college degree, while others are adults with families and careers attending classes online or in the evening. The center also offers an AAS degree and diploma.

Admission requirements

For information on undergraduate admission, including freshman and transfer admission guidelines, please refer to the Undergraduate Admission section of this bulletin.

In addition to the admission requirements of the university, the center has added enrollment policies that must be followed.

Enrollment policies: The center allows a student to enroll in any course for which he or she has sufficient background. Many courses have prerequisites that students are expected to meet before enrolling. Academic advisers are available throughout the year to answer questions regarding course or program choices.

In support of and in compliance with RIT's policy of assuring competency in written communication, all students matriculated in a BS degree program must satisfy a writing competency requirement. Information about this requirement, and the various methods for satisfying it, is available at the CMS office or by visiting the center's website.

Students matriculated in the center's baccalaureate degree program are expected to complete the degree within seven years.

Financial aid and scholarships

Please refer to the Financial Aid and Scholarships section of this bulletin for information regarding financial aid, scholarships, loans, and grants.

Faculty

Both the center utilizes full- and part-time faculty members who guide students through individual advising. Faculty members and academic advisers assist students in course selection and planning, and offer advice on career exploration and student development.

Assessment of prior learning and credit by experience

Students with substantial work experience in a specific field may receive academic credit for their life experience. Their adviser will assist them in identifying and preparing the appropriate documentation to prove that

their experience is at least equivalent to the breadth and depth of a college-level course. These materials, presented as portfolios of prior learning experience, are reviewed by faculty members within the center. There is a $180 fee per quarter credit hour for any credit awarded through the assessment.

Military experience
Students who have previously served in the armed forces and participated in any number of training programs may be eligible to receive credit for their responsibilities through the American Council of Education (ACE). Students should contact Veterans Enrollment Services at (585) 475-6641 or mskecr@rit.edu for an evaluation and recommendation of college credit for their military experience. RIT also is an institutional member of the Servicemembers Opportunity Colleges (SOC), which is a consortium of more than 1,500 colleges and universities that provide educational opportunities for service members and their families. SOC is funded by the Department of Defense and managed by the Defense Activity for Non-Traditional Education Support (DANTES).

Cooperative education
While cooperative education and/or an internship experience are not required for the BS in applied arts and science degree, they are encouraged. Cooperative education gives students the opportunity to apply classroom-based knowledge to real world situations, where they gain experience working on and solving problems in industry.

Advising
The center's faculty and academic advisers are experienced and trained across academic disciplines. They help match educational and career goals with an appropriate program of study. With an adviser's help, each program begins by taking into account what the student already knows and has accomplished. For example, college credits earned at RIT or other accredited institutions are reviewed to see how they might be applied to the program of study; professional certifications and experiences are evaluated for the possibility of receiving credit; and credits may be earned (by examination, portfolio reviews, or other documentation) for college-level learning that was gained on the job or through other educational experiences.

Academic enrichment
Honors Program: Students who demonstrate a high level of achievement at the high school level may be invited to join the Honors program. These students will participate in Honors course work throughout their program of study and experiential learning activities under the guidance of a faculty mentor. Honors students will be selected during the admissions process.

Study Abroad: RIT encourages all students to consider a study abroad program. Students may study full time at a variety of host schools and are able to select both courses in their majors and/or liberal arts classes. The Study Abroad Office has information about foreign study options and opportunities.

Minors: RIT offers students more than 80 minors to choose from to enhance their academic program or further develop a personal area of interest. For a detailed list of minors, including courses, please refer to the Minors section of this bulletin.

Special opportunities
Graduate study: CMS offers an MS degree in professional studies. Please refer to the Graduate Bulletin or the college's website for more information.

Online learning: The center offers a variety of courses through online learning. Students have the option of completing the diploma, AAS, and BS degrees online. This option allows students flexibility in completing their courses while maintaining a class atmosphere through online discussions via chat/e-mail conferencing. Online learning courses use textbook readings, assignments, and exams to deliver course work. Students have access to instructors by e-mail, computer, telephone, or individual appointments.

Applied Arts and Science, BS

rit.edu/cms
Center for Multidisciplinary Studies
(585) 475-2234, cms@rit.edu

Program overview

The Center for Multidisciplinary Studies offers students the opportunity to create individualized undergraduate programs of technical and professional study through its applied arts and science program. In this program, students work closely with faculty and advisers to design unique, multidisciplinary plans of study that combine several areas of professional knowledge.

The applied arts and science program is particularly appropriate for individuals who have prior college-level learning, are interested in changing majors, have unique ideas about how they want to design their academic areas of study, or want to prepare themselves for a career that requires skills and expertise from several disciplines.

Curriculum

The applied arts and science program is available as a bachelor of science program or an associate of applied science program.

Bachelor of science (BS) degree: 120 semester credit hours total; program is comprised of general education courses plus course work in two to four concentration areas. Associate of applied science (AAS) degree: 60 semester credit hours total; program is comprised of general education courses plus curse work in one to two concentration areas.

BS and AAS degrees are available to full-time day students, part-time evening students, and online students. These degrees allow students to pursue several different professional and technical areas of study, selected specifically to meet individual career and personal goals.

For their professional concentrations, students may draw upon a wealth of educational resources from across RIT's colleges and departments. Examples of professional concentrations include:

Business/management focus
- Management
- Quality management
- Health systems administration
- Project management
- International logistics and transportation

Computer/technical focus
- Applied computing
- Technical communications
- Computer science studies
- Engineering technology studies
- Computer graphics
- Mechanical technology

Liberal arts focus
- History
- Psychology studies
- Creative writing
- Cultural studies
- Foreign language

Students looking to complete the BS or AAS online can choose from the following areas of professional concentration:
- Business Studies
- Organizational change and leadership
- Health systems administration

- International logistics and transportation
- Computer graphics
- Project management
- Quality management
- Technical communications

No two applied arts and science programs will be exactly alike because each takes into account the student's previous learning and brings together a special combination of courses that are right for each student's career and professional development. For example, one individualized program might lead to a bachelor's degree with concentrations in information technology, graphic arts, and management, while another could lead to a bachelor's degree that combines the fields of technical communication and health systems administration.

As career plans evolve and the demands of their technical and professional fields change, students meet regularly with advisers to review and update plans of study.

Applied Arts and Science, AAS

Program overview

The applied arts and science major offers students the opportunity to create individualized undergraduate programs of technical and professional study through three levels of study: a bachelor of science degree, an associate of applied science degree, and a diploma. Further information for all three levels can be found under the applied arts and science BS program.

Applied Arts and Science, Dipl.

Program overview

The applied arts and science major offers students the opportunity to create individualized undergraduate programs of technical and professional study through three levels of study: a bachelor of science degree, an associate of applied science degree, and a diploma. Further information for all three levels can be found under the applied arts and science BS program.

RIT Online

rit.edu/ritonline
(585) 475-2229 (V/TTY)

RIT Online builds programs around industry standards, employer demand, and the perspectives of our global network. Degree programs offered online are of the same high quality as those offered on campus. Online courses meet the same rigorous objectives set for traditional classroom experiences, and faculty who teach online courses often teach the same class in a traditional format. A degree achieved through online study is the same as the one received by those who study on campus. There is no distinction between degree earned online versus those earned on campus.

Online learning is convenient and makes it possible to balance work, family, and school. Students can study and take classes anywhere there's an Internet connection, at times that are convenient and flexible.

Resources and support

All of the functions of a traditional university are available online, including admission, financial aid services, course registration, tuition payment, career advisement, a comprehensive library, and a bookstore. Online students also have access to the RIT Virtual Campus where they can network with faculty and fellow online students, obtain technical support, access resources, view RIT videos, and share their experiences directly with staff from RIT Online.

RIT is dedicated to helping students experience a high level of support to ensure academic success. Online students have full access to a comprehensive array of services including orientation, the RIT Virtual Campus, proctored exam assistance, an academic adviser, and a support desk available to answer general and technical questions via e-mail, IM, or phone.

Learning online

Online classes are just as demanding as their bricks-and-mortar counterparts. Each online course is set up by the professor and is designed to satisfy and accomplish the goals of that course. However, online learning takes more self-discipline, excellent time management skills, and a dedication to succeed. The online environment offers flexibility to fit around work and family schedules, but this convenience must be offset with rigorous study skills. Without a physical campus environment, many students find they need strong independent study and learning habits.

Most online courses establish either a weekly schedule for learning activities or a project-based learning approach where deliverables demonstrate that certain learning outcomes are accomplished. Students interact online with other students and instructors to exchange ideas and collaborate much like they would in traditional on-campus courses. Each professor decides which learning outcomes are necessary for a particular course and how those outcomes are assessed (for example, if a professor decides to assess students using an exam, they may choose to use an online exam or a proctored exam). Other course activities may include readings from a textbook or electronic reserves from the RIT's library, watching streaming video, participating in an online discussion, or submitting written assignments or projects to the online dropbox.

Online programs and courses

RIT offers numerous degrees, certificate programs, and courses in an online format. For more information, please visit the RIT Online website.

Teaching and Learning Services

rit.edu/tls

Teaching and Learning Services promotes and supports student learning through faculty development and by collaborating with faculty. TLS partners with faculty to enrich their on-campus, blended, and online classes through instructional design, effective support of academic technologies, and media and individual consulting and coaching.

University Studies Program

rit.edu/universitystudies
Marty Burris, Director
(585) 475-4027, marty.burris@rit.edu

University Studies is an exploratory program designed for first- or second-year undergraduate students who are undecided about a college major.

Admission requirements

For information on undergraduate admission, including freshman and transfer admission guidelines, please refer to the Undergraduate Admission section of this bulletin.

Financial aid and scholarships

Please refer to the Financial Aid and Scholarships section of this bulletin for information regarding financial aid, scholarships, loans, and grants.

Faculty

University Studies utilizes part-time faculty members with backgrounds in career development to teach a one-credit hour Career Seminar course to guide students through the career exploration process. Additionally, full-time academic advisers assist students in course selection and planning, and offer further advice on majors and career options.

University Studies, Undeclared

rit.edu/universitystudies

Program overview

Some of RIT's accepted students have interests that span two or more colleges. To help these students choose the academic program that best meets their career interests and goals, RIT offers the university studies program. The university's broadest and most flexible option, university studies allows students up to a year to explore more than 90 bachelor's degree programs while completing courses in general education, math, and science. Students work individually with experienced advisers who make suggestions on course work and programs of study. Through advising and individual interaction with faculty and department chairs, students narrow their focus on a major that matches their career interests and goals.

University studies, typical course sequence

COURSE		SEMESTER CREDIT HOURS
First Year		
ITDL-101	Career Exploration Seminar	1
ENGL-150	LAS Foundation 2: First Year Writing	3
	LAS Perspective 1, 2, 3, 4, 5, 6, 7A, 7B	24
	Major Exploration Courses†	6
	YearOne	0
	Wellness Education*	0
Total Semester Credit Hours		**34**

Please see General Education Curriculum-Liberal Arts and Sciences (LAS) in the Graduation Requirements section of this bulletin for more information.
(WI) Refers to a writing intensive course within the major.
* Please see Wellness Education Requirement for more information. Students completing bachelor's degrees are required to complete two Wellness course.
† Please see an academic adviser to select sample courses in your majors of interest.

University Writing Program

rit.edu/writing

David Martins, Director
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The University Writing Program supports and advances writing excellence throughout RIT's programs, colleges, and global locations. Comprised of three interrelated units (Writing Across the Curriculum, First Year Writing, and the University Writing Commons) the program:

- provides writing support to all RIT students, regardless of location, year level, or major
- provides support for writing instruction to any RIT faculty member
- coordinates and helps develop writing resources across campus
- produces evidence of students' achievement of writing-related student learning outcomes
- cultivates high-quality environments for practicing, teaching, and researching writing.

Writing Across the Curriculum

Writing Across the Curriculum prepares students for the written communication expectations of their coursework, co-op experiences, and future workplaces. Students at RIT and its global locations are introduced to university writing in their First Year Writing course, and before graduating, students complete at least one General Education Writing Intensive course and one Writing Intensive course in their major area of study.

General Education Writing Intensive courses reinforce the knowledge and practices introduced in FYW. These courses are located throughout the Perspective and Immersion course categories and use writing to engage students in course content.

Program Writing Intensive courses (identified on the typical course sequence charts with the designation "WI") are located in disciplinary contexts and apprentice students in specific forms of writing. These courses reinforce the knowledge and practices introduced in FYW, and students gain mastery of written forms specific to the student's major area of study.

First Year Writing

First Year Writing is a general education foundation course that plays an essential role in students' academic transition to the university. In FYW, students learn about the social and intellectual aspects of university writing, and develop critical literacy practices required for academic success. For example, students completing First Year Writing will demonstrate the following learning outcomes:

- Revise and improve their writing
- Express themselves effectively in common college-level written forms using standard American English
- Use relevant evidence gathered through accepted scholarly methods and properly acknowledge sources of information (General Education Framework)

There are currently three FYW courses that fulfill this requirement:

- FYW: Writing Seminar (UWRT-150)
- FYW: The Future of Writing (ENGL-150)
- FYW: Ethics in Computing (ISTE-110)

The University Writing Commons

At the RIT Writing Commons and Online Writing Commons students, faculty and staff work with professional and peer writing consultants to develop skills and competencies as writers. Whether in person or online, consultants:

- Assist writers in improving their writing practices
- Foster productive, goal-oriented conversations about writing projects at any stage of the composing process
- Create an intellectual space for students and faculty to explore university literacy practices

The RIT Writing Commons is a free service to the Rochester campus, and the Online Writing Commons offers support for online users through digital reference materials and networked consultation.

Innovative Learning Institute

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Mary Boyd, BA, Earlham College; MS, University of Iowa—Interim Director, Center for Multidisciplinary Studies; Associate Professor

Donna Dickson—Director, ILI Faculty Services and Teaching & Learning Studio

Therese Hannigan, BFA, MFA, Rochester Institute of Technology—Interim Director, ILI and RIT Online

Center for Multidisciplinary Studies

Mary Boyd, BA, Earlham College; MS, University of Iowa—Interim Director; Associate Professor

Thomas Hanney, Certificate, Rochester Institute of Technology; BA, St. John Fisher College; MPA, State University College at Brockport—Lecturer

Samuel McQuade III, BA, Western Washington University; MPA, University of Washington; Ph.D., George Mason University—Graduate Program Director; Professor

Thomas F. Moran, BSME, California State Polytechnic College; MSME, California State College at Long Beach—Professor

Carol Romanowski, BA, State University College at Plattsburgh; BS, MS, Ph.D., University at Buffalo—Associate Professor

University Studies Program

Marty Burris, Director, University Studies Program

Angelo Fuino, Assistant Director, University Studies Program

Dewey Lawrence, Senior Academic Adviser, University Studies Program

University Writing Program

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Rachel Chaffee, BA, Roberts Wesleyan College; MA, State University College at Brockport—Director, University Writing Commons

Dianna Winslow, BA, MA, California State University, Chico; Ph.D., Syracuse University—Director, First Year Writing; Assistant Professor

Collette Caton, BA, St. Edward's University; MA, Texas State University—Lecturer

Gail Hosking, BA, Alfred University; MS, Iowa State University; MFA, Bennington College—Lecturer

Andrew Perry, BA, State University College at Oswego; MA, State University College at Brockport—Senior Lecturer

Phil Shaw, BA, MA, University of Denver—Lecturer

Thomas M. Stone, BA, Northern Arizona University; MA, Bucknell University; Ph.D., University of Rochester—Lecturer

Paulette M. Swartzfager, BA, St. Mary's Dominican College; MA, Louisiana State University—Lecturer

Minors

rit.edu/minors

Students pursuing a bachelor's degree have the option of completing a minor, which can complement a student's major, help them develop another area of professional expertise, or enable them to pursue an area of personal interest. Completion of a minor is formally designated on the baccalaureate transcript, which serves to highlight this accomplishment to employers and graduate schools. For the most recent list of minors, please visit rit.edu/minors.

Please note: A minor is a related set of academic courses consisting of no fewer than 15 credit hours. The following parameters must be met in order to earn a minor:

- At least nine credit hours of the minor must consist of courses not required by the student's home major.
- Students may pursue multiple minors. A minimum of nine credit hours must be designated towards each minor; these courses may not be counted towards other minors.
- The residency requirement for a minor is a minimum of nine credit hours consisting of RIT courses (excluding "X" graded courses).

Not all minors are approved to fulfill general education requirements. Please check with an adviser in regards to minors approved to fulfill these requirements.

Accounting

Jerry Curnutt, Minor Adviser
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Accounting is necessary in a wide variety of careers. Students completing an accounting minor will broaden their learning experiences and professional opportunities by gaining more depth in operational accounting topics. This minor is closed to students majoring in accounting.

COURSE	
Required Courses	
ACCT-110	Financial Accounting
ACCT-210	Management Accounting
Electives	
Choose three of the following	
ACCT-360	Intermediate Financial Accounting I*
ACCT-365	Intermediate Financial Accounting II*
ACCT-420	Personal and Small Business Taxation*
ACCT-430	Cost Accounting
ACCT-440	Advanced Taxation
ACCT-445	Accounting Information Systems
ACCT-450	Accounting for Government and Not-for-profit Organizations
ACCT-489	Seminar in Accounting
ACCT-490	Auditing
ACCT-510	Internal Auditing
ACCT-540	Advanced Accounting
ACCT-560	Forensic Accounting and Fraud Examination
FINC-120	Personal Financial Management
FINC-220	Corporate Finance
BLEG-200	Business Law I
MGMT-340	Business Ethics and Corporate Social Responsibility†

* These courses are recommended for students interested in pursuing CPA certification.
† This course is for students who are not enrolled in majors within Saunders College of Business.

Advertising and Public Relations

College of Liberal Arts, Office of Student Services
(585) 475-2444, libarts@rit.edu

The advertising and public relations minor prepares students to analyze audiences, write advertising copy, prepare press releases, select media, and manage broad-scaled persuasive campaigns. Students are grounded in the basic theories of persuasive communication enabling them to create persuasive messages with a strong emphasis on ethical decision-making. This minor is closed to students majoring in advertising and public relations, communication, or journalism.

COURSE	
Required Course	
COMM-305	Persuasion
Choose one of the following:	
COMM-211	Principles of Advertising
COMM-212	Public Relations
Electives	
*Choose three of the following:**	
COMM-202	Mass Communications
COMM-221	Public Relations Writing
COMM-321	Copywriting and Visualization
COMM-303	Small Group Communication
COMM-322	Campaign Management and Planning
COMM-341	Visual Communication

* At least two courses must be at the 300 level or higher.

American Art

The American art minor provides students with an opportunity to study the American arts in a variety of disciplines, including painting, architecture, film, photography, music, theatre, and mass media. Each course presents American art within the context of the broader current of American life, including its history, philosophy, social, and cultural traditions.

COURSE	
Electives	
*Choose five courses from the following:**	
Visual culture	
FNRT-206	Queer Looks
FNRT-370	American Painting
FNRT-371	African-American Art
FNRT-372	American Film of the Studio Era
FNRT-373	American Film Since the Sixties
FNRT-374	Art in the Age of the New Deal
FNRT-377	Imag(in)ing Rochester
FNRT-378	Memory, Memorials, and Monuments
FNRT-383	Traumatic Images
FNRT-384	Art of Dying
Performing arts	
FNRT-201	Music in the U.S.
FNRT-203	American Popular and Rock Music
FNRT-322	Survey of Jazz
FNRT-323	Survey of African-American Music
FNRT-324	Sounds of Protest
FNRT-325	American Popular Song
FNRT-327	American Musical Theatre
Literature	
ENGL-411	Topics in American Literature
ENGL-412	American Studies
ENGL-413	African-American Literature

* Students must take at least one course in each of the three disciplines.

American Politics

College of Liberal Arts, Office of Student Services
(585) 475-2444, libarts@rit.edu

The American politics minor studies the basic principles and institutions of the American political order and their implications for current political practice. The strengths and limitations of American constitutionalism are emphasized throughout and contemporary political and policy questions facing the country are examined. This minor is closed to students majoring in political science.

COURSE	
Required Courses	
POLS-110	American Politics
Electives	
*Choose four of the following:**	
POLS-200	Law and Society
POLS-250	State and Local Politics
POLS-290	Politics and the Life Sciences
POLS-295	Cyberpolitics
POLS-305	Political Parties and Voting
POLS-310	The Congress
POLS-315	The American Presidency
POLS-320	American Foreign Policy
POLS-345	Politics and Public Policy
POLS-355	Political Leadership
POLS-415	Evolution and Law
POLS-420	Primate Politics
POLS-425	Constitutional Law
POLS-430	Constitutional Rights and Liberties
POLS-435	American Political Thought
POLS-460	Classical Constitutionalism, Liberty and Equality
POLS-465	Modern Constitutionalism, Liberty and Equality
POLS-480	Women in Politics
POLS-485	Politics Through Fiction
POLS-490	Politics Through Film
POLS-525	Special Topics in Political Science

* At least two courses must be at the 300 level or higher.

American Sign Language and Deaf Cultural Studies

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The American sign language and deaf cultural studies minor offers students the opportunity to study in the emerging field of Deaf cultural studies. Courses in the minor address topics in the field of ASL and DCS including the study of ASL and its structure, ASL literature, literature in English pertaining to the D/deaf experience, the history of D/deaf people in America and around the world, Deaf art and cinema, the experience of D/deaf people from racial, ethnic, and other minority groups, oppression in the lives of D/deaf people, and various political, legal, and educational issues affecting members of the D/deaf community. The minor requires students to achieve a minimal level of competence in ASL and complete at least one course in Deaf Cultural Studies.

The minor has two options: one for students who are not proficient in ASL and one for those who are. While at least one course must be a deaf cultural studies elective, students are free to structure the minor to fulfill their professional or personal goals:

- Students who want to focus their studies on ASL should choose at least two language courses as electives.
- Students who want to emphasize Deaf Cultural Studies should choose three or four DCS elective courses depending on their proficiency in ASL.
- Students who prefer a balance of ASL and DCS courses may distribute their electives across ASL and DCS in a manner consistent with their ASL proficiency and course prerequisites.

Students majoring in ASL-English Interpretation may only pursue the minor is they choose to emphasize courses that focus on deaf cultural studies; they are not permitted to register for ASL courses.

COURSE	
Required Courses	
Option 1: For students who are not proficient in ASL:	
MLAS-201	Beginning American Sign Language I
MLAS-202	Beginning American Sign Language II
Option 2: For students who are proficient in ASL, choose one of the following:	
MLAS-351	Linguistics of American Sign Language
MLAS-352	American Sign Language Literature
Electives	
Choose three or four of the following:	
Language courses:	
MLAS-301	Intermediate Sign Language I
MLAS-302	Intermediate Sign Language II
MLAS-351	Linguistics of American Sign Language
MLAS-352	American Sign Language Literature
MLAS-401	Advanced Sign Language I
MLAS-402	Advanced Sign Language II
Deaf cultural studies courses:	
ENGL-417	Deaf Literature
FNRT-440	Deaf Art and Cinema
HIST-230	American Deaf History
HIST-231	Deaf People in Global Perspective
HIST-330	Deaf People and Technology
HIST-333	Diversity in the Deaf Community
HIST-334	Oppression in the Lives of Deaf People
HIST-335	Women and the Deaf Community
SOCI-240	Deaf Culture in America

Applied Informatics

Jeffrey Lasky, Minor Adviser
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Informatics studies the collection, storage, analysis, and presentation of digital information. Students analyze, integrate, and present information in ways that are meaningful to specific audiences. Skills developed in this minor include programming, statistical and other forms of data analysis, management and use of different types of data collections such as databases and XML files, and the application of mash-up tools to combine and present data in novel ways. The minor is for students outside the information technology major who wish to apply the tools of informatics to manage, process, and analyze data associated with their field of study or found in another domain.

COURSE	
Required Courses	
ISTE-271	Introduction to Informatics
ISTE-120	Computational Problem Solving I
STAT-145	Introduction to Statistics I
ISTE-230	Introduction to Database and Data Modeling
ISTE-270	Data Exploration and Knowledge Discovery
ISTE-371	Integration in Informatics

Applied Statistics

Bernard Brooks, Minor Adviser
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The statistics minor provides an opportunity for students to deepen their technical background and gain further appreciation for modern mathematical sciences and the use of statistics as an analytical tool.

COURSE	
Prerequisites	
MATH-181	Project-based Calculus I
MATH-182	Project-based Calculus II
Electives	
Choose five of the following:	
STAT-205	Applied Statistics
MATH-251	Probability and Statistics I
MATH-252	Probability and Statistics II
STAT-295	Statistical Analysis for Bioinformatics
STAT-305	Introduction to Regression Analysis
STAT-325	Design of Experiments
STAT-315	Statistical Quality Control
STAT-335	Introduction to Time Series
STAT-345	Nonparametric Statistics
MATH-401	Stochastic Processes
STAT-405	Mathematical Statistics I
STAT-406	Mathematical Statistics II
STAT-415	Statistical Sampling
MATH-655	Biostatistics

Archaeological Science

College of Liberal Arts, Office of Student Services
(585) 475-2444, libarts@rit.edu

Archaeological science is the application of techniques from the physical sciences to research problems in archaeology and related disciplines. Over the past six decades archaeological science has provided powerful tools for understanding the past, ranging from absolute dating to bone chemistry. It has become an established sub-field within the discipline of archaeology, which itself has grown during the same period from a discipline largely focused on cultural history (the use of artifacts to reconstruct regional cultural sequences) and the validation of documentary history to the explanation of the processes of cultural change in the past. This minor is closed to students majoring in sociology and anthropology who have chosen the archaeology or cultural anthropology tracks.

COURSE	
Required Courses	
ANTH-103	Archaeology and the Human Past
ANTH-415	Archaeological Science
Electives	
*Choose three of the following:**	
Disciplinary	
ANTH-230	Great Discoveries in Archaeology
ANTH-250	Themes in Archaeological Research
ANTH-255	Regional Archaeology
ANTH-315	Archaeology of Cities
ANTH-355	Historic Archaeology
Applied/Laboratory	
ANTH-215	Field Methods in Archaeology
ANTH-360	Humans and Their Environment
ANTH-375	Native American Repatriation
ANTH-420	Exploring Ancient Technology
ANTH-440	Survey of Metallurgy
ANTH-435	Garbage Archaeology

* At least one course must be selected from each group and at least one course must be at the 300 level or higher.

Astronomy

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Astronomy is an interdisciplinary minor offered jointly by the department of physics in the College of Science and the Chester F. Carlson Center for Imaging Science. Students have the opportunity for additional study in astronomy in order to build a secondary area of expertise in support of their major or other areas of interest.

COURSE	
Prerequisites	
MATH-181	Project-based Calculus I
MATH-182	Project-based Calculus II
PHYS-211	University Physics I
PHYS-212	University Physics II
PHYS-213	Modern Physics I
Required Courses	
PHYS-220	University Astronomy
Astrophysics	
Choose one of the following:	
PHYS-370	Stellar Astrophysics
PHYS-371	Galactic Astrophysics
PHYS-372	Extragalactic Astrophysics and Cosmology
Experimental	
Choose one of the following:	
PHYS-373	Observational Astronomy
IMGS-461	Multi-wavelength Astronomical Imaging
IMGS-528	Design and Fabrication of a Solid State Camera
Electives	
Choose two of the following:	
PHYS-370	Stellar Astrophysics
PHYS-371	Galactic Astrophysics
PHYS-372	Extragalactic Astrophysics and Cosmology
PHYS-373	Observational Astronomy
IMGS-461	Multi-wavelength Astronomical Imaging
IMGS-528	Design and Fabrication of a Solid State Camera
IMGS-361	Digital Image Processing I
IMGS-362	Digital Image Processing II
IMGS-451	Imaging Detectors
PHYS-493	Astrophysics Research

Biology: Cellular and Molecular

The biology: cellular and molecular minor provides students with opportunities to experience and explore topics related to both the cellular and molecular aspects of modern biology to broaden and enhance their educational experience. This minor is closed to students majoring in biology, biochemistry, bioinformatics, biomedical sciences, and biotechnology and molecular bioscience.

COURSE	
Prerequisites	
Choose one of the following sequences:	
BIOL-101, 102, 103, 104	General Biology I, II and Labs
BIOL-121, 122	Introduction to Biology I, II
Required Course	
BIOL-201	Cellular and Molecular Biology
Electives	
Elective choices should total 15 credit hours	
BIOL-204	Introduction to Microbiology
BIOL-218	Biology of Plants
BIOL-305	Plants, Medicine, and Technology
BIOL-306	Food Microbiology
BIOL-307	Microbiology of Wastewater
BIOL-308	Biology of Cancer
BIOL-310	Bioenergy: Microbial Production
BIOL-314	Tissue Culture
BIOL-321	Genetics
BIOL-322	Developmental Biology
BIOL-325	Bioinformatic Analysis of Macromolecules
BIOL-340	Genomics
BIOL-341	Synthetic Biology
BIOL-375	Advanced Immunology
BIOL-380	Bioremediation
BIOL-401	Biological Separations: Principles and Practices
BIOL-403	Principles of Plant Biochemistry and Pathology
BIOL-415	Virology
BIOL-416	Plant Biotechnology
BIOL-418	Plant Molecular Biology
BIOL-420	Bacterial Host Interactions
BIOL-450	Genetic Engineering

Biology: Ecology and Evolution

The biology: ecology and evolution minor provides students with the opportunity to experience both the ecological and evolutionary underpinnings of modern biology. The minor explores these areas of biology through laboratory and field experiences. The minor is closed to students majoring in biology or enrolled in the biology concentration of the environmental science major.

COURSE	
Prerequisites	
Choose one of the following sequences:	
BIOL-101, 102, 103, 104	General Biology I, II and Labs
BIOL-121, 122	Introduction to Biology I, II
Required Course	
Choose one of the following:	
BIOL-240	General Ecology
BIOL-265	Evolutionary Biology
Electives	
Elective choices should total 15 credit hours	
BIOL-205	Animal Behavior
BIOL-211	Invertebrate Zoology
BIOL-212	Vertebrate Zoology
BIOL-218	Biology of Plants
BIOL-290	Vertebrate Evolution
BIOL-293	Evolution and Creationism
BIOL-309	Comparative Vertebrate Anatomy
BIOL-313	Comparative Animal Physiology
BIOL-343	Tropical Ecology
BIOL-365	Population Genetics
BIOL-371	Freshwater Ecology
BIOL-385	Seneca Park Zoo Internship
BIOL-455	Biogeography
BIOL-473	Marine Biology
BIOL-475	Conservation Biology

Business Administration

Jerry Curnutt, Minor Adviser
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This minor is appropriate for undergraduate students interested in broad exposure to the world of business. Undergraduate students interested in pursuing an MBA degree may use this minor to fulfill certain MBA bridge courses.

COURSE	
Required Courses	
Choose three of the following	
ACCT-110	Financial Accounting
BLEG-200	Business Law I
DECS-310	Operations Management
INTB-225	Global Business Environment
MGIS-340	Emerging Business Technologies
MGMT-215	Organizational Behavior
MKTG-230	Principles of Marketing
FINC-120*	Personal Financial Management*
FINC-220*	Corporate Finance*
Electives	
Choose two electives from courses within Saunders College of Business. Elective courses may be any course except Applying Business Technology (MGIS-250).	

* Student may choose only one of the finance courses.

Chemical Engineering Systems Analysis

Steven Weinstein, Minor Adviser
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The minor in chemical engineering systems analysis provides students with a sophisticated understanding of the application of scientific knowledge to the solution of a vast array of practical problems in which chemistry plays a critical role. Students are taught the systems methodology that chemical engineers employ to analyze and solve real world problems involving distinct chemical components, chemical reaction, multiple phases, and mass transfer.

COURSE	
Required Courses	
CHME-230	Chemical Process Analysis
CHME-330	Mass Transfer Operations
CHME-340	Reaction Engineering
Electives	
Choose two courses from the following groups:	
Alternate energy systems	
CHEM-201	Clean Energy: Hydrogen Fuel Cells
MECE-529	Renewable Energy Systems
Advanced materials	
CHMG-201	Introduction to Organic Polymer Technology
CHMA-222	Chemical Separations
CHME-350	Multiple Scale Material Science
MECE-557	Applied Biomaterials
CHME-421	Interfacial Phenomena
CHMP-751	Colloid and Interface Science
Biomedical	
BIME-200	Introduction to Musculoskeletal Biomechanics
MECE-358	Contemporary Issues in Bioengineering
BIME-370	Introduction to Biomaterials Science
MECE-407	Biomedical Device Engineering
Environmental	
MECE-357	Contemporary Issues in Energy and the Environment
ISEE-787	Design for the Environment
Semiconductor Processing	
MCEE-201	IC Technology
MCEE-503	Thin Films
MCEE-505	Lithography Materials and Processes

Chemistry

Brenda Mastrangelo, Academic Adviser
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Students have the opportunity to complete a minor in chemistry in order to build a secondary area of expertise in support of their major or other areas of interest.

COURSE	
Prerequisites	
CHMG-141	General and Analytical Chemistry I
CHMG-145	Chemical Principles I Laboratory
CHMG-142	General and Analytical Chemistry II
CHMG-146	Chemical Principles II Laboratory
Required Courses	
CHMO-231	Organic Chemistry I
CHMO-235	Organic Chemistry I Lab
CHMO-232	Organic Chemistry II
CHMO-236	Organic Chemistry II Lab
Electives	
*Choose three of the following:**	
CHMO-637	Advanced Organic Chemistry
CHMO-636	Spec. ID of Organic Compounds
CHMO-739	Advanced Physical Organic Chemistry
CHMO-710	Literature Explorations in Organic Synthesis
CHMA-161	Quantitative Analysis
CHMA-165	Analytical Methods Lab
CHMA-221	Instrumental Analysis
CHMA-222	Chemical Separations
CHMA-711	Advanced Instrumental Analysis
CHMB-402	Biochemistry I
CHMB-403	Biochemistry II
CHMB-540	Biochemistry of Infectious Diseases
CHMB-610	Advanced Protein Biochemistry
CHMI-351	Inorganic Chemistry I
CHMI-352	Inorganic Chemistry II
CHMP-441	Physical Chemistry I
CHMP-442	Physical Chemistry II
CHMP-752	Molecular Photophysics and Photochemistry
CHMP-753	Computational Chemistry
CHPO-706	Polymer Chemistry I
CHPO-707	Polymer Chemistry II
CHMA-621	Advanced Instrumental Analysis Lab
CHMB-405	Biochemistry Experimental Techniques
CHMI-565	Preparative Inorganic Chemistry Lab
CHPO-708	Polymer Synthesis and Characterization Lab

* At least one course must be at the 400 level or higher.

Communication

College of Liberal Arts, Office of Student Services
(585) 475-2444, libarts@rit.edu

The communication minor offers students a foundation in human communication theories, research, and skills. This minor is closed to students majoring in advertising and public relations, communication, or journalism.

COURSE	
Electives	
Choose three of the following:	
COMM-201	Public Speaking
COMM-202	Mass Communications
COMM-302	Interpersonal Communication
COMM-303	Small Group Communication
COMM-304	Intercultural Communication
COMM-305	Persuasion
COMM-341	Visual Communication
COMM-342	Communication Law and Ethics
Choose two of the following:	
COMM-343	Technology-Mediated Communication
COMM-344	Health Communication
COMM-345	Ethics in Technical Communication
COMM-442	Professional Writing
COMM-503	Advanced Public Speaking

Computer Engineering

Andreas Savakis, Minor Adviser
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Roy Melton, Minor Adviser
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The computer engineering minor provides students with a foundation in digital systems design, computer organization, and low-level programming. Students build on this foundation through elective courses in the areas of hardware design, architectures, networks, and systems. The minor is closed to students majoring in computer engineering, computer engineering technology, electrical engineering technology, or telecommunications engineering technology.

COURSE	
Prerequisites	
CSCI-141	Computer Science I (or equivalent)
Plus one of the following:	
MATH-181	Project-based Calculus I
MATH-172	Calculus B
MATH-190	Discrete Mathematics for Computing
Required Courses	
CMPE-160	Digital System Design I
CMPE-250	Assembly Language
CMPE-350	Computer Organization
Electives	
Choose two of the following:	
CMPE-260	Digital System Design II
CMPE-380	Applied Programming
CMPE-460	Interface and Digital Electronics
CMPE-480	Digital Signal Processing
CMPE-530	Digital IC Design
CMPE-550	Computer Architecture
CMPE-540	Control Systems
CMPE-570	Data and Communication Networks
CMPE-755	High Performance Architectures
CMPE-660	Reconfigurable Computing
CMPE-663	Real Time and Embedded Systems
CMPE-770	Wireless Networks
CMPE-730	Advanced Digital IC Design
CMPE-655	Multiple Processor Systems

Computer Science

Henry A. Etlinger, Minor Adviser
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The computer science minor allows students to explore an in-depth study of programming or to sample selected theoretical or applied areas within the computer science field. At least two of the four electives must have course numbers of 300 or higher and students with the proper prerequisites may use graduate-level computer science courses toward the minor. This minor is closed to students majoring in computer science.

COURSE	
Prerequisites	
CSCI-141, 142	Computer Science I, II*
MATH-181, 182	Project-based Calculus I, II†
Choose one of the following:‡	
MATH-190	Discrete Mathematics for Computing
MATH-200	Discrete Mathematics and Introduction to Proof
MATH-131	Discrete Mathematics
Required Course	
CSCI-243	The Mechanics of Programming
Electives	
Choose four of the following:§	
CSCI-250	Concepts of Computer Systems
CSCI-251	Concepts of Parallel and Distributed Systems
CSCI-261	Analysis of Algorithms
CSCI-262	Introduction to Computer Science Theory
CSCI-263	Honors Introduction to Computer Science Theory
CSCI-320	Principles of Data Management
CSCI-331	Introduction to Intelligent Systems
CSCI-344	Programming Language Concepts
CSCI-351	Data Communications and Networks I
CSCI-352	Operating Systems
CSCI-420	Principles of Data Mining
CSCI-431	Introduction to Computer Vision
CSCI-452	System Programming
CSCI-453	Computer Architecture
CSCI-455	Principles of Computer Security
CSCI-462	Introduction to Cryptography
CSCI-464	Xtreme Theory
CSCI-510	Introduction to Computer Graphics
CSCI-519	Seminar in Computer Graphics
CSCI-529	Seminar in Data Management
CSCI-531	Introduction to Security Measurement
CSCI-532	Introduction to Intelligent Security Systems
CSCI-539	Seminar in Intelligent Systems
CSCI-541	Programming Skills
CSCI-549	Seminar in Languages and Tools
CSCI-559	Seminar in Systems
CSCI-569	Seminar in Theory
CSCI-599	Computer Science Undergraduate Independent Study

* Students may also fulfill the prerequisite requirement with an equivalent two-course introductory programming sequence.
† Students may also fulfill the prerequisite requirement with an equivalent two-course calculus sequence.
‡ Students may also choose the equivalent of one discrete mathematics course.
§ Courses numbered CSCI-600 or higher may also be selected.

Construction Management

Todd Dunn, Minor Advisor
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The construction management minor broadens the learning experiences and professional opportunities of students who have an interest in building construction, bid development, management of construction projects after a successful bid, and the business, management, and technical aspects related to construction.

COURSE	
Required Courses	
CVET-170	Elements of Building Construction
CVET-461	Construction Cost Estimating I
CVET-462	Construction Project Management
Electives	
Choose two of the following:	
CVET-463	Sustainable Building Design and Construction
CVET-464	Construction Planning, Scheduling, and Control
CVET-465	Contracts and Specifications
ESHS-325	Construction Safety
CVET-423	GIS for CETEMS

Creative Writing

College of Liberal Arts, Office of Student Services
(585) 475-2444, libarts@rit.edu

The creative writing minor provides theoretical and historical background to assist students as they develop their own creative writing abilities.

COURSE	
Electives	
Choose three of the following:	
ENGL-440	Poetry Workshop
ENGL-441	Fiction Workshop
ENGL-442	Creative Nonfiction Workshop
ENGL-443	Editing the Literary Magazine
ENGL-511	Advanced Creative Writing*
Choose two of the following:	
ENGL-301	Art of Poetry
ENGL-302	The Short Story
ENGL-403	The Novel
ENGL-408	Modern Poetry
ENGL-420	Science Fiction
ENGL-376	Experimental Writing

* Students in the creative writing minor have the option to take one of the creative writing courses and then take Advanced Creative Writing (ENGL-542) twice in order to complete an extended writing project.

Criminal Justice

College of Liberal Arts, Office of Student Services
(585) 475-2444, libarts@rit.edu

The minor in criminal justice provides a foundation in the formal process of social control through the criminal justice system, including how behavior is defined as criminal, how crime is measured, and how society responds to crime through law enforcement, courts, and corrections. This minor is closed to students majoring in criminal justice.

COURSE	
Required Courses	
CRIM-110	Introduction to Criminal Justice
Electives	
Choose four of the following:	
CRIM-210	Technology in Criminal Justice
CRIM-220	Corrections
CRIM-230	Juvenile Justice
CRIM-240	Law Enforcement in Society
CRIM-260	Courts
CRIM-275	Crime and Violence
CRIM-285	Minority Groups in the Criminal Justice System
CRIM-489	Major Issues in Criminal Justice

Database Design and Development

Edward Holden, Minor Adviser
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The database design and development minor provides a cohesive set of courses that elevates students from a foundational level to advanced knowledge of database systems and the database development process. Students learn the basics of data modeling, the relational model, normalization, and Structured Query Language (SQL). Students also learn the skills needed to effectively capture requirements, compose data models that accurately reflect those requirements, develop programs that establish lines of communication with back-end databases, build and manage large databases, and learn methods for designing and developing data warehouses.

COURSE	
Prerequisites	
Coursework in discrete mathematics and a three-course sequence in programming.	
Required Courses	
ISTE-430	Information Requirements Modeling
ISTE-330	Database Connectivity and Access
ISTE-436	Data Management and Access
Plus one of the following:	
ISTE-230	Introduction to Databases and Data Modeling
CSCI-320	Principles of Data Management
Plus one of the following:	
ISTE-432	Database Application Development
ISTE-434	Data Warehousing

Digital Business

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Digital business represents the impact of new technologies on business practice, products, and services. Today, social computing and mobile devices are dramatically changing the behaviors and characteristics that lead individuals and organizations to success. Through this minor students enhance their major with a focus on these new technologies and their application in business.

COURSE	
Required Courses	
MGIS-360	Building a Web Business
Electives	
Choose four of the following:	
MGMT-360	Digital Entrepreneurship
MKTG-230	Principles of Marketing
MKTG-320	Internet Marketing
MKTG-410	Search Engine Marketing and Analytics
MKTG-420	Advanced Internet Marketing
MGMT-420	Managing Innovation and Technology
FINC-359	Financing New Ventures
MGIS-320	Database Management Systems

Digital Literatures and Media

College of Liberal Arts, Office of Student Services
(585) 475-2444, libarts@rit.edu

Digital technologies are changing all aspects of how we read and analyze texts and how we access and conceptualize information. Through this minor, students read and analyze traditional texts produced in print, and non-traditional texts created specifically for online environments (e.g., electronic poetry, games, social media). This minor provides an entry point into investigating particular aspects of the digital and its relation to the literary. The minor examines the cultural and social impact of new technologies and offers students access to these technologies for application to new questions for study and new methods of creation.

COURSE	
Required Courses	
Choose one of the following:	
ENGL-481	Introduction to Natural Language Processing
FNRT-356	Interactive Design for Museums
IGME-110	Introduction to Interactive Media
ISTE-105	Web Foundations
ISTE-382	Introduction To Geospatial Technologies
Electives	
Choose four of the following:	
ENGL-215	Text and Code
ENGL-375	Storytelling Across Media
ENGL-403	The Novel
ENGL-409	Mythology and Literature
ENGL-410	Film Studies
ENGL-418	Great Authors*
ENGL-419	Literature and Technology
ENGL-420	Science Fiction
ENGL-421	The Graphic Novel

* With adviser approval.

Economics

College of Liberal Arts, Office of Student Services
(585) 475-2444, libarts@rit.edu

An economics minor provides a systematic analysis of economic issues through the study of the allocation of scarce resources into production and the distribution of production among the members of society. This minor is closed to students majoring in economics.

COURSE	
Prerequisite	
Choose one of the following:	
ECON-101	Principles of Microeconomics
ECON-101H	Honors Economics
Required Course	
ECON-201	Principles of Macroeconomics
Electives	
Theory and policy	
Choose two or three of the following:	
ECON-401	Intermediate Microeconomics Theory
ECON-402	Intermediate Macroeconomic Theory
ECON-405	International Trade and Finance
ECON-406	Global Economic Issues
ECON-407	Industrial Organization
ECON-420	Environmental Economics
ECON-421	Natural Resource Economics
ECON-422	Benefit-Cost Analysis
ECON-430	Managerial Economics
ECON-431	Monetary Analysis and Policy
ECON-440	Urban Economics
ECON-441	Labor Economics
ECON-444	Public Finance
ECON-445	History of Economic Thought
ECON-448	Development Economics
ECON-449	Comparative Economic Systems
ECON-450	Health Care Economics
ECON-451	Economics of Women and the Family
ECON-452	Economics of native America
Quantitative	
Choose one or two of the following:	
ECON-403	Econometrics I
ECON-404	Mathematical Methods: Economics
ECON-410	Game Theory: Economic Applications

Electrical Engineering

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Electrical engineering encompasses disciplines such as electronics, communication, control, digital systems, and signal/image processing. A minor in electrical engineering provides a foundation to explore specialized material in electrical engineering. The minor is designed to provide students from other engineering or non-engineering disciplines an introduction to the wide-ranging content of the electrical engineering major. The minor is closed to students majoring in electrical engineering, electrical engineering technology, and computer engineering technology.

COURSE	
Prerequisites*	
MATH-182	Project-based Calculus II
PHYS-212	University Physics II
Required Courses	
EEEE-281	Circuits I
EEEE-282	Circuits II
Electives	
Choose three of the following:	
EEEE-120	Digital Systems I
EEEE-220	Digital Systems II
EEEE-420	Embedded Systems Design
EEEE-353	Linear Systems
EEEE-374	EM Fields and Transmission Lines
EEEE-381	Electronics I
EEEE-482	Electronics II
EEEE-414	Control Systems Design
EEEE-483	Mechatronics
EEEE-484	Communications Systems

* Additional prerequisites may be required based on the choice of electrical engineering electives.

Engineering Management

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The minor in engineering management integrates technological and managerial expertise while focusing on the management of these areas. Engineering management is concerned with understanding the technology involved in an engineering project and the management process through which the technology is applied. This minor is closed to students majoring in industrial engineering.

COURSE	
Required Courses	
ISEE-250	Engineering Economy
ISEE-350	Engineering Management
ACCT-500	Cost Management in Technical Organizations
Electives	
Choose two of the following:	
ISEE-301	Operations Research
ISEE-323	Facilities Planning
ISEE-410	Simulation
ISEE-420	Production Planning and Scheduling
ISEE-460	Applied Statistical Quality Control
ISEE-626	Contemporary Production Systems
ISEE-703	Supply Chain Management
ISEE-728	Production Systems Management
ISEE-732	Systems Safety Engineering
ISEE-745	Manufacturing Systems
ISEE-750	Systems and Project Management
ISEE-760	Design of Experiments
ISEE-771	Engineering of Systems I

Entrepreneurship

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The entrepreneurship minor allows students to learn business skills that can be applied to any professional field. Students gain insight into the customer requirements and financial implications involved in taking a product or service from idea to implementation.

COURSE	
Required Courses	
MGMT-350	Entrepreneurship
Choose one of the following:	
MGMT-470	Applied Entrepreneurship and Commercialization
MGMT-550	Field Experience in Business Consulting (or another approved field experience)
Electives	
Choose three of the following:	
MGMT-215	Organizational Behavior
MGMT-360	Digital Entrepreneurship
MGMT-420	Managing Innovation and Technology
MKTG-230	Principles of Marketing
MKTG-320	Internet Marketing
FINC-359	Financing New Ventures
ACCT-110	Financial Accounting
ACCT-210	Management Accounting

Environmental Modeling

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The environmental modeling minor introduces students to the process of spatial modeling as part of a tool set for investigating environmental issues and provides opportunities to apply these skills through advanced course work. Courses are designed to give students a solid foundation of environmental issues and concepts. Central to this minor are the development of geographic information systems (GIS) and remote sensing techniques, problem-solving skills, and an understanding of the multiple stakeholder perspectives often involved with environmental issues.

COURSE	
Required Courses	
ENVS-101	Concepts of Environmental Science
STSO-220	Environment and Society
ENVS-250	Applications of Geographic Information Systems
ENVS-450	Advanced Applications of Geographic Information Systems
IMGS-431	Environmental Applications of Remote Sensing

Environmental Science

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The environmental science minor introduces students to the interdisciplinary nature of environmental issues and concepts and provides them with opportunities to further investigate these issues through advanced course work. Central to this minor are the development of field, analytical, and problem-solving skills and an understanding of the multiple stakeholder perspectives often involved with environmental issues. This minor is closed to students majoring in environmental science.

COURSE	
Prerequisites	
BIOL-121	Introduction to Biology I
BIOL-122	Introduction to Biology II
BIOL-240	General Ecology
Required Courses	
ENVS-101	Concepts of Environmental Science
ENVS-201	Environmental Workshop
STSO-220	Environment and Society
Electives	
Choose two of the following:	
ENVS-301	Environmental Science Field Skills
BIOL-475	Conservation Biology
BIOL-343	Tropical Ecology
BIOL-371	Freshwater Ecology
BIOL-373	Marine Biology

Environmental Studies

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With an emphasis on sustainability and holistic thinking, the environmental studies minor provides students with opportunities for the in-depth analysis of global and regional environmental issues, their causes, and their potential solutions. In particular, a required 500-level seminar serves as a capstone experience, helping students to integrate knowledge from several disciplinary perspectives, including socio-cultural, historical, political, economic, ethical, scientific, and/or technological factors. Having completed the minor, students will possess a high level of environmental literacy, an important component of many professional fields within the sciences, engineering, law, journalism, and public affairs.

COURSE	
Required Course	
STSO-510	Seminar in Science, Technology and Society
Electives	
*Choose four of the following:**	
STSO-120	Introduction to Environmental Studies
STSO-220	Environment and Society
STSO-321	Face of the Land
STSO-325	History of Environmental Science
STSO-326	History of Ecology and Environmentalism
STSO-330	Energy and the Environment
STSO-421	Environmental Policy
STSO-489	Special Topics in STS
STSO-521	Biodiversity
STSO-522	Great Lakes
STSO-550	Sustainable Communities
PUBL-530	Energy Policy
ECON-420	Environmental Economics
ECON-421	Natural Resource Economics
HIST-345	Environmental Disasters
PHIL-308	Environmental Philosophy
SOCI-320	Population and Society

* At least one elective must be at the 300 level or higher.

Exercise Science

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The exercise science minor includes foundation sequences in anatomy and physiology upon which the basic principles of exercise physiology, fitness assessment, and the preparation of fitness programs are built. The minor prepares students to sit for professional certification examinations for work in the fitness industry, provides understanding of sports physiology for those interested in sports equipment design and technology, and complements and enhances personal fitness.

COURSE	
Prerequisites	
Choose one of the following sequences:	
BIOL-101, 102	General Biology I, II
BIOL-121, 122	Introduction to Biology I, II
MEDG-101, 102	Human Biology I, II
Electives	
Choose five of the following:	
MEDS-250	Anatomy and Physiology I
MEDS-251	Anatomy and Physiology II
MEDS-295	Sports Physiology and Life Fitness
MEDS-296	Fitness Prescription
MEDS-297	Exercise for Special Populations
MEDS-350	Exercise Physiology
MEDS-298	Strength Training for Performance
MEDS-413	Training the High Performance Athlete
MEDS-407	Prevention and Treatment of Athletic Injuries
MEDS-410	Kinesiology
NUTR-300	Sports Nutrition

Film Studies

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Film studies explores the role of cinema in the contemporary global culture. Using methodologies and perspectives from a variety of disciplines, such as English, anthropology, philosophy, fine arts/visual culture, political science, history, and modern languages, the film studies minor investigates cinema's mass appeal as a form of entertainment, but also the power it wields to disseminate ideas, history, values, aesthetics, behavior, and cultural norms. This minor is closed to students majoring in film and animation.

COURSE	
Electives	
Choose five of the following:	
ANTH-265	Native Americans in Film
ANTH-430	Visual Anthropology
FNRT-200	Anime
FNRT-372	American Film of the Studio Era
FNRT-373	American Film Since the Sixties
FNRT-440	Deaf Art and Cinema
ENGL-410	Film Studies
ENGL-425	Global Cinemas
HIST-450	Modern Japan in History, Fiction, and Film
HIST-275	Screening the Trenches: The History of World War I through Film
MLFR-351	French Films and Hollywood
MLSP-352	Caribbean Cinema
PHIL-313	Philosophy of Film
POLS-490	Politics through Film

Finance

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The finance minor helps students create value in any type of business organization. The minor broadens a student's learning experiences and professional opportunities by focusing on corporate finance and investment topics in more depth. This minor is closed to students majoring in finance.

COURSE	
Required Courses	
ACCT-110	Financial Accounting
FINC-220	Corporate Finance
Electives	
Choose three of the following:	
FINC-120	Personal Financial Management
FINC-362	Intermediate Investments
FINC-352	Managing Assets and Liabilities
FINC-359	Financing New Ventures
FINC-361	Financial Institutions and Markets
FINC-420	Finance in a Global Environment
FINC-430	Advanced Corporate Financial Planning
FINC-460	Financial Analysis and Modeling
FINC-470	Introduction to Options and Futures
FINC-489	Seminar in Finance

Free and Open Source Software and Free Culture

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Free and open source software is released with licenses that allow it to be redistributed freely for others to use, copy, and/or modify within certain restrictions and conditions. Free culture refers to writing, art, music, and other creative materials also released with rights for reuse and/or redistribution that are more flexible than those of the traditional marketplace. Both are often created and/or distributed by collaborative teams with members around the world. The minor in free and open source software and free culture is intended for students who want to develop a deep understanding of the processes, practices, technologies, financial, legal, and societal impacts of these movements. The minor includes a set of computing and liberal arts courses that explore these aspects through research, analysis, and participation in these communities via the creation of digital cultural artifacts and team-driven software projects. Students complete three required courses, one constrained elective course, and one elective course.

COURSE	
Required Courses	
ENGL-450	Free and Open Source Culture
IGME-582	Humanitarian Free and Open Source Software Development
IGME-583	Legal and Business Aspects of FOSS
Constrained Elective	
Choose one of the following:	
ENGL-361	Technical Writing
IGME-584	Software Development on Linux Systems
Elective Course	
Choose one of the following:	
CSEC-474	Unix-based System Forensics
ENGL-215	Text and Code
ENGL-351	Language Technology
ENGL-361	Technical Writing*
ENGL-481	Introduction to Natural Language Processing
IGME-584	Software Development on Linux Systems*
IGME-585	Project in FOSS Development
ISTE-452	Foundations of Mobile Design

* Students may elect to take both of the constrained elective courses to complete the minor instead of selecting one constrained course and one elective course.

Game Design

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The game design minor is intended for non-computing majors who want to experience the process and underpinnings of world design and game interaction studies, but are just beginning to explore the technology required to produce computational interactivity. This minor is closed to students majoring in game design and development and computer engineering.

COURSE	
Required Courses	
IGME-119	2D and 3D Animation and Asset Production I
IGME-101	New Media and Algorithmic Problem Solving I
IGME-102	Media and Algorithmic Problem Solving II
IGME-202	Interactive Media Development
IGME-220	Game Design and Development I

Game Design and Development

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The game design and development minor is intended for students majoring in information technology, computer science, software engineering, new media interactive development, computer engineering, or other computing majors. This minor is closed to students majoring in game design and development.

COURSE	
Required Courses	
IGME-202	Interactive Media Development
IGME-220	Game Design and Development I
IGME-320	Game Design and Development II
IGME-209	Data Structures and Algorithms for Games and Simulation I
IGME-309	Data Structures and Algorithms for Games and Simulation II

Geographic Information Systems

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The geographic information systems (GIS) minor provides students with experience in the concepts, technology, and applications related to computer-based mapping, spatial databases, and geographic analysis and problem solving. The minor features two tracks: a GIS development track for students interested in GIS software development, and a GIS analysis track for students interested in utilizing GIS as a strong methodological base within their major of study. Required courses provide core GIS foundations applicable to a variety of multidisciplinary elective courses students can choose from to match their research, post-graduate, or career interests.

COURSE	
Required Courses	
ISTE-382	Introduction to Geospatial Technologies
ISTE-384	Introduction to Geographic Information Systems
Electives	
GIS development track	
ISTE-386	GIS Programming
ISTE-482	Geospatial Data Analysis
ISTE-484	Thematic Cartography and Geovisualization
GIS analysis track	
ISTE-482	Geospatial Data Analysis
ISTE-230	Introduction to Database and Data Modeling
ISTE-483	Information Science and Technology Research

Global Literatures and Cultures

College of Liberal Arts, Office of Student Services
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The global literatures and cultures minor offers a rich variety of courses for students curious about global literatures and the different forms they take across cultures, from epic poetry to contemporary film. Students examine aspects of globalization and the human condition through multiple cultural lenses, better preparing them for the complex global workplace of the 21st century. Given the diverse, international backgrounds of our faculty, students learn how literary imaginations of all types are transmitted across historical epochs and national boundaries using a range of old and new material technologies.

COURSE	
Required Courses	
ENGL-416	Global Literatures
Electives	
Choose four of the following:	
ENGL-391	Special Topics: Dangerous Texts
ENGL-406	Shakespeare: Tragedies
ENGL-407	Shakespeare: Comedies
ENGL-409	Mythology and Literature
ENGL-411	American Literature
ENGL-413	African-American Literature
ENGL-415	British Literature
ENGL-418	Great Authors
ENGL-421	The Graphic Novel
ENGL-461	Latin American Literature
ENGL-470	The Evolving English Language

Health IT

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Medical informatics, also known as health information technology or health IT, is experiencing a period of rapid growth fueled by the federal government's push for universal adoption of electronic health records. The health IT minor teaches students with a computing background how to develop and maintain software systems in the health care field. One year of object-oriented programming and an introductory database course are required prerequisites. Five required courses give students the skills they need to design and develop computing systems for the health care environment.

COURSE	
Prerequisite	
ISTE-120	Computer Problem Solving: Information Domain I*
ISTE-121	Computer Problem Solving: Information Domain II*
ISTE-230	Introduction to Database and Data Modeling
Required Courses	
MEDI-130	Computers in Medicine
ISTE-330	Database Connectivity and Access
MEDI-320	Medical Database Architectures
MEDI-330	The Electronic Health Record
MEDI-430	Medical Application Integration

* Students may fulfill this prerequsite with one year of computer programming in an object-oriented programming language.

History

College of Liberal Arts, Office of Student Services
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A minor in history serves as a complement to any major of study, as historical study at the college level hones the skills that are important to any well-trained professional, namely effective writing, critical analysis, engaged reading, and logical thinking. Students can shape the history minor by choosing a geographic area of study (e.g.: American, European, or Asian history) or a historical topic (e.g.: transnational history, comparative history, war, business, race, or gender).

COURSE	
Electives	
*Choose five of the following:**	
HIST-101	Making History
HIST-102	Themes in U.S. History
HIST-103	The City in History
HIST-160	History of Modern East Asia
HIST-170	Twentieth Century Europe
HIST-190	American Women's History
HIST-191	History of the Family in the U.S.
HIST-201	Histories of Globalization
HIST-210	Introduction to African Studies
HIST-221	Introduction to Public History
HIST-230	American Deaf History
HIST-231	Deaf People in Global Perspective
HIST-238	History of Disability
HIST-240	Civil War America
HIST-245	American Slavery and Freedom
HIST-250	Origins of U.S. Foreign Relations
HIST-251	Modern U.S. Foreign Relations
HIST-252	The United States and Japan
HIST-260	History of Pre-modern China
HIST-261	History of Modern China
HIST-265	History of Modern Japan
HIST-266	History of Pre-modern Japan
HIST-270	History of Modern France
HIST-275	Screening the Trenches: WWI
HIST-280	History of Modern Germany
HIST-290	U.S. History Since 1945
HIST-301	Great Debates in U.S. History
HIST-302	Special Topics in History
HIST-310	African Slave Trade
HIST-321	Special Topics in Public History
HIST-322	Monuments and Memory
HIST-323	America's National Parks
HIST-324	Oral History
HIST-325	Museums and History
HIST-326	Doing History in a Digital World
HIST-330	Deaf People and Technology
HIST-333	Diversity in the Deaf Community
HIST-335	Women and the Deaf Community
HIST-345	Environmental Disasters
HIST-350	Terrorism, Intelligence, and War
HIST-365	Conflict in Modern East Asia
HIST-369	Histories of Christianity
HIST-380	International Business History
HIST-381	Tech in the Modern World
HIST-390	Medicine and Public Health in the US
HIST-402	Special Seminar in History
HIST-421	Hands-on History
HIST-439	Biography as History
HIST-450	Modern Japan in History, Fiction, and Film
HIST-462	East-West Encounters
HIST-465	Samurai in Word and Image
HIST-470	Science, Tech, Euro Imperialis
HIST-480	Global Information Age

* At least two courses must be at the 300 level or higher.

Hospitality Management

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Hospitality industries and related entrepreneurial businesses include those in lodging, resorts, food, entertainment, events and conventions, and tourism. The hospitality management minor provides an opportunity to learn about service–oriented businesses that are a significant portion of the economies of many countries.

COURSE	
Required Courses	
HSPT-181	Principles Food Hotel and Tourism Operations
HSPT-281	Service Management in a Global Economy
HSPT-381	Technology in Service Systems
HSPT-383	Assessing and Improving Service Quality
Electives	
Choose one of the following:	
FOOD-223	Food and Beverage Management
HSPT-131	Hotel Management and Operations
HSPT-244	Meeting and Event Management

Imaging Science

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Students have the opportunity for additional study in imaging science in order to build a secondary area of expertise in support of their major or other areas of interest.

COURSE	
Electives	
Imaging science	
Choose three of the following:	
SOFA-103	Film/Video Materials and Technology
IMGS-261	Linear and Fourier Methods for Imaging
IMGS-361	Image Processing and Computer Vision I
IMGS-362	Image Processing and Computer Vision II
IMGS-462	Multivariate Statistical Image Processing
IMGS-221	Vision and Psychophysics
IMGS-251	Radiometry
IMGS-351	Color Science
IMGS-341	Interactions Between Light and Matter
IMGS-451	Imaging Detectors
IMGS-528	Design and Fabrication of a Solid State Camera
IMGS-539	Principles of Solid State Imaging Array
IMGS-542	Testing of Focal Plane Arrays
IMGS-321	Geometric Optics
IMGS-322	Physical Optics
Non-imaging science	
Choose two of the following:	
MATH-233	Linear Systems and Differential Equations
MATH-241	Linear Algebra
MATH-251	Probability and Statistics I
PHYS-213	Modern Physics I
PHYS-283	Vibrations and Waves
PHYS-320	Mathematical Methods in Physics
PHYS-365	Physical Optics

Imaging Systems

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The imaging systems minor offers students an introduction to the business and technology of photographic imaging services. Courses cover digital imaging capture systems, professional practices, output technologies, color management, and imaging workflows. The minor provides the foundation students need to pursue opportunities in business management, photo-lab operations, technical support, digital imaging technology, and sales for photo and imaging manufacturers.

COURSE	
Required Courses	
IMSM-301	Imaging Systems
IMSM-302	Color Management Technology
IMSM-303	Imaging Workflows
Electives	
Choose two of the following:	
IMPT-322	Digital Imaging Processing
IMPT-306	e-Sensitometry
IMPT-312	High Speed Photography
IMPT-307	Survey Non-Conventional Imaging Systems
MAAT-256	Principles of Printing
MAAT-206	Print and Production Workflow
PHFA-361	Retouch and Restore
PHFA-362	The Fine Print Workflow
PHPS-316	Scanning Electron Microscopy
PHPS-315	Web Publishing
PHPS-306	Historic Photographic Processes

Industrial Engineering

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A minor in industrial engineering focuses on the design, improvement, and installation of integrated systems of people, material, equipment, and energy. Student utilize skills in statistics, ergonomics, operations research, and manufacturing.

COURSE	
Electives	
Choose three of the following:	
ISEE-250	Engineering Economy
ISEE-301	Operations Research
ISEE-323	Facilities Planning
ISEE-330	Ergonomics/Human Factors
ISEE-410	Simulation
ISEE-420	Production Planning and Scheduling
ISEE-421	Design and Analysis of Production Systems
ISEE-460	Applied Statistical Quality Control
Choose two of the following:	
ISEE-350	Engineering Management
ISEE-626	Contemporary Production Systems
ISEE-703	Supply Chain Management
ISEE-704	Logistics Management
ISEE-711	Advanced Simulation
ISEE-728	Production Systems Management
ISEE-730	Biomechanics
ISEE-731	Advanced Topics in Ergonomics and Human Factors
ISEE-732	Systems Safety Engineering
ISEE-741	Rapid Prototyping and Manufacturing
ISEE-745	Manufacturing Systems
ISEE-760	Design of Experiments

International Business

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Students minoring in international business benefit from learning the global view of worldwide markets and the role of business in these environments.

COURSE	
Required Courses	
INTB-225	Global Business Environment
INTB-310	Regional Business Studies
Electives	
Choose three of the following:	
FINC-420	Finance in the Global Environment
MKTG-230	Principles of Marketing
INTB-300	Cross-Cultural Management
INTB-320	Global Marketing
INTB-489	Seminar in International Business
INTB-550	Global Entry and Competition Strategies

International Relations

College of Liberal Arts, Office of Student Services
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The international relations minor exposes students to the fundamental concepts and approaches of international relations. Issues of conflict, cooperation, continuity, and change are explained through a variety of subjects and case studies. This minor is closed to students majoring in political science.

COURSE	
Required Course	
POLS-120	Introduction to International Relations
Electives	
*Choose four of the following:**	
POLS-210	Comparative Politics
POLS-220	Global Political Economy
POLS-315	International Law and Organizations
POLS-320	American Foreign Policy
POLS-330	Human Rights in Global Perspective
POLS-335	Politics of Developing Countries
POLS-350	Government and Politics of East Asia
POLS-410	Evolutionary International Relations
POLS-440	War and the State
POLS-445	Terrorism and Political Violence
POLS-455	Comparative Public Policy
POLS-525	Special Topics in Political Science

* At least two courses must be at the 300 level or higher.

Journalism

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The journalism minor provides students with a foundation in the professional study and practice of journalism. It provides a broad perspective that includes an introduction to mediated communication; historical, legal, and ethical issues of specific concern to journalism; and learning and practice in writing in a journalistic style. This minor is closed to students majoring in advertising and public relations, communication, or journalism.

COURSE	
Required Courses	
COMM-271	Introduction to Journalism
COMM-362	Law and Ethics of the Press
Electives	
*Choose three of the following:**	
COMM-261	History of Journalism
COMM-263	Computer-Assisted Reporting
COMM-272	Reporting and Writing I
COMM-273	Reporting and Writing II
COMM-274	News Editing
COMM-361	Reporting in Specialized Fields
COMM-442	Professional Writing
COMM-461	Multiplatform Journalism

* At least two courses must be at the 300 level or higher.

Language Science

College of Liberal Arts, Office of Student Services
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Language science is the study and analysis of human language. The minor is directly applicable to students interested in the fields of computing and media, human-computer interaction, brain and cognition, language acquisition, human health, interpreting, relevant branches of engineering, and policy studies. Students can complete the minor requirements irrespective of their skills in languages other than English. Elective courses allow students to customize the minor to their interests.

COURSE	
Required Courses	
ENGL-310	Introduction to Language Science
Plus one of the following:	
ENGL-371	Language, Dialects, and Identity
ENGL-351	Language Technology
MLCU-301	Psycholinguistics
Electives*	
Choose three of the following:	
	A beginning ASL or foreign language course
ENGL-371	Language, Dialects, and Identity
ENGL-351	Language Technology
MLCU-301	Psycholinguistics
ENGL-470	Evolving English Language
ENGL-482	Language and Brain
PHIL-414	Philosophy of Language
PSYC-331	Language and Thought
MLAS-596	Linguistics of American Sign Language
MLJP-351	Languages in Japanese Society
MLJP-451	Structure of the Japanese Language
ENGL-481	Introduction to Natural Language Processing
ENGL-582	Advanced Topics in Computational Linguistics

* Students may also use special topic courses or independent study, if approved by the minor adviser.

Latino/Latina/Latin American Studies

College of Liberal Arts, Office of Student Services
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The Latino/Latina/Latin American studies minor consists of any five appropriate Spanish or Portuguese culture courses, with the option of including one Spanish or Portuguese language course. This minor is closed to students majoring in international and global studies who have chosen to focus on the Spanish or Portuguese languages or on Latin America as a regional focus.

COURSE	
Electives	
Culture Courses	
Choose four or five of the following:	
MLSP-351	Gender and Sexuality
MLSP-352	Trauma and Survival
MLSP-353	Caribbean Cinema
ANTH-335	Culture and Politics in Latin America
ANTH-350	The Global Economy and the Grassroots
Language Courses	
*Choose one of the following (if only four culture courses are chosen):**	
MLSP-201	Beginning Spanish I
MLSP-202	Beginning Spanish II
MLSP-301	Intermediate Spanish I
MLSP-302	Intermediate Spanish II
MLSP-401	Advanced Spanish I
MLSP-402	Advanced Spanish II
MLPO-201	Beginning Portuguese I
MLPO-202	Beginning Portuguese II
MLPO-301	Intermediate Portuguese I
MLPO-302	Intermediate Portuguese II
MLPO-401	Advanced Portuguese I
MLPO-402	Advanced Portuguese II

* Students who have prior study in either language must take a placement exam through the Department of Modern Languages to determine the appropriate level language course to begin with.

Legal Studies

College of Liberal Arts, Office of Student Services
(585) 475-2444, libarts@rit.edu

The minor in legal studies is for students interested in the study of law and legal institutions and in the relationship of law to other aspects of society and culture. The law extends throughout contemporary political, social, and economic systems, playing an important role in shaping the conduct of life for both individuals and institutions. It is important for students to understand the forces that shape law, the ways in which laws have been used and understood by a variety of people in differing historical circumstances, and the consequences of law for contemporary life. Political, sociological, historical, and philosophical approaches to legal phenomena are included in the course of study. The minor is designed to deepen and expand student's understanding of law as practiced, especially its influence on social and economic institutions.

COURSE	
Required Course	
Choose one of the following:	
CRIM-215	Law and Society
POLS-200	Law and Society
Electives	
*Choose four of the following:**	
COMM-342	Communication Law and Ethics
COMM-362	Law and Ethics of the Press
CRIM-225	Criminal Law
CRIM-260	Courts
CRIM-315	Evidence
CRIM-489	Major Issues in Criminal Justice
PHIL-204	Introduction to Logic
PHIL-302	Symbolic Logic
PHIL-304	Philosophy of Law
PHIL-403	Social and Political Philosophy
POLS-325	International Law and Organizations
POLS-330	Human Rights in Global Perspective
POLS-425	Constitutional Law
POLS-430	Constitutional Rights and Liberties
POLS-460	Classical Constitutionalism, Virtue and Law
POLS-465	Modern Constitutionalism, Liberty and Equality
SOCI-310	U.S. Housing Policy

* Students majoring in communication, criminal justice, philosophy, or political science may only count one course from their home department toward the requirements of the minor.

Management

Jerry Curnutt, Minor Adviser
(585) 475-4713, jcurnutt@saunders.rit.edu

The management minor provides a solid introduction to the world of general business management.

COURSE	
Required Courses	
MGMT-215	Organizational Behavior
MGMT-310	Leadership in Organizations
Electives	
Choose three of the following:	
INTB-300	Cross-Cultural Management
INTB-550	Global Entry and Competition Strategies
MGMT-320	Managerial Skills
MGMT-340	Business Ethics and Corporate Social Responsibility
MGMT-350	Entrepreneurship
MGMT-360	Digital Entrepreneurship
MGMT-380	Human Resource Management
MGMT-420	Managing Innovation and Technology
MGMT-450	Negotiations
MGMT-470	Applied Entrepreneurship and Commercialization
MGMT-489	Seminar in Management
MGMT-550	Field Experience in Business Consulting
MGMT-560	Strategy and Innovation

Management Information Systems

Jerry Curnutt, Minor Adviser
(585) 475-4713, jcurnutt@saunders.rit.edu

The management information systems minor is designed for students who wish to learn about computer-based information systems and how they are used in today's businesses. The minor enhances the career options of students in any major and increases their capacity to analyze, design, and manage business processes related to their program of study.

COURSE	
Required Course	
MGIS-330	Systems Analysis and Design
Electives	
Choose four of the following:	
MGIS-320	Database Management Systems
MGIS-340	Emerging Business Technologies
MGIS-350	Developing Business Applications
MGIS-360	Building a Web Business
MGIS-415	Object-oriented Business Programming
MGIS-425	Database Systems Development
MGIS-435	Advanced Systems Analysis and Design
MGIS-445	Web Systems Development
MGIS-450	Enterprise Systems
MGIS-489	Seminar in MIS
MGIS-550	MIS Capstone

Marketing

Jerry Curnutt, Minor Adviser
(585) 475-4713, jcurnutt@saunders.rit.edu

Marketing, sales, and customer-oriented aspects of the marketing minor will broaden students' learning experiences and professional opportunities by creating a secondary focus in marketing.

COURSE	
Required Course	
MKTG-230	Principles of Marketing
Electives	
Choose four of the following:	
MKTG-310	Marketing Metrics And Research
MKTG-320	Internet Marketing
MKTG-340	Product and Service Commercialization
MKTG-350	Buyer Behavior
MKTG-360	Professional Selling
MKTG-370	Advertising and Promotion Management
MKTG-410	Search Engine Marketing and Analytics
MKTG-420	Advanced Internet Marketing
MKTG-489	Seminar In Marketing
MKTG-550	Marketing Management
INTB-320	Global Marketing

Mathematics

Bernard Brooks, Minor Adviser
(585)475-5338, smsminors@rit.edu

The mathematics minor provides an opportunity for students to deepen their technical background and gain further appreciation for modern mathematical sciences.

COURSE	
Prerequisites	
MATH-181	Project-based Calculus I
Plus one of the following:	
MATH-182	Project-based Calculus II
MATH-190	Discrete Mathematics for Computing
MATH-200	Discrete Mathematics and Introduction to Proofs
Electives	
Choose five of the following, with at least one from Group II:	
Group I	
MATH-219	Multivariable Calculus
MATH-221	Multivariable and Vector Calculus
MATH-231	Differential Equations
MATH-233	Linear Systems and Differential Equations
MATH-241	Linear Algebra
MATH-251	Probability and Statistics I
MATH-311	Linear Optimization
MATH-312	Nonlinear Optimization
MATH-321	Game Theory
MATH-326	Boundary Value Problems
MATH-331	Dynamical Systems
MATH-361	Combinatorics
MATH-367	Codes and Ciphers
MATH-381	Complex Variables
Group II	
MATH-341	Advanced Linear Algebra
MATH-351	Graph Theory
MATH-371	Number Theory
MATH-401	Stochastic Processes
MATH-411	Numerical Analysis
MATH-412	Numerical Linear Algebra
MATH-431	Real Variables I
MATH-432	Real Variables II
MATH-441	Abstract Algebra I
MATH-442	Abstract Algebra II
MATH-461	Topology

Mechanical Engineering

Alan Nye, Minor Adviser
(585) 475-6121, ahneme@rit.edu

The minor in mechanical engineering exposes students to the core foundations of the discipline. Courses help non-majors explore high-technology careers and communicate more effectively with engineers on project teams. The minor consists of a sequence of five discipline-based courses that build on prerequisite knowledge from calculus and engineering mechanics. Elective courses provide additional depth of knowledge in an area of individual student interest.

COURSE	
Prerequisites	
Choose one of the following:	
MECE-102	Engineering Mechanics Lab
PHYS-211	University Physics I
Plus an approved course with significant programming content	
Required Courses	
MECE-104	Engineering Design Tools
MECE-103	Statics
MECE-110	Thermodynamics
Electives	
*Choose two of the following:**	
MECE-203	Strength of Materials
MECE-210	Fluid Mechanics I
MECE-205	Dynamics
MECE-310	Heat Transfer
MECE-305	Materials Science with Applications
MECE-317	Numerical Methods
MECE-320	System Dynamics
MECE-355	Fluid Mechanics II
MECE-360	Advanced Computational Techniques
MECE-402	Turbomachinery
MECE-403	Propulsion
MECE-405	Wind Turbine Engineering
MECE-406	Advanced Solid Modeling and Design
MECE-407	Biomedical Device Engineering
MECE-409	Aerodynamics
MECE-410	Flight Dynamics
MECE-411	Orbital Mechanics
MECE-412	Aerostructures
MECE-421	Internal Combustion Engines

* At least one course must be at the 300 level or higher.

Media Arts and Technology

The media arts and technology minor exposes students to the increasingly important world of cross media communication processes, as well as associated business and management considerations. Students are introduced to key variables, systems, and phases of media workflow while gaining depth and breadth of knowledge in courses that cover communication strategies, pre-media, publishing, or associated topics closely allied with their career interests.

COURSE	
Required Course	
MAAT-383	Design Production
Electives	
Choose four of the following:	
MAAT-106	Typography and Page Design
MAAT-107	Imaging
MAAT-206	Print Production Workflow
MAAT-256	Principles of Printing
MAAT-301	Database Publishing
MAAT-306	Cross Media Publishing
MAAT-307	Media Business Basics
MAAT-355	Media Law
MAAT-356	Multimedia Strategies
MAAT-357	Color Management Systems
MAAT-358	Estimating Practice
MAAT-361	Digital Print Processes
MAAT-362	Operations Management in the Graphic Arts
MAAT-363	Media Industries Analysis
MAAT-364	Digital News Systems Management
MAAT-366	Introduction to Book Design
MAAT-367	Image Processing Workflow
MAAT-368	Gravure and Flexography
MAAT-369	Bookbinding
MAAT-376	Lithographic Process
MAAT-377	Advanced Retouching and Restoration
MAAT-558	Package Printing
MAAT-561	Industry Issues and Trends
MAAT-566	Typography Research

Microelectronic Engineering

Michael Jackson, Minor Adviser
(585) 475-2828, majemc@rit.edu

The minor in microelectronic engineering provides basic integrated circuit fabrication skills to students from science and other engineering disciplines whose career path may involve the semiconductor industry. With one of the finest clean rooms in the world specializing in undergraduate microelectronic education, this minor provides students with a unique opportunity to experience a highly specialized and dynamic industry. The minor is closed to students majoring in microelectronic engineering.

COURSE	
Prerequisites*	
MATH-182	Project-based Calculus II
PHYS-212	University Physics II
CHMG-131	General Chemistry for Engineers (or equivalent)
Required Courses	
MCEE-201	IC Technology
MCEE-503	Thin Films
Electives	
Choose three of the following:	
EEEE-260	Semiconductor Devices
MCEE-360	Semiconductor Devices-MicroE
MCEE-502	VLSI Process Modeling
MCEE-505	Microlithography Materials and Processing
MCEE-515	Nanolithography Systems
MCEE-550	CMOS Processing
MCEE-720	Photovoltaics
MCEE-730	Metrology for Failure Analysis and Yield of ICs
MCEE-732	Evaluation of Microelectronic Manufacturing
MCEE-770	Microelectromechanical Systems

* Additional prerequisites may be required based on the choice of microelectronic engineering electives.

Military Studies and Leadership

Lt. Ann M. Gallucci, Minor Adviser
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Lt. Col. Edward Whitaker, Minor Adviser
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The minor in military studies and leadership provides students the opportunity to learn about military officer training and its mission to develop leaders for tomorrow's Armed Forces. Courses promote leadership and management, skills that can be employed in any career field, along with courses analyzing the military's role in national security affairs and foreign policy. Students choose the Air Force track or the Army track. Please note: This minor is available to all ROTC cadets. Students who are interested in this minor, but are not enrolled in the ROTC program, must gain approval and appropriate waivers before registering for courses.

COURSE	
Air Force track	
Required Courses	
AERO-101	Foundations of the U.S. Air Force I
AERO-102	Foundations of the U.S. Air Force II
AERO-201	History of Airpower I
AERO-202	History of Airpower II
AERO-401	National Security Forces I
AERO-402	National Security Forces II and Preparation for Active Duty
MGMT-300	Air Force Management and Leadership I
MGMT-301	Air Force Management and Leadership II
Army track	
Required Courses	
ARMY-101	Introduction to Leadership
ARMY-102	Introduction to Tactical Leadership
ARMY-201	Innovative Team Leadership
ARMY-202	Foundations of Tactical Leadership
ARMY-301	Adaptive Team Leadership
ARMY-302	Applied Team Leadership
ARMY-401	Adaptive Team Leadership II
ARMY-402	Leadership in a Complex World

Modern Language - Arabic

Hiroko Yamashita, Minor Adviser
(585) 475-6074, hxygsl@rit.edu

This minor provides two full years of modern language instruction to prepare students for living and working within an intercultural society both at home and abroad. The minor consists of five language courses fostering linguistic and cultural proficiency. Students with previous language skills must consult the minor adviser for placement evaluation before they register. Part of the requirements for this minor can be fulfilled by courses taken abroad. This minor is closed to fluent speakers of Arabic.

COURSE	
Electives	
Choose five consecutive language courses:	
MLAR-201	Beginning Arabic I
MLAR-202	Beginning Arabic II
MLAR-301	Intermediate Arabic I
MLAR-302	Intermediate Arabic II
MLAR-401	Advanced Arabic I
MLAR-402	Advanced Arabic II
With MLC faculty adviser permission, two of the following culture courses may be substituted for two of the sequential language courses:	
FNRT-381	Art of Islam: The Arabic Tradition
FNRT-382	Art of Islam: The Persian, Turkish/Mughal Traditions
ANTH-240	Muslim Youth Cultures
ANTH-365	Islamic Culture and the Middle East

Modern Language - Chinese

Guoming Tian, Minor Adviser
(585) 475-2903, gxtgsl@rit.edu

This minor provides two full years of modern language instruction to prepare students for living and working within an intercultural society both at home and abroad. The minor consists of five language courses fostering linguistic and cultural proficiency. Students with previous language skills must consult the minor adviser for placement evaluation before they register. Part of the requirements for this minor can be fulfilled by courses taken abroad. This minor is closed to fluent speakers of Chinese.

COURSE	
Electives	
Choose five consecutive language courses:	
MLCH-201	Beginning Chinese I
MLCH-202	Beginning Chinese II
MLCH-301	Intermediate Chinese I
MLCH-302	Intermediate Chinese II
MLCH-401	Advanced Chinese I
MLCH-402	Advanced Chinese II
With MLC faculty adviser permission, two of the following culture courses may be substituted for two of the sequential language courses:	
FNRT-380	Art of China, Korea, and Japan
HIST-160	History of Modern East Asia
HIST-261	History of Modern China
POLS-350	Politics in East Asia

Modern Language - French

Philippe Chavasse, Minor Adviser
(585) 475-3158, pxcgsl@rit.edu

This minor provides two full years of modern language instruction to prepare students for living and working within an intercultural society both at home and abroad. The minor consists of five language courses fostering linguistic and cultural proficiency. Students with previous language skills must consult the minor adviser for placement evaluation before they register. Part of the requirements for this minor can be fulfilled by courses taken abroad. This minor is closed to fluent native speakers of French.

COURSE	
Electives	
Choose five consecutive language courses:	
MLFR-201	Beginning French I
MLFR-202	Beginning French II
MLFR-301	Intermediate French I
MLFR-302	Intermediate French II
MLFR-401	Advanced French I
MLFR-402	Advanced French II
With MLC faculty adviser permission, two of the following culture courses may be substituted for two of the sequential language courses:	
MLFR-351	French Films and Hollywood
HIST-270	History of Modern France
HIST-302	Special Topics in History
HIST-103	The City in History

Modern Language - German

Ulrike Stroszeck, Minor Adviser
(585) 475-2921, uisgsl@rit.edu

This minor provides two full years of modern language instruction to prepare students for living and working within an intercultural society both at home and abroad. The minor consists of five language courses fostering linguistic and cultural proficiency. Students with previous language skills must consult the minor adviser for placement evaluation before they register. Part of the requirements for this minor can be fulfilled by courses taken abroad. This minor is closed to fluent native speakers of German.

COURSE	
Electives	
Choose five consecutive language courses:	
MLGR-201	Beginning German I
MLGR-202	Beginning German II
MLGR-301	Intermediate German I
MLGR-302	Intermediate German II
MLGR-401	Advanced German I
MLGR-402	Advanced German II
With MLC faculty adviser permission, two of the following culture courses may be substituted for two of the sequential language courses:	
FNRT-210	Bach, Händel and the Baroque
FNRT-211	Era of Haydn, Mozart and Beethoven
HIST-280	History of Modern Germany

Modern Language - Italian

Elisabetta D'Amanda, Minor Adviser
(585) 475-6522, exdgla@rit.edu

This minor provides two full years of modern language instruction to prepare students for living and working within an intercultural society both at home and abroad. The minor consists of five language courses fostering linguistic and cultural proficiency. Students with previous language skills must consult the minor adviser for placement evaluation before they register. Part of the requirements for this minor can be fulfilled by courses taken abroad. This minor is closed to fluent native speakers of Italian.

COURSE	
Electives	
Choose five consecutive language courses:	
MLIT-201	Beginning Italian I
MLIT-202	Beginning Italian II
MLIT-301	Intermediate Italian I
MLIT-302	Intermediate Italian II
MLIT-401	Advanced Italian I
MLIT-402	Advanced Italian II
With MLC faculty adviser permission, two of the following culture courses may be substituted for two of the sequential language courses:	
ENGL-400	Special Topics in Literary and Cultural Studies

Modern Language - Japanese

Yukiko Maru Leary, Minor Adviser
(585) 475-4558, yxmgsl@rit.edu

This minor provides two full years of modern language instruction to prepare students for living and working within an intercultural society both at home and abroad. The minor consists of five language courses fostering linguistic and cultural proficiency. Students with previous language skills must consult the minor adviser for placement evaluation before they register. Part of the requirements for this minor can be fulfilled by courses taken abroad. This minor is closed to fluent native speakers of Japanese.

COURSE	
Electives	
Choose five consecutive language courses:	
MLJP-201	Beginning Japanese I
MLJP-202	Beginning Japanese II
MLJP-301	Intermediate Japanese I
MLJP-302	Intermediate Japanese II
MLJP-401	Advanced Japanese I
MLJP-402	Advanced Japanese II
MLJP-403	Professional Japanese
With MLC faculty adviser permission, two of the following culture courses may be substituted for two of the sequential language courses:	
MLJP-404	Japanese Culture in Print
MLJP-351	Language in Japanese Society
MLJP-451	Structure of Japanese
FNRT-380	Art of China, Korea, and Japan
HIST-450	Modern Japan in History, Fiction, and Film
HIST-252	The U.S. and Japan
HIST-265	History of Modern Japan
HIST-160	History of Modern East Asia
POLS-350	Politics in East Asia

Modern Language - Portuguese

Hiroko Yamashita, Minor Adviser
(585) 475-6074, hxygsl@rit.edu

This minor provides two full years of modern language instruction to prepare students for living and working within an intercultural society both at home and abroad. The minor consists of five language courses fostering linguistic and cultural proficiency. Students with previous language skills must consult the minor adviser for placement evaluation before they register. Part of the requirements for this minor can be fulfilled by courses taken abroad. This minor is closed to fluent speakers of Portuguese.

COURSE	
Electives	
Choose five consecutive language courses:	
MLPO-201	Beginning Portuguese I
MLPO-202	Beginning Portuguese II
MLPO-301	Intermediate Portuguese I
MLPO-302	Intermediate Portuguese II
MLPO-401	Advanced Portuguese I
MLPO-402	Advanced Portuguese II
With MLC faculty adviser permission, two of the following culture courses may be substituted for two of the sequential language courses:	
ANTH-335	Culture and Politics in Latin America

Modern Language - Russian

Hiroko Yamashita, Minor Adviser
(585) 475-6074, hxygsl@rit.edu

This minor provides two full years of modern language instruction to prepare students for living and working within an intercultural society both at home and abroad. The minor consists of five language courses fostering linguistic and cultural proficiency. Students with previous language skills must consult the minor adviser for placement evaluation before they register. Part of the requirements for this minor can be fulfilled by courses taken abroad. This minor is closed to fluent speakers of Russian.

COURSE	
Electives*	
Choose five of the following:	
MLRU-201	Beginning Russian I
MLRU-202	Beginning Russian II
MLRU-301	Intermediate Russian I
MLRU-302	Intermediate Russian II
MLRU-401	Advanced Russian I
MLRU-402	Advanced Russian II
ENGL-418	Great Authors†
ENGL-416	Global Literature†

* Under special circumstances, and with permission of the minor adviser, up to two culture courses may be substituted for two sequential language courses. Students should contact the minor adviser for a list of approved culture courses.
† When course specifically pertains to Russian authors.

Modern Language - Spanish

Sara Armengot, Minor Adviser
(585) 475-4343, seagsl@rit.edu

This minor provides two full years of modern language instruction to prepare students for living and working within an intercultural society both at home and abroad. The minor consists of five language courses fostering linguistic and cultural proficiency. Students with previous language skills must consult the minor adviser for placement evaluation before they register. Part of the requirements for this minor can be fulfilled by courses taken abroad. This minor is closed to fluent native speakers of Spanish.

COURSE	
Electives	
Choose five consecutive language courses:	
MLSP-201A	Beginning Spanish IA*
MLSP-201B	Beginning Spanish IB*
MLSP-202	Beginning Spanish II
MLSP-301	Intermediate Spanish I
MLSP-302	Intermediate Spanish II
MLSP-401	Advanced Spanish I
MLSP-402	Advanced Spanish II
With MLC faculty adviser permission, two of the following culture courses may be substituted for two of the sequential language courses:	
MLSP-351	Gender and Sexuality
MLSP-352	Trauma and Survival
MLSP-353	Caribbean Cinema
ANTH-335	Culture and Politics in Latin America
ANTH-350	The Global Economy and the Grassroots
ANTH-235	Immigration to the U.S.
ENGL-416	Global Literature
ENGL-418	Great Authors

* Students who begin the language sequence at the Beginning I Level will take either Beginning Spanish IA (MLSP-201A) or Beginning Spanish 1B (MLSP-201B). Placement will be determined in consultation with the department.

Museum Studies

The museum studies minor provides students with a foundation in the history and practice of the museum as an institution and in the history, theory, and practice of collecting, exhibiting, and preserving the cultural heritage that defines the purpose and function of the museum. Courses cover a wide range of topics that are relevant to contemporary museology: the history of museums and collecting, the technical study of art and materials, the history and theory of exhibitions, interactive design, public history, the rise of the museum profession, legal and ethical concerns, and conservation. This minor is closed to students majoring in museum studies.

COURSE	
Required Courses	
MUSE-220	Introduction to Museums and Collecting
MUSE-221/HIST-221	Introduction to Public History
Electives	
*Choose three of the following:**	
HIST-322	Monuments and Memory
HIST-323	America's National Parks
HIST-324	Oral History
HIST-325	Museums and History
MUSE-223	Historic Photographic Processes
MUSE-224	History and Theory of Exhibitions
MUSE-358	Legal and Ethical Issues for Collecting Institutions
MUSE-449	Special Topics

* At least one course must be a MUSE course and one must be a HIST course.

Music and Technology

College of Liberal Arts, Office of Student Services
(585) 475-2444, libarts@rit.edu

The music and technology minor includes courses in music theory, music history, contemporary and historical musical instrument technology, acoustics, audio engineering, music for media, and music performance. This minor provides students with an avenue to integrate their technological interests and skills with music.

COURSE	
Required Courses	
EEET-261	Fundamentals of Audio Engineering
FNRT-205	Introduction to Music Theory
Electives	
*Choose three of the following:**	
EEET-361	Modern Audio Production
FNRT-201	Music in the U.S.
FNRT-202	Studies in World Music
FNRT-203	American Pop and Rock
FNRT-204	Music and the Stage
FNRT-210	Bach, Handel and Baroque
FNRT-211	Era of Haydn, Mozart and Beethoven
FNRT-250	Singers
FNRT-251	Orchestra
FNRT-252	Concert Band
FNRT-253	World Music Ensemble
FNRT-254	Jazz Ensemble
FNRT-255	Chamber Orchestra
FNRT-320	Music of the Romantic Era
FNRT-321	Music Since 1900
FNRT-322	Survey of Jazz
FNRT-323	Survey of African American Music
FNRT-324	Sounds of Protest
FNRT-325	American Popular Song
FNRT-326	History of Musical Instruments
FNRT-327	American Musical Theatre
FNRT-485	Advanced Music Theory
IGME-570	Digital Audio Production
IGME-571	Interactive Games Audio
IGME-527	Introduction to Digital Audio Production and Computer Music

* It is strongly recommended that students select two music electives and one technology elective. At least two courses must be at the 300 level or higher.

Music Performance

College of Liberal Arts, Office of Student Services
(585) 475-2444, libarts@rit.edu

The music performance minor combines courses in music theory, music history, and world music with practical application through ensemble participation and applied music study. This combination of the academic and the practical strives to offer students a more profound understanding of the art of music, and in a broader sense, an introduction to cultural development and the communication of ideas. Please note: A total of 15 credit hours from the suggested list of courses must be earned for the minor, with three credits in music theory and three credits from ensemble participation required.

COURSE	
Required Course	
FNRT-205	Introduction to Music Theory
Electives	
*Choose three of the following:**	
FNRT-201	Music in the U.S.
FNRT-202	Studies in World Music
FNRT-203	American Pop and Rock
FNRT-204	Music and the Stage
FNRT-210	Bach, Handel and the Baroque
FNRT-211	Era of Haydn, Mozart and Beethoven
FNRT-250	Singers
FNRT-251	Orchestra
FNRT-252	Concert Band
FNRT-253	World Music Ensemble
FNRT-254	Jazz Ensemble
FNRT-255	Chamber Orchestra
FNRT-320	Music of the Romantic Era
FNRT-321	Music Since 1900
FNRT-322	Survey of Jazz
FNRT-323	African American Music
FNRT-324	Sounds of Protest
FNRT-325	American Popular Song
FNRT-326	History of Musical Instruments
FNRT-327	American Musical Theater
FNRT-485	Advanced Music Theory

* A minimum of two courses must be at the 300 level or higher.

Networking and Systems Administration

Larry Hill, Minor Adviser
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This minor provides computing students with a firm foundation in networking and/or systems administration. Computer networks and the systems attached to these networks have become ubiquitous. Therefore, knowledge of how computer networks function, their administration, and the administration of the systems attached to them can be of value to every computing professional since their work is impacted in some way by computer networks and computer systems. Students may choose between two tracks: networking or system administration.

COURSE	
Prerequisites	
NSSA-102	Computer Systems Concepts
Two introductory programming sequence courses	
Required Courses	
Student choose one track and complete all five courses:	
Networking track	
NSSA-101	Networking and System Administration Fundamentals
NSSA-241	Networking I
NSSA-242	Networking II
NSSA-243	Networking Lab
NSSA-341	VoIP and Unified Communications
System administration track	
NSSA-101	Networking and System Administration Fundamentals
NSSA-220	Introduction to Scripting
NSSA-221	System Administration I
NSSA-322	System Administration II
NSSA-323	System Administration Lab

Optical Science

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Optical science techniques are used in a variety of consumer products (e.g., digital cameras, CD players), communication technologies (optical fibers), medical imaging (infrared imaging), and the sciences (surveillance, remote sensing, astronomical systems). This minor can be an important complement to studies in electrical and microelectronic engineering, the biological sciences, physics, chemistry, mathematics, technical photography, and various majors in the field of applied science and technology.

COURSE	
Electives	
Group A	
Choose one of the following:	
IMGS-321	Geometric Optics
IMGS-322	Physical Optics
PHYS-365	Physical Optics
MCEE-515	Nanolithography Systems
PHPS-211	Photographic Optics
Group B	
Choose one of the following:	
PHYS-408	Laser Physics
IMGS-251	Radiometry
Group C	
Choose one of the following:	
IMGS-451	Detectors
IMGS-528	Design and Fabrication of a Solid State Camera
IMGS-542	Testing of Focal Plane Arrays
Group D	
Choose two of the following:	
IMGS-221	Vision and Psychophysics
IMGS-322	Physical Optics
IMGS-341	Interaction of Light and Matter
IMGS-471	Modulation Transfer Function
PHYS-213	Modern Physics I
PHYS-412	Electricity and Magnetism II
CHMP-442	Quantum Chemistry
EEEE-374	Electromagnetic Fields
MCEE-515	Microlithography Systems and Lab
PHPS-316	Scanning Electron Microscopy

Packaging Science

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The packaging science minor offers courses covering a broad range of packaging activities, including development/design, testing, marketing, and production. Related legal, economic, and environmental/sustainability concerns are also addressed. Students from majors such as engineering, engineering technology, multidisciplinary studies, management, marketing, international business, industrial design, and print media could all benefit from the packaging science minor.

COURSE	
Required Courses	
PACK-301	Packaging Materials
PACK-302	Packaging Container Systems
Electives	
Choose three of the following:	
PACK-471	Packaging Supply Chain
PACK-530	Packaging Sustainability/Environment
PACK-535	Char and Evaluation of Polymer Packaging
PACK-536	Polymer Packaging Lab
PACK-546	Pharmaceutical and Medical Packaging
PACK-555	Import/Export Packaging
PACK-550	Packaging Machinery

Philosophy

College of Liberal Arts, Office of Student Services
(585) 475-2444, libarts@rit.edu

The philosophy minor provides basic competency in a variety of areas of philosophical inquiry and in developing the critical skills central to philosophical analysis. Students achieve an articulate understanding of many of the great philosophers, major philosophical issues, and methods of philosophical inquiry that shape our most fundamental forms of critical reflection upon human life and conduct. As a result, students develop understanding and skills that directly enhance their future personal and professional lives. This minor is closed to students majoring in philosophy.

COURSE	
Electives	
*Choose five of the following:**	
PHIL-201	Ancient Philosophy
PHIL-202	Foundations of Moral Philosophy
PHIL-203	Modern Philosophy
PHIL-204	Introduction to Logic
PHIL-301	Philosophy of Religion
PHIL-302	Symbolic Logic
PHIL-303	Philosophy of Art/Aesthetics
PHIL-304	Philosophy of Law
PHIL-305	Philosophy of Peace
PHIL-306	Professional Ethics
PHIL-307	Philosophy of Technology
PHIL-308	Environmental Philosophy
PHIL-309	Feminist Theory
PHIL-310	Theories of Knowledge
PHIL-311	East Asian Philosophy
PHIL-312	American Philosophy
PHIL-313	Philosophy of Film
PHIL-314	Philosophy of Vision and Imaging
PHIL-401	Great Thinkers
PHIL-402	Philosophy of Science
PHIL-403	Social and Political Philosophy
PHIL-404	Philosophy of Mind
PHIL-405	Philosophy of the Social Sciences
PHIL-406	Contemporary Philosophy
PHIL-407	Philosophy of Action
PHIL-408	Critical Social Theory
PHIL-409	Existentialism
PHIL-410	Medieval Philosophy
PHIL-411	Metaphysics
PHIL-412	Nineteenth Century Philosophy
PHIL-413	Philosophy and Literary Theory
PHIL-414	Philosophy of Language
PHIL-415	Ethical Theory
PHIL-416	Seminar in Philosophy
PHIL-449	Special Topics
PHIL-571	Honors Philosophy

* At least one course must be at the 400 level.

Physics

Dawn Hollenbeck, Minor Adviser
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Students have the opportunity for additional study in physics in order to build a secondary area of expertise in support of their major or other areas of interest.

COURSE	
Prerequisites	
MATH-181	Project-based Calculus I
MATH-182	Project-based Calculus II
PHYS-211	University Physics I
PHYS-212	University Physics II
Required Courses	
PHYS-213	Modern Physics I
PHYS-283	Vibrations and Waves
Electives	
Choose three of the following (at least one must come from Group A and at least one from Group B):	
Group A	
PHYS-315	Experiments in Modern Physics
PHYS-316	Advanced Laboratory in Physics
PHYS-365	Physical Optics
PHYS-377	Advanced Computational Physics
Group B	
PHYS-214	Modern Physics II
PHYS-320	Mathematical Methods in Physics
PHYS-330	Classical Mechanics
PHYS-411	Electricity and Magnetism
PHYS-414	Quantum Mechanics
PHYS-440	Thermal and Statistical Physics
PHYS-360	Introduction to Chaotic Dynamics in Physics
PHYS-408	Laser Physics

Political Science

College of Liberal Arts, Office of Student Services
(585) 475-2444, libarts@rit.edu

The political science minor emphasizes the interdependence of domestic politics and international relations in the age of globalization. The minor brings together components of American politics, international relations, and comparative politics to provide students with both national and global perspectives on politics. Perhaps most important, the political science minor seeks to help students make sense of the increasingly complicated political environment that confronts them in their role as citizens. This minor is closed to students majoring in political science.

COURSE	
Required Course	
Choose one of the following:	
POLS-110	American Politics
POLS-120	Introduction to International Relations
Electives*	
American politics	
Choose two of the following:	
POLS-200	Law and Society
POLS-250	State and Local Politics
POLS-290	Politics and the Life Sciences
POLS-295	Cyberpolitics
POLS-305	Political Parties & Voting
POLS-310	The Congress
POLS-315	The American Presidency
POLS-320	American Foreign Policy
POLS-345	Politics and Public Policy
POLS-355	Political Leadership
POLS-415	Evolution and Law
POLS-420	Primate Politics
POLS-425	Constitutional Law
POLS-430	Constitutional Rights and Liberties
POLS-435	American Political Thought
POLS-460	Classical Constitutionalism, Liberty and Equality
POLS-465	Modern Constitutionalism, Liberty and Equality
POLS-480	Women in Politics
POLS-485	Politics Through Fiction
POLS-490	Politics Through Film
POLS-525	Special Topics in Political Science
International relations	
Choose two of the following:	
POLS-210	Comparative Politics
POLS-220	Global Political Economy
POLS-325	International Law and Organizations
POLS-320	American Foreign Policy
POLS-330	Human Rights in Global Perspective
POLS-335	Politics of Developing countries
POLS-350	Government and Politics of East Asia
POLS-410	Evolutionary International Relations
POLS-440	War and the State
POLS-445	Terrorism and Political Violence
POLS-455	Comparative Public Policy
POLS-525	Special Topics in Political Science

* At least two courses must be at the 300 level or higher.

Psychology

College of Liberal Arts, Office of Student Services
(585) 475-2444, libarts@rit.edu

This minor provides a solid knowledge base in psychological terms, concepts, methods, theories, and issues. This minor is closed to students majoring in psychology.

COURSE	
Prerequisite	
PSYC-101	Introduction to Psychology
Electives	
Choose five of the following:	
PSYC-221	Abnormal Psychology
PSYC-222	Biopsychology
PSYC-223	Cognitive Psychology
PSYC-224	Perception
PSYC-225	Social Psychology
PSYC-231	Death and Dying
PSYC-232	Developmental Psychology
PSYC-233	History and Systems
PSYC-234	Industrial and Organizational Psychology
PSYC-235	Learning and Behavior
PSYC-236	Personality
PSYC-237	Psychology of Gender
PSYC-238	Psychology of Religion
PSYC-239	Positive Psychology

Public Policy

College of Liberal Arts, Office of Student Services
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The public policy minor provides students with a foundation in the field of public policy and allows them to make connections between public policy and other fields of study. Students select one of two tracks within the minor. The policy issues track develops a broad perspective on public policy and its relationship to other fields. The policy analysis track highlights the analytical tools used by the policy analyst to evaluate and understand policy formulation and impacts. Both tracks explore contemporary public policy issues, especially those connected to the science and technology fields. This minor underscores the role of public policy on science and technology-based problems. Students obtain a deeper understanding of what public policy is and how it is integrated within a number of specific contexts. This minor is closed to students majoring in public policy.

COURSE	
Required Courses	
STSO-510	Seminar in Science, Technology and Society
Plus one of the following:	
PUBL-101	Foundations of Public Policy
PUBL-120	Contemporary Issues in Public Policy
STSO-201	Science and Technology Policy
Electives	
Choose three of the following:†	
PUBL-101	Foundations of Public Policy*
PUBL-120	Contemporary Issues in Public Policy*
PUBL-201	Ethics, Values and Public Policy
PUBL-210	Introduction to Qualitative Methods
PUBL-301	Public Policy Analysis
PUBL-302	Decision Analysis
PUBL-489	Special Topics in Public Policy
PUBL-510	Technology Innovation and Public Policy
PUBL-520	Information and Communication Policy
PUBL-530	Energy Policy
STSO-201	Science and Technology Policy*
STSO-240	Social Consequences of Technology
STSO-330	Energy and the Environment
STSO-341	Biomedical Issues
STSO-421	Environmental Policy
STSO-489	Special Topics in STS

* Students may take this course as an elective if it was not chosen as one of their required courses.
† At least one of the elective courses must be at the 300 level or higher.

Science, Technology, and Society

College of Liberal Arts, Office of Student Services
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This minor integrates the studies of human society, science, and technology in their social content and context. The minor bridges the humanities and social sciences to provide better understanding of the ways in which science, technology, and society are mutually interacting forces in our world. Students learn how to analyze the social institutions, the built environment, and their role in creating them. This minor enhances a student's ability to contribute to the development of science and technology in ways that are historically, culturally, and ethically informed.

COURSE	
Required Course	
STSO-510	Seminar in STS
Electives	
*Choose four of the following:**	
ENGL-419	Literature and Technology
PHIL-402	Philosophy of Science
PUBL-530	Energy Policy
STSO-140	Science Technology and Values
STSO-201	Science and Technology Policy
STSO-240	Social Consequences of Technology
STSO-245	History of Women in Science and Engineering
STSO-321	Face of the Land
STSO-341	Biomedical Issues
STSO-342	Gender, Science and Technology
STSO-345	Makers of Modern Science
STSO-346	History of American Technology
STSO-441	Cyborg Theory
STSO-442	Science, Technology and Society Classics
STSO-445	History of Science
STSO-446	History of Chemistry
STSO-489	Special Topics in STS

* At least one course must be at the 300 level or higher.

Sociology and Anthropology

College of Liberal Arts, Office of Student Services
(585) 475-2444, libarts@rit.edu

The minor in sociology and anthropology offers insights into two academic disciplines dedicated to understanding human social life, both local and global. Through sociology we discover how our own lives are influenced by social relationships around us. Through anthropology we discover and appreciate the diversity of other cultural systems on a global scale. Careful selection of courses provides insights into a wide range of topics such as human history and prehistory through archaeology, gender and sexuality, race, ethnicity, social class and inequality, urban life and cities, cultural images and mass media, war and violence, social movements, social and cultural change, and globalization. This minor is closed to students majoring in sociology and anthropology.

COURSE	
Required Course	
Choose one of the following:	
ANTH-102	Cultural Anthropology
SOCI-102	Foundations of Sociology

COURSE	
Electives	
*Choose four of the following:**	
ANTH-103	Archaeology and the Human Past
ANTH-201/SOCI-201	Writing about Society and Culture
ANTH-210	Culture and Globalization
ANTH-220	Language and Culture
ANTH-215	Field Methods in Archaeology
ANTH-225	Globalizing Africa
ANTH-230	Great Discoveries in Archaeology
ANTH-235	Immigration to the U.S.
ANTH-240	Muslim Youth Cultures
ANTH-245	Ritual and Performance
ANTH-250	Themes in Archaeological Research
ANTH-255	Regional Archaeology
ANTH-260	Native North Americans
ANTH-265	Native Americans in Film
ANTH-270/INGS-270	Cuisine, Culture, and Power
ANTH-275	Global Islam
ANTH-280	Sustainable Development
ANTH-285	Religion and Culture
ANTH-301/SOCI-301	Social and Cultural Theory
ANTH-302/SOCI-302	Qualitative Research
ANTH-303/SOCI-303	Quantitative Research
ANTH-310	African Popular Cultures
ANTH-315	The Archaeology of Cities
ANTH-325	Bodies and Culture
ANTH-330	Cultural Images of War
ANTH-335	Culture and Politics in Latin America
ANTH-340	Divided Europe
ANTH-345	Genocide and Post-Conflict Justice
ANTH-350	The Global Economy and the Grassroots
ANTH-355	Historic Archaeology
ANTH-360	Humans and Their Environment
ANTH-365	Islamic Culture and the Middle East
ANTH-370	Media and Globalization
ANTH-375	Native American Repatriation
ANTH-380	Nationalism and Identity
ANTH-410	Global Cities
ANTH-415	Archaeological Science
ANTH-420	Exploring Ancient Technology
ANTH-425	Global Sexualities
ANTH-430	Visual Anthropology
ANTH-435	Garbage Archaeology
ANTH-440	Survey of Metallurgy
SOCI-103	The Urban Experience
SOCI-210	African-American Culture
SOCI-215	The Changing Family
SOCI-220	Minority Group Relations
SOCI-225	Social Inequality
SOCI-230	Sociology of Work
SOCI-235	Women, Work, and Culture
SOCI-240	Deaf Culture in America
SOCI-245	Gender and Health
SOCI-250	Globalization and Security
SOCI-310	U.S. Housing Policy
SOCI-315	Global Exiles of War and Terror
SOCI-320	Population and Society
SOCI-325	Community and Economic Development: Rochester
SOCI-330	Urban Deviance
SOCI-335	Urban Cultures
SOCI-340	Urban Planning and Policy
SOCI-345	Urban Poverty
SOCI-350	Social Change
SOCI-410	Diversity in the City
INGS-101	Global Studies
INGS-201	Histories of Globalization
INGS-210	Africa and the Diaspora
INGS-310	Global Slavery and Human Trafficking

* At least two courses must be at the 300 level or higher.

Software Engineering

Sarah Mittiga, Minor Adviser
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Students in disciplines with a heavy reliance on software applications may be interested in pursuing a minor in software engineering. The minor provides a broad view of the software engineering landscape including introductory material and fundamentals in design and process. Students deepen their software design skills and learn techniques for working on a productive software engineering team by choosing electives in design or process to gain a deeper understanding of one of these areas, or they may choose to balance their courses for a broad view of both topics.

COURSE	
Required Courses	
SWEN-261	Introduction to Software Engineering
SWEN-262	Engineering of Software Subsystems
SWEN-256	Software Process and Project Management
Electives	
Choose two from the following groups:	
Design	
SWEN-331	Secure Software System Development
SWEN-342	Engineering of Concurrent and Distributed Software Systems
SWEN-343	Engineering of Enterprise Software Systems
SWEN-344	Engineering of Web Based Software Systems
SWEN-461	Real Time and Embedded Systems
SWEN-462	Modeling of Real Time Systems
SWEN-463	Performance Engineering of Real Time and Embedded Systems
SWEN-549	Software Engineering Design Seminar
Process	
SWEN-350	Software Process and Product Quality
SWEN-352	Software Testing
SWEN-356	Trends in Software Development Processes
SWEN-559	Software Engineering Process Seminar
Other	
SWEN-220	Mathematical Models of Software
SWEN-440	Software System Requirements and Architectures
SWEN-444	Human Centered Requirements and Design
SWEN-590	Software Engineering Seminar

Structural Design

Amanda Bao, Minor Adviser
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The structural design minor creates a focus on the different types of structures and materials used in design. It also introduces related design codes. The minor is designed to accommodate students majoring in mechanical engineering technology or mechanical engineering. This minor is not available for students majoring in civil engineering technology.

COURSE	
Required Courses	
CVET-230	Elementary Structures
CVET-330	Structural Analysis and Dynamics
CVET-431	Structural Design–Steel
CVET-432	Structural Design–Reinforced Concrete
Elective	
Choose one of the following:	
CVET-433	Structural Timber Design
CVET-434	Design of Highway Bridges
CVET-435	Pre-stressed Concrete
CVET-436	Masonry Structures

Sustainable Product Development

Brian Thorn, Minor Adviser
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This multidisciplinary minor is for students interested in exploring issues associated with developing and delivering sustainable product systems. Courses enhance the understanding of the three dimensions of sustainability (economic, ethical, and environmental), develop awareness of the need for more sustainable approaches to product development, and explore strategies for developing and delivering sustainable product systems.

COURSE	
Required Courses	
ISEE-250	Engineering Economy
ISEE-785	Fundamentals of Sustainable Engineering
ISEE-786	Lifecycle Assessment
Electives	
Choose two courses from the following groups (at least one course must come from the social context group):	
Social Context	
MGMT-710	Managing for Environmental Sustainability
STSO-120	Introduction to Environmental Studies
STSO-140	Science, Technology, and Values
STSO-201	Science and Technology Policy
STSO-220	Environment and Society
STSO-240	Social Consequences of Technology
STSO-321	Face of the Land
STSO-421	Environmental Policy
Technical	
ISEE-787	Design for the Environment
MECE-357	Contemporary Issues in Energy and the Environment
MECE-710	Fuel Cell Technology
MECE-629	Renewable Energy Systems
PACK-530	Packaging Sustainability and the Environment
ESHS-310	Solid and Hazardous Waste Management
ESHS-330	Industrial Wastewater Management
ESHS-350	Air Emissions Management
ESHS-720	Environment, Health, and Safety Management
STSO-422	Great Lakes
STSO-521	Biodiversity and Society
PUBL-510	Tech Innovation and Public Policy
PUBL-530	Energy Policy

Urban Studies

College of Liberal Arts, Office of Student Services
(585) 475-2444, libarts@rit.edu

This minor focuses on the interplay between urban issues and urban policy. Every metropolitan area must address such enduring issues as poverty, housing, homelessness, transportation, education, crime, safety, recreation, and economic development. Each community must do so with an understanding of its unique social mix and neighborhood relations, and with recognition of its place in wider regional, national, and global networks. Students identify and analyze central issues and social problems of urbanization and explore and assess various ways decision-makers respond to these issues. This minor is closed to students majoring in sociology and anthropology who have chosen the urban studies track.

COURSE	
Required Course	
SOCI-103	The Urban Experience
Electives	
*Choose four of the following:**	
ANTH-235	Immigration to the U.S.
ANTH-315	Archaeology of Cities
ANTH-410	Global Cities
ECON-440	Urban Economics
FNRT-377	Imag(in)ing Rochester
HIST-103	The City in History
SOCI-220	Minority Group Relations
SOCI-325	Community and Economic Development: Rochester
SOCI-330	Urban Deviance
SOCI-335	Urban Cultures
SOCI-345	Urban Poverty
SOCI-340	Urban Planning and Policy
SOCI-410	Diversity in the City
STSO-550	Sustainable Communities

* At least two of the elective courses must be at the 300 level or higher.

Visual Culture

College of Liberal Arts, Office of Student Services
(585) 475-2444, libarts@rit.edu

Visual culture explores the role of visual media in everyday life and its critical function in the dissemination of ideas in the public sphere. Emphasizing comparative critical approaches to the convergence of art, popular media, science, and technology, the minor engages globalized visual media ranging from photography, television and film, to new media (the Web, digital imaging, and social networks), architecture, design, and art (painting, sculpture, and multimedia forms) in the context of such social arenas as art, news, science, advertising, and popular culture.

COURSE	
Required Course	
FNRT-376	Visual Culture Theory
Electives	
Group A	
Choose three of the following:	
FNRT-206	Queer Looks
FNRT-220	Introduction to Museums and Collecting
FNRT-352	Historic Photographic Processes
FNRT-353	History and Theory of Exhibitions
FNRT-370	American Painting
FNRT-371	African American Art
FNRT-372	American Film of the Studio Era
FNRT-373	American Film Since the Sixties
FNRT-374	Art in the Age of the New Deal
FNRT-375	Women/Gender/Art
FNRT-377	Imag(in)ing Rochester
FNRT-378	Memory, Memorials, and Monuments
FNRT-383	Traumatic Images
FNRT-384	Art of Dying
FNRT-440	Deaf Art and Cinema
Group B	
Choose one of the following:	
ANTH-210	Culture and Globalization
ANTH-240	Muslim Youth Cultures
ANTH-265	Native North Americans in Film
ANTH-310	African Popular Cultures
ANTH-325	Bodies and Culture
ANTH-330	Cultural Images of War
ANTH-375	Native American Repatriation
ANTH-425	Global Sexualities
ANTH-430	Visual Anthropology
ANTH-435	Garbage Archaeology
COMM-341	Visual Communication
COMM-440	Visual Communication of Technical Information
ENGL-410	Film Studies
ENGL-421	The Graphic Novel
ENGL-422	Maps, Spaces and Places
HIST-421	Hands On History
MLFR-351	French Films and Hollywood
MLSP-351	Gender and Sexuality in Hispanic Studies
MLSP-352	Caribbean Cinema
PHIL-303	Philosophy of Art and Aesthetics
PHIL-309	Feminist Theory
PHIL-313	Philosophy of Film
PHIL-314	Philosophy of Vision/Imaging
POLS-490	Politics Through Film
STSO-321	Faces of the Land

Water Resources

Scott Wolcott, Adviser
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The water resources minor broadens the learning experiences and professional opportunities of students in technical disciplines who have an interest in courses related to water treatment, wastewater treatment, hydrology, the environment and society.

COURSE	
Required Courses	
CVET-250, 251	Hydraulics and Lab
CVET-450	Principles of Water and Wastewater Treatment
Electives	
Choose one course from group A and one from Group B. A third course may be chosen from either group.	
Group A	
CVET-451	Design of Water Treatment
CVET-452	Groundwater Hydraulics
CVET-453	Stormwater Management
Group B	
CVET-423	GIS for CETEMS
ESHS-500	Social Responsibility and Environmental Sustainability
STSO-421	Environmental Policy

Web Design and Development

Ronald P. Vullo, Minor Adviser
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The minor in Web design and development is for non-computing majors and students outside the computing field who wish to learn more than just the basics of Web usage. The minor features courses in Web images, video, communication, development, and integration technologies. Students learn how to design and build websites, and create and manipulate digital images and video for the Web. Students develop a broad range of skills and the understanding necessary to design and build a Web presence.

COURSE	
Required Courses	
ISTE-105	Web Foundations
ISTE-205	Digital Image Creation
ISTE-206	Digital Video Creation
ISTE-305	Rapid Online Presence
ISTE-405	Web Integration and Application

Web Development

Daniel Bogaard, Minor Adviser
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This minor provides students with a firm foundation in Web development. The Web has become a global, essential, and ubiquitous information delivery medium. Hence, knowledge of how the Web works and how to effectively develop dynamic websites adds considerable value to computing majors. This minor provides foundational skills in Web development, starting with simple sites, moving through dynamic client-side and server-side functionality, and culminating in Web-based systems that create and access various information services.

COURSE	
Prerequisites	
Students should complete course work in discrete mathematics and a two-course programming sequence prior to beginning course work for this minor.	
Required Courses	
ISTE-140	Web I
ISTE-230	Introduction to Database and Data Modeling
ISTE-240	Web II
ISTE-260	Designing the User Experience
ISTE-340	Client Programming
SWEN-383	Software Design Principles and Patterns
ISTE-341	Server Programming

Women's and Gender Studies

College of Liberal Arts, Office of Student Services
(585) 475-2444, libarts@rit.edu

The women's and gender studies minor provides a critical framework to explore the significance of gender (along with race, sexuality, and class) in the construction of knowledge within academic disciplines and in the shaping of women's and men's lives. Courses engage a critical pedagogy focused on the recovery of women's contributions in a variety of fields, on women's and men's roles in society across cultures, and especially on critical questions about gender neutrality in the shaping of culture.

COURSE	
Required Course	
WGST-400	Foundations of Women's and Gender Studies
Electives	
Choose four of the following:	
WGST-235	Women, Work, Culture
WGST-237	Psychology of Gender
WGST-245	Prostitution and Vice
WGST-246	History of Women in Science and Engineering
WGST-250	Domestic Violence
WGST-255	Seminar on Sexual Violence
WGST-265	Women and Crime
WGST-306	Feminist Theory
WGST-314	Topics in WGST
WGST-335	Women and the Deaf Community
WGST-342	Gender, Science, and Technology
WGST-351	Gender and Sexuality in Hispanic Studies
WGST-361	Queering Gender
WGST-375	Women, Gender, Art
WGST-383	Traumatic Images
WGST-384	Art of Dying
WGST-385	Queer Looks
WGST-410	Introduction to LGBT Studies
WGST-451	Economics of Women and the Family
WGST-481	Women in Politics
ANTH-425	Global Sexualities
ANTH-325	Bodies and Culture

Immersions

rit.edu/programs/immersions

As a part of their bachelor's degree requirements, students must complete an immersion—a concentration of three courses in a particular area. These upper-level courses are used to meet RIT's general education requirements and provide you with course work in a specialized area that can enhance and complement your major or allow you to explore a personal interest. For the most recent list of immersions, please visit rit.edu/programs/immersions.

Advertising and Public Relations

The advertising and public relations immersion provides opportunities for the advanced study of selected areas central to the persuasive arts as they apply to advertising and public relations, as well as education and practice in the writing, speaking, and design skills required of these professions. This immersion is closed to students majoring in advertising and public relations, communication, or journalism.

COURSE	
Required Course	
COMM-305	Persuasion
Choose one of the following:	
COMM-211	Principles of Advertising
COMM-212	Public Relations
Electives	
Choose one of the following:	
COMM-202	Mass Communications
COMM-221	Public Relations Writing
COMM-303	Small Group Communication
COMM-321	Copywriting and Visualization
COMM-322	Campaign Management and Planning
COMM-341	Visual Communication

Africa and the Diaspora

The immersion in Africa and the Diaspora enables students to gain knowledge about African societies, cultures, histories, and modern political realities, cultures, and communities of the African Diaspora. Students are encouraged to enhance their scholarly knowledge through language study and study abroad. This immersion is closed to students who are majoring in international and global studies who have chosen a specialization in Africa.

COURSE	
Electives	
*Choose three of the following:**	
ANTH-225	Globalizing Africa
ANTH-310	African Popular Cultures
ANTH-345	Genocide and Post-Conflict Justice
ENGL-413	African-American Literature
FNRT-323	Survey of African-American Music
FNRT-371	African-American Art
HIST-245	American Slavery and Freedom
INGS-210/HIST-210	Introduction to Africa and the Diaspora
INGS-310/HIST-310	Global Slavery and Human Trafficking
SOCI-210	African-American Culture

* At least one course must be taken from either INGS, ANTH, or SOCI. Topics in Global Literature (ENGL 416) may be substituted when the topic is Caribbean literature.

American Arts

This immersion provides students with the opportunity to study the American arts through a variety of disciplines including painting, architecture, film, photography, music, theatre, and mass media. Each course presents American art within the context of the broader current of American life including its history, philosophy, social, and cultural traditions.

COURSE	
Electives	
*Choose three courses from the following:**	
Visual culture	
FNRT-206	Queer Looks
FNRT-370	American Painting
FNRT-371	African-American Art
FNRT-372	American Film of the Studio Era
FNRT-373	American Film Since the Sixties
FNRT-374	Art in the Age of the New Deal
FNRT-377	Imag(in)ing Rochester
FNRT-378	Memory, Memorials, and Monuments
FNRT-383	Traumatic Images
FNRT-384	Art of Dying
Performing arts	
FNRT-201	Music in the U.S.
FNRT-203	American Popular and Rock Music
FNRT-321	Music Since 1900
FNRT-322	Survey of Jazz
FNRT-323	Survey of African-American Music
FNRT-324	Sounds of Protest
FNRT-325	American Popular Song
FNRT-327	American Musical Theatre

* Students must take at least one course in each discipline.

American Politics

The American politics immersion introduces students to the fundamental principles, institutions, and issues of American government. In addition, the strengths and limitations of American constitutionalism are emphasized throughout and current political and policy questions facing the country will be examined. The overarching intention is to give students the necessary tools to deliberate upon the political questions of the day and to actively participate in the political process. This immersion is closed to students majoring in political science.

COURSE	
Electives	
*Choose three of the following:**	
POLS-200	Law and Society
POLS-250	State and Local Politics
POLS-290	Politics and the Life Sciences
POLS-295	Cyberpolitics
POLS-305	Political Parties and Voting
POLS-310	The Congress
POLS-315	The American Presidency
POLS-320	American Foreign Policy
POLS-345	Politics and Public Policy
POLS-355	Political Leadership
POLS-415	Evolution and Law
POLS-420	Primate Politics
POLS-425	Constitutional Law
POLS-430	Constitutional Rights and Liberties
POLS-435	American Political Thought
POLS-460	Classical Constitutionalism, Virtue and Law
POLS-465	Modern Constitutionalism, Liberty and Equality
POLS-480	Women in Politics
POLS-485	Politics Through Fiction
POLS-490	Politics Through Film
POLS-525	Special Topics in Political Science

* At least one course must be at the 300 level or higher.

American Sign Language and Deaf Cultural Studies

The ASL and deaf cultural studies immersion prepares students in the multi-disciplinary study of American Sign Language and Deaf Culture. Open to hearing and deaf students, courses address topics in the field of ASL and deaf cultural studies, including the study of ASL and its structure, ASL literature, literature in English pertaining to the D/deaf experience, the history of D/deaf people in America and around the world, Deaf art and cinema, the experience of D/deaf people from racial, ethnic, and other minority groups, oppression in the lives of D/deaf people, and various political, legal, and educational issues affecting members of the D/deaf community.

COURSE	
Electives	
Choose three of the following:	
ENGL-417	Deaf Literature
FNRT-440	Deaf Art and Cinema
HIST-230	American Deaf History
HIST-231	Deaf People in Global Perspective
HIST-330	Deaf People and Technology
HIST-333	Diversity in the Deaf Community
HIST-334	Oppression in the Lives of Deaf People
HIST-335	Women and the Deaf Community
MLAS-201	Beginning American Sign Language I
MLAS-202	Beginning American Sign Language II
MLAS-301	Intermediate Sign Language I
MLAS-302	Intermediate Sign Language II
MLAS-351	Linguistics of American Sign Language
MLAS-352	American Sign Language Literature
MLAS-401	Advanced American Sign Language I
MLAS-402	Advanced American Sign Language II
SOCI-240	Deaf Culture in America

Applied Statistics

This immersion is focused on statistics.

COURSE	
Prerequisites	
MATH-181	Project-based Calculus I
MATH-182	Project-based Calculus II
(or equivalents)	
Electives	
*Choose three of the following:**	
STAT-205	Applied Statistics
MATH-251	Probability and Statistics I
MATH-252	Probability and Statistics II
STAT-305	Introduction to Regression Analysis
STAT-325	Design of Experiments
STAT-315	Statistical Quality Control
STAT-295	Statistical Analysis for Bioinformatics
STAT-405	Mathematical Statistics I
STAT-406	Mathematical Statistics II
STAT-345	Non-parametric Statistics
STAT-415	Statistical Sampling
STAT-335	Introduction to Time Series
MATH-655	Biostatistics
MATH-401	Stochastic Processes

* At least one of the courses must be at the 300 level or higher.

Archaeology

Archaeology is the study of the human past by means of the physical residue of past human behavior from pottery, stone, and metal tools to the remains of ancient dwelling sites. The archaeologist explains how human society has changed and developed over time using such physical evidence. Archaeology employs techniques from the physical sciences to build a more detailed picture of the human past. Students explore the worlds of the past through hands-on applications of physical science techniques in a diverse range of fields, including chemistry, metallurgy, biology, and material science, applying these disciplines in a novel and challenging context. This immersion is closed to students majoring in sociology and anthropology who have chosen the archaeology or cultural anthropology tracks.

COURSE	
Electives	
*Choose three of the following:**	
ANTH-215	Field Methods in Archaeology
ANTH-230	Great Discoveries in Archaeology
ANTH-250	Themes in Archaeological Research
ANTH-255	Regional Archaeology
ANTH-315	The Archaeology of Cities
ANTH-355	Historic Archaeology
ANTH-360	Humans and Their Environment
ANTH-375	Native American Repatriation
ANTH-415	Archaeological Science
ANTH-420	Exploring Ancient Technology
ANTH-435	Garbage Archaeology
ANTH-440	Survey of Metallurgy

* At least one course must be at the 300 level or higher.

Astronomy

The astronomy immersion provides students with the opportunity for additional study in astronomy in order to build a secondary area of expertise in support of their major or other areas of interest. The immersion offers a broad background in astronomy with courses providing a broad survey of modern astrophysics and the techniques and technologies used to investigate astronomical phenomena.

COURSE	
Prerequisites	
PHYS-211	University Physics I
PHYS-212	University Physics II
Required course	
PHYS-220	University Astronomy
Electives	
Choose two of the following:	
PHYS-370	Stellar Astrophysics
PHYS-371	Galactic Astrophysics
PHYS-372	Extragalactic Astrophysics and Cosmology
PHYS-373	Observational Astronomy

Chemistry

All of the required or optional courses for the chemistry immersion are core chemistry courses within the chemistry curriculum.

COURSE	
Prerequisites	
CHMG-141	General and Analytical Chemistry I
CHMG-142	General and Analytical Chemistry II
Required course	
CHMO-231	Organic Chemistry I
Electives	
Choose two of the following:	
CHMO-232	Organic Chemistry II
CHMA-161	Quantitative Analysis
CHMA-221	Instrumental Analysis
CHMA-222	Chemical Separations
CHMB-402	Biochemistry I
CHMI-351	Inorganic Chemistry I

Communication

The communication immersion provides opportunities for the advanced study of selected areas of communication. Topics include an overview of the fields of persuasion, mass communication, public speaking, and small group communication. Students will understand and apply several modes of communication in academic, professional, and personal situations. This immersion is closed to students majoring in advertising and public relations, communication, or journalism.

COURSE	
Electives	
Choose three of the following:	
COMM-201	Public Speaking
COMM-202	Mass Communications
COMM-302	Interpersonal Communication
COMM-303	Small Group Communication
COMM-304	Intercultural Communication
COMM-305	Persuasion
COMM-341	Visual Communication
COMM-342	Communication Law and Ethics

Creative Writing

The creative writing immersion offers students a practical, theoretical, and historical understanding of the art and craft of writing prose (fiction and creative non-fiction) and poetry. The immersion encourages students to use those skills and insights for interdisciplinary projects and the enrichment of their careers and personal lives.

COURSE	
Required Course	
ENGL-211	Introduction to Creative Writing
Electives	
Choose two of the following:	
ENGL-440	Poetry Workshop
ENGL-441	Fiction Workshop
ENGL-442	Creative Nonfiction Workshop
ENGL-511	Advanced Creative Writing
ENGL-540	Advanced Poetry Workshop
ENGL-541	Advanced Fiction Workshop
ENGL-542	Advanced Creative Nonfiction Workshop
ENGL-543	Game-based Fiction Workshop

Criminal Justice

The criminal justice immersion provides students with the appropriate foundation to analyze crime, crime control policy, and the role of the criminal justice system in the maintenance of order in society. Courses focus on the social definition and measurement of crime, and offer a broad understanding of the causes of crime and societal responses to crime through the police, courts, and corrections. This immersion is closed to students majoring in criminal justice.

COURSE	
Prerequisite	
CRIM-110	Introduction to Criminal Justice
Electives	
Choose three of the following:	
CRIM-210	Technology in Criminal Justice
CRIM-220	Corrections
CRIM-230	Juvenile Justice
CRIM-240	Law Enforcement in Society
CRIM-260	Courts
CRIM-275	Crime and Violence
CRIM-285	Minority Groups in the Criminal Justice System
CRIM-489	Major Issues in Criminal Justice

Cultural Anthropology

Cultural anthropology provides insight on how human beings across the globe live, work, and shape their cultural world in families, cities, societies, ethnic groups, nations, and networked solidarities through ideas, ideologies, beliefs, and values or worldviews. One of the goals of cultural anthropology is to promote understanding among peoples–an increasingly important venture in our vastly interconnected world communities. This immersion is closed to students majoring in sociology and anthropology.

COURSE	
Electives	
*Choose three of the following:**	
ANTH-210	Culture and Globalization
ANTH-225	Globalizing Africa
ANTH-235	Immigration to the U.S.
ANTH-260	Native North Americans
ANTH-265	Native Americans in Film
ANTH-301	Social and Cultural Theory
ANTH-310	African Popular Cultures
ANTH-325	Bodies and Culture
ANTH-330	Cultural Images of War
ANTH-335	Culture and Politics in Latin America
ANTH-340	Divided Europe
ANTH-345	Genocide and Post-Conflict Justice
ANTH-350	Global Economy and the Grassroots
ANTH-365	Islamic Culture and the Middle East
ANTH-370	Media and Globalization
ANTH-375	Native American Repatriation
ANTH-380	Nationalism and Identity
ANTH-410	Global Cities
ANTH-425	Global Sexualities
ANTH-430	Visual Anthropology

* At least one course must be taken at the 300 level or higher.

Diversity in the U.S.

This immersion offers students a variety of academic perspectives on how diverse groups may share cultural or inherited characteristics, and how perceptions of difference influence their interactions. Race, ethnicity, gender, and sexualities are the main points of focus. Students examine differential power between groups, analyze the social structures used to maintain, moderate, and alter power relations, as well as probe interpersonal relationships across social divides. This immersion is closed to students majoring in sociology and anthropology who have chosen the sociology track.

COURSE	
Required course	
SOCI-220	Minority Group Relations
Electives	
*Choose two of the following:**	
ANTH-235	Immigration to the U.S.
ANTH-260	Native North Americans
COMM-304	Intercultural Communication
CRIM-285	Minority Groups and the Criminal Justice System
ECON-451	Economics of Women and the Family
ENGL-314	Topics in Women's and Gender Studies
FNRT-206	Queer Looks
FNRT-323	Survey of African-American Music
FNRT-324	Sounds of Protest
FNRT-371	African-American Art
SOCI-210	African-American Culture
SOCI-220	Minority Group Relations
SOCI-225	Social Inequality
SOCI-235	Women, Work, and Culture
SOCI-410	Diversity in the City

* At least one course should be taken from a discipline other than SOCI.

Economics

The economics immersion provides a systematic analysis of economic issues through the study of the allocation of scarce resources into production and the distribution of production among the members of society. This immersion is closed to students majoring in economics.

COURSE	
Prerequisites	
ECON-101	Principles of Microeconomics
ECON-101H	Honors Principles of Microeconomics
Electives	
Choose three of the following:	
ECON-201	Principles of Macroeconomics
ECON-401	Intermediate Microeconomic Theory
ECON-402	Intermediate Macroeconomic Theory
ECON-403	Econometrics I
ECON-404	Mathematical Methods: Economics
ECON-405	International Trade and Finance
ECON-406	Global Economic Issues
ECON-407	Industrial Organization
ECON-410	Game Theory: Economic Applications
ECON-420	Environmental Economics
ECON-421	Natural Resource Economics
ECON-422	Benefit-Cost Analysis
ECON-430	Managerial Economics
ECON-431	Monetary Analysis and Policy
ECON-440	Urban Economics
ECON-441	Labor Economics
ECON-444	Public Finance
ECON-445	History of Economic Thought
ECON-448	Development Economics
ECON-449	Comparative Economic Systems
ECON-450	Health Care Economics
ECON-451	Economics of Women and the Family
ECON-452	Economics of Native America

Environmental Studies

The environmental studies immersion is an examination of the basic environmental problems we face, how environmental resource depletion and energy issues are related, and what kind of environmental ethics and/or values we have today and have had in the past. The immersion also explores the economic, legislative, and regulatory framework within which most environmental decisions are made. Since most technological areas are associated with significant environmental implications, it is essential that students have an understanding of and a well-thought-out value orientation about such environmental consequences.

COURSE	
Electives	
*Choose three of the following:**	
PUBL-530	Energy Policy
STSO-220	Environment and Society
STSO-321	Face of the Land
STSO-325	History of the Environmental Sciences
STSO-326	History of Ecology and Environmentalism
STSO-330	Energy and the Environment
STSO-421	Environmental Policy
STSO-422	Great Lakes
STSO-489	Special Topics
STSO-510	Interdisciplinary Capstone Seminar
STSO-521	Biodiversity and Society
STSO-550	Sustainable Communities

* At least one course must be at the 300 level or higher.

Ethics

The ethics immersion provides students with opportunities to study different theories of how people ought to live their lives, to recognize and understand ethical dilemmas, and to develop solutions to ethical problems. The immersion emphasizes the following goals: an ability to recognize ethical issues and to think rationally and critically about them; an awareness of how ethical problems can result from complex social structures; an understanding of the relationship between individuals and the social settings with which they interact; and an appreciation of the conditions necessary for effectively resolving ethical problems. This immersion is closed to students majoring in philosophy.

COURSE	
Required courses	
*Choose one of the following:**	
PHIL-202	Foundations of Moral Philosophy
PHIL-415	Ethical Theory
Electives	
*Choose two of the following:***	
PHIL-202	Foundations of Moral Philosophy
PHIL-304	Philosophy of Law
PHIL-305	Philosophy of Peace
PHIL-306	Professional Ethics
PHIL-308	Environmental Philosophy
PHIL-309	Feminist Theory
PHIL-403	Social and Political Philosophy
PHIL-415	Ethical Theory
MGMT-340	Business Ethics and Corporate Social Responsibility

*Students are required to take either Foundations of Moral Philosophy (PHIL-202) or Ethical Theory (PHIL-415). If students take one of these courses, they will choose two elective courses to complete the immersion. If they choose both of these courses students will choose one additional elective.
** At least two courses must be at the 300 level or higher.

Film Studies

The film studies immersion allows students to engage in the study of global cinema using a variety of interdisciplinary methodologies and perspectives. Coming from the disciplines of English, anthropology, philosophy, fine arts/visual culture, political science, history, and modern languages, the immersion investigates cinema's mass appeal as a form of entertainment, but also the power it wields to disseminate ideas, history, values, aesthetics, behavior, and cultural norms.

COURSE	
Electives	
*Choose three of the following:**	
ANTH-265	Native Americans in Film
ANTH-430	Visual Anthropology
ENGL-410	Film Studies
ENGL-425	Global Cinemas
FNRT-200	Anime
FNRT-372	American Film of the Studio Era
FNRT-373	American Film Since the Sixties
FNRT-440	Deaf Art and Cinema
HIST-450	Modern Japan in History, Fiction, and Film
HIST-275	Screening the Trenches: The History of World War I through Film
MLFR-351	French Films and Hollywood
MLSP-352	Caribbean Cinema
PHIL-313	Philosophy of Film
POLS-490	Politics through Film

* Students must take courses in more than one discipline, e.g., two in FNRT and one in ANTH.

Global Justice and Peace Studies

The global justice and peace studies immersion examines attempts to affect lasting accord and social justice on an international scale. Courses in philosophy and the social sciences help students understand the concepts of human rights, world poverty, and global solidarity. The goal of the immersion is to elucidate the link between concepts of peace and justice while assessing non-violent means of conflict resolution.

COURSE	
Electives	
*Choose three of the following:**	
ANTH-330	Cultural Images of War
ANTH-345	Genocide and Post-Conflict Justice
PHIL-202	Foundations of Moral Philosophy
PHIL-304	Philosophy of Law
PHIL-305	Philosophy of Peace
PHIL-308	Environmental Philosophy
PHIL-309	Feminist Theory
PHIL-403	Social and Political Philosophy
PHIL-415	Ethical Theory
POLS-320	American Foreign Policy
POLS-440	War and the State

* Students must select courses from at least two different disciplines. Students majoring in philosophy, sociology and anthropology, or political science must choose two of the three courses from outside their respective major.

Globalization Theory

Globalization theory analyzes how linkages and interconnections across and beyond conventional borders and boundaries are forged by people, political regimes, social movements, corporate enterprise, and culture industries. The emphasis is on the causes, signs, and possibilities of globalization with view to mobile populations, permeable borders, transnational flows of capital, and the traffic of culture across space or historical time. Courses examine how global fluidities, mobilities, and connections have been forged, the various dynamic and unpredictable responses of people in diverse locations to global processes, and the implications of global processes for a shared future. This immersion is closed to students majoring in international and global studies and sociology and anthropology.

COURSE	
Electives	
*Choose three of the following:**	
ANTH-210	Culture and Globalization
ANTH-235	Immigration to the U.S.
ANTH-330	Cultural Images of War
ANTH-345	Genocide and Post-Conflict Justice
ANTH-350	Global Economy and the Grassroots
ANTH-370	Media and Globalization
ANTH-410	Global Cities
ANTH-425	Global Sexualities
INGS-201	Histories of Globalization
SOCI-250	Globalization and Security
SOCI-315	Global Exiles of War and Terror

* At least one course must be at the 300 level or higher.

Health and Culture

The health and culture immersion focuses on the shifting configurations of health and culture in a globalizing world. Health beliefs, including notions about bodily integrity or emotional well-being, illness causation, diagnostic practices, and the experiences, expressions, and treatments of human ailments unfold in concrete cultural contexts. Every society has some form of a health care system, which is minimally administered by community members or specialized practitioners. By moving beyond the lens of western bio-medicine, this immersion provides students with a set of tools for analyzing the impact of culture on how health care is delivered, how health symptoms are interpreted and communicated by patients and health care providers, and how costs for treatment are calculated and managed in relation to perceived benefits. Courses examine the interrelation between health and culture from a number of perspectives and contexts, including the cultural realities within which bodies are meaningfully constituted or in some cases enhanced by technology, the culture-specific communicative or representational health practices, the socially constituted experiences of trauma, death, suffering, and healing, and the various culturally mediated approaches to health care costs and remedies.

COURSE	
Electives	
*Choose three of the following:**	
ANTH-325	Bodies and Culture
ANTH-345	Genocide and Post-Conflict Justice
COMM-344	Health Communication
CRIM-245	Prostitution and Vice
ECON-450	Health Care Economics
FNRT-383	Traumatic Images
FNRT-384	Art of Dying
MLSP-353	Trauma and Survival in First-Person Narrative
PSYC-231	Death and Dying
SOCI-245	Gender and Health
SOCI-315	Global Exiles of War and Terror
STSO-341	Biomedical Issues
STSO-441	Cyborg Theory: (Re)thinking the Human Experience in the 21st Century

* At least one course must be taken from either ANTH or SOCI.

History

The history immersion provides students with intensive study within the discipline of history. Students may choose to structure their immersion broadly, by choosing a wide range of historical topics to study, or narrowly, by choosing a particular area to study, such as American, European, or Asian history.

COURSE	
Electives	
*Choose three of the following:**	
HIST-201	Histories of Globalization
HIST-210	Introduction to Africa and the Diaspora
HIST-220	Introduction to Public History
HIST-230	American Deaf History
HIST-238	History of Disability
HIST-240	Civil War America
HIST-245	American Slavery and Freedom
HIST-250	Origins of U.S. Foreign Relations
HIST-251	Modern U.S. Foreign Relations
HIST-252	The United States and Japan
HIST-260	History of Pre-modern China
HIST-261	History of Modern China
HIST-265	History of Modern Japan
HIST-266	History of Pre-modern Japan
HIST-270	History of Modern France
HIST-275	Screening the Trenches: A History of WWI Through Film
HIST-280	History of Modern Germany
HIST-290	U.S. History Since 1945
HIST-301	Great Debates in U.S. History
HIST-302	Special Topics in History
HIST-310	Global Slavery and Human Trafficking
HIST-321	Special Topics in Public History
HIST-322	Monuments and Memory
HIST-323	America's National Parks
HIST-324	Oral History
HIST-325	Museums and History
HIST-326	Doing History in a Digital World
HIST-330	Deaf People and Technology
HIST-333	Diversity in the Deaf Community
HIST-334	Oppression in the Lives of Deaf People
HIST-335	Women and the Deaf Community
HIST-345	Environmental Disasters
HIST-350	Terrorism, Intelligence, and War
HIST-365	Conflict in Modern East Asia
HIST-369	Histories of Christianity
HIST-390	Medicine and Public Health in American History
HIST-402	Special Seminar in History
HIST-421	Hands-On History
HIST-439	Biography as History
HIST-450	Modern Japan in History, Fiction, and Film
HIST-462	East-West Encounters
HIST-465	The Samurai in Word and Image
HIST-470	Science, Technology, and European Imperialism

* At least one course must be taken at the 300 level or higher.

Human Language Technology and Computational Linguistics

The human language technology and computational linguistics immersion provides exposure to computational linguistics and relevant language science course work. Students gain knowledge and practical skills in computational natural language processing and technical linguistic analysis, useful for analytics and modeling with language data and for developing, evaluating, and maintaining language technology software.

COURSE	
Required course	
ENGL-481	Introduction to Natural Language Processing
Electives	
Choose two of the following:	
ENGL-310	Introduction to Language Science
ENGL-351	Language Technology
ENGL-482	Language and the Brain
ENGL-582	Advanced Topics in Computational Linguistics

International Relations

The international relations immersion combines the study of the complexities and shifting trends of international politics with the study of the global system. Particular emphasis is placed on the interactions and interconnectedness of nation-states at the international level and other participants in international affairs, such as international organizations, non-governmental organizations, sub-national entities, and individual citizens. Global issues studied include democratization, international and regional conflicts, terrorism, international trade and economic integration, economic development, international law and organizations, and human rights. This immersion is closed to students majoring in political science.

COURSE	
Electives	
*Choose three of the following:**	
POLS-210	Comparative Politics
POLS-220	Global Political Economy
POLS-320	American Foreign Policy
POLS-325	International Law and Organizations
POLS-330	Human Rights in Global Perspective
POLS-335	Politics of Developing Countries
POLS-350	Government and Politics of East Asia
POLS-410	Evolutionary International Relations
POLS-440	War and the State
POLS-445	Terrorism and Political Violence
POLS-455	Comparative Public Policy
POLS-525	Special Topics in Political Science

* At least one course must be at the 300 level or higher.

Journalism

The journalism immersion provides opportunities for the advanced study of selected areas of journalism, including its history and relevant legal and ethical issues, and for education and practice in writing and editing skills required of journalists. This immersion is closed to students majoring in advertising and public relations, communication, and journalism.

COURSE	
Required courses	
COMM-271	Introduction to Journalism
COMM-362	Law and Ethics of the Press
Electives	
Choose one of the following:	
COMM-261	History of Journalism
COMM-263	Computer-Assisted Reporting
COMM-272	Reporting and Writing I
COMM-273	Reporting and Writing II
COMM-274	News Editing
COMM-361	Reporting in Specialized Fields
COMM-442	Professional Writing
COMM-461	Multiplatform Journalism

Language Science

The language science immersion prepares students in the interdisciplinary scientific study and analysis of human language. Language science is directly applicable to students interested in computing and media, human-computer interaction, brain and cognition, language acquisition, human health, interpreting, relevant branches of engineering, and policy studies. Students can complete the immersion irrespective of their skills in languages other than English. Besides a core course on linguistic principles, students can choose electives covering technology of language, philosophy of language, and language in culture and society. Electives allow students to customize the immersion to their interests and needs, with the support of a faculty adviser.

COURSE	
Required course	
ENGL-310	Introduction to Language Science
Electives	
Choose two of the following:	
ENGL-351	Language Technology
ENGL-371	Language, Dialects, and Identity
ENGL-470	Evolving English Language
ENGL-481	Introduction to Natural Language Processing
ENGL-482	Language and Brain
MLAS-351	Linguistics of American Sign Language
MLCU-301	Psycholinguistics
MLJP-351	Languages in Japanese Society
MLJP-451	Structure of the Japanese Language
PHIL-414	Philosophy of Language

Latino/Latina/Latin American Studies

The Latino/Latina/Latin American studies immersion allows students to study Latino or Latin American culture. The goal is to introduce students to the customs and culture (history, art, literature, politics, anthropology, music) of Latin America or of Latinos in the U.S. Students become aware of the relationship between language and culture and of the differences between their own language and culture and those of Spanish-speaking countries or Brazil.

COURSE	
Electives	
*Choose three of the following:**	
ANTH-235	Immigration to the U.S.
ANTH-335	Culture and Politics in Latin America
ANTH-350	The Global Economy and the Grassroots
MLPO-201	Beginning Portuguese I
MLPO-202	Beginning Portuguese II
MLPO-301	Intermediate Portuguese I
MLPO-302	Intermediate Portuguese II
MLPO-401	Advanced Portuguese I
MLPO-402	Advanced Portuguese II
MLSP-201	Beginning Spanish I
MLSP-202	Beginning Spanish II
MLSP-301	Intermediate Spanish I
MLSP-302	Intermediate Spanish II
MLSP-401	Advanced Spanish I
MLSP-402	Advanced Spanish II
MLSP-351	Gender and Sexuality in Hispanic Studies
MLSP-352	Caribbean Cinema
MLSP-353	Trauma and Survival in First-Person Narrative

* This immersion consists of three culture courses. If a student chooses, one of the three courses may be substituted for a Spanish or Portuguese language course. Students who have prior study of either language must take a placement exam through the department of modern languages to determine the appropriate level language course to complete.

Legal Studies

The legal studies immersion provides students with a foundation in the study of law and legal institutions, and in the relationship of law to other aspects of society and culture. Courses provide a broad perspective on law and legal institutions including historical, ethical, sociological, political, and philosophical approaches to these areas.

COURSE	
Required Course	
Choose one of the following:	
CRIM-215	Law and Society
POLS-200	Law and Society
Electives	
*Choose two of the following:**	
COMM-342	Communication Law and Ethics
COMM-362	Law and Ethics of the Press
CRIM-225	Criminal Law
CRIM-260	Courts
CRIM-315	Evidence
PHIL-204	Introduction to Logic
PHIL-302	Symbolic Logic
PHIL-304	Philosophy of Law
PHIL-403	Social and Political Philosophy
POLS-325	International Law and Organizations
POLS-330	Human Rights in Global Perspective
POLS-425	Constitutional Law
POLS-430	Constitutional Rights and Liberties
POLS-460	Classical Constitutionalism, Virtue and Law
POLS-465	Modern Constitutionalism, Liberty and Equality
SOCI-310	US Housing Policy

* All three courses cannot be from the same discipline. Students majoring in communication, criminal justice, philosophy, and political science must choose two of the three courses from outside their respective major.

Literature

The literature immersion gives students the opportunity to read, analyze, and evaluate works of fiction, poetry, and drama. While studying and practicing different methods of approaching literary texts, students explore their diverse social, cultural, and historical contexts.

COURSE	
Electives	
Choose three of the following:	
ENGL-301	The Art of Poetry
ENGL-304	Drama and Theatre
ENGL-400	Literature and Cultural Studies
ENGL-406	Shakespeare Tragedies
ENGL-416	Topics in Global Literature
ENGL-417	Deaf Literature
ENGL-418	Great Authors

Mathematics

COURSE	
Prerequisites	
MATH-181	Project-based Calculus I (or equivalent)
Plus one of the following:	
MATH-182	Project-based Calculus II
MATH-190	Discrete Mathematics for Computing
MATH-200	Discrete Mathematics and Introduction to Proof
Electives	
Choose three of the following:	
MATH-219	Multivariable Calculus
MATH-221	Multivariable Calculus and Vector Calculus
MATH-231	Differential Equations
MATH-233	Linear Systems and Differential Equations
MATH-241	Linear Algebra
MATH-251	Probability and Statistics I
MATH-311	Linear Optimization
MATH-312	Non-linear Optimization
MATH-321	Game Theory
MATH-326	Boundary Value Problems
MATH-331	Dynamical Systems
MATH-361	Combinatorics
MATH-367	Codes and Ciphers
MATH-381	Complex Variables
MATH-341	Advanced Linear Algebra
MATH-351	Graph Theory
MATH-371	Number Theory
MATH-401	Stochastic Processes
MATH-411	Numerical Analysis
MATH-412	Numerical Linear Algebra
MATH-431	Real Variables I
MATH-432	Real Variables II
MATH-441	Abstract Algebra I
MATH-442	Abstract Algebra II
MATH-461	Topology

Modern Languages and Cultures - Arabic

Hiroko Yamashita, Minor Adviser
(585) 475-6074, hxygsl@rit.edu

This immersion introduces students to the language, customs, and cultural aspects (history, art, literature, politics, anthropology, and music) of Arabic-speaking countries. The immersion consists of three language courses or, with permission, two language courses and one culture course. Students with previous language skills must consult the minor adviser for placement evaluation before they register for language courses.

COURSE	
Electives	
Choose three consecutive language courses:	
MLAR-201	Beginning Arabic I
MLAR-202	Beginning Arabic II
MLAR-301	Intermediate Arabic I
MLAR-302	Intermediate Arabic II
MLAR-401	Advanced Arabic I
MLAR-402	Advanced Arabic II
With MLC faculty adviser permission, one of the following culture courses may be substituted for one of the sequential language courses:	
ANTH-240	Muslim Youth Cultures
ANTH-365	Islamic Culture and the Middle East

Modern Languages and Cultures - Chinese

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This immersion introduces students to the language, customs, and cultural aspects (history, art, literature, politics, anthropology, and music) of Chinese-speaking countries. The immersion consists of three language courses or, with permission, two language courses and one culture course. Students with previous language skills must consult the minor adviser for placement evaluation before they register.

COURSE	
Electives	
Choose three consecutive language courses:	
MLCH-201	Beginning Chinese I
MLCH-202	Beginning Chinese II
MLCH-301	Intermediate Chinese I
MLCH-302	Intermediate Chinese II
MLCH-401	Advanced Chinese I
MLCH-402	Advanced Chinese II
MLJP-403	Professional Japanese
With MLC faculty adviser permission, one of the following culture courses may be substituted for one of the sequential language courses:	
HIST-160	History of Modern East Asia
HIST-261	History of Modern China
POLS-350	Politics of East Asia

Modern Languages and Cultures - French

Philippe Chavasse, Minor Adviser
(585) 475-3158, pxcgsl@rit.edu

This immersion introduces students to the language, customs, and cultural aspects (history, art, literature, politics, anthropology, and music) of French-speaking countries. The immersion consists of three language courses or, with permission, two language courses and one culture course. Students with previous language skills must consult the minor adviser for placement evaluation before they register.

COURSE	
Electives	
Choose three consecutive language courses:	
MLFR-201	Beginning French I
MLFR-202	Beginning French II
MLFR-301	Intermediate French I
MLFR-302	Intermediate French II
MLFR-401	Advanced French I
MLFR-402	Advanced French II
With MLC faculty adviser permission, one of the following culture courses may be substituted for one of the sequential language courses:	
MLFR-351	French Films and Hollywood
HIST-270	History of Modern France
HIST-302	Special Topics in History*
HIST-103	The City in History†

* When the course deals with the history of France and/or Francophone countries
† When the course deals with the history of Paris.

Modern Languages and Cultures - German

Ulrike Stroszeck, Minor Adviser
(585) 475-2921, uisgsl@rit.edu

This immersion introduces students to the language, customs, and cultural aspects (history, art, literature, politics, anthropology, and music) of German-speaking countries. The immersion consists of three language courses or, with permission, two language courses and one culture course. Students with previous language skills will begin the language courses at their current level of proficiency as determined by a placement test.

COURSE	
Electives	
Choose three consecutive language courses:	
MLGR-201	Beginning German I
MLGR-202	Beginning German II
MLGR-301	Intermediate German I
MLGR-302	Intermediate German II
MLGR-401	Advanced German I
MLGR-402	Advanced German II
With MLC faculty adviser permission, one of the following culture courses may be substituted for one of the sequential language courses:	
FNRT-210	Bach, Händel and the Baroque
FNRT-211	Era of Haydn, Mozart and Beethoven
HIST-280	History of Modern Germany

Modern Languages and Cultures - Italian

Elisabetta D'Amanda, Minor Adviser
(585) 475-6522, exdgla@rit.edu

This immersion introduces students to the language, customs, and cultural aspects (history, art, literature, politics, anthropology, and music) of Italy. The immersion consists of three language courses or, with permission, two language courses and one culture course. Students with previous language skills must consult the minor adviser for placement evaluation before they register.

COURSE	
Electives	
Choose three consecutive language courses:	
MLIT-201	Beginning Italian I
MLIT-202	Beginning Italian II
MLIT-301	Intermediate Italian I
MLIT-302	Intermediate Italian II
MLIT-401	Advanced Italian I
MLIT-402	Advanced Italian II
With MLC faculty adviser permission, one of the following culture courses may be substituted for one of the sequential language courses:	
ENGL-416	Global Literatures and Cultures*

* When the course deals with Italian literature and culture.

Modern Languages and Cultures - Japanese

Yukiko Maru Leary, Minor Adviser
(585) 475-4558, yxmgsl@rit.edu

This immersion introduces students to the language, customs, and cultural aspects (history, art, literature, politics, anthropology, and music) of Japan. The immersion consists of three language courses or, with permission, two language courses and one culture course. Students with previous language skills must consult the minor adviser for placement evaluation before they register.

COURSE	
Electives	
Choose three consecutive language courses:	
MLJP-201	Beginning Japanese I
MLJP-202	Beginning Japanese II
MLJP-301	Intermediate Japanese I
MLJP-302	Intermediate Japanese II
MLJP-401	Advanced Japanese I
MLJP-402	Advanced Japanese II
MLJP-403	Professional Japanese
With MLC faculty adviser permission, one of the following culture courses may be substituted for one of the sequential language courses:	
MLJP-404	Japanese Culture in Print
MLJP-351	Language in Japanese Society
MLJP-451	Structure of Japanese
HIST-266	History of Pre-modern Japan
HIST-450	Modern Japan in History, Fiction, and Film
HIST-252	The United States and Japan
HIST-465	The Samurai in Word and Image
HIST-265	History of Modern Japan
HIST-160	History of Modern East Asia
POLS-350	Politics of East Asia

Modern Languages and Cultures - Portuguese

Hiroko Yamashita, Minor Adviser
(585) 475-6074, hxygsl@rit.edu

This immersion introduces students to the language, customs, and cultural aspects (history, art, literature, politics, anthropology, and music) of Portugal and Portuguese-speaking countries. The immersion consists of three language courses or, with permission, two language courses and one culture course. Students with previous language skills must consult the minor adviser for placement evaluation before they register.

COURSE	
Electives	
Choose three consecutive language courses:	
MLPO-201	Beginning Portuguese I
MLPO-202	Beginning Portuguese II
MLPO-301	Intermediate Portuguese I
MLPO-302	Intermediate Portuguese II
MLPO-401	Advanced Portuguese I
MLPO-402	Advanced Portuguese II
With MLC faculty adviser permission, one of the following culture courses may be substituted for one of the sequential language courses:	
ANTH-335	Culture and Politics in Latin America

Modern Languages and Cultures - Russian

Hiroko Yamashita, Minor Adviser
(585) 475-6074, hxygsl@rit.edu

This immersion introduces students to the language, customs, and cultural aspects (history, art, literature, politics, anthropology, and music) of Russia and Russian-speaking countries of the world. The immersion consists of three language courses or, with permission, two language courses and one culture course. Students with previous language skills must consult the minor adviser for placement evaluation before they register.

COURSE	
Electives	
Choose three consecutive language courses:	
MLRU-201	Beginning Russian I
MLRU-202	Beginning Russian II
MLRU-301	Intermediate Russian I
MLRU-302	Intermediate Russian II
MLRU-401	Advanced Russian I
MLRU-402	Advanced Russian II
With MLC faculty adviser permission, one of the following culture courses may be substituted for one of the sequential language courses:	
ENGL-418	Great Authors*
ENGL-416	Global Literatures and Cultures†

* When the course deals with the history of France and/or Francophone countries.
† When the course deals with the history of Paris.

Modern Languages and Cultures - Spanish

Sara Armengot, Minor Adviser
(585) 475-4343, seagsl@rit.edu

This immersion introduces students to the language, customs, and cultural aspects (history, art, literature, politics, anthropology, and music) of Spain and Spanish-speaking countries. The immersion consists of three language courses or, with permission, two language courses and one culture course. Students with previous language skills must consult the minor adviser for placement evaluation before they register.

COURSE	
Electives	
Choose three consecutive language courses:	
MLSP-201A, 201B	Beginning Spanish IA, IB†
MLSP-202	Beginning Spanish II
MLSP-301	Intermediate Spanish I
MLSP-302	Intermediate Spanish II
MLSP-401	Advanced Spanish I
MLSP-402	Advanced Spanish II
With MLC faculty adviser permission, one of the following culture courses may be substituted for one of the sequential language courses:	
MLSP-351	Gender and Sexuality in Hispanic Studies
MLSP-352	Caribbean Cinema
MLSP-353	Trauma and Survival in First-Person Narrative
ANTH-335	Culture and Politics in Latin America
ANTH-350	The Global Economy and the Grassroots
ENGL-416	Topics in Global Literatures*
ENGL-418	Great Authors*

* When the course deals with Spanish and/or Latin American literature.
† Based on a student's previous study of the Spanish language, students may enroll in either Beginning Spanish 1A (MLSP-201A) or Beginning Spanish 1B (MLSP-201B).

Museum Studies

The immersion in museum studies introduces students to the history, theory, and practice of institutional collecting, exhibiting, storing, and preserving our cultural heritage in museums, archives, collections, galleries, and libraries. It also provides students with an introduction to public history, the technical investigation of art, the history and theory of exhibitions, and interactive design for museums. This immersion is closed to students majoring in museum studies.

COURSE	
Electives	
*Choose three of the following:**	
HIST-322	Monuments and Memory
HIST-323	America's National Parks
HIST-324	Oral History
HIST-325	Museums and History
MUSE-220	Introduction to Museums and Collecting
MUSE-221/HIST-221	Introduction to Public History
MUSE-223	Historic Photographic Processes
MUSE-224	History and Theory of Exhibitions
MUSE-358	Legal and Ethical Issues for Collecting Institutions
MUSE-449	Special Topics

* Students must take at least one MUSE course and one HIST course. The third course may be taken from either discipline.

Native American Science and Technology

The Native American science and technology immersion enhances students' understanding of the unique heritages of native North Americans and their relationships with other people in the United States and Canada. Courses emphasize traditional ways of learning, modern and ancient technologies used by contemporary tribes, histories of relations, and Native American and First Nations science. This immersion is closed to students majoring in sociology and anthropology.

COURSE	
Electives	
*Choose three of the following:**	
ANTH-215	Field Methods in Archaeology
ANTH-260	Native North Americans
ANTH-265	Native Americans in Film
ANTH-375	Native American Repatriation
ANTH-415	Archaeological Science
ANTH-455	Economics of Native America

* At least one course must be at the 300 level or higher.

Philosophy

The philosophy immersion provides students with an opportunity to study the nature, methods, problems, and achievements of philosophical inquiry. The immersion emphasizes the following goals: the ability to think rationally and critically, an awareness of ethical values, an appreciation of aesthetic values, an awareness of how the past affects the present and future, and an understanding of the relationship between individuals and the social settings with which they interact. This immersion is closed to students majoring in philosophy.

COURSE	
Electives	
*Choose three of the following:**	
PHIL-201	Ancient Philosophy
PHIL-202	Foundations of Moral Philosophy
PHIL-203	Modern Philosophy
PHIL-204	Introduction to Logic
PHIL-301	Philosophy of Religion
PHIL-302	Symbolic Logic
PHIL-303	Philosophy of Art/Aesthetics
PHIL-304	Philosophy of Law
PHIL-305	Philosophy of Peace
PHIL-306	Professional Ethics
PHIL-307	Philosophy of Technology
PHIL-308	Environmental Philosophy
PHIL-309	Feminist Theory
PHIL-310	Theories of Knowledge
PHIL-311	East Asian Philosophy
PHIL-312	American Philosophy
PHIL-313	Philosophy of Film
PHIL-314	Philosophy of Vision and Imaging
PHIL-401	Great Thinkers
PHIL-402	Philosophy of Science
PHIL-403	Social and Political Philosophy
PHIL-404	Philosophy of Mind
PHIL-405	Philosophy of the Social Sciences
PHIL-406	Contemporary Philosophy
PHIL-407	Philosophy of Action
PHIL-408	Critical Social Theory
PHIL-409	Existentialism
PHIL-410	Medieval Philosophy
PHIL-411	Metaphysics
PHIL-412	Nineteenth Century Philosophy
PHIL-413	Philosophy and Literary Theory
PHIL-414	Philosophy of Language
PHIL-415	Ethical Theory
PHIL-416	Seminar in Philosophy
PHIL-449	Special Topics
PHIL-571	Honors Philosophy

* At least one course must be at the 300 level or higher.

Physics

In a broad sense, the aim of physics is to develop interconnected unifying threads bridging the vast number of seemingly diverse phenomena observed in the physical world around us. This immersion provides students with the opportunity for additional study in physics in order to build a secondary area of expertise in support of their major or other areas of interest.

COURSE	
Prerequisites	
PHYS-211	University Physics I
PHYS-212	University Physics II
Required Courses	
PHYS-213	Modern Physics I
PHYS-214	Modern Physics II
Electives	
Choose one of the following:	
PHYS-283	Vibrations and Waves
PHYS-315	Experiments in Modern Physics
PHYS-320	Mathematical Methods in Physics
PHYS-330	Classical Mechanics
PHYS-411	Electricity and Magnetism
PHYS-440	Thermal and Statistical Physics

Psychology

This immersion reflects the central themes of psychology, including topics such as the study of cognitive, developmental, social, and abnormal psychology. The study of behavior includes many different topics, but the unifying theme is that these courses all include the study of behavior using or applying the scientific method. This immersion is closed to students majoring in psychology.

COURSE	
Prerequisite	
PSYC-101	Introduction to Psychology
Electives	
Choose three of the following:	
PSYC-221	Abnormal Psychology
PSYC-222	Biopsychology
PSYC-223	Cognitive Psychology
PSYC-224	Perception
PSYC-225	Social Psychology
PSYC-231	Death and Dying
PSYC-232	Developmental Psychology
PSYC-233	History and Systems
PSYC-234	Industrial and Organizational Psychology
PSYC-235	Learning and Behavior
PSYC-236	Personality
PSYC-237	Psychology of Gender
PSYC-238	Psychology of Religion
PSYC-239	Positive Psychology

Public Policy

This immersion provides students with a clear understanding of public policy, the policy process, and policy analysis. Students have the opportunity to develop perspectives on a variety of contemporary public policy issues, especially those that emerge from scientific and technological advancements. Policy Analysis (PUBL-301) and Decision Analysis (PUBL-302) are offered especially for students who are interested in pursing the master of science degree in science, technology, and public policy or who have an interest in analytical tools. This immersion is closed to students majoring in public policy.

COURSE	
Electives	
Choose three of the following:	
PUBL-201	Ethics, Values and Public Policy
PUBL-210	Introduction to Qualitative Policy Analysis
PUBL-301	Public Policy Analysis
PUBL-302	Decision Analysis
PUBL-489	Special Topics
PUBL-510	Technology Innovation and Public Policy
PUBL-520	Information and Communication Policy
PUBL-530	Energy Policy
STSO-201	Science and Technology Policy
STSO-341	Biomedical Issues: Science and Technology
STSO-421	Environmental Policy

* At least one course must be at the 300 level or higher.

Religious Studies

Religion plays a major role in human affairs. To understand more fully the nature of the relationship between society and the individual, it is essential to have some understanding of religion. The religious studies immersion engages students in the study of religion from the perspective of major Western and non-Western traditions through courses in disciplines such as anthropology, history, literature, philosophy, and psychology.

COURSE	
Electives	
*Choose three of the following:**	
ANTH-245	Ritual and Performance
ENGL-409	Mythology and Literature
HIST-369	Histories of Christianity
PHIL-301	Philosophy of Religion
PHIL-311	East Asian Philosophy
PHIL-409	Existentialism
PHIL-410	Medieval Philosophy
PHIL-411	Metaphysics
PHIL-412	Nineteenth-Century Philosophy
PSYC-238	Psychology of Religion

* To complete the immersion, students must select three courses from at least two distinct disciplines (e.g., anthropology, English, history, philosophy, or psychology). Philosophy majors must take two courses in disciplines other than philosophy. Special topics courses (in all departments) and Great Thinkers courses (in the philosophy department) will be considered on an individual basis, subject to approval by the religious studies immersion coordinator.

Science and Technology Studies

The science and technology studies immersion examines some of the major impacts of science and technology in the contemporary world. Special reference is given to American concerns. Students gain an overall appreciation of the social nature of science and technology as they have developed in the past, as they exist today, and as they may affect society in the future under various scenarios. Science and technology have become social systems in their own right and have made possible increasing freedom, a fantastic variety of choice, and, paradoxically, the growing interdependence of all segments of world society. A new level of public awareness and concern is crucial to understanding and dealing successfully with these consequences.

COURSE	
Electives	
*Choose three of the following:**	
STSO-201	Science and Technology Policy
STSO-240	Social Consequences of Technology
STSO-246	History of Women in Science and Engineering
STSO-321	Face of the Land
STSO-341	Biomedical Issues: Science and Technology
STSO-342	Gender, Science and Technology
STSO-345	Makers of Modern Science
STSO-346	Technology in American History
STSO-441	Cyborg Theory: (Re)thinking the Human Experience in the 21st Century
STSO-442	Science, Technology and Society Classics
STSO-445	The Natural Sciences in Western History
STSO-446	History of Chemistry
STSO-489	Special Topics
STSO-510	Interdisciplinary Capstone Seminar

* At least one course must be at the 300 level or higher.

Science of Film, Photography, and Imaging

The science of film, photography, and imaging immersion explores the basic science behind technologies used in film, photography, and other imaging applications. Introductions to human visual perception, color science, imaging physics, and imaging system engineering set a groundwork for common theories underlying all major imaging industries. This immersion also provides necessary prerequisites for completion of a minor in imaging science. The immersion is closed to students majoring in imaging science, motion picture science, and imaging and photographic technology.

COURSE	
Required Course	
SOFA-103	Film/Video Materials and Technology
Electives	
Choose two of the following:	
IMGS-221	Vision and Psychophysics
IMGS-261	Linear and Fourier Methods for Imaging
IMGS-321	Geometric Optics
IMGS-341	Interactions Between Light and Matter
IMGS-351	Color Science

Social Inequalities

Social inequalities and collective responses to them, both locally and globally, are the focus of this immersion. Students explore the interplay between social and cultural dimensions of the rapid globalization of production, culture, and politics and the inequalities in race, ethnicity, class, gender, and culture that ensue. The egalitarian strivings that emerge from these inequalities are also examined. The courses offer the unique standpoints of two academic disciplines–sociology and anthropology–to analyze the roles of powerful social institutions and culture and to identify and explain social inequalities and resulting conflicts and egalitarian hopes. This immersion is closed to students majoring in sociology and anthropology.

COURSE	
Electives	
*Choose three of the following:**	
ANTH-210	Culture and Globalization
ANTH-225	Globalizing Africa
ANTH-235	Immigration to the U.S.
ANTH-260	Native North Americans
ANTH-335	Culture and Politics in Latin America
ANTH-345	Genocide and Post-Conflict Justice
ANTH-350	The Global Economy and the Grassroots
ANTH-380	Nationalism and Identity
ANTH-410	Global Cities
ANTH-425	Global Sexualities
INGS-310/HIST-310	Global Slavery and Human Trafficking
SOCI-103	The Urban Experience
SOCI-210	African-American Culture
SOCI-215	The Changing Family
SOCI-220	Minority Group Relations
SOCI-225	Social Inequality
SOCI-230	Sociology of Work
SOCI-235	Women, Work, and Culture
SOCI-245	Gender and Health
SOCI-315	Global Exiles of War and Terror
SOCI-320	Population and Society
SOCI-345	Urban Poverty
SOCI-410	Diversity in the City

* All three courses cannot come from one discipline. At least one course must be taken at the 300 level or higher.

Text and Code

We encounter digital texts and codes every time we use a smartphone, turn on an app, or interact online. This immersion explores innovative and evolving questions and practices of text and code in literature, linguistics, creative writing, and locative and interactive media. It invites students to explore the social, cultural, and technological significance of text, code, and their interrelations.

COURSE	
Electives	
Choose two of the following English courses:	
ENGL-215	Text and Code
ENGL-351	Language Technology
ENGL-375	Storytelling Across Media
ENGL-376	Experimental Writing
ENGL-419	Literature and Technology
ENGL-422	Maps, Spaces, Places
ENGL-481	Introduction to Natural Language Processing
Choose one of the following computing courses:	
FNRT-356	Interactive Design for Museums
IGME-110	Introduction to Interactive Media
ISTE-382	Introduction to Geospatial Technologies

Urban Studies

Metropolitan areas must address such enduring issues as poverty, homelessness, affordable housing, transportation, education, crime, safety, recreation, and economic development. Each must do so with recognition of its place in the wider regional, national, and global contexts. The urban studies immersion helps students identify and analyze such fundamental issues and allows them to explore and assess various ways policy-makers respond to those issues. This immersion is closed to students majoring in sociology and anthropology who have chosen the urban studies track.

COURSE	
Electives	
*Choose three of the following:**	
ANTH-235	Immigration to the U.S.
ANTH-315	Archaeology of Cities
ANTH-410	Global Cities
ECON-440	Urban Economics
SOCI-220	Minority Group Relations
SOCI-310	U.S. Housing Policy
SOCI-325	Community and Economic Development: Rochester
SOCI-330	Urban Deviance
SOCI-335	Urban Cultures
SOCI-340	Urban Planning and Policy
SOCI-345	Urban Poverty
SOCI-410	Diversity in the City
STSO-550	Sustainable Communities

* At least one course must be at the 300 level or higher.

Visual Culture

Visual culture explores the role of visual media in everyday life and its critical function in the dissemination of ideas in the public sphere. Emphasizing comparative critical approaches to the convergence of art, popular media, science, and technology, the immersion engages globalized visual media ranging from photography, television, film, new media (the Web, digital imaging, and social networks), architecture, design, and art (painting, sculpture, and multimedia forms) in the context of such social arenas as art, news, science, advertising, and popular culture. The goal is to help students develop media literacy. This immersion is closed to students majoring in museum studies.

COURSE	
Electives	
Choose three of the following:	
FNRT-206	Queer Looks
FNRT-220	Introduction to Museums and Collecting
FNRT-352	Historic Photographic Processes
FNRT-353	History and Theory of Exhibitions
FNRT-370	American Painting
FNRT-371	African American Painting
FNRT-372	American Film of the Studio Era
FNRT-373	American Film Since the Sixties
FNRT-374	Art in the Age of the New Deal
FNRT-375	Women/Gender/Art
FNRT-376	Visual Culture Theory
FNRT-377	Imag(in)ing Rochester
FNRT-378	Memory, Memorials, Monuments
FNRT-383	Traumatic Images
FNRT-384	Art of Dying
FNRT-440	Deaf Art and Cinema

Women's and Gender Studies

Deborah Blizzard, Immersion Adviser
(585) 475-2510, dlbgsh@rit.edu

This immersion provides an introduction to women's and gender studies. It considers the concept of patriarchy, its dominance throughout time, and the multitude of efforts by women and men to conceptualize an alternative worldview. The immersion examines the key historical patriarchal and feminist texts, studies the rise of feminist thought, and explores the history of women's activism and women's rights over time.

COURSE	
Electives	
Choose three of the following:	
ANTH-325	Bodies and Culture
WGST-200	Foundations in Women's and Gender Studies
WGST-206/FNRT-206	Queer Looks
WGST-210	Introduction to LGBT Studies
WGST-235/SOCI-235	Women, Work, Culture
WGST-237/PSYC-237	Psychology of Gender
WGST-245/CRIM-245	Prostitution and Vice
WGST-246/STSO-246	History of Women in Science and Engineering
WGST-250/CRIM-250	Domestic Violence
WGST-255/CRIM-255	Seminar on Sexual Violence
WGST-265/CRIM-265	Women and Crime
WGST-309/PHIL-309	Feminist Theory
WGST-335/HIST-335	Women and the Deaf Community
WGST-342/STSO-342	Gender, Science, and Technology
WGST-351/MLSP-351	Gender and Sexuality in Hispanic Studies
WGST-361	Queering Gender
WGST-375/FNRT-375	Women/Gender/Art
WGST-384/FNRT-384	Art of Dying
WGST-386/FNRT-386	Traumatic Images
WGST-414/ENGL-414	Topics in WGST
WGST-451/ECON-451	Economics of Women and the Family

Writing and Rhetoric

The writing and rhetoric immersion is ideal for students interested in reading a variety of genres and writing for a variety of audiences. Genres covered include science writing, creative non-fiction, worlds of writing, and written argument.

COURSE	
Electives	
Choose three of the following:	
ENGL-462	Worlds of Writing
ENGL-442	Creative Nonfiction Workshop
ENGL-381	Science Writing
ENGL-360	Written Argument
ENGL-463	Writing the Self and Others
ENGL-480	Rhetoric of Science
ENGL-211	Introduction to Creative Writing

Academic Enrichment

Accelerated dual degree/4+1 options

RIT offers a number of dual degree and 4+1 options that allow students to obtain a bachelor's degree and a master's degree (or MBA) in less time that it would take for a student to complete both programs separately. Students should review the program content for information on these options, or speak with a academic adviser.

Cooperative Education and Career Services

rit.edu/oce
(585) 475-2301

The Office of Cooperative Education and Career Services offers a wide range of programs and services to support the career development and employment needs of all RIT students. The office offers one-on-one advising as well as job search seminars and presentations. It also provides online access to employment opportunities. Working relationships with thousands of employing organizations can help graduate students develop their individual job search plans. Graduate students are encouraged to meet with their assigned program coordinator in the Office of Cooperative Education and Career Services early to begin their career planning. Information is available through the office website at rit.edu/oce, or by visiting the office on the first floor of the Bausch & Lomb Center. Individual appointments may be made by calling (585) 475-2301.

Double majors

RIT encourages students to enhance their degree programs by enrolling in a double major. A double major is any combination of majors from RIT's more than 200 academic programs. Students can combine any number of programs to create a double major that best meets their academic and professional goals. Some guidelines apply to the creation of a double major:

- Double majors are available only to matriculated baccalaureate students.
- Both degree programs must be of the same type (i.e., both BS degrees or both BFA degrees).
- Both majors in a double major degree must be in existing approved degree programs.
- Students must meet the entrance criteria for both programs.
- A double major degree requires the approval of the heads of both degree programs, who will take into consideration issues such as potential scheduling conflicts.
- A double major degree must satisfy the graduation and accreditation requirements for both degree programs.
- The double major will be the same type as the two component majors. It is possible to use a single requirement to meet the needs of both majors; double counting is allowed as long as the department heads of both degree programs approve it.
- In cases where the two majors do not have 28 unique and non-overlapping credit hours, students must take enough additional course credits in either or both majors to meet the 28-credit minimum.
- Curriculum requirements for the double major will be developed by the appropriate personnel of the two degree programs and approved by the department heads of both degree programs.
- Department heads approving the double major are responsible for forwarding the *Undergraduate Double Major Authorization Form* to the vice president for Academic Affairs, who will validate that all criteria for the double majors have been met.

Experiential learning

rit.edu/oce
(585) 475-2301 (voice), (585) 475-6905 (TTY)

At RIT, students earn an outstanding education. But to prepare them for the challenges they will face on the job, RIT offers experiential education that helps make course work and projects more relevant to industry.

Experiential education may include:

- joining a team solving business problems through industry-sponsored, class-based projects.
- working with a faculty member on an externally funded research project.
- study or work abroad.
- gaining valuable work experience through internships and cooperative education—paid work assignments with corporations and organizations around the U.S. and abroad.

Fellowships

rit.edu/fellowships
(585) 475-4466

All students and alumni with excellent academic records can apply for a competitive fellowship or scholarship. These outside awards fund undergraduate and graduate study in the U.S. or abroad. Some of the prestigious fellowships that students and alumni can apply for include the Fulbright Fellowship, the NSEP Boren Fellowship, Freeman Asia, Rhodes, Gilman, and many more. The Fellowships office assists in identifying the best program for each individual applicant and provides guidance throughout the application and selection processes.

Honors program

rit.edu/honors
(585) 475-4511

The RIT Honors Program provides a supportive and encouraging environment for high achieving students with academic distinction. Students benefit by working closely with faculty, and by sharing academic experiences with other Honors students, both in and out of the classroom.

The Honors Program centers on three basic ideals of leadership, scholarship, and citizenship, and is designed for students who:

- seek to challenge themselves in exemplary learning experiences such as undergraduate research projects, honors seminars, and study abroad;
- wish to extend and share their knowledge through participation in professional associations and conferences; and
- aspire to join other outstanding students and faculty in a wide range of experiential activities throughout the year, including field trips, social events, and community service projects.

Honors activities and courses enhance the professional dimension of the student's collegiate experience. Major components of the Honors Program include professional development opportunities within the student's home college, enhanced general education courses, and complementary learning experiences. Special features include:

- An Honors curriculum: Special courses, seminars, projects, and advising are offered in the student's home college and in general education honors courses within the College of Liberal Arts and the College of Science.
- Research and experiential learning: The Honors Program provides opportunities to work with faculty on applied and interdisciplinary research projects.
- Honors advising: Each college has designated an experienced faculty or staff member to serve as its Honors advocate. The advocate works with students on an individual basis, advising students as they develop plans for professional and experiential learning opportunities such as research placements, co-ops, internships, and study abroad.
- Study abroad: Honors students are encouraged to pursue study abroad to add an international dimension to their education. Honors students work with the director of the Study Abroad Program for guidance on how to include such experiences in their academic career
- Honors residence: Honors students are assigned to Gibson Hall, the Honors residence hall. Living in Honors housing increases interaction with other Honors students, in addition to the classroom experience. Students can also opt out of Gibson Hall and select to live in a different residence hall

Requirements: Students in the Honors Program enroll in honors courses and engage in other academic experiences such as research and study abroad to meet the Honors requirements. Students are expected to participate in co-curricular activities within their college. Honors students are required to complete complementary learning experiences annually. All students who wish to continue in the program are reviewed annually. Program continuation is subject to maintaining grade-point averages and other requirements.

Admission: Applicants who submit RIT's Application for Undergraduate Admission (or the Common Application) by February 1 may be invited to the Honors Program if their high school grades, rank, and test scores place them among the top 5 percent of the applicants to the university. This typically requires outstanding grades and SAT or ACT scores, and a class rank of 95 percent or higher. Late entry into the Honors Program is also possible after the first semester at RIT.

Scholarship availability: Students enrolled in the RIT Honors Program receive significant academic (merit) scholarships from RIT.

Independent study

An independent study project is a program of study, research work, or creative work executed under a specific set of rules without classroom-type assistance from an instructor, but under the guidance and direction of an instructor, which would earn for the student a predetermined number of credits. Students have a limited opportunity to obtain credit for independent study and to use that credit to meet degree requirements. Generally, independent study projects represent work that is different from, or an extension of, existing course offerings. The rules governing independent study projects can be found in section D3.O of the RIT Policies and Procedures Manual.

Rochester Area College course work agreement

RIT is a member of the Rochester Area College (RAC) consortium. These colleges have instituted a cooperative program that provides undergraduate students the opportunity to register at a member college without additional tuition charges.

The following Rochester area institutions of higher education are consortium members:

- Alfred University
- Colgate Rochester Crozer Divinity School
- Empire State College
- Finger Lakes Community College
- Genesee Community College
- Hobart & William Smith Colleges
- Keuka College
- Monroe Community College
- Nazareth College of Rochester
- Roberts Wesleyan College
- Rochester Institute of Technology
- St. Bernard's Institute
- St. John Fisher College
- State University College at Alfred
- State University College at Brockport
- State University College at Geneseo
- University of Rochester

Students must meet the following criteria in order to enroll as an intercollegiate student:

1. The requested course is not available at the home school.
2. The student is a full-time (12 credit hours or more) matriculated undergraduate student at his or her home school throughout the duration of the requested course.
3. The course is applicable to the student's undergraduate degree program.
4. Registration for the course is on a space-available basis.
5. If the requested course causes the student to assume a course overload, the additional charges will be based on the current rates of the home school during the semester in which the registration takes place.
6. Students enrolled at area colleges may register for two courses at RIT.
7. The program is not available in the summer.

Additional criteria are outlined on the intercollegiate registration form available at the Registrar's Office.

Study abroad

rit.edu/studyabroad
(585) 475-4466

To prepare students for success in our global society, RIT offers a range of study abroad opportunities. Living and studying in a foreign country goes beyond the traditional classroom setting and can provide an invaluable experience when it comes to immersing oneself in a foreign culture, experiencing a different educational environment, and gaining interpersonal and foreign language skills that could be of interest to future employers.

With over 400 programs in 50 countries, there is usually a study abroad program for students of every major. RIT offers four types of study abroad programs: Gateways, Global Campuses, Faculty-led and Affiliate.

- Gateways are customized RIT programs that feature a partner host university and are usually major specific.
- Global Campus Programs allow students to directly enroll in one of RIT's international campuses: RIT Croatia (Dubrovnik or Zagreb); RIT Dubai, located in the United Arab Emirates; or the American University in Kosovo, in Pristina, Kosovo. These locations follow the same academic calendar as RIT and students have the option of enrolling for a semester, summer, intersession or academic year. Classes are in session year round, but course offerings will vary depending on the campus and semester.
- Affiliate Programs are facilitated by outside universities and organizations to enhance the variety of locations and course offerings available to students.

Undergraduate research

www.rit.edu/research/undergrad.php

Research is about solving problems, and RIT recognizes that many careers require strong research skills. RIT provides a wide variety of undergraduate research opportunities—from working on research projects sponsored by business, industry, a government agency, or RIT; to an original research project in collaboration with a faculty member; to facilitating applied scientific, engineering, or market research in a corporate or industrial setting, or as part of the RIT co-op or internship programs; plus a host of other options.

A number of RIT programs offer exciting opportunities for students to engage in undergraduate research. Examples of these opportunities include:

- *The Simone Center for Student Innovation and Entrepreneurship*: Promoting entrepreneurial and innovation endeavors, the center offers student-applied experiences, such as coaching and mentoring for student startup projects, for-credit opportunities to startup and innovation activities, idea-generation labs, business model competitions, conferences, a minor in entrepreneurship (in association with Saunders College of Business); and various courses in innovation and business creativity. It also offers unique problem-solving opportunities with local organizations in which multidisciplinary teams solve, brainstorm and realize solutions.
- *Biological Sciences Research Scholars Program*: A substantial hands-on experience where students execute their own high-quality research projects under the guidance of faculty mentors. Students gain valuable research experience, write papers discussing their work, present their findings, and participate in discussion and lecture series.
- *Chemistry Research Scholars Program*: Intended for students to engage in a three-semester undergraduate research experience in chemistry, the program recognizes students who design and execute high-quality research projects under the guidance of their selected faculty mentor. Exceptional work is accepted for publication in peer-reviewed journals under the co-authorship of the student and faculty mentor. Participants also take part in discussions and lectures, earn opportunities to travel to conferences where they present their findings.
- *Economics Undergraduate Research:* The Economics Department encourages its undergraduate students to undertake both independent and collaborative research projects. Some projects, co-authored by RIT Economics undergraduate students and faculty, are published in peer-reviewed economics research journals.
- *Undergraduate Research and Mentoring for Deaf Students in Biology*: Designed to increase the number of deaf and hard-of-hearing students performing undergraduate research in biology, the research and mentoring program features a two-year research project, seminars, and prep work that strengthens students' candidacy for graduate programs in biology.
- *Open Publishing Lab*: Based in the School of Media Sciences, the lab offers a place for students and faculty to collaborate on creating the next generation of publishing platforms.
- *National Science Foundation* – Research Experience for Undergraduates (REU) programs currently under way include Imaging in the Physical Sciences led by Dr. Stefi Baum, director and professor, Chester F. Carlson Center for Imaging Science; and External Graph Theory and Dynamical Systems led by Dr. Darren Narayan, professor in the School of Mathematical Sciences and director of Undergraduate Research for the College of Science.

As a culmination of the undergraduate research experience, each August RIT hosts the Undergraduate Research Symposium that honors RIT student research achievements. This event includes more than 100 presentations from across campus by undergraduate students who have conducted research with faculty members during the previous year.

Academic Policies and Procedures

RIT's educational mission is to prepare men and women for living and working in a democratic and technological society by offering curricula that meet those needs within an educational community that supports and encourages individual achievement in an atmosphere of pluralism and diversity. Moreover, RIT sets high standards that challenge students to develop values that will enhance their lives professionally and enable them to contribute constructively to society.

Academic advising

Academic advising is an integral part of a student's education at RIT. Advising is provided through the student's home department. Please consult the individual college sections of this bulletin for specific information.

Confidentiality of student records

In accordance with the Family Education Rights and Privacy Act of 1974 (commonly known as the Buckley Amendment), RIT students have the right to inspect, review, and challenge the accuracy of their official educational records. Students are also accorded the right to receive a formal hearing if dissatisfied with responses to questions regarding the content of the record.

RIT policy ensures that only proper use is made of such records. Therefore, with the exception of copies made for internal use (those provided to faculty and staff who have a legitimate need to know their contents), in most cases no copy of a student's academic record (transcript) or other nonpublic information from student records will be released to anyone without the student's written authorization. The determination of those who have a "legitimate need to know" (e.g., academic advisers, government officials with lawful subpoenas, etc.) will be made by the person responsible for the maintenance of the record. This determination will be made carefully, in order to respect the student whose record is involved. If an employer, for example, requests a transcript, he or she will have to obtain a written request from the student or former student.

The **Buckley Amendment** allows RIT to declare certain pieces of information as "directory" and therefore releasable without the specific permission of a student. Such "directory information" could include a student's name, date and place of birth, major field of study, participation records in official RIT activities and sports, weight and height of a member of an athletic team, dates of attendance at RIT, and degrees and awards received. Students may make written request of the Office of the Registrar that such directory information not be released. Because requests for nondisclosure will be honored by RIT for only one year, requests to withhold such information must be submitted to the Office of the Registrar annually.

Copies of the full act and RIT's written policies relating to compliance with the law are on file in the Office of the Registrar. Also available is information regarding a student's right to file a complaint with the U.S. Department of Education concerning the alleged failure of RIT to comply with the requirements for this act.

Transcripts

A student's official academic record is maintained by the RIT Office of the Registrar and is normally reflected through a transcript. All requests for transcripts must be in writing and should include the student's full name (or name used while at RIT), student identification number, dates of attendance, and signature to assure proper identification of the record requested. Transcripts are usually prepared and available within one week after the request is received.

Under no circumstances will a partial transcript be issued, nor will a transcript be issued to a student who is indebted to RIT. Transcripts from high schools and universities that have been received in support of admission applications and/or transfer credit evaluation will not be reissued by RIT.

Transfer credit

Transfer credit at the undergraduate level will usually be granted for those courses completed with a grade of C or better in other regionally accredited colleges or universities and specific armed services course work that parallels courses in the program (including options, if any) for which the student is applying or is currently enrolled. However, if the program (or option) that the student finally chooses to pursue does not include any or all of the courses evaluated, they will not be credited toward requirements for a degree. RIT students who wish to take courses at other accredited institutions and receive transfer credit toward their RIT degree need to secure the prior written approval of the adviser(s) of the RIT college(s) concerned in order to assure appropriateness of the course content and course level for those courses.

Deaf and hard-of-hearing students may transfer into an NTID program, or they may qualify for transfer directly into a program in another RIT college with NTID sponsorship. The transfer credit of deaf students accepted to NTID's Summer Vestibule Program will be evaluated in the fall when they are accepted into a specific program.

Credit by exam: RIT grants credit for satisfactory scores on examinations covering objectives and contents parallel to the RIT courses for which students seek credit. Usually these are Advanced Placement (AP), International Baccalaureate (IB), College-Level Examination Program (CLEP), New York state proficiency examinations, or RIT-prepared examinations.

Advanced placement: Many students earn advanced standing through Advanced Placement (AP) examinations. **The minimum required score and the manner in which credits are applied depend upon a student's exam score and choice of academic program.** No credit is awarded for scores of 1 or 2 on AP exams. Advanced Placement credits may be applied in fulfillment of general education, program requirements, and/or minor

requirements. Students may need to complete additional course work in order to fulfill all specific program requirements. Students should consult with their adviser for additional details. The policy covering the awarding of credit for Advanced Placement examinations is reviewed annually and may be subject to change.

International baccalaureate: Many students earn advanced standing through International Baccalaureate (IB) examinations. **The minimum required score and the manner in which credits are applied depend upon a student's exam score and choice of academic program**. International Baccalaureate credits may be applied in fulfillment of general education, program requirements, and/or minor requirements. Students may need to complete additional course work in order to fulfill all specific program requirements. Students should consult with their adviser for additional details. The policy covering the awarding of credit for International Baccalaureate examinations is reviewed annually and may be subject to change.

College Level Examination Program: The College Level Examination Program (CLEP) is a nationwide system of credit by examination offered by the College Board. Any person entering college, presently attending college, or out of college may take CLEP examinations and seek credit by submitting the test results to RIT for evaluation. Credit recommendations for CLEP vary depending on the subject and examination results. CLEP examinations are offered through the RIT Counseling Center.

The grading system

RIT uses a single-letter grading system. All grades are determined and issued by the faculty in accordance with the RIT Institute Policies and Procedures Manual and the particular standards of the attempted courses. Individual instructors have an obligation to carefully describe the standards and grading practices of each course. The accepted RIT letter grades are as follows:

A	Excellent	I	Incomplete*
B	Good	R	Registered†
C	Satisfactory	S	Satisfactory†
D	Minimum Passing	W	Withdrawn
F	Failure	X	Credit by Exam
		AU	Audit

*I grades are considered temporary and will revert to a grade F unless changed by the faculty within a prescribed period of time.

†R and S grades are restricted to specific types of courses.

For more specific descriptions and procedures concerning the above, see Section D5.0, Institute Policies and Procedures Manual. The manual is available online at rit.edu/policies.

Course registration

To be officially registered at RIT, a student must be academically eligible, have been properly enrolled in a course, and have made the appropriate financial commitment. The registration process is uncomplicated and can be accomplished in a variety of ways. Typically, students start selecting courses six to eight weeks before the academic term begins and can register online or in person at their home department or the Registrar's office. The registration period ends on the seventh calendar day (excluding Sundays and holidays) of the full fall, spring and summer terms. . These first seven days (excluding Sundays and holidays) of the term are typically known as the Add/Drop period. Specific dates and procedures can be found in the annual Enrollment Guide. RIT reserves the right to alter any of its courses at any time.

Students at RIT are free to choose their own courses and course loads. Colleges offering the courses are equally free to restrict enrollment to particular groups of students (for example, students in specific year groups or students who have already satisfied course prerequisites). Most courses also are restricted in class size. Students are strongly encouraged to seek out academic advice and plan their academic careers carefully.

Failure to make appropriate financial commitment, satisfy New York state health immunization requirements, or fulfill course prerequisites can result in the loss of courses for which a student has registered and/or prohibition of future registrations.

Auditing courses

Courses that are taken on an audit basis will not count toward a student's residency requirement. They may not be used to repeat a course taken previously and do not satisfy degree requirements. Permission to audit a course is granted only by the college offering that course. Any changes in registration between credit and audit must be completed prior to the end of the add/drop period.

Withdrawal from courses

A student may withdraw from a course up to the end of the twelfth week of the fall and spring semesters. A grade of W will be assigned and the course retained on the student's permanent academic record. Under exceptional situations, a dean may approve a course withdrawal following the twelfth week. In all other academic sessions and for courses offered in time frames different from the standard semesters (fall and spring), course withdrawal is available upon the student's request until 80 percent of the session or course, as determined by the Registrar's Office, has been completed. For policies pertaining to withdrawal from the university and tuition refund please refer to the Costs section of this bulletin.

Dean's List eligibility

Degree-seeking students who earn at least 12 credit hours in an academic term, have a grade-point average of 3.40 or better, have not been placed on probation due to a low cumulative grade-point average, and do not have any grades of I, D, or F in that term are eligible for selection to the Dean's List of their college.

Students who are pursuing their degree on a part-time basis are assessed for Dean's List consideration based on course work completed throughout the academic year (fall, intersession, spring, summer). Criteria for part-time students are essentially the same as those for full-time students. However, at least 9 credit hours must be earned during the academic year.

Academic probation and suspension

All degree-seeking students at RIT are expected to meet or exceed certain minimal academic standards. Failure to do so will result in being placed on academic probation or suspension. All such actions are taken by the college at the end of each term; once the action is made, it may be changed or revoked only by a dean.

The RIT educational policy governing probation and suspension is specific (see the RIT Institute Policies and Procedures, Section D5.0). Two grade-point averages (GPAs) are calculated and used in probation/suspension decisions:

University Term GPA: grade average of all courses taken in a term that are applicable to a student's degree requirements.

University Cumulative GPA: grade average of all course work taken as either an undergraduate or graduate student at RIT.

Academic probation

A student will be placed on probation if his or her term or cumulative grade-point average falls below 2.0* (a C average). A student placed on probation is expected to sufficiently raise their GPA in the succeeding term so that the probationary status can be removed

Academic suspension

- Any student who is on probation, as given above, and who is not removed from probation in the two succeeding terms (including summer session) in which credit is earned will be suspended from RIT for a period of one calendar year.
- Any student who has been placed on probation after having been removed from probation and whose cumulative grade-point average is below 2.0* will be suspended. Any student who has been placed on probation after having been removed from probation and whose cumulative grade-point average is 2.0* or above will be granted one term to be removed from probation before suspension.
- Any student whose term grade-point average falls below 1.00 will be suspended for a period of one calendar year.
- Students who have been readmitted to their original program after having been suspended and then qualify for probation will be suspended. A suspended student cannot enroll in any credit or non-credit course at the university while on suspension.

Suspended students generally must wait at least one year before reapplying for admission into an RIT degree program. While suspended, a student may not enroll in any RIT course work, unless the suspension is waived by an academic dean. Then he or she may be limited to taking courses on a nonmatriculated basis.

*The physician assistant program requires a 2.8 grade-point average.

Class attendance

Students are expected to fulfill the attendance requirements of their individual classes. Absences, for whatever reason, do not relieve students from responsibility for the normal requirements of the course. In particular, it is the student's responsibility to make individual arrangements prior to missing class. Attendance at class meetings on Saturdays or at times other than those regularly scheduled may be required.

Student retention

RIT's graduation rate for freshmen seeking bachelor's degrees is 66 percent. Additionally, 88 percent of first-time, full-time freshmen register for their second year (source: IPEDS 2010 Enrollment and Graduation Rate Surveys).

Student Services

Academic Support Center

rit.edu/asc
(585) 475-6682

The mission of the Academic Support Center at RIT is to assist and empower students to achieve academic success.

The ASC offers a variety of initiatives and services to students, faculty, and staff. ASC Student Support Specialists work directly with students and are available for consultation and partnerships with university partners to develop a plan of support for students' academic efforts, enhancing the academic experience, and for students facing probation or suspension.

ASC Services

Academic Coaching: A free service introduces students to more effective learning and study strategies. Students work one-on-one with a student support specialist to enhance time management and study habits as well as learn of important resources on campus. Academic coaching utilizes an individualized approach, helping students identify academic strengths and strategies that will aid in learning.

Academic Success Workshop Series: The Academic Success Workshop Series focuses on topics such as time management, lecture note-taking, text reading and test preparation. All workshops are free to RIT students, faculty, and staff.

EMPOWER (formerly Structured Monitoring): This fee-based service provides students regularly scheduled coaching with an assigned mentor. EMPOWER addresses organizational skills, study strategies, and advocacy skills. The goal is to encourage students to be academically successful through the engagement in opportunities that will build academic independence.

Math Assessment: A thorough evaluation of math skills and study strategies is available for students who struggle in a math or math-related course. It is also appropriate for those students who are returning to a math course after at least one term of non-enrollment. Results are immediately evaluated and, together, an appropriate course of action is developed.

Math Survey/Prerequisite Skills: This survey exam assesses the student's current skills and abilities in mathematics. Results of the survey may assist in recommendations for additional support services.

Math/Physics Study Centers (Bates and Sol Heumann): Located in Gosnell 1200 and Sol Heumann Residence Hall, room 1016, these study centers are staffed by peer tutors trained to assist with math and physics.

Reading Support: Reading services offered include: reading assessment and evaluation, informal reading inventories, and strategies to improve vocabulary, comprehension, and textbook reading for college material.

Supplemental Instruction: This initiative focuses on first-year students. Supplemental instruction offers a series of weekly study sessions open to students enrolled in supported sections of historically difficult courses. These voluntary study sessions are planned and facilitated by an undergraduate student leader who has recently and successfully completed the course.

Tutor Training: Tutors, TAs, lab assistants and other academic peer leaders from across the university can develop skills and confidence in an on-going training program that includes tutor orientations, how-to workshops and other opportunities for professional skill enhancement.

ASC Courses

ACSC-010 **YearOne**

The YearOne course serves as an interdisciplinary catalyst for first-year students to access campus resources, services and opportunities that promote self-knowledge, leadership development, social responsibility and life skills awareness and application. YearOne is also designed to challenge and encourage first-year students to get to know one another, build friendships and become an integral part of the campus community. (ASCS-010) **Credit 0 (F)**

ACSC-061 **Applied Study Strategies**

This hands-on course is designed for students who are in good academic standing and interested in further developing their abilities in the specific areas of study skills and time management. Students enrolled in this course will gain a greater understanding of the learning process and will be able to identify and use strategies that meet their preferred learning style. Students will apply these strategies to their current credit courses to develop advanced proficiency as active learners. Additionally, students will receive support through individualized coaching sessions. (ASCS-061) **Credit 0 (F, S)**

ACSC-062 **Insights on Success**

This course provides students who are academically at risk or probationary an opportunity to gain foundational insight into their learning process and learn basic study strategies, how they are used, and why they are valuable. Through individualized coaching, journal writing, and presentation, students will set and monitor goals, reflect on their learning process and source(s) of motivation. Students will report progress on organization, time management, and study skills. Discussion topics include the 10 scales found within the Learning and Study Strategies Inventory (LASSI). (ASCS-062) **Credit 0 (F, S)**

ACSC-063 **Study Strategies Lab**

This hands-on course is designed for students interested in maintaining their study strategies and organizational skills with regular support and feedback from an instructor. Sessions will consist of a brief overview of a study strategy topic followed by time for students to study for their current courses. Topics include textbooks and lecture notes, creating and using study aids, test preparation, time management techniques, organizational tools, and test taking/test anxiety strategies. (ASCS-063) **Credit 0 (F, S)**

ACSC-072 Critical Math Skills
This course is offered to RIT students who wish to strengthen their math skills before enrolling in or while taking an RIT credit math course. The class consists of a self-review or remediation of pre-requisite math concepts with which students may find themselves struggling. A customized list of review topics called a Study Plan will be created based on an initial math assessment that focuses on basic algebra, trigonometry, precalculus and introductory calculus. An instructor is present to enhance students' math study skills as well as deepen their understanding of math concepts. This course requires meeting with a student support specialist in the Academic Support Center prior to enrollment. Please contact the ASC for additional details. (ASCS-072) **Credit 0 (F, S)**

Center for Orientation and Transition

rit.edu/orientation
(585) 475-7995 (voice/TTY)

The Center for Orientation and Transition provides all entering students and their families with programs designed to prepare them for a successful transition and adjustment to college life and welcome them to the RIT community. Our programs provide the opportunity to:

- meet the faculty and dean of the student's college,
- address the academic and social issues involved in beginning college or transferring from one college to another,
- learn about academic programs and requirements,
- identify appropriate campus resources to meet individual needs,
- understand the family's role in promoting student achievement and success, and
- make connections with faculty, staff, upperclass students, and peers.

Our fall and spring orientation programs are offered prior to the start of classes. The first-year student program in the fall lasts five days, and attendance is required. Transfer students participate in a program that mirrors the first- year program and is designed to meet their unique needs. Spring Welcome is offered for all spring beginners just prior to the start of the spring semester.

Additionally, the center offers a series of optional pre-orientation programs called DiscoveRIT. For more information, visit www.rit.edu/discoverit.

Cooperative Education and Career Services

rit.edu/oce
(585) 475-2301 (voice), (585) 475-6905 (TTY)

The Office of Cooperative Education and Career Services supports the university's career focus by providing effective, high-quality services to all students and alumni.

Among the many experiential education opportunities offered, the university is best known for its cooperative education program. Initiated in 1912, the program is one of the oldest and largest in the world. Nearly 2,000 employing organizations across the country and around the world participate annually, hiring more than 3,500 students. Co-op significantly enriches students' education, providing them with the opportunity to integrate the practical experience gained through co-op with classroom and lab study.

Key student services include the following:

Individual advisement: Coordinators support specific academic units and are available to meet on a one-to-one basis with students and alumni on career development and employment. These sessions are critical in developing individual job search plans and addressing questions and issues that arise during the job search process. Coordinators are available by appointment or on a walk-in basis.

Deaf and hard-of-hearing bachelor's-level students may work with the staff of the NTID Center on Employment in addition to coordinators in the Co-op and Career Services office.

Workshops/information sessions: The office prepares co-op and graduating students for their job search through courses, workshops, and orientations. Topics include resume writing, cover letter writing, effective job search strategies, interviewing techniques, professional dress and etiquette, on-the-job success, and more.

Career and employment resources: The office and its website are both resources for informational material and useful employment and career development services. In addition, students have access to CareerSearch and Vault Career Insider Guides, two online subscription databases.

Job postings/interview opportunities: The office works hard to maintain and expand working relationships with employers in order to develop employment opportunities for all students and alumni. Through career fairs, on-campus employer interviewing programs, and specific job postings, students have access to job openings through the office website, where they can store their resumes, search a database of employment opportunities, and apply to positions online.

Work abroad program: The office is constantly establishing partnerships to assist students in obtaining meaningful work experiences overseas—many of those experiences for co-op credit. Students last year worked abroad in more than 35 countries.

Graduate school advising: Information and personalized advising on selecting and applying to graduate schools is available through the office, with dedicated services and staff to assist in the process.

Mentor program: The Career Mentoring Program is a joint initiative of the offices of Cooperative Education and Career Services and Alumni Relations. Through the program, alumni and friends volunteer to mentor current students in the areas of career exploration and information.

Ongoing communication: The office communicates regularly with students through e-newsletters, list-serves, e-mails, and a customized student website portal.

Counseling Center

rit.edu/counseling
(585) 475-2261

University life can be one of excitement and self-discovery. At the same time, it can generate academic, emotional, personal, social, and even financial concerns. At times these concerns can make it difficult to succeed or function while at school.

Counseling is an excellent way to address such issues, to learn more about yourself and others, and to develop new life skills.

The center's staff of professional counselors and psychologists is committed to supporting your academic and personal success.

Counselors work with students in a comprehensive group counseling program and with selected students individually on concerns ranging from the everyday challenges of university life to more severe and disruptive psychological issues. All services provided by the center are free to eligible students. Counselors fluent in American Sign Language are avail- able for deaf and hard-of-hearing students.

Common concerns shared by students include:

- Academic performance
- Anxiety or stress
- Depression
- Feeling overwhelmed
- Self-esteem
- Family, friend, and partner relationships
- Eating and body image concerns
- Loss of an important relationship
- Illness or death of a loved one
- Out-of-control feelings
- Sexual orientation
- Sexual assault and violence
- Race, ethnicity, nationality, or other cultural identity
- Gender identity
- Suicidal feelings

Location: The Counseling Center is located in the August Center, immediately above the Student Health Service.

Hours:

Monday – Friday: 8:30 a.m. – 4:30 p.m.

Wednesday evenings – by appointment only

Mental health emergencies: If the emergency is life threatening, call 911 or go to the nearest emergency room. For emergencies during business hours (8:30 a.m. – 4:30 p.m.), call (585) 475-2261 or come to the center and identify the situation as an emergency. If you or someone else is in physical danger, call Public Safety at (585) 475-3333. Do not use e-mail in an emergency situation. For after-hours emergencies, contact Public Safety or Life Line (585) 275-5151, a confidential Rochester hotline.

Confidentiality: All counseling services are confidential and free to eligible students.

Making an initial appointment: Scheduling an intake appointment is easy. Simply call (585) 475-2261 or stop by the center.

Disability Services

rit.edu/disabilityservices
(585) 475-2023

RIT is committed to providing students with disabilities equal access to programs, services, and physical facilities, and to fostering an environment where all community members are welcomed, valued, and respected.

Students who would like to request accommodation due to a disability should submit a "Request for Accommodations" form and appropriate documentation of the disability to the Disability Services Office. The request form can be found online by visiting the Disability Services Office.

The director will review a student's request for accommodation and supporting documentation and recommend appropriate and reasonable accommodations as needed.

Diversity at RIT

rit.edu/diversity
(585) 475-6546

The Office for Diversity and Inclusion serves as a vital resource to develop and implement campus-wide initiatives and programs to promote diversity and inclusive excellence to students, faculty, and staff. Through various programs and special projects, the office continues to foster relationships between RIT and the greater Rochester community. The office is committed to the development of diversity education and monitors the areas that target diverse populations across the university.

Multicultural Center for Academic Success

www.rit.edu/mcas
(585) 475-4704

The Multicultural Center for Academic Success serves all students regardless of their ethnic background. Its mission is to aid in the retention and graduation of African American, Latin American, and Native American students. MCAS offers programs that focus on academic excellence, mentoring, community development, leadership, and professional success. MCAS also offers a variety of professional development events, cultural heritage months, celebrations of diversity, and partnerships with student clubs and organizations to help students connect with the RIT community and establish a positive sense of campus life that celebrates RIT's cultural diversity.

McNair Scholars Program

rit.edu/mcnair
(585) 475-7611

The Ronald E. McNair Post-baccalaureate Achievement Program serves a diverse group of talented second- and third-year students who are interested in pursuing post-baccalaureate education. The program provides enriching scholastic experience that prepares eligible scholars for graduate education, with an emphasis on doctoral studies. This preparation includes research experience, the presentation of research at local and regional symposiums, and graduate school seminars and workshops.

Future Stewards Program

rit.edu/futurestewards
(585) 475-4982

The Future Stewards Program was established to increase the success rate and number of Native scholars (Native American, Alaska Native, and First Nations) in science, technology, engineering, and math disciplines, along with other areas of need in Indian society. The program partners with students and Tribal nations, organizations, and corporations to create opportunities for Native scholars to develop professionally, personally, and culturally. The program is dedicated to helping Native scholars succeed by recruiting, retaining, and returning scholars to the Tribal community upon graduation.

English Language Center

rit.edu/elc
(585) 475-6684 (voice/TTY)

Academic English

The ELC offers advanced courses in English to prepare international students for academic reading and writing at the university level. Specialized courses are offered for Graduate students. Depending on their TOEFL or IELTS scores, international students may be required (by Admissions or their department) to take a battery of English language assessments upon arrival. Based on the results, students may be required to enroll in English courses to meet their language needs. Course grades appear on transcripts, however, courses do not bear academic credit.

For non-degree and provisionally admitted students

For full-time English language students, the intensive English language program consists of 20-to-25-hours of classroom instruction per week at six proficiency levels (from basic to advanced). The program prepares students for academic study in English and also assists in helping students acclimate to life in the U.S. The intensive program meets the immigration requirements for the Certificate of Eligibility I-20 for F-1 student status.

Global Connections

Every semester, the ELC offers events to connect its students with others on campus and in the community. These include weekly activities and events with other RIT student and Rochester community groups. The Conversation Partner program sets up one-on-one or small group experiences for students of different linguistic and cultural backgrounds. Students learn from one another while speaking in English.

Financial Aid and Scholarships

rit.edu/financialaid

The Office of Financial Aid and Scholarships assists students and their families in identifying sources of financial aid to help meet the cost of a quality education. Currently, more than 13,000 undergraduate and graduate students receive over $291 million in financial assistance from federal, state, and institutional resources in the form of scholarships, grants, loans, and part-time employment. For more information on financial aid, scholarships, grants, and loans, please see the Financial Aid and Scholarships section of this bulletin.

Graduate Enrollment Services

rit.edu/grad
(585) 475-2229

The Office of Graduate Enrollment Services provides central information and counseling services for students interested in enrolling in graduate degree programs offered through RIT's various schools and colleges. Contact the office for assistance in selecting an academic program, exploring financial aid opportunities, registering for classes, or receiving information about any aspect of graduate study at RIT. Staff members are available from 8:30 a.m. to 6 p.m., Monday through Thursday, and from 8:30 a.m. to 4:30 p.m. on Friday. You may also refer to the current online Graduate Bulletin.

Higher Education Opportunity Program

rit.edu/heop
(585) 475-2506 (voice/TTY)

The Arthur O. Eve Higher Education Opportunity Program (HEOP) is a New York state- and RIT-funded program that provides eligible students with financial aid and academic support. A need-based access program, HEOP is committed to the recruitment and academic success of students with strong academic potential and personal initiative who would otherwise be excluded from higher education due to circumstances of academic and economic disadvantage.

To qualify, students must meet RIT academic criteria and financial guidelines set by the New York State Education Department. In addition to meeting economic criteria, applicants must have graduated from high school or the equivalent, be a New York state resident, never have attended college previously, and not be admissible through regular RIT admissions.

Transfer students may be eligible if they have initially attended college through an HEOP, EOP, SEEK or College Discovery program in New York state. Transfer students must apply to, and be accepted by, the HEOP office, the academic department they are applying to, and the Admissions office. HEOP transfers are accepted on a space-available basis. Please contact the office to ascertain availability prior to applying.

Students accepted as freshmen must attend and pass a four-week summer preparatory program prior to fall semester entrance. During the summer program, students live on campus and attend classes designed to facilitate their entry into RIT. Further services for HEOP students include broad-based tutoring and comprehensive counseling services. In addition, office staff act as campus resources and advocates.

Information and Technology Services

rit.edu/its
(585) 475-4357

Computing and network services at RIT are provided by Information and Technology Services (ITS).

Wireless, Google Apps at RIT, and more: The campus-wide network includes high-speed wireless capabilities in all buildings on campus (except for the Riverknoll apartments and the RIT Inn & Conference Center). All RIT students are provided access to Google Apps at RIT. Included in the Google Apps at RIT suite is RIT Gmail, the home for student e-mail accounts at RIT.

A campus-wide online portal is available at my.rit.edu. Users can customize their own site on the portal with personal Web links in addition to enjoying such standard features as access to student government and RIT sporting events, University News, and the Student Information System, where individual student course information and grades are posted.

ITS, in conjunction with the Educational Technology Center, manages numerous computer labs and smart classrooms containing Windows and Macintosh workstations and printers. Most of these facilities are available to students for general computing use and to faculty for reserved class work. Lab assistants help people use the hardware and software available in the labs.

RIT computer accounts: Computer accounts are issued to students, faculty, and staff so that they can perform activities supporting educational goals and internal RIT functions. New incoming students will receive instructions for setting up their computer account upon payment of their tuition deposit. This allows new students to use their accounts, get familiar with RIT online systems, and feel more a part of the RIT community before they arrive on campus.

Computer security and safeguards: RIT's Code of Conduct for Computer and Network Use guides campus-wide use of all computers and networks. This document, found online at www.rit.edu/computerconduct, outlines RIT's official policy related to ethical use of computing and network resources. ITS put into place multiple safeguards to protect RIT's network environment and the integrity of individual user accounts. Additionally, ITS provides all students, faculty, and staff with anti-virus software free of charge.

Computer-based training: ITS, along with the Center for Professional Development, provides computer-based training modules that cover a wide variety of topics. Students, faculty, and staff can access numerous online courses in the areas of technology, e-business, and business/interpersonal skills. For more information on computer-based training, visit rit.edu/elz.

Student employment information: ITS employs more than 250 students and is one of the largest student employers at RIT. Student employment opportunities are available at the ITS HelpDesk, in Desktop Support, at colleges through Distributed Support Services, and within Technical Support and Administrative Support services. More specific information about job opportunities within ITS is available at rit.edu/its/about/student_employment. Additional information about student employment opportunities can be found at the Student Employment Office site at rit.edu/seo.

Residential Networking (Resnet): Residential Networking provides computer support to students living in residential housing at RIT. The Resnet team can assist students with connecting their computers to the RIT network, accessing campus computing resources, and troubleshooting computer software and hardware. Contact Resnet at (585) 475-2600 (voice), (585) 475-4927 (TTY), or resnet@rit.edu, or visit rit.edu/resnet.

Contacting the HelpDesk: The ITS HelpDesk is located in room 1113 of Gannett Hall. Contact HelpDesk staff via telephone/TTY, e-mail, or the Internet:

(585) 475-HELP (4357)
(585) 475-2810 (TTY)
E-mail: helpdesk@rit.edu
Online: www.rit.edu/its/help

Service hours

Fall and spring semester hours:
Monday-Thursday: 7:30 a.m. to 9 p.m.
Friday: 7:30 a.m. to 5 p.m.
Saturday-Sunday: Noon to 5 p.m.
Summer term, holidays, and breaks:
Monday-Friday: 7:30 a.m. to 5 p.m.
Saturday-Sunday: Closed

International Student Services

rit.edu/iss
(585) 475-6943 (voice/TTY)

International Student Services is the primary resource for 2,000 international students from 100 countries. ISS manages RIT's Student & Exchange Visitor Information Systems to assist students with immigration regulations, employment authorization, travel authorization, and adjustment to academic and cultural expectations in the United States. The office also provides cross-cultural programming for international students and the campus at large. The staff works closely with Global Union, several international student clubs, and International House. Off-campus programs are regularly coordinated with the Rochester Global Connections.

Leadership Institute and Community Service Center

rit.edu/lead
(585) 475-6974

The Leadership Institute and Community Service Center provides a variety of experiences for students to engage in and learn about leadership and community service. Some examples of our opportunities include: a weekend leadership adventure with ropes course, a leadership certificate program, four different leadership courses, a corporate and an RIT leadership conference, a public speaking series, an alternative spring-break program, participation in the American Heart Walk and Hillside's Special Santa drive, and volunteer connections with more than 260 agencies in the Rochester area. For more information on leadership and community service opportunities, call or contact us via the Web.

Libraries

library.rit.edu

The RIT Libraries includes the Wallace Library, the Cary Collection, the RIT Archive Collections, and the RIT museum as well as the Writing Commons and the RIT American Sign Language and Deaf Studies Community Center.

Wallace Library is a high technology, multimedia resource center. It offers hundreds of databases and thousands of electronic books and journals, as well as traditional printed resources. Online resources can be accessed onsite, or around the clock from any location. There are two open computer labs equipped with Microsoft Office, Adobe Creative Suite, and more and laptops are available for loan.

If the library does not have what you need, it can be ordered through Information Delivery Services (IDS). Millions of additional books are available via ConnectNY, a service that provides access to the collections of numerous academic libraries within New York state. The Rochester Regional Library Council's Access program allows patrons to obtain a library card that offers access to other area libraries, including the University of Rochester and the state university colleges at Geneseo and Brockport.

Each college has a subject expert available to help with student research. In-depth assistance is available by appointment. You can connect with the subject experts by phone, e-mail or instant messaging. The Scholarly Publishing Studio provides one-stop service for advice and assistance in preparing research, articles, books, and other documents for publication.

Quiet study spaces for individuals and groups are available throughout the Wallace Library. Study rooms can be reserved online via our website at library.rit.edu. Our newly renovated first floor features comfortable, flexible furniture for collaboration and relaxation, including a collaboration station for group projects.

The Cary Library is a unique collection of thousands of rare books illustrating fine printing and other materials detailing the history of printing, book design and illustration, papermaking, and other aspects of the graphic arts. The RIT Archive Collections acquires, organizes, preserves and displays materials from the university's past. It is the primary resource for studying the history of the university.

Wallace Library is open more than 120-hours-a-week, with 24/7 hours during finals week.

Margaret's House

rit.edu/margaretshouse
(585) 475-5176 (voice/TTY)

Childcare programs: Margaret's House is a state-licensed childcare center offering full-day quality care and education for children 8 weeks to 8 years of age. It includes a district-approved full-day kindergarten as well as after-school, vacation, and summer programs. The center is open to children of RIT students, faculty, and staff and to members of the greater Rochester community. Margaret's House is located on campus and is open year-round. Call for information and registration material.

- Infant and toddler programs: 8 weeks to 36 months
- Preschool programs: 3- and 4-year-olds
- Full-day kindergarten/after-school programs: 5- to 8-year-olds
- Lil' Kids on Campus summer program for children entering grades 1 through 4

NTID Resources

www.ntid.rit.edu/students/resources/academic

The National Technical Institute for the Deaf offers an array of educational and service activities for deaf and hard-of-hearing students. These activities and services include career and mental health counseling, student-life programming, and communication skills development in the form of speech-language instruction, speechreading, and listening/audiological services, as well as a state-of-the-art learning center.

NTID Learning Consortium

www.ntid.rit.edu/nlc

The NTID Learning Consortium is a partnership among RIT and NTID academic departments and educational programs. The goal is to support student success in the college curriculum. A primary resource of the Learning Consortium is the NTID Learning Center (NLC).

The NLC represents a creative combination of human, physical, and technological resources through which partnerships can be realized. Resources include:

- regular tutorial support from faculty and advanced students directly tied to discipline-specific curricula and classroom activities. Tutoring is offered in a range of disciplines, including English, math, and technical program majors. Tutorial support for students is available on a walk-in, scheduled, or assigned basis, either individually or in small groups;
- educational workshops (tied either to credit-bearing courses or independent experiences) addressing skills, knowledge, and attitudes important for success in college and beyond;
- computers supporting tutorial activities and course assignments as well as independent student work; and
- designated areas for individual and small-group tutoring and studying.

The NLC also sponsors the Sprint Relay Experimental Distance Learning/Access Demonstration Lab. The Sprint Relay Lab is an RIT-wide resource for experimenting with innovative technologies in support of remote learners. Key features of the lab include:

- focusing on both instructional activities and access strategies for deaf and hard-of-hearing learners participating in remote educational experiences;
- evaluating alternative technologies in the context of varied educational objectives, access goals, and student and teacher preferences;
- serving as a beta testing site where instructional and access technologies in support of remote learning can be developed, refined, and exported for use throughout RIT;
- providing a forum for information exchange; exploration of new instructional and access strategies; and training among teachers, students, access service providers, instructional designers and technologists, and researchers; and
- sponsoring vendor-display/consumer-testing for new products related to instructional and access technologies.

The lab includes PC workstations and wireless MacBook laptops; two side-by-side short-throw interactive projectors; a central projector/display system; a matrix router enabling versatile distribution of information to computer monitors and wall-mounted displays throughout the room; and four wall-mounted video cameras to record in various settings and configurations.

NTID Self-Instruction Lab

rit.edu/interpreting/sil

The Self-Instruction Lab supports American Sign Language and spoken language skill development. The lab serves students, faculty, and staff as well as the greater Rochester community.

Improving and maintaining ASL skills requires practice. The lab offers video resources for practicing expressive and receptive ASL skills. Learners may watch a video, meet with a tutor to practice conversing in ASL, get feedback on their homework, or record their own signing using web cams. The SIL's two private video recording rooms offer full-screen and split-screen capabilities for recording monologues and dialogues.

Communication studies and services

www.ntid.rit.edu/css

NTID strongly encourages all students to expand their communication skills to communicate with diverse audiences in educational, civic, and professional settings. Communication studies focuses on the effective expression of ideas independent of the language (ASL or English) that the student chooses to use. The communication studies and services department, the department of American Sign Language and interpreting education, and the department of cultural

and creative studies provide intensive support and instruction for the development of communication competencies needed to enhance students' professional and personal success. The faculty and staff of the communication studies program conduct assessments and provide course work, workshops, and individualized instruction. They also work in collaboration with faculty and staff across the university.

Speech and language services: Faculty and staff who work in speech and language services provide learning activities that focus on the development of a full range of communication competencies. These activities include individual speech-language assessment and instruction, speech-language lab activities that support technical vocabulary/communication and second-language learning, and individualized use of multimedia and computerized visual feedback systems. Through these activities, students can work on conversational interactions, job-related communication skills, technical and formal presentations, and job interviews.

These services are open to all RIT students and are available through individual appointments with faculty or staff or on a walk-in basis through the Spoken Language Learning and Practice Lab. This lab has individual private rooms for pronunciation practice, computers for speech and language practice and visual feedback, and stations for digital recording and playback. The faculty and staff in the department are certified by the American Speech-Language-Hearing Association.

Audiology services: The audiology faculty/staff offer a variety of services and information related to hearing aids, cochlear implants, communication strategies, telecommunications, assistive technologies, auditory training, speechreading, and job interviewing. Hearing and hearing-aid evaluations are available through the Hearing Aid Shop (Johnson Hall, room 3130). Evaluations are provided by audiologists certified by the American Speech-Language-Hearing Association and licensed through the State of New York. Faculty/staff are available daily in the Hearing Aid Shop to discuss issues related to hearing loss, tinnitus, cochlear implants, and other areas. FM systems can be loaned to students for the academic year at no cost.

Students can go to the Hearing Aid Shop to purchase hearing aid accessories, including batteries, earhooks, and earmolds, and for hearing aid or cochlear implant repairs, as well as other services. In addition, students can schedule appointments for audiology and cochlear implant clinics with faculty/staff as well as with consultant ophthalmologists and otologists in the Eye and Ear Clinic. Services are available to all students, and most are provided at no cost.

NTID Counseling and Academic Advising Services

www.ntid.rit.edu/counselingdept
(585) 475-6468 (voice/TTY)

NTID Counseling and Academic Advising Services is committed to helping students realize their full potential for a successful college experience. In pursuit of this goal, each NTID-supported associate level student is assigned a professionally trained counselor who provides a full complement of counseling, advising, assessment, advocacy, and referral services. NTID-supported bachelor level students receive all the services listed above with the exception of academic advising. This is provided by the primary academic adviser in their college. Counselors are trained in career development theory and techniques. Some hold individual certifications from the National Board for Certified Counselors. All counselors follow the guidelines for ethical standards set forth by the American Counseling Association. Counselors assist with student orientation, educational and career planning, adjustment to college life, study-skill development, access and referral to on-campus and community resources, and a wide range of personal and interpersonal concerns.

NTID Mental Health Services

(585) 475-2261/6897 (TTY)
(585) 475-3333 (after hours)

The Counseling Center provides confidential mental health counseling to all hearing, deaf, and hard-of-hearing students requesting assistance. Members of the center work closely with RIT's Student Health Center, the Center for Residence Life, the NTID Counseling and Academic Advising Services department, Public Safety, and related campus units. Some of the counselors at the center are fluent in sign language.

Some concerns that students may need help resolving include medication referral and management, depression, anxiety, family conflicts, intimate relationships, and sexual and personal identity matters. Workshops, discussion groups, and group counseling on topics such as stress management, eating disorders, managing emotions, and improving relationships also are offered.

A 24-hour emergency crisis intervention service for students experiencing mental or emotional trauma is provided in conjunction with other relevant campus units.

NTID Student Life Team

(866) 761-3896 (VP/VRS)

The Student Life Team is committed to providing quality co-curricular programs designed to help students enhance their quality of life, sense of relevancy to their studies, and overall satisfaction with and success in college. Through collaboration with other units within NTID and RIT, creative program strategies, and commitment to utilizing student paraprofessionals, the Student Life Team facilitates cultural diversity awareness, minority student support, leadership development, and exposure to deaf culture, ASL, and other communication modes. It also addresses contemporary social issues that impact college students.

NTID Wellness, Intercollegiate Athletics, and Intramural Support

rit.edu/criw
(585) 475-6104

NTID provides services that maximize access and success for deaf and hard-of-hearing students engaged in health/wellness seminar discipline courses and other programs offered by the Center for Intercollegiate Athletics and Recreation. Support services ensure that education, consultation, communication and resource opportunities are available to deaf and hard-of-hearing students taking courses, engaging in programs, or participating in athletics. Mentoring is available. Leadership and other workshops are provided for deaf athletes throughout the year. Liaison services and educational programs are provided to the center's faculty and staff, athletic teams, and student employees.

NTID Summer Vestibule Program

www.ntid.rit.edu/svp

The Summer Vestibule Program is NTID's required orientation program for new deaf and hard-of-hearing students that assists and prepares them for complex tasks; i.e., career awareness, decision making, adjustment to college life, and assessment of academic skills and competencies. During the program, students learn about the programs offered at NTID and the other RIT colleges, while faculty and staff members evaluate students' skills, abilities, and motivation. Through this process, students gain information that assists in the selection or confirmation of an appropriate program and the design of their individual academic plans.

Acceptance into SVP does not automatically guarantee admission to the program the student selects. The final decision on acceptance into a program of study for the fall semester is the responsibility of each academic department. Admission to a program depends on successfully completing SVP, having requisite skills to begin the program of study, and availability of space in that program.

During SVP, students participate in various activities, including orientation to college services and academic expectations, career sampling, career planning, and placement assessments in mathematics and English. Recreational and social activities also are part of the program.

NTID Support Service Orientation Workshops

www.ntid.rit.edu/svp/ntidbsstudents

The NTID Support Service orientation workshops are designed for deaf and hard-of-hearing students who have been accepted into an RIT bachelor's degree program. These workshops provide students with information on how to use the various NTID educational access and support services available to them, acquaint them with RIT's campus and services, and allow them to meet other new students as well as their department's chairperson and faculty members, who will assist them with fall semester class registration and support services needed throughout the year.

Parking and Transportation Services

rit.edu/facilities/pats
(585) 475-2074

To maintain order and safety, the Parking and Transportation Services department maintains parking policies that require all vehicles operated on campus by students, faculty, and staff to be registered within 10 days of arrival on campus. Students are not required to own the vehicle to register it, however, the address used to register the vehicle must be the same address where students reside while attending classes or working at RIT.

Transportation services are provided free of charge for all RIT housing residents, Park Point residents, and The Province residents via a shuttle service, which makes regularly scheduled stops to and from the academic areas on campus, housing areas, and other pertinent campus locations.

The Parking and Transportation Services office is located in Grace Watson Hall and is open Monday through Friday from 8 a.m. until 5 p.m. during the academic year. Summer hours may vary.

Bus and shuttle services: Transportation Services operates a van service for those with impaired mobility. The service runs Monday through Friday, 7 a.m. to 6 p.m., during fall and spring semesters. The transportation division also provides vans for use by student groups, clubs, and organizations.

Parking permits and vehicle registration: All vehicles operated on campus must be registered with the parking office annually. Vehicle registration decals must be properly displayed on each vehicle. Fines are imposed for those in violation of RIT parking and traffic regulations. We encourage everyone to become fully familiar with RIT parking policies and procedures, including online registration.

Handicap parking permits: RIT honors ADA-approved handicap parking permits from every state. Handicap parking permits can be obtained at local municipalities. Resident students can apply for a New York state permit at the Town of Henrietta. The RIT parking office does issue a one-week temporary handicap permit.

Part-time Enrollment Services

rit.edu/parttime
(585) 475-2229

The Office of Part-time Enrollment Services provides central information and counseling services for students interested in enrolling in part-time and online studies offered through RIT's various schools and colleges. Contact the office if you need assistance with selecting an academic program, exploring financial aid opportunities, registering for classes, or receiving information about any aspect of part-time study at RIT.

Staff members are available from 8:30 a.m. to 5 p.m., Monday through Thursday, and from 8:30 a.m. to 4:30 p.m. on Friday.

Production Services

rit.edu/production
(585) 475-7703

ETC Production Services provides non-classroom production and event support. Individual services include:

Video production services: A full range of digital standard or high-definition video services, including recording guest speakers in auditoriums, creating public relations marketing videos, producing RIT's SportsZone and SportsZone Live shows, videotaping in television studios, and editing in state-of-the-art digital post-production facilities as well as 2D and 3D animation. Finished projects can be captioned and delivered in a variety of formats, including DVD, CD, Blu-ray, podcast, Web or videotape.

Web/IT services: Multimedia and Web production services include website design and development, website updates, online registration systems, multimedia presentations, database development, and video streaming.

Event support services: Production and management of large and small venue video and multimedia productions, media projection, location shooting, multi-camera support, live video streaming, and real-time captioning.

Photography services: A range of digital photographic services in studio or on location, creating visual resources for slide presentations, class documentation, portfolios, websites, and publications.

Public Safety

rit.edu/publicsafety
(585) 475-3333 (Emergency)
(585) 205-8333 (Emergency TEXT)

The Public Safety Department is open 24-hours-a-day and is located in Grace Watson Hall. To report an emergency call (585) 475-3333, instant message staff at IM:ritpublicsafety, or TEXT to (585) 205-8333. The department encourages the RIT community to take responsibility for their safety by staying informed of these services and reporting suspicious activity. Although each individual is ultimately responsible for their own personal safety, learning and practicing basic safety precautions can enhance one's well being. The department provides the following services:

Blue light call boxes: Campus courtesy call boxes, identified by a blue light, are located across campus. These call boxes provide a direct line to Public Safety 24-hours-a-day. The location of the call is automatically recorded at the Public Safety Communications Center, making it possible for hard-of-hearing individuals to also use the call boxes. The call boxes may be used to request an escort, assist a motorist, report suspicious individuals or activity, or request access to a locked building or room.

Mobile escort service: Public Safety strongly encourages students to use the mobile escort service. The service is available to anyone, seven-days-a-week, on a timed schedule between 11 p.m. and 3 a.m. Call the Public Safety Department at (585) 475-2853, IM: ritpublicsafety, TEXT (585) 205-8333, or use one of the blue light courtesy call boxes located across campus.

Lost and found: All items lost and found on campus are stored by the Public Safety Department. To report an item lost, please visit rit.edu/publicsafety/safety/lostitems.html to submit information related to lost property (requires RIT computer account). Public Safety will contact you if the item is found on campus.

Emergency notification: If a family member needs to make an emergency notification to a student, he or she should contact Public Safety at (585) 475-2853 or TEXT at (585) 205-8333. Public safety will locate the student and relay the message.

Awareness programs: Throughout the year, public safety hosts a variety of prevention awareness programs and services on various topics including crime prevention, personal safety, and alcohol awareness. A monthly newsletter titled RIT Ready is distributed via e-mail to students, faculty, and staff to bolster emergency preparedness on campus.

Annual Safety and Security Report: Public safety's security report is available online and offers a description of security practices and information on reported occurrences of crime. Access the report at rit.edu/ZnhGf.

Confidential tip line: The goal in providing this service is to obtain information that is unattainable through conventional methods and to alert public safety to endangering behavior that might go otherwise unreported. Individuals who utilize the tip line are encouraged to leave their names and contact information; however, they will not be contacted. An online form is available at rit.edu/publicsafety/forms/tipline (requires RIT computer account).

Crime statistics: The Advisory Committee on Public Safety will provide, upon request, all campus crime statistics as reported to the Department of Education. RIT crime statistics can be found at the Department of Education website (ope.ed.gov/security) or by contacting the Public Safety Department. A hard copy of reported crime statistics required to be ascertained under Title 20 of the U. S. Code Section 1092(f) will be mailed to you within 10 days of the request.

Sexual assault information and CARES: Confidential counseling services are available to anyone in need by calling (585) 546-2777 (voice/TTY). RIT's Campus Advocacy Response and Support (CARES) is located on campus and provides confidential and crisis intervention and support services for relationship concerns. Contact (585) 295-3533 at any time for assistance.

Emergency Preparedness: RIT's emergency responses are based on a national model that is very flexible and can be applied to any scenario. RIT regularly communicates, prepares, and practices emergency management with public safety personnel and campus managers from various departments. If necessary, we will provide updated information through broadcast email, mass notification system (RIT ALERT), voicemail, ALERTUS beacons, and the university's website at rit.edu.

Religious Life

rit.edu/religion
(585) 475-2135

The Center for Religious Life affirms RIT's commitment to holistic education and exploration of mind and spirit in the college experience. A student-oriented resource, the center's chaplains and students explore and celebrate the unique values and culture of their tradition. Surrounded by the rich diversity of other traditions utilizing the campus chapels and prayer rooms, students have opportunity to interact and discuss the beliefs and practices of other communities in the center. Among those traditions are the American Baptists, the Black Church Traditions, Buddhist, Jewish, Lutheran, Muslim, Orthodox Christian, and Roman Catholic. Two non-denominational and interdenominational Christian clubs, CRU and InterVarsity Christian Fellowship, are active clubs within the center. All students are invited and encouraged to enjoy the many social and educational experiences offered by the communities and clubs of the center during the academic year.

The Kilian J. and Caroline F. Schmitt Interfaith Center

The Interfaith Center, a gift of Kilian and Caroline Schmitt and other generous donors, is located on the east side of the Student Alumni Union. It is a focal point for the diverse religious traditions within the university, housing two chapels, meeting rooms, and offices for the professional staff of the center.

The RITreat

The RITreat is an area in the Student Alumni Union dedicated to students. The following resources can be found in the RITreat:

- Club and organization space
- Computers/word processors/fax machine
- Ombuds Office
- Student Government Office, also housing an attorney two mornings a week
- Mail folders for clubs and organizations
- Off-campus and Apartment Student Association
- Study tables/lounge area
- Center for Campus Life
- The RIT Leadership and Community Service Center

Student Financial Services

rit.edu/sfs
(585) 475-6186

Student Financial Services offers a variety of financial services for students, including billing, payment options, and loan repayment. The University has an electronic billing (eServices) program for students; eBills have replaced paper bill statements. Each term, all RIT students are sent an e-mail notification to their University e-mail account stating that their eBill is available. Students have the option of granting additional access to allow for a parent, guardian, sponsor or other authorized user to receive eBill notifications. This facilitates online, real-time account inquiry and electronic payment.

Student Health Center

rit.edu/studenthealth
(585) 475-2255 (voice), (585) 475-5515 (TTY)

The Student Health Center, located on the Quarter Mile, provides comprehensive primary medical care as well as education for maintaining good health. The staff includes physicians, a psychiatrist, nurse practitioners, a physician assistant, nurses, an interpreter for the deaf and support staff. Services are available by appointment.

During the academic year, students are seen Monday through Thursday, 8:30 a.m. to 6:30 p.m., and Friday, 8:30 a.m. to 4:30 p.m. During breaks and summer, students are seen Monday-Friday, 8:30 a.m. to 4:00 p.m. Hours are subject to change and the changes are posted.

The center offers an on-call nurse advice service for immediate medical concerns when the office is closed. The nurse advice service cannot assist with making or canceling appointments or managing prescription issues. If you need health advice when the Student Health Center is closed, please call 585-475-2255 and choose the option for the nurse service.

The student health fee is mandatory for all full-time undergraduate students. All other students may pay either the health fee or a fee for service. Some laboratory work ordered through the Student Health Center is not covered by this fee; there is an additional charge for this service. Prescription medicines may be purchased from local pharmacies or, for some specific prescriptions, from the Student Health Center. The health fee does not include prescription medications.

Students are required to maintain health insurance coverage through family coverage, a personal policy or through the RIT sponsored plan. The RIT Student Insurance Plan is available through Aetna Student Health. More information about the RIT plan may be obtained by contacting University Health Plans at 800-437-6448 or universityhealthplans.com.

Questions about the Student Health Center should be directed to the office. Questions regarding health insurance available through RIT should be directed to University Health Plans at (800) 437-6448.

RIT ambulance

(585) 475-3333 (voice)

RIT ambulance is a New York State-certified volunteer ambulance service that serves the campus community. The organization, an auxiliary of the Student Health Center, is governed by RIT students and staff and is staffed by emergency medical technicians. Ambulance service is available 24-hours-a-day, seven-days-a-week. If, for some reason, RIT Ambulance is not available, there may be a charge for services provided by another corps.

Health records

Medical records are confidential and separate from educational records. Information is not released without the written consent of the student. Exceptions to this rule are made only when required by the public health laws of New York State, a court-ordered subpoena or in a life-threatening situation.

New York state and RIT immunization requirements

New York State public health law requires that all students enrolled for more than 6 credit hours in a term and born after January 1, 1957, must provide proof of immunization against measles, mumps and rubella and to sign a meningitis awareness form. The law applies to all full time and part time students including RIT employees. Immunization requirements include:

- Two MMR vaccinations at least one month apart and after the first birthday.
- A Meningitis Awareness Form must be signed by all students regardless of age.
- RIT requires students age 21 and under to be immunized against meningitis.
- Failure to comply with the New York State immunization law may lead to exclusion from classes and the RIT campus, and a $200 fine.

Note: An email notification is sent to students' RIT email account with directions to complete the necessary health information through the SHC portal. Please note that the immunization form is to be completed by the student on-line and then downloaded and taken to the student's health provider or school official for verification. The form must then be forwarded to the Student Health Center for approval (fax: 585-475-7530).

TRiO Student Support Services

rit.edu/trio
(585) 475-2833

TRiO Student Support Services (SSS) is a federally funded program, through the Department of Education, that provides the academic and personal support that assists qualified students to maintain good academic standing and complete their degree. Students in the TRiO SSS program must be U.S. citizens or international students with a green card, full-time undergraduate students, and meet at least one of these qualifications: financial need, a documented disability, or first-generation college student status, and have an academic need. TRiO SSS provides the following services:

- One-on-one peer content tutoring
- Individual assessment and mentoring in math
- Professional tutoring in writing and liberal arts courses
- Assistance with the financial aid process and scholarship searches
- Financial literacy
- Assistance with the graduate school process
- Assistance with course selection and advisement

Students can enter the program at any time during their college career and are assigned a support specialist until they graduate.

Support specialists assist students with setting goals and successfully navigating through their college experience.

Veteran Enrollment Services

rit.edu/military
(585) 475-6641

If you have questions regarding VA Benefits, NYS War Veteran Scholarships, TA, or the RIT Active Duty Service Member Scholarship, contact RIT's Veteran Enrollment Services.

All RIT courses and programs are approved for the education of members of the U.S. Armed Forces, veterans, and eligible dependents under the Veterans Readjustment Benefits Act, the Rehabilitation Act, and the War Orphans Act.

To receive information or apply for benefits, contact us through our Web page, call, or live chat. Eligible students must submit an application for the VA Certificate of Eligibility. This application can be submitted online through the VA'S website. All VA educational benefits paid to RIT students are the responsibility of the VA Regional Office in Buffalo, N.Y. We can send most enrollment information well in advance of the beginning of the starting semester, thus eliminating long delays in payments. Applications for all benefits are available online, at local VA offices, or on campus in the Office of Veteran Enrollment Services. To ensure a smooth transition and successful academic program completion, start your benefits paperwork early.

The Center For Women and Gender

rit.edu/womenscenter
(585) 475-7464

The Center for Women and Gender is committed to promoting a campus community that is safe, equitable, and respectful of all members. The center fosters an educational environment in which all community members can be personally, academically, and professionally successful without regard to gender, racial/ethnic origins, sexual orientation, gender identity, socio-economic status, or spiritual beliefs.

The center provides programs and services that address relationship and sexuality issues, pregnancy, body image issues, harassment and discrimination, assertiveness, and sexual assault. Services and programs serve women, men, deaf, hearing, and the LGBT communities.

The RIT Community

Residence Life

rit.edu/reslife

The Center for Residence Life serves the needs of approximately 7,100 students in residence halls, Greek houses, Global Village, special-interest houses, lifestyle floors, the RIT Inn and Conference Center, University Commons Suites, and apartments. The center helps create a supportive living environment that enhances individual development and promotes a strong sense of campus community.

RIT recognizes the significance of the on-campus living experience and its effect on students' academic and social development. To ensure a positive experience, the residence halls offer a comprehensive campus living experience.

The center staff plans events on each floor of the residence halls as well as larger scale events in each quad area. Social activities at the beginning of the year are designed to help students meet one another, make friends, become familiar with campus resources, and generally ease their transition to college life. Programs are continually offered throughout the year on a variety of topics, including diversity awareness, time management, study skills, personal safety, wellness, decision making, and roommate agreements.

Housing

Serving nearly 7,000 students, RIT's residence halls, the RIT Inn and Conference Center, and campus apartments offer many living options to meet the diverse needs, interests, and backgrounds of our students. They may choose from a variety of living arrangements, including residence hall floor assignments such as same gender, coeducational, wellness, alcohol/substance free, intensified study, over 21 years of age, or mainstream (hearing/deaf students living on the same floor). Living options in Greek fraternities and sororities or special-interest houses also are available. Internet and campus data network access is available in all residence hall rooms.

RIT also houses students in nearly 1,000 individual townhouse and apartment units**.** Apartment housing is available to students in five RIT apartment complexes.

Approximately 400 upperclass students are housed at the university-operated RIT Inn and Conference Center, near the campus. Residents of the RIT Inn enjoy many of the perks of a first-rate hotel, including indoor and outdoor swimming pools and a fitness center.

Residence halls

The RIT community begins in the 13 campus residence halls, where more than 3,400 first-year and returning students reside each year. It is in these halls where engineering students live side-by-side with art students, international students mix with students from other cultures, and hearing and deaf students experience each others' cultures. The residence halls are a diverse and exciting living experience.

Lifestyle floors, Learning Communities, and special-interest houses provide additional options for a more personalized living environment. Special-interest houses are designed for students to share mutual interests. Seven houses offer a specific academic focus and provide a way to tailor activities to a common group. The seven special-interest houses are self-governing organizations with a resident adviser living on the floor: Art House, Computer Science House, Engineering House, House of General Science, International House, Photo House, and Unity House.

Apartments

RIT's apartment complexes offer a more independent living experience while extending the advantages of living on campus. Apartments include one-, two-, and four-bedroom units, and townhouses have two or three bedrooms.

Although the majority of apartment residents are undergraduates, each complex features a mixture of graduate and undergraduate, single and married students. Each complex offers the privacy of a small community, with individual mail and newspaper delivery. Apartment residents enjoy other community benefits such as basketball and volleyball courts, barbecues, and picnic areas.

RIT Inn and Conference Center

A living experience for upperclass students, the Inn and Conference Center features a hotel-like setting. Each room includes high-speed Internet access. The inn features indoor and outdoor pools, a sauna, a whirlpool, a fitness center, and a business center. Café dining and a gourmet coffee shop are also located on the premises.

The Residence Hall Association

Representing all residential students and serving as a liaison between the student body and the administration, the RHA develops the policies and procedures that benefit the resident population. RHA also provides students with a variety of services, facilities, programs, and equipment, including RITchie's, a free game room managed by the association that features a relaxing lounge with video games; pool, air hockey, and foosball tables; and a variety of board games.

The Housing Connection

A service of RIT Housing Operations, the Housing Connection is designed to meet the general housing needs of the RIT community. It offers the only on-campus clearinghouse for apartment residents in need of additional roommates, providing a continually updated listing of available roommates and their specific interests.

Off-Campus and Apartment Student Association

rit.edu/studentaffairs/ocasa/

(585) 475-6680 (voice/TTY)

The Off-Campus and Apartment Student Association (OCASA) is the representative student government for all RIT students who do not reside in a residence hall. Formed in 1978, OCASA is com-

posed of both commuter students and students who live in the RIT-operated apartment complexes or in off-campus apartments. OCASA provides input from off-campus students to the RIT administration.

The OCASA main office, located in the Student Alumni Union RITreat, offers complimentary services that include an area with PCs and Macintosh computers, a copier, fax machine, and various office supplies. Also available are a microwave; refrigerator; and free coffee, tea, and hot chocolate. A daily newspaper and a variety of magazines are on hand.

Recreation

All registered students are provided with the benefit of automatic access to the recreation facilities. Students who are registered only for a wellness class will be provided with access if the class is needed to fulfill a graduation requirement. Access is granted upon review by the Student Life Center (SLC) main office. During the summer, free access is granted to students registered for the previous spring and the upcoming fall semesters. Students must contact the SLC main office to activate their summer membership. Incoming freshmen receive access on the first day of Freshman Orientation.

Facilities

Clark Gymnasium: Located across from the Campus Center, the Clark complex includes the main gymnasium, auxiliary gymnasium, wresting room, varsity weight room, athletic training room, and equipment room.

Hale-Andrews Student Life Center (SLC): The SLC is located midway between the dormitories and the Student Alumni Union. It is an 88,000-square-foot complex that features five multipurpose courts (basketball, volleyball, badminton), seven racquetball courts (three equipped for wallyball), two dance studios/fitness rooms, a mini-gym (basketball, volleyball, and multi-purpose court), elevated 200-meter jogging track, equipment cage (for loan-out and towel service), spinning room, boxing/kick-bag room, locker rooms with saunas, classrooms, CPR room, fitness testing lab, and an equipment rental office for overnight loan-out.

Gordon Field House and Activities Center: Directly attached to the SLC, this 160,000-square-foot facility includes a multi-purpose arena, 200-meter jogging track, four indoor tennis courts, a multi-level fitness center, and an aquatics center with an eight-lane competitive pool with moveable bulkhead, diving area, recreational pool, and hot tub.

Tennis courts: There are nine outdoor lighted tennis courts.

Turf field: This field is an outdoor multi-purpose venue for athletics, wellness, recreation, and major campus events.

Varsity game field/track complex: This facility is used for varsity soccer, lacrosse, and track meets and features a 400-meter track that is open for daily use.

Other outdoor facilities: Other fields include varsity baseball, varsity softball, varsity practice fields, club sports field, Greek lawn area, Rose Bowl, Grace Watson fields, nature trails, jogging trails, and archery range.

Red Barn: Red Barn houses the interactive adventures program, which includes an array of adventure-based wellness activity classes, teambuilding programs, and the Red Barn climbing gym, which consists of a 32-foot top-roping wall and extensive bouldering areas.

Frank Ritter Ice Arena: A venue for ice hockey, figure skating classes, and recreational skating. Ritter Arena serves as the home of the Genesee Figure Skating Club as well as a practice space for RIT's Division I men's and women's ice hockey teams. Public skating and learn-to-skate programs are also held here.

Intramurals

Intramurals offer a wide range of activities for students, faculty, and staff. The tournament league is designed for those who want to play in a more competitive, elimination-playoff-type format. There is also a recreational league, in which league champions are based on win-loss record and there are no playoffs. Tournament and recreational play is separated into three divisions, including a co-ed division. Each co-ed team must have specific numbers of men and women on the playing field, depending on the sport.

The following sports are offered: indoor soccer, three-on-three basketball, five-on-five basketball (winter and spring), volleyball, ultimate Frisbee (fall and spring), dodgeball, flag football (fall), softball (fall and spring), tennis (fall and spring), table tennis, racquetball, and badminton.

Wellness

The wellness instructional program is offered to students, faculty, staff, and alumni (with current SLC memberships). More than 200 courses are offered each semester in the following disciplines: health and wellness seminars, dance, fitness, life support and safety, lifetime recreation and leisure, interactive adventures, martial arts, and ROTC.

Campus social events

The RIT campus is a melting pot of activity and fun for all students. During the course of the year clubs and organizations host more than 700 student events. In addition, major social events are a part of the campus culture and can be found on the RIT calendar at all times of the year. RIT sponsors a variety of events beginning with the Week of Welcome during New Student Orientation and ending with Senior Night for graduating seniors.

Between these bookend events, RIT sponsors the Brick City Festival, which also encompasses Parents and Alumni Weekend, and Spring Fest, with its traditional carnival. Major concerts are held four to five times a year. Past concerts have featured Kanye West, Ludacris, Lupe Fiasco, and Taking Back Sunday. RIT also has hosted comedians such as Wayne Brady, David Spade, Dane Cook, Carlos Mencia, and Jon Stewart. The Cultural Spotlight Series and the Performing Artists' Series feature cultural events with a variety of performers. Past series have included performances and artists such as Maya Angelou, Edward James Olmos, Rochester Classic Jazz Band, Yo Soy Latina, Aventura, the Rochester Philharmonic Orchestra, Richard Smallwood and Vision, Byron Cage, and Kurt Carr and the Kurt Carr Singers.

Numerous speakers, including Magic Johnson, Colin Powell, Robert Redford, Rudolph Giuliani, and former presidents Ger-

ald Ford, Jimmy Carter, and Bill Clinton have spoken at campus events. The RIT Players hold theater productions throughout the yerar. Weekend evenings feature a number of activities, such as the Thursday Night Cinema Series and Friday Night in the RITZ. Other events are held annually, including the RHA Vegas Night, RIT Greek Week, and the CAB Winter Concert. Every other year, the College of Liberal Arts sponsors a musical theater production and NTID hosts the RIT/Gallaudet Weekend.

Student Government

rit.edu/sg
(585) 475-2204 (voice/TTY)

Student Government, the representative body for students, works with the university's administration, faculty, and staff to communicate the needs and desires of the student body and the decisions of the administration to RIT students. It provides a variety of services to student organizations and recognizes approximately 160 clubs and eight other major organizations. It actively engages in the university's open governance system where it serves as the voice of students.

All full-time and part-time undergraduate and full-time graduate students become members of the Student Government when they pay the student activities fee.

Student Government clubs

campuslife.rit.edu/clubs
(585) 475-4483 (voice/TTY)

For more information about clubs and organizations, please contact the Clubs Office at (585) 475-4483 (voice/TTY), visit our website at campuslife.rit.edu/clubs, or stop by the office in the RITreat. Look for Club Day in the Student Alumni Union. There are more than 200 student clubs and organizations at RIT. More are added throughout the academic year. For the most up-to-date information on students clubs and organizations, visit the website.

Student professional associations

Students also can become involved with departmental and professional associations. This includes groups such as Alpha Chi Sigma (chemistry), Gamma Epsilon Tau (printing), Pi Tau Sigma (mechanical engineering), Beta Alpha Psi (accounting), and Tau Beta Pi (engineering).

A number of national technical associations have student affiliate chapters on campus. These societies play an important part in campus life by bringing together students who have common interests in special subjects. Students should ask their academic departments about organizations for their academic interests.

Reporter magazine

Reporter, RIT's weekly news magazine, is the nation's only full-color weekly college magazine. With a circulation of 6,000, *Reporter* delivers 32 pages of on- and off-campus news, features, entertainment, and sports coverage to the RIT community every Friday. The magazine is completely student-run and staffed, and all editorial, photographic, business, design, and production work is done entirely on campus with the help of the printing application lab's Heidelberg press. A winner of numerous state and national awards, *Reporter* is highly regarded as one of the nation's most innovative college publications and respected for its high-quality writing, photography, illustration, and design. *Reporter* takes pride in its memberships in the Associated Collegiate Press and the American Civil Liberties Union. Students of all educational backgrounds, majors, experience levels, and skills are encouraged to join.

College Activities Board

rit.edu/cab
(585) 475-2509 (voice/TTY)

The College Activities Board (CAB) is a student-run organization responsible for providing a balanced program of social and recreational events for the campus community. CAB presents concerts, festivals, movies, and off-campus trips each semester. For information on CAB programs, stop by the office in the Student Alumni Union or contact us via phone or Internet.

Global Union

The diversity of RIT's global student body warrants an organization that encourages interaction among different ethnic groups. The Global Union promotes communication, cooperation, and mutual support among all students. It intends to unify all its affiliated organizations and encourage pluralism and understanding. The Global Union provides a platform for expression for campus international and minority communities. It is RIT's multicultural student organization.

WITR Radio

witr.rit.edu

WITR is an FM radio station operated by RIT students and licensed by the Federal Communications Commission as a noncommercial, educational station. It is licensed to be on the air 24 hours a day with a power of 910 watts, which covers the Rochester area.

Students make up the staff, working in four major departments: engineering, news and public affairs, programming, and promotions. WITR Radio has been operating for more than 30 years with two major goals: to provide programming to RIT and the surrounding community and to provide a noncommercial training ground for participating staff.

Participation in WITR can be an educational and enriching experience. It offers students practical experience in broadcasting, engineering, and management. WITR disc jockeys gain the qualifications and experience to work at any radio station. Some former and current members now work full or part time at several commercial radio stations, while other members have attained positions with recording studios or are active representatives of record companies such as A&M, MCA, Sony, Mercury, and Polydor.

WITR promotes RIT events and public-service activities, including both on- and off-air participation in many events. It is a major source of local music in the Rochester community. WITR is the primary broadcast source of RIT sports and campus events such as the president's annual address.

NTID Campus Life

NTID Student Congress

www.ntid.rit.edu/nsc

The NTID Student Congress is an organization comprised of deaf and hard-of-hearing students who represent and provide programs for members of their community. The organization helps interested students communicate their needs, ideas, and concerns about campus life to faculty members, administrators, and other student organizations within RIT; provides opportunities for developing leadership skills; and encourages student activities and integration by providing deaf and hard-of-hearing students with opportunities to interact with their peers socially, academically, athletically, and culturally. Students interested in getting involved may stop in at the NTID Student Congress office in the CSD Student Development Center.

NTID Performing Arts

www.ntid.rit.edu/theatre

RIT/NTID Dance Company: The RIT/NTID Dance Company is a unique ensemble of deaf, hard-of-hearing, and hearing students that enriches the educational life of its dancers by providing challenging and rewarding choreographic and performance opportunities. Membership in the company is open to the entire RIT community (dancers as well as nondancers, from every level of ability and experience) at an annual audition in the fall semester.

The RIT/NTID Dance Company has presented a diverse repertoire consisting of full-length ballets and student and faculty choreography in modern dance, jazz, and a variety of ethnic-based dance. The company also has had guest choreographers and performers, including Garth Fagan, Sahomi Tachibana, Tim Draper, Michael Thomas, Sean McLeod, Carolyn Dorfman, Thomas Warfield, Hong Kong-based choreographer Andy Wong, deaf choreographer Christopher Smith, the Nrityagram Dance Ensemble of India, and Jim Donovan, lead drummer for Rusted Root. For information, contact Thomas Warfield, director of dance, at (585) 475-6252 (voice/TTY) or tfwnvc@rit.edu.

Panara Theatre: Students and faculty produce major plays and performances featuring deaf and hearing actors, dancers, and technical staff. Call the box office at (585) 475-6254 (voice/TTY). For more information, please visit www.ntid.rit.edu/theatre.

Lab Theater: Lab Theater features experimental, new, or unusual productions. New directors and student writers also use the space for developing their skills. For information, call (585) 475-6250 (voice/TTY).

NTID performing arts course offerings: For information regarding acting, mime, technical theater, lighting, play creating, script translation, or dance classes, call NTID's Performing Arts Program, (585) 475-6250 (voice/TTY).

Student Music Association

rit.edu/finearts/music

RIT Singers: The university-sponsored vocal ensemble, RIT Singers, is composed of 80 to 90 members and is open to students, faculty, and staff. New members are welcome during the first three weeks of each semester. The ensemble performs classical and popular music and gives one or two concerts each semester. The RIT Singers also participates in the Western New York Intercollegiate Choral Festival. One credit hour is awarded for participation in the group. For more information, call (585) 475-6087, or e-mail Edward Schell at etsgsh@rit.edu.

Men's A Cappella Ensembles: Selected through auditions, these are ensembles of eight to 12 singers chosen from the RIT Singers. The current groups are Eight-Beat Measure, Brick City Singers, and Surround Sound. Rehearsals for both on- and off-campus appearances are adjusted to fit ensemble members' schedules. For more information, call (585) 475-6087.

Women's A Cappella Ensemble: Selected through auditions, the current group, Encore, is an ensemble of eight to 12 singers chosen from the RIT Singers. Rehearsals for both on- and off-campus appearances are adjusted to fit ensemble members' schedules. For more information, call (585) 475-6087.

Gospel Ensemble: This group of approximately 25 members has developed a repertoire of black spirituals, modern gospel songs, interdenominational anthems, and hymns. The group performs three times a year, during Brick City Festival, their annual Gospel Fest in February, and their annual anniversary concert. During the past few years they have opened for such renowned performers as Richard Smallwood, Vision, and Byron Cage. They perform twice a month for the gospel worship service in the Interfaith Center. For more information, call Campus Life, (585) 475-4483 (voice/TTY).

RIT Orchestra: The RIT Orchestra is open to all RIT students, faculty, staff, and musicians from the surrounding area. The repertoire includes masterworks from the Baroque to the 20th century. Past performances have included pops concerts and chamber music performances. One credit hour is awarded for participation in the group. For more information, call (585) 475-2014, or e-mail Michael Ruhling at mergsl@rit.edu.

RIT Jazz Ensemble: Instrumentalists with a background in jazz will want to check out the RIT Jazz Ensemble. Open to all RIT students, the Jazz Ensemble welcomes those who play the following instruments: saxophone, trumpet, trombone, bass guitar, guitar, piano, and drums. Performing a repertoire of varying styles, the ensemble presents concerts each semester and performs for campus activities and academic functions. The ensemble rehearses at least once a week, on Tuesday evenings in the SAU music room, 7-10 p.m. One credit hour is awarded for participation in the ensemble. For more information, call (585) 475-5366, or e-mail Jonathan Kruger at jhkgsl@rit.edu.

RIT Concert Band: The Concert Band is open to all RIT students who play traditional band instruments. Performing repertoire of varying styles, the ensemble presents concerts each semester and performs for campus activities and academic functions. The ensemble rehearses at least once a week, on Wednesday evenings in the SAU music room, 7-9 p.m. One credit hour is awarded for partic-

ipation in the band. For more information, call (585) 475-5366 or e-mail Jonathan Kruger at jhkgsl@rit.edu.

RIT World Music Ensemble: The World Music Ensemble is open to all RIT students, faculty, and staff. Repertoire focuses on various non-Western music traditions. The ensemble regularly performs on its extensive collection of handmade African drums. One credit hour is awarded for participation in the ensemble. For more information, call (585) 475-4439 or e-mail Carl Atkins at cjagsh@rit.edu.

Facilities

Academic

Conveniently located five miles from the Greater Rochester International Airport and the New York State Thruway (Interstate 90), the RIT campus is situated in the suburb of Henrietta, only a few minutes from downtown Rochester.

Students, faculty, and staff moved from RIT's original downtown Rochester location to its 1,300-acre suburban campus in 1968. Since then, the campus landscape has undergone significant growth and renewal, including new academic buildings, student apartments and Greek housing, walkways, plantings, and lighting. A 160,000-square-foot field house was completed in 2004. The 73-foot-high steel and bronze sculpture "The Sentinel," by Albert Paley, and a Japanese garden add further interest to a campus that continues to evolve.

In 2009, RIT opened the Center for Student Innovation, a 10,000-square-foot space that serves as a multi-purpose hub where teams of students from all corners of the university can develop and showcase innovative and entrepreneurial projects. Also new on campus is Global Village, a residential and commercial space featuring housing, a courtyard, a convenience shop, restaurants, a bank, a printing and postage center, and a fitness center.

Excellent facilities add to the quality of academic life. RIT is a leader in academic computing, and students work with state-of-the-art computer equipment regardless of their major. Central computer systems can be accessed via a high-speed data network connecting our library, academic facilities, residence hall rooms, and on-campus apartments. *The Princeton Review* has ranked RIT among the most connected campuses in the country. RIT is also among a select group of institutions with access to the Internet2 research network.

Students also have access to a laser optics laboratory, an observatory, an animal care facility, more than 100 color and black-and-white photography darkrooms, electronic prepress and publishing equipment, ceramic kilns, glass furnaces, a blacksmithing area, a student-operated restaurant, computer graphics and robotic labs, and some of the most up-to-date microelectronic, telecommunications, and computer engineering facilities in the United States.

Park Point

Park Point, a 60-acre residential, retail, and commercial complex featuring a variety of shopping, dining, and housing is located on the northeast corner of campus. The complex features:

- 90,000 square feet of retail space, with more than 25 stores;
- a variety of housing, with occupancy for up to 800 residents;
- a number of theme restaurants;
- Barnes & Noble@RIT, RIT's campus bookstore, which also features a Starbucks location; and
- galleries highlighting arts and crafts by students and faculty.

Global Village

Global Village is a new retail marketplace and housing complex that bears a resemblance to the street-side cafés of Europe. Residential housing features furnished suites, single, and double rooms, community kitchens, free wireless access, free standard cable, free laundry services, and lounges and study rooms.

In addition to housing options, Global Village features:

- *Salsarita's Fresh Mex Cantina*, offering healthy, fresh Mexican favorites
- *Global Grille,* with a menu of rotating international cuisines and recipes from around the world
- *Sushi Station*, offering a variety of fresh-made sushi
- *Global Village Market,* including a vast assortment of ethnic spices, foods, and products from around the world, as well as commonly purchased American items. Hispanic, Asian, Indian, Middle Eastern, Kosher, and Halal foods are among the selections available.
- Heated outdoor seating, a small stage area for concerts and student programming, and a fire pit
- *Better Me Wellness Center*, a state-of-the-art fitness facility featuring a variety of workout equipment and spaces for fitness and wellness classes
- HUB Print Center and Post Office services include digital printers; postal services; wide-format printing, mounting, laminating, and coil binding; and a retail section will offer school supplies such as pads, pencils, pens, notebooks, and printer paper for purchase

Student Alumni Union

The Student Alumni Union is designed specifically to service events sponsored by and for the entire campus community. The staff is available to assist and advise various individuals and groups in planning and coordinating their activities. The SAU information desk is located in the main foyer.

The three-level facility is the center of co-curricular activities and features the 500-seat Ingle Auditorium; a complete game room with billiards, foosball, and electronic games; music practice room; a Ben & Jerry's ice cream shop; two separate dining areas (the main cafeteria and the Ritz Sports Zone); meeting rooms; and lounges.

Food service venues

The food service establishments on campus provide a large array of dining choices.

Restaurants and dining halls

Brick City Café: Features full breakfast and lunch entrée menus, as well as an extensive salad bar, subs, wraps, full deli, grill items, display cooking, rotating specialty vendors, fresh soups, desserts, snacks, and a coffee station.

The Café and Market at the Crossroads: Features a market-style food court, convenience store, Starbucks coffee, and café smoothie

bar. Specialty items include subs, made-to-order salads, grill items, made-to-order pasta bar, Jump Asian cuisine, pizzas, calzones, and the Crossbar, featuring rotating international cuisines.

The Commons: Featuring subs, Hettie's Grill, Stone Oven Pizza & Pasta Cucina, made-to-order salads, soups, pasta, and lunch and dinner entrees in a cozy environment with a fireplace. Online delivery orders also available via The Commons' website.

Global Grille at Global Village: Cook-to-order international cuisines prepared on a Mongolian grill using fresh ingredients. Freshly made sushi is also available.

Gracie's Dining Hall: All-you-care-to-eat fare for students, faculty, staff, and guests. Specialty items include Mongo's Grill, offering fresh cook-to-order ingredients, Just Veggie bar, Bonichi Brothers Pizza, Ancho Grill, fresh soups, freshly baked desserts, waffle bar, grill items, and salad bar.

Petals at the RIT Inn and Conference Center: Bistro-style dining offering breakfast, lunch, and dinner menus. Snacks, grab-and-go offerings, and coffee station are also available.

RITZ Sports Zone: Sports restaurant with big-screen HDTVs open for lunch, dinner, and special sporting events. Menu includes flat bread pizzas, wraps, quesadillas, Ancho Grill, panini sandwiches, soups, salads, grill items, subs, rotating international vendors, and desserts. The RITZ also features a bar (21 years old and over only) and game room complete with pool tables and arcade games.

Salsarita's at Global Village: Freshly prepared, made-to-order tacos, burritos, quesadillas, Mexican pizzas, nachos, and salads with fresh ingredients and a variety of salsas and sides.

Markets and Convenience Stores

The Café and Market at the Crossroads: The convenience store carries a selection of grocery items including fruits, snacks, dry goods, international foods, refrigerated and frozen foods, dairy products, beverages, school supplies, and various other common food items.

The Corner Store: Open until 2 a.m. offering a wide range of snacks, beverages, dairy products, dry goods, refrigerated and frozen items, fruits and vegetables, coffee station, DVDs, and gifts. Special-delivery gift and food baskets/packages for birthdays, celebrations, and holidays also available via The Corner Store's website.

Global Village Market: International foods and spices, ready-to-eat ethnic meals, refrigerated and frozen items, fresh fruits and vegetables, cheeses, local, sustainable products, breads, dry goods, snacks, beverages, and coffee station.

Sol's Underground: A large variety of health and beauty products, vitamins and supplements, fresh flowers, housewares, school supplies, greeting cards, gifts and balloons, grocery items, snacks, and international and gourmet packaged food. Sol's Underground also offers flatbread pizzas, quesadillas, paninis, fresh soups, and wraps, as well as Freshens frozen treats.

Express Dining

Artesano Bakery & Café: On-campus bakery offering the best in gourmet tortes, pastries, desserts, organic rolls, breads, bagels, muffins, and scones. Artisan breads, rolls, and baguettes can be purchased par-baked to take home and served deliciously warm. Also features Peets coffee and tea products, including frozen blended drinks, cappuccinos, café lattes, café mochas, and hot chocolate. Freshly made sandwiches and salads are also available.

Beanz: Offers freshly baked gourmet pastries and desserts, bagels, muffins, cookies, fruit, paninis, soups, sandwiches, and salads. Also features Finger Lakes roasted coffee, cappuccinos, espresso, and teas, as well as Sicilian sodas and Freshens Smoothies.

Ben & Jerry's: Ice cream, sundaes, cakes, cookies, real fruit smoothies, and shakes. Catering services also available.

Bytes on the Run: Convenient grab-and-go meals, including freshly made soups and salads, sandwiches, wraps, fresh-baked pizzas, snacks, and beverages.

Ctrl Alt Deli: Design your own sandwich from a selection of wraps, breads, meats, cheeses, veggies, and sauces. Other popular items include chili bread bowls, sizzling cheese sandwiches, traditional flatbread pizzas, quesadillas, hearty soups, baked goods, and cut fresh fruit and salads. Grab-and-go items also available.

The College Grind: Offers a variety of Starbucks' brewed coffee and tea beverages, panini sandwiches, salads, freshly baked goods, cold drinks, and Freshens Smoothies.

Gordie's: Gordie's offers premium fresh and healthy grab-and-go meals, snacks, and drinks and is conveniently located on the Quarter Mile in the Gordon Field House – ideal for grabbing a quick meal on your way to work, class, or before and/or after your workout.

Campus stores

Barnes & Noble @ RIT—The official college bookstore, Barnes & Noble @ RIT is located at Park Point. The 40,000-square-foot store features educational textbooks for all of RIT's courses, 60,000 titles, and RIT-related merchandise. The store offers wireless access, a Starbucks Café, and regular shuttle service to and from campus.

Digital Den—Located in Barnes & Noble @ RIT, the Digital Den offers a wide array of merchandise, including computer equipment, hardware and software, iPods, and accessories. The store is staffed with knowledgeable personnel who can offer guidance on equipment and purchases.

Student conduct

Expectations for community behavior

- RIT is a learning community where time, energy, and resources are directed toward learning and personal development.
- Members of the community live and work together to foster their own learning as well as the learning of others, both in and outside the classroom.
- Within the community, members hold themselves and each other to high standards of personal integrity and responsibility.
- Individual members continually strive to exceed their personal best in academic performance and the development of interpersonal and professional skills and attributes.
- As a member of the community, each person continually conducts himself/herself in a manner that reflects thoughtful, civil, sober, and considerate behavior.

- As a member of the community, each person respects the dignity of all people and acts to protect and safeguard the well-being and property of others.
- As a member of the community, each individual contributes to the continued advancement and support of the community, personally challenging behavior that is contrary to the welfare of others.
- Members of the community create a campus culture that values diversity and discourages bigotry while striving to learn from individual differences.

RIT honor code

Integrity and strong moral character are valued and expected within and outside of the RIT community. Members of the campus community, including students, trustees, faculty, staff, and administrators, have adopted an honor code to:

- demonstrate civility, respect, decency, and sensitivity toward our fellow RIT community members, recognizing that all individuals at this university are part of the larger RIT family and as such are entitled to support and respect.
- conduct ourselves with the highest standards of moral and ethical behavior. Such behavior includes taking responsibility for our own personal choices, decisions, and academic and professional work.
- affirm through the daily demonstration of these ideals that RIT is a university devoted to the pursuit of knowledge and a free exchange of ideas in an open and respectful climate.

Summary of conduct policies

The following broad areas of conduct for students, although not all-inclusive, indicate, in general terms, the standards of student conduct that are important to the educational mission of RIT and the quality of campus life. The RIT conduct code and disciplinary processes are printed in their entirety in The Student Rights and Responsibilities Handbook. All policies and procedures relating to student and organization conduct are printed in this document and should be reviewed by all RIT students.

Human rights and dignity: Students are expected to follow RIT's policy prohibiting discrimination and harassment. All students should practice high regard for the rights and dignity of other people, preventing all types of discrimination. RIT attempts to resolve conflicts between individuals and groups with differing backgrounds and views through discussion and clarification of values and attitudes. Students should not physically or verbally abuse any person on RIT premises or at RIT-sponsored or supervised events.

Computer use: Students are expected to follow RIT's code of conduct for computer and network use. A variety of computing resources are available at RIT, ranging from application-specific microcomputers to central multiuser systems. Computer abuse is expensive and can have far-reaching consequences. Students should not intentionally disrupt the educational process through deletion of another's course assignment, dampen the creative process through theft of intellectual property, violate an individual's privacy or institutional confidentiality or infringe on copyright.

Off-campus conduct: The conduct of RIT students off campus will be held to the same standards and policies as on campus. Any off-campus action that interferes with the completion of the educational mission of RIT or any member of the RIT community is subject to disciplinary action.

Academic honesty: Students are expected to follow RIT's policy on academic dishonesty. Students should not engage, or allow others to engage, in any form of academic dishonesty. These acts include, but are not limited to, plagiarism in any form or using information and materials not authorized by the instructor during an examination. Dishonesty also includes furnishing false information to RIT and forgery. Alteration or use of RIT documents or instruments of identification with intent to defraud are prohibited.

Disruption of RIT activities: Students should refrain from unreasonable disruption or obstruction of teaching, research, administration, organizational activities, disciplinary proceedings, or any other RIT activities.

Parking and traffic: All drivers on campus should follow RIT's parking and traffic regulations. New York state motor vehicle and traffic laws are in effect on campus. RIT may enact supplemental parking and traffic regulations for RIT-owned properties. The regulations are intended to promote order and ease of movement of pedestrians and motorists and to safeguard people and property.

Regard for property: Students are expected to exercise appropriate care for RIT property and the property of others. Theft, damage, or unauthorized possession of either RIT property or the property of a member of the academic community on RIT premises is subject to disciplinary action.

Library materials and laboratory facilities are of utmost importance to the completion of RIT's academic mission. Consequently, students should show considerable care in the handling of these items.

RIT officials: Students must furnish proof of enrollment through a valid student identification card upon request from RIT officials. Students should comply with the directions or instructions of RIT officials acting in performance of their duties.

Safety: Safety is an issue all students should care about deeply—not only the safety of themselves, but the safety of others. Students should behave sensibly to protect the welfare of others and minimize hazardous situations. Safety is of critical importance at all places on the campus, but particularly important in the apartments and residence halls, where the carelessness of one individual can affect the lives of hundreds. Willful violations of safety, such as causing false fire alarms, will result in immediate disciplinary action according to judicial procedures.

Sexual harassment/misconduct: RIT acknowledges that an individual student's sexual attitudes and values are a matter of choice. Nonetheless, responsible sexual behaviors must take into account the dignity, privacy, and rights of others. RIT's policy prohibiting discrimination and harassment and the RIT sexual assault policy should be observed at all times. Moreover, no individual should be subjected to exploitative actions.

Study environment: Students need a campus environment that is conducive to studying, especially in facilities designed primarily for study. Individuals should respect the rights of others to study and should be understanding of different study habits.

Student-sponsored events: In the planning and scheduling of events, students should consider the safety and overall welfare of members of the academic community. Students should not

knowingly conduct events that might inhibit the completion of the academic mission of the university or any member thereof.

Student alcohol and drug policy

RIT is a learning community. The best environment for learning occurs when the community promotes and supports healthy and responsible behavior among its members. Students ultimately are responsible for their behavior and must assume full consequences for it. This includes the responsible and legal use of alcohol. The goal of RIT's student alcohol and drug policy is to promote individual responsibility and advance the goals and expectations stated in the previous section, "Expectations for Community Behavior."

This policy applies to all student members of the RIT community and their guests. It also applies to all student activities on the RIT campus and to all RIT-sponsored events where students are present. Faculty, staff, and their guests are governed by a separate policy.

RIT students are subject to federal, state, and local laws regarding alcohol and drug use. Serious civil and criminal legal liabilities can result from possessing, using, serving, selling, or unlawfully manufacturing drugs/alcohol. RIT will not protect individuals or groups from law enforcement by legal authorities with respect to drugs and alcohol use or abuse.

Individuals or organizations who hold private parties or sponsor private events where alcohol is served or consumed assume full personal responsibility and liability for compliance with the law and conduct related to the consumption of alcohol by attendees, participants, and guests. Officers of organizations that sponsor parties or events, or other hosts or people whose apartment, residence hall room, or office is the site where drinking occurs, will be held responsible for complying with the provisions of this policy.

Provisions governing the possession and use of alcohol

- Alcohol may not be illegally used, possessed, manufactured, or exchanged on RIT-owned or -operated property or at RIT-sponsored events. No alcohol may be sold or exchanged for money on RIT property or at RIT-sponsored events without a New York state liquor license. The RITskeller is a licensed premise and is permitted to serve alcohol to individuals who are at least 21 years of age.
- The consumption or possession of alcoholic beverages is prohibited in all RIT residence halls (including Greek houses and house basements), regardless of age or circumstances.
- The consumption or possession of alcoholic beverages is permitted in RIT-operated apartments only by those residents of the apartment who are at least 21 years of age. Alcohol possession and consumption is not permitted in common or public areas within apartment complexes. Parties in apartments are to be limited to invited guests of a number that is defined by building occupancy codes and can be accommodated without disturbing the community. These numbers may be found in the RIT apartment contract for a particular facility or obtained from apartment management.
- Guests at all privately sponsored parties where alcohol is to be served must be invited by direct personal invitation only. General "come all" posters, flyers, or mass electronic invitations will not be permitted for events designated as private parties. Only the RITskeller or an institutionally designated space can be used for a communitywide event where alcohol is to be served to students or student groups.
- Public Safety and other RIT officials have the right to terminate events and take appropriate action if they determine that it is probable that university policy and/or New York state law is being violated at any gathering on the RIT campus, in RIT-operated facilities, or at campus-sponsored functions.
- Bulk containers of beer (kegs or beer balls) are prohibited in all RIT-operated apartments. Such containers are permitted only in institutionally designated party areas where alcohol can be served for parties or special events, or in areas that are covered by a New York state liquor license.
- Open containers of alcohol are not permitted outdoors on the RIT campus without prior authorization. Authorization will be given in situations where alcohol is to be served in conjunction with an officially sponsored RIT student event. The authorization process for use of alcohol in these situations is coordinated through the Center for Campus Life in the Student Alumni Union. (See "Registration Procedures for Events Where Alcohol Is Served/Consumed on the RIT Campus" for specifics.)
- All student events and parties where alcohol is served, possessed, or consumed must abide by all existing university policies and procedures regarding the use, possession, sale, and distribution of alcohol, and may be restricted further by existing municipal and state ordinances. Prior to planning any activity or event where alcohol is to be served, individuals/groups should consult the Center for Campus Life, located in the Student Alumni Union, regarding the provisions and restrictions governing alcohol use at RIT activities and events.
- Student-sponsored parties/events where alcohol is served may be held in designated areas on the RIT campus. (Private parties held in RIT-operated apartments are covered in item No. 3.) Alcoholic beverages can be served at these student-sponsored parties and events on campus only by RIT Food Service or by an approved third-party vendor. Registration and authorization for such events can be obtained through the Center for Campus Life. The center coordinates the procedures for securing authorization from the State Liquor Board to sell/serve alcohol; this process takes a minimum of 10 business days.
- Behavior that is dangerous to oneself or others and/or disturbs the learning and/or living environment in RIT-operated facilities or at any RIT-sponsored activity/event is strictly prohibited. Such behavior will result in Public Safety intervention and campus judicial action.
- Serving, selling, or providing alcohol to those under 21 years of age or possession of alcohol by someone under 21 years of age is prohibited by both New York state law and RIT regulations. Any person who exhibits behavior that suggests excessive drinking has occurred cannot be served or permitted continued access to alcohol. Individuals who serve such individuals alcoholic beverages will face Public Safety intervention, campus judicial action, and possible civil and criminal prosecution.
- Use of false or altered identification or other misrepresentation of one's age in order to possess or consume alcohol is explicitly forbidden.
- In order to avoid the dangerous and possibly fatal effects of alcohol poisoning, an individual who has "passed out" or shows other

signs of serious effects from alcohol consumption should immediately be brought to the attention of Public Safety, RIT Ambulance, the Residence Life staff, or some other person able to assist or get assistance. Seeking such help is encouraged by RIT.
- Students violating the RIT Student Alcohol and Drug Policy will be subject to the campus judicial process published in the Student Rights and Responsibilities Handbook, as well as the judicial actions and sanctions described in this policy. All guests or visitors to the campus also must comply with the provisions of this policy or risk removal from the campus and possible future restriction from campus property.

Sanctions regarding violations of RIT student alcohol policy

If a student or student organization violates the RIT alcohol policy, the following judicial outcomes should be anticipated:

BEHAVIOR	CONSEQUENCES
Possession of alcohol • In residence halls and Greek houses regardless of age • Under 21 years of age • Possession of bulk alcohol	First offense: Disciplinary probation Second offense: Deferred disciplinary suspension/deferred removal from housing and possible referral for a chemical dependency screening Third offense: Disciplinary suspension or removal from housing, with appropriate conditions
Behavior that suggests the excessive consumption of alcohol	First offense: Probable deferred disciplinary suspension/deferred removal from housing; possible referral to alternative educational sanction program or a chemical dependency screening Second offense: Disciplinary suspension and/or removal from housing, with appropriate conditions
Serious policy violations (including serving alcohol to minors, hazing events involving alcohol, or dangerous behavior as a result of alcohol)	First offense: Probable disciplinary suspension and/or removal from housing, with appropriate conditions
DWI on campus	First offense: Referral to local law enforcement agency and disciplinary suspension
Student organizational violations related to alcohol	First offense: Educational/community related sanctions; possible disciplinary suspension of organization and/or removal of recognition

These guidelines are examples of responses that will most likely result when there have been violations of the RIT alcohol policy. Each incident is handled individually. The prior judicial background of the student(s) involved and the impact of the incident on the student and the RIT community are considered when decisions are rendered. In some cases, even with first offenses, the impact of an incident may call for a more serious response. A sanction of deferred suspension or higher will require the dependent student to notify his or her parents or legal guardians about the decision and have the parents/legal guardians contact the Center for Student Conduct and Conflict Management Services for verification.

Registration procedures for student-sponsored events where alcohol is served/consumed on the RIT campus

The following procedures do not apply to private parties held in RIT-operated apartments.

- Student-sponsored events where alcoholic beverages are to be served require that an event registration form be initiated and approved. This process takes a minimum of 10 business days prior to the event. Such events can be arranged on a space-available basis. Inquiries regarding the availability of space/rooms for events where alcohol is permitted can be obtained at the Center for Campus Life.
- Alcohol can be provided, possessed, or consumed by students only in institutionally designated spaces on the RIT campus. RIT Dining Services or an approved third-party vendor must dispense all alcohol at these parties/events. Arrangements for private parties where alcoholic beverages are served can be made through the Center for Campus Life. Only individuals who are at least 21 years of age may register an event where alcoholic beverages are to be served.
- Public Safety will determine the security staffing levels for each event where alcoholic beverages are to be served. The required number of officers must be present for the duration of the event. The costs of these officers will be billed directly to the sponsoring/host organization. Public Safety will discuss requirements for security with the sponsoring individuals or groups prior to the event.
- The guests at all privately sponsored parties where alcoholic beverages are to be served must be invited by direct personal invitation only. General "come all" posters, flyers, or mass electronic invitations will not be permitted for events designated as private parties. Only the RITskeller or an institutionally designated space can be used for a communitywide event where alcoholic beverages are to be served to students or student groups.
- When alcoholic beverages are served at student-sponsored parties/events, nonalcoholic beverages and food also must be served. Guidelines may be obtained at the Center for Campus Life.
- Individuals/officers of the student organization sponsoring the event will be held responsible for the behavior of guests. An officer of the organization must be present for the duration of the event. The organization officer is also responsible for assuring that only individuals who are at least 21 years of age are consuming alcohol during the party/event.
- Student organizers of a party/event should ensure that appropriate transportation is available for individuals who have been consuming alcohol during the party. They should ensure that individuals who have been drinking do not drive while intoxicated.

Provisions governing the possession and use of illegal drugs

- RIT explicitly prohibits the use, possession, sale, manufacture, or trafficking of illegal drugs on RIT-owned or -operated property, or at RIT-sponsored events.
- In order to avoid the dangerous and possibly fatal effects of drug overdose, an individual who has "passed out" or shows other signs of serious effects from drug use should immediately be brought to the attention of Public Safety, RIT Ambulance, the Residence Life staff, or some other person able to assist or to get assistance. Seeking such help is encouraged by RIT.
- Students violating the RIT student alcohol and drug policy will be subject to the campus judicial process, published in the Student Rights and Responsibilities Handbook, and the judicial actions and sanctions described in this policy. RIT students will be held responsible for the behavior of their guests. All guests or visitors to the campus also must comply with the provisions of this policy or risk removal from the campus and possible future restriction from campus property.

Sanctions Regarding Violations of RIT Student Drug Policy

If a student or student organization violates the RIT drug policy, the following judicial outcomes should be anticipated:

BEHAVIOR	CONSEQUENCES
Use/possession of illegal drugs	First Offense: Deferred disciplinary suspension; deferred removal or removal from RIT housing; possible referral for a chemical dependency screening and alternative education program Second Offense: Disciplinary suspension or dismissal; drug treatment while on suspension from the university
Selling or trafficking of illegal drugs	Disciplinary suspension, dismissal or expulsion; referral to local law enforcement agencies

These guidelines are examples of responses that will most likely result when there have been violations of the RIT drug policy. Each incident is handled individually. The prior judicial background of the student(s) involved and the impact of the incident on the student and the RIT community are considered when decisions are rendered. In some cases, even though it may be a first offense, the impact of an incident may call for a more serious response. A sanction of deferred suspension or higher will require the dependent student to notify his/her parents or legal guardians about the decision and have the parents or legal guardians contact the Center for Student Conduct and Conflict Management Services for verification.

RIT process for student misconduct

RIT has established well-defined processes for handling student misconduct cases while protecting the civil and academic rights of all members of the RIT community. Student conduct and appeals processes are administered through the Center for Student Conduct and Conflict Management Services. Sanctions imposed upon those found responsible for violating the RIT conduct code may range from a written warning to restitution to disciplinary suspension, dismissal, and expulsion from the university. Students suspended from RIT may not enroll in any course until such time as the suspension is waived by the Center for Student Conduct and Conflict Management Services.

RIT Conflict Management Services

Students involved in a dispute may utilize RIT Conflict Management Services. Mediation is a process by which students, organizations, faculty, or staff voluntarily meet with trained mediators to discuss ways in which problems or differences can be resolved.

Undergraduate Admission

rit.edu/admission

Freshman admission

Students applying for freshman admission for the fall semester may apply through an **Early Decision Plan** or **Regular Decision Plan**. The Early Decision Plan is designed for those who consider RIT their first-choice college and wish to receive an early notification regarding admission. Early Decision requires that candidates file their applications and all supporting documents by December 1 in order to receive admission notification by January 15.

Freshmen who choose not to apply for Early Decision are considered under our Regular Decision Plan. Regular Decision applicants who have provided all required application materials by February 1 will receive admission notification by March 15. Applications received after February 1 will be reviewed on a space-available basis, with notification letters mailed four to six weeks after the application is completed.

All applications for spring or summer semester entry are reviewed as they are received, and notification letters are mailed four to six weeks after all application credentials are received. Some programs are limited to fall entry only.

Transfer admission

Applications for transfer admission are reviewed as they are received, and notification letters are mailed four to six weeks after the application is completed. Because some programs fill to capacity, it is strongly recommended that transfer applicants complete their application by March 15 for fall or summer admission and by November 15 for spring admission.

A transfer credit evaluation is completed as part of the application process. Transfer credit is granted by the academic departments for course work that is related to students' intended majors, if it is completed at a regionally accredited college or university. Usually a grade of C or better is required for transfer credit to be awarded.

There is no limit on the number of credit hours that can be awarded. However, a recipient of a two-year degree from an accredited university cannot receive more than 60 semester credits for that degree. A matriculated undergraduate student's year level is determined by the number of credit hours the student has earned, according to this scale:

YEAR LEVEL	1- 4-YEAR PROGRAMS	5-YEAR PROGRAMS
1	0-26	0-26
2	27-55	27-55
3	56-84	56-75
4	85-above	76-95
5		96-above

Specific instructions for completing the application process are contained in the application packet (also online). Be sure to read the instructions carefully before applying.

Factors considered in the admissions decision include, but are not limited to, past high school/college performance (particularly in required academic subjects), admission test scores, competitiveness of high school or previous college, art portfolio (if required for major), and related experiences (work, military, etc.). Recommendations from those familiar with your academic performance and interviews with admissions counselors often are influential.

If you are accepted for admission, a $300 nonrefundable enrollment deposit reserves a place in your class and is credited to your first-semester costs at RIT. The due date for this deposit is indicated with each offer of admission.

International applicants

International students whose native language is not English must submit results of the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) examination along with the requirements listed below. International applicants applying for fall semester (August) admission should have all educational records and admission materials on file by March 1. Applications are reviewed on a rolling basis, with admissions notification four to six weeks after all materials are received by RIT.

Application requirements

In order to complete the application process, you need to submit the following:

1. A fully completed application for admission (includes any required supplemental forms);
2. A nonrefundable $60 application fee;
3. An official high school transcript for all freshman applicants and transfer students with fewer than 30 semester hours completed at the time of application;
4. Official American College Test (ACT) or Scholastic Reasoning Test (SAT-I) results for all freshman applicants;
5. Official transcripts of all completed college course work and a list of any courses in progress (and not on the transcript) or courses to be completed before enrolling at RIT; and
6. A portfolio of original artwork as part of the application process for students applying for admission to academic majors offered by the schools of American Crafts, Art, and Design. Please review the portfolio guidelines available at cias.rit.edu/prospective-students/portfolio-guide before submitting your portfolio.

Early admission: Students who complete the prescribed number and distribution of high school units in three years, with the exception of fourth-year English/history, may seek admission under an Early Admission Program. Please contact the Undergraduate Admissions Office for details.

Placement testing for admitted students: Many majors at RIT depend on a solid foundation in mathematics. In an effort to enable students to succeed in their college mathematics courses, the School of Mathematical Sciences developed a Mathematics Placement Exam. This exam is taken by all entering students whose majors require a calculus sequence. It assesses students' mastery of some of the fundamental mathematical concepts they have seen in their high school mathematics courses. Students without a calculus sequence who are not sure

about the appropriate mathematics course with which to begin their studies may contact the department of mathematics and statistics at (585) 475-5780 to arrange for a special mathematics diagnostic test.

The Writing Placement Exam is an online exam in which students are given sixty minutes to read one of two short prompts and write a three paragraph response. The outcome of the exam has no effect on GPA; it is only used to determine which level writing course a student should enroll in first. All first-year students are required to take the exam unless they meet one of the following criteria:

- A score of 560 or higher on the verbal section of the SAT
- A score of 23 or higher on the English portion of the ACT
- A score of 6 or higher on the SAT essay exam.

Note: Incoming freshmen must take the online exam prior to June 30 in order to be enrolled in either Critical Reading and Writing or First Year Writing for the fall semester.

New York State immunization requirement: New York State Public Law 2165 requires that all matriculated students enrolled for more than 6 credit hours in a term and born after January 1, 1957, must provide RIT's Student Health Center with proof that they have received the appropriate immunizations against measles, rubella, and mumps. Immunization requirements include two measles vaccinations, at least one month apart, with a live virus (after January 1, 1968, and after the first birthday) and one vaccination each against mumps and rubella (after January 1, 1969, and after the first birthday). Additional information concerning the necessary documentation and where it must be sent is included with the Admissions Office acceptance packet or available from the Student Health Center office.

Admissions services and campus visits: Selecting the appropriate college is a difficult decision, and visiting a campus often helps students form more accurate impressions. We encourage campus visits and personal admission interviews because they allow students to see our outstanding facilities firsthand and get answers to questions they may have while examining personal, academic, and career goals.

Experienced admissions counselors are available to provide information and assist students with exploring academic options. Students may choose to participate in Admissions Open House programs or arrange personal interviews and campus tours. These options are not required for admission. An appointment for an admissions visit and campus tour may be scheduled by contacting the Undergraduate Admissions Office via our website, rit.edu/admissions, or calling (585) 475-6631. Office hours are Monday through Friday, 8:30 a.m. to 4:30 p.m. EST.

Deaf and hard-of-hearing students who wish to enter NTID or another RIT college may contact the NTID Office of Admissions by sending an e-mail to www.ntid.rit.edu or calling (585) 475-6700 (voice/TTY). Office hours are Monday through Friday, 8:30 a.m. to 4:30 p.m. EST.

Part-time enrollment services: The Office of Part-time Enrollment Services provides central information and counseling services to students interested in enrolling in part-time undergraduate studies offered through RIT's various colleges and schools. Contact the office if assistance is needed in selecting an academic major, exploring financial aid opportunities, registering for classes, or receiving information about any aspect of part-time study at RIT.

Staff members are available to assist you from 8:30 a.m. to 6 p.m., Monday through Thursday, and from 8:30 a.m. to 4:30 p.m. on Friday. We invite you to visit our website at rit.edu/parttime, call (585) 475-2229 for information, or visit our office on the lower level of the Bausch & Lomb Center on campus.

Applying to NTID

In addition to the six application requirements listed above for admission to RIT, deaf and hard-of-hearing students applying for admission to programs offered at the National Technical Institute for the Deaf (NTID) or to any other college of RIT must submit the Audiological Record Form or submit an audiogram without the form. All audiograms must be unaided and have been completed within three years of the application date. This form is required in order to qualify for educational access and support services as well as NTID's federally supported tuition rate. Eligibility for NTID access and support services, which is agreed upon by RIT and the United States Department of Education, includes this criteria:

Hearing loss: An audiogram is required. Students must demonstrate a significant hearing loss and demonstrate the ability to benefit from the models used at RIT/NTID designated specifically to provide access to academic programs for deaf and hard-of-hearing students.

The NTID Office of Admissions adheres to the same application deadlines and notification dates for early and regular decision as outlined in the freshman admission text in this section.

Deaf and hard-of-hearing students may enter into an NTID program, or they may qualify for entry directly into a program in another RIT college with NTID sponsorship. The transfer credit of deaf students accepted to NTID's Summer Vestibule Program will be evaluated in the fall when they are accepted into a specific program.

College profiles and admission requirements

College of Applied Science and Technology

Students

Undergraduate (main campus)	1630
Graduate	300

Majors and Options

School of Engineering Technology
- Civil Engineering Technology
- Computer Engineering Technology
- Computer Engineering Technology/ Audio Option
- Computer Engineering Technology/ Telecommunications Option
- Electrical Engineering Technology
- Electrical Engineering Technology/Audio Option
- Electrical Engineering Technology/ Telecommunications Option
- Electrical/Mechanical Engineering Technology
- Environmental Sustainability, Health and Safety
- Manufacturing Engineering Technology
- Mechanical Engineering Technology
- Packaging Science
- Undeclared Engineering Technology Option[1]

School of International Hospitality and Service Innovation
- International Hospitality and Service Management

SAT (CR+M+W) ACT (Composite) — Middle 50% of Accepted Applicants

	SAT	ACT
Engineering Technology	1600-1840	24-28
Environmental Sustainability, Health and Safety	1680-1940	25-29
Hospitality and Service Management	1510-1720	25-29
Packaging Science	1560-1890	25-30

Minimum High School Preparation

	Engineering Technology	Environmental Sust., Health and Safety	International Hospitality and Service Innovation	Packaging Science
Math				
Algebra	●	●	●	●
Geometry	●	●	●	●
Trigonometry	●	●	▲	●
Pre-calculus	▲			▲
At Least 2 Years of Science				
Biology	▲	▲		▲
Chemistry	■	■		▲
Physics	■	■		

Additional Requirements
- Solid academic performance in a college preparatory program including the courses listed above
- Technology courses also desirable for engineering technology applicants

Saunders College of Business

Students

Undergraduate (main campus)	690
Graduate	300

Majors and Options
- Accounting
- Finance
- International Business
- Management
- Management Information Systems
- Marketing
- New Media Marketing
- Undeclared Business Option[1]

SAT (CR+M+W) ACT (Composite) — Middle 50% of Accepted Applicants

	SAT	ACT
Business	1590-1850	22-28

Minimum High School Preparation

	Business
Math	
Algebra	●
Geometry	●
Trigonometry	▲
Pre-calculus	▲
At Least 2 Years of Science	
Biology	
Chemistry	
Physics	

Additional Requirements
- Solid academic performance in a college preparatory program including the courses listed above
- Strong selection of courses emphasizing communications/writing also desirable

B. Thomas Golisano College of Computing and Information Sciences

Students

Undergraduate (main campus)	2725
Graduate	675

Majors and Options
- Computer Science
- Computing Security
- Game Design and Development
- Information Technology
- Networking and Systems Administration
- New Media Interactive Development
- Software Engineering
- Computing Exploration Option[1] (Undeclared Computing) (For students deciding among Computer Science, Computing Security, Information Technology, Networking and Systems Administration, or Software Engineering.)

SAT (CR+M+W) ACT (Composite) — Middle 50% of Accepted Applicants

	SAT	ACT
Computer Science	1810-2070	28-33
Computing Security	1650-1930	26-30
Information Technology, Networking and Systems Administration	1560-1830	23-28
Game Design and Development, New Media Interactive Development	1860-2060	29-33
Software Engineering	1690-1960	27-31

Minimum High School Preparation

	Computer Science	Computing Security	Information Sciences and Technologies	Interactive Games and Media	Software Engineering
Math					
Algebra	●	●	●	●	●
Geometry	●	●	●	●	●
Trigonometry	●	●	●	●	●
Pre-calculus	▲	▲	▲	●	▲
At Least 2 Years of Science					
Biology					
Chemistry	■	■	▲	■	■
Physics	■	■	▲	■	■

Additional Requirements
- Strong academic performance in a college preparatory program including the courses listed above
- Computer programming course(s) also desirable

Kate Gleason College of Engineering

Students

Undergraduate (main campus)	2585
Graduate	645

Majors and Options
- Biomedical Engineering
- Chemical Engineering
- Computer Engineering
- Electrical Engineering
- Electrical/Computer Engineering Option
- Electrical/Energy Option
- Electrical/Robotics Option
- Electrical/Wireless Communications Option
- Industrial Engineering
- Industrial/Ergonomics Option
- Industrial/Lean Six Sigma Option
- Industrial/Manufacturing Option
- Industrial/Supply Chain Management Option
- Mechanical Engineering
- Mechanical/Aerospace Option
- Mechanical/Automotive Option
- Mechanical/Bioengineering Option
- Mechanical/Energy and Environment Option
- Microelectronic Engineering
- Engineering Exploration Program[1]

SAT (CR+M+W) ACT (Composite) — Middle 50% of Accepted Applicants

	SAT	ACT
Engineering	1800-2050	27-32

Minimum High School Preparation

	Engineering
Math	
Algebra	●
Geometry	●
Trigonometry	●
Pre-calculus	●
At Least 2 Years of Science	
Biology	†
Chemistry	●
Physics	●

Additional Requirements
- Strong academic performance in a college preparatory program including the courses listed above

† Biomedical engineering requires biology.

College of Health Sciences and Technology

Students

Undergraduate (main campus)	545
Graduate	35

Majors and Options[2]
- Biomedical Sciences
- Diagnostic Medical Sonography (Ultrasound)
- Nutrition Management
- Physician Assistant Program (BS/MS)

SAT (CR+M+W) ACT (Composite) — Middle 50% of Accepted Applicants

	SAT	ACT
Health Sciences and Technology	1620-1910	26-30

Minimum High School Preparation

	Biomedical Sciences	Diagnostic Medical Sonography	Nutrition Management	Physician Assistant
Math				
Algebra	●	●	●	●
Geometry	●	●	●	●
Trigonometry	●	●	▲	●
Pre-calculus	▲	▲		▲
At Least 2 Years of Science				
Biology	●	●		●
Chemistry	●	■	●	●
Physics	▲	■		▲

Additional Requirements
- Strong academic performance in a college preparatory program including the courses listed above

College profiles and admission requirements (continued)

College of Imaging Arts and Sciences

Students

Undergraduate (main campus)	1850
Graduate	310

Majors and Options

School of Art
Fine Arts Studio, Illustration, Medical Illustration, Undeclared Art Option[1]

School of Design
3D Digital Design, Graphic Design, Industrial Design, Interior Design, New Media Design, Undeclared Design Option[1]

School for American Crafts
Ceramics, Furniture Design, Glass, Metals and Jewelry Design, Undeclared Crafts Option[1]

School of Film and Animation
Film and Animation
Motion Picture Science

School of Media Sciences
Media Arts and Technology

School of Photographic Arts and Sciences
Photographic and Imaging Arts
Advertising Photography Option, Fine Art Photography Option, Photojournalism Option, Visual Media Option
Photographic and Imaging Technologies
Biomedical Photographic Communications Option, Imaging and Photographic Technology Option

SAT (CR+M+W) ACT (Composite) Middle 50% of Accepted Applicants

	SAT	ACT
Art, Design, Crafts	1630-1940	24-30
Film & Animation	1710-1960	26-31
Photographic Arts and Sciences	1530-1860	23-28
Print Media	1510-1790	23-28

Minimum High School Preparation

	Art, Design,* American Crafts	Film and Animation	Media Sciences	Photographic Arts and Sciences
Math				
Algebra	●	●	●	●
Geometry	●	●	●	●
Trigonometry		‡	●	
Pre-calculus		‡		
At Least 2 Years of Science				
Biology				†
Chemistry		‡	■	
Physics		‡	■	

Additional Requirements
– Solid academic performance in a college preparatory program including the courses listed above
* Studio art experience and a portfolio of original artwork are required for all art, design, and crafts majors.
– Medical illustration major requires 2 years of science (biology preferred).
† Biomedical photographic communications option requires biology.
‡ Motion picture science requires trigonometry and chemistry or physics. Pre-calculus is recommended.

College of Liberal Arts

Students

Undergraduate (main campus)	560
Graduate	90

Majors and Options

Advertising and Public Relations
Communication
Criminal Justice
Economics
International and Global Studies
Journalism
Museum Studies
Philosophy
Political Science
Psychology
Public Policy
Sociology and Anthropology
Liberal Arts Exploration[1]

SAT (CR+M+W) ACT (Composite) Middle 50% of Accepted Applicants

	SAT	ACT
Liberal Arts	1590-1870	24-29

Minimum High School Preparation

	Liberal Arts
Math	
Algebra	●
Geometry	●
Trigonometry	†
Pre-calculus	
At Least 2 Years of Science	
Biology	
Chemistry	
Physics	

Additional Requirements
– Solid academic performance in a college preparatory program including the courses listed above
– Strong performance in English and social studies courses also expected
† Public policy major requires trigonometry.

National Technical Institute for the Deaf

Students

Associate Degree Programs	670
NTID-supported in BS/BFA Programs	675

Majors and Options

Accounting Technology
Administrative Support Technology
Administrative Support Technology (AS+BS)[3]
Business (AS+BS)[3]
Business Technology
Hospitality and Service Management (AS+BS)[3]
Applied Computer Technology
Applied Computer Technology (AS+BS)[3]
Applied Liberal Arts (AS+BS)[3]
Arts and Imaging Studies
American Sign Language-English Interpretation (BS)
Applied Mechanical Technology (AS+BS)[3]
Civil Technology (AS+BS)[3]*
Computer Aided Drafting Technology
Computer Integrated Machining Technology
Laboratory Science Technology
Laboratory Science Technology (AS+BS)[3]
Pre-baccalaureate Studies
Career Exploration Studies[1]

SAT (CR+M+W) ACT (Composite) Middle 50% of Accepted Applicants

	SAT	ACT
Associate Degree Programs		
Career-focused	1020-1230	14-17
(AS+BS)[3] and Pre-baccalaurate	1290-1470	18-21
ASL-English Interpretation	1590-1940	23-29
NTID-supported BS/BFA Programs	See scores for desired RIT program	See scores for desired RIT program

Minimum High School Preparation

	Associate-Level Programs	Pre-baccalaureate Programs	ASL-English Interpretation
Math			
Algebra	●	●	●
Geometry	●	●	●
Trigonometry	†	†	▲
Pre-calculus		▲	
At Least 2 Years of Science			
Biology	●	●	
Chemistry	●	●	
Physics	‡	‡	

Additional Requirements
– Strong performance in English courses and two years of foreign language recommended for ASL-English Interpretation major
† Science, engineering, and transfer programs require three or more years of mathematics.
‡ Engineering and science majors require three or more years of science.

College of Science

Students

Undergraduate (main campus)	795
Graduate	235

Majors and Options[2]

Applied Mathematics
Applied Statistics
Biochemistry
Bioinformatics
Biology
Biotechnology and Molecular Bioscience
Chemistry
Computational Mathematics
Environmental Science
Imaging Science
Physics
Science Exploration (Undeclared Option)[1]

SAT (CR+M+W) ACT (Composite) Middle 50% of Accepted Applicants

	SAT	ACT
Science	1710-1990	27-32

Minimum High School Preparation

	Biology or Life Science	Chemistry Programs	Environmental Science	Science Exploration	Imaging Science	Mathematics/Statistics	Physics
Math							
Algebra	●	●	●	●	●	●	●
Geometry	●	●	●	●	●	●	●
Trigonometry	●	●	●	●	●	●	●
Pre-calculus	▲	▲	▲	▲	●	▲	●
At Least 2 Years of Science							
Biology	●		●	▲		▲	†
Chemistry	●	●	●	▲	■	▲	†
Physics		▲		▲	■	▲	●

Additional Requirements
– Strong academic performance in a college preparatory program including the courses listed above
† Physics major requires chemistry or biology.

Pre-Professional Studies

Students interested in pre-professional studies (pre-law, pre-med and other pre-health professions) may enroll in any major at RIT and then take advantage of the advising and student organizations associated with their respective interests.

University Studies Option

The University Studies option is coordinated by the Division of Academic Affairs for students who wish to explore majors across two or more of RIT's colleges. The program provides students one year to explore and focus their academic and career interests.

Admission to this program is based on high school performance, standardized test scores, and appropriate preparation for possible academic interests.

Please refer to admissions requirements in the colleges that correspond to your possible interests.

Applied Arts and Science Program

This program offers students the opportunity to create individualized undergraduate programs of technical and professional study.

The applied arts and science program is particularly appropriate for individuals who have prior college-level learning, are interested in changing majors, have unique ideas about how they want to design their academic areas of study, or want to prepare themselves for a career that requires skills and expertise from several disciplines.

● Required for admission
■ Requires Chemistry *or* Physics
▲ Recommended (not required)

*Pending New York state approval.

[1]A one-year program for students wishing to explore alternatives before selecting a specific major within this RIT college or school.

[2]Students interested in premedicine, predentistry, preveterinary, or preoptometry advising programs may select any major at RIT.

[3]These are associate degree programs that prepare students to enroll in RIT bachelor's degree programs.

Information is correct at time of printing.

The information in this chart is provided to help you determine the major or option that is the best fit for you. Factors considered in our admission decisions include, but are not limited to, past academic performance (especially in required academic subjects), admission test scores, competitiveness of high school, and academic major selected.

Transfer Admission Guidelines

COLLEGE OF APPLIED SCIENCE AND TECHNOLOGY		
Majors and Options	**Transfer Course Recommendations without Associate Degree**	**Appropriate Associate Degree Programs for Transfer**
School of Engineering Technology		
Civil Engineering Technology	Courses in mathematics, science, engineering science, and engineering technology	Civil, Construction, Environmental, Architectural, Transportation, or Surveying Technology; Engineering Science
Computer Engineering Technology	Courses in computer science, math, science, engineering science, and engineering technology	Computer Technology, Electrical or Electronic Technology, or Computer Science
Electrical Engineering Technology	Courses in mathematics, science, engineering science, and engineering technology	Electrical Technology, Electronic Technology, Engineering Science
Electrical Mechanical Engineering Technology	Courses in mathematics, science, engineering science, and engineering technology	Electrical or Mechanical Technology, Electronic Technology, Engineering Science
Environmental Sustainability, Health and Safety	Math through Calculus I, micro and macro economics, introductory courses in biology, chemistry, and physics	Biology, Chemistry, or Environmental Sciences; Business or Public Administration; Liberal Arts with math/science
Manufacturing Engineering Technology	Courses in mathematics, science, engineering science, and engineering technology	Manufacturing, Mechanical, Drafting and Design, Robotics, or Electromechanical Technology; Engineering Science
Mechanical Engineering Technology	Courses in mathematics, science, engineering science, and engineering technology	Mechanical, Design and Drafting, Air Conditioning, or Electromechanical Technology; Engineering Science
Packaging Science *Management Option* *Printing Option* *Technical Option*	Courses in business, mathematics, science, liberal arts, statistics, or computer science	Business Administration, Marketing, Management, Graphic Arts, Engineering Science, Liberal Arts with math/science
School of International Hospitality and Service Innovation		
International Hospitality and Service Management	Courses in business and economics, foreign language, math, science, and liberal arts.	Dietetics or Nutrition, Foodservice Management, Hotel/Resort Management, Restaurant Management, Travel/Tourism Management, Agriculture and Technology, Business, or Liberal Arts

SAUNDERS COLLEGE OF BUSINESS		
Majors and Options	**Transfer Course Recommendations without Associate Degree**	**Appropriate Associate Degree Programs for Transfer**
Accounting	Courses in economics, accounting, liberal arts, science, and mathematics	AS degree in Accounting or Business Administration
Finance International Business Management Marketing New Media Marketing	Courses in economics, liberal arts, science, and mathematics	AS degree in Business Administration or Liberal Arts
Management Information Systems	Courses in liberal arts, math, science, economics, and computer science	AS degree in Data Processing/Management Information Systems or in Business Administration

B. THOMAS GOLISANO COLLEGE OF COMPUTING AND INFORMATION SCIENCES		
Majors and Options	**Transfer Course Recommendations without Associate Degree**	**Appropriate Associate Degree Programs for Transfer**
Computer Science Department		
Computer Science	Courses in computer science, calculus, liberal arts; calculus-based physics, chemistry, or biology	AS degree in Computer Science, Engineering Science, or Liberal Arts
Computing Security Department Computing Security	Courses in programming, computer applications, calculus, lab sciences, liberal arts	AS degree in Computer Applications, Computer Science, Information Technology, or Liberal Arts
Information Sciences and Technologies Department Information Technology Medical Informatics Networking and Systems Administration		
School of Interactive Games and Media Game Design and Development New Media Interactive Development		
Software Engineering Department Software Engineering	Courses in computer science, calculus, liberal arts; calculus-based physics, chemistry, or biology	AS degree in Computer Science, Engineering Science, or Liberal Arts

KATE GLEASON COLLEGE OF ENGINEERING		
Majors and Options	**Transfer Course Recommendations without Associate Degree**	**Appropriate Associate Degree Programs for Transfer**
Biomedical Engineering Chemical Engineering Computer Engineering Electrical Engineering *Electrical/Computer Engineering Option* *Electrical/Energy Option* *Electrical/Robotics Option* *Electrical/Wireless Communications Option* Industrial Engineering *Industrial/Ergonomics Option* *Industrial/Lean Six Sigma Option* *Industrial/Manufacturing Option* *Industrial/Six Sigma Option* *Industrial/Supply Chain Management Option* Mechanical Engineering *Mechanical/Aerospace Option* *Mechanical/Automotive Option* *Mechanical/Bioengineering Option* *Mechanical/Energy and Environment Option* Microelectronic Engineering	Pre-engineering courses such as calculus, calculus-based physics, chemistry, and liberal arts. Computer science courses for computer engineering applicants.	AS degree in Engineering Science (plus computer science electives for computer engineering applicants)

COLLEGE OF HEALTH SCIENCES AND TECHNOLOGY		
Majors and Options	**Transfer Course Recommendations without Associate Degree**	**Appropriate Associate Degree Programs for Transfer**
Biomedical Sciences	Courses in liberal arts, sciences, and math	AS degree in Biology or Liberal Arts with biology option
Diagnostic Medical Sonography (Ultrasound)	Courses in liberal arts, sciences, and math	AS degree in Liberal Arts with science option; Allied Health; Radiologic Technology
Nutrition Management	Courses in liberal arts, sciences, and math. Science courses are required for Nutrition Management major.	Dietetics or Nutrition, Foodservice Management, or Liberal Arts
Physician Assistant *(Fall Entry Only)*	Courses in liberal arts, sciences, and math	AS degree in Liberal Arts with science option; Allied Health areas

COLLEGE OF IMAGING ARTS AND SCIENCES		
Majors and Options	**Transfer Course Recommendations without Associate Degree**	**Appropriate Associate Degree Programs for Transfer**
School of Art Fine Arts Studio, Illustration, Medical Illustration **School of Design** 3D Digital Design, Graphic Design, Industrial Design, Interior Design, New Media Design **Transfer Adjustment *(Summer Entry)*** All Art and Design programs	Courses in studio art, art history, and liberal arts. A portfolio of original artwork is required to determine admissions, studio art credit, and year level in the program.	Related programs or studio art experience in desired disciplines. A portfolio of original artwork is required to determine admissions, studio art credit, and year level in the program. Summer courses can lead to third-year status in most programs.
School for American Crafts Ceramics, Furniture Design, Glass, Metals and Jewelry Design	Courses in art history, studio art, and liberal arts. A portfolio of original artwork is required to determine admissions, studio art credit and year level in the program.	Transfer as a third-year student is uncommon, as comparable programs are not generally available at other colleges. A portfolio of original artwork is required.
School of Film and Animation Film and Animation	Courses in liberal arts, science, design, drawing, and film, video, or animation	Transfer as a third-year student is uncommon, as comparable programs are not generally available at other colleges
Motion Picture Science	Courses in calculus or higher mathematics, college chemistry, calculus-based physics, and liberal arts	Transfer as a third-year student is uncommon, as comparable programs are not generally available at other colleges
School of Media Sciences Media Arts and Technology	Courses in liberal arts, college math, physics and chemistry, business	Transfer from associate degree programs considered on an individual basis
School of Photographic Arts and Sciences Photographic and Imaging Arts *Advertising Photography Option* *Fine Art Photography Option* *Photojournalism Option* *Visual Media Option*	Courses in liberal arts, photography, design, and art history. Portfolio required for photo credit.	Applied Photography. Portfolio required for photo credit.
Photographic and Imaging Technologies *Biomedical Photographic Communications Option*	Courses in biology, photography, and liberal arts. Portfolio required for photo credit.	No common program available
Imaging and Photographic Technology Option	Courses in college physics, mathematics, photography, and liberal arts. Portfolio required for photo credit.	No common program available
Transfer Adjustment *(Summer Entry):* Available in all photography programs		Transfer adjustment leading to second- or third-year status in most programs

COLLEGE OF LIBERAL ARTS

Majors and Options	Transfer Course Recommendations without Associate Degree	Appropriate Associate Degree Programs for Transfer
Advertising and Public Relations	Courses in advertising, marketing, communications, liberal arts, and science	Advertising, Business/Marketing, Communications, Public Relations, or Liberal Arts
Communication	Courses in liberal arts, math, science, and computer science	Liberal Arts with emphasis in communication and a technical field such as business, photography, or computer science
Criminal Justice	Courses in criminal justice or related areas, liberal arts, math, and science	Criminal Justice, Human Services, or Liberal Arts
Economics	Courses in business, liberal arts, math, science, and computer science	AS degree in Business Administration or Liberal Arts
International and Global Studies Political Science	Courses in liberal arts, science, foreign language, and history	Liberal Arts with social sciences, sciences, or languages
Journalism	Courses in liberal arts, math, science, and computer science	Liberal Arts with emphasis in communication and a technical field such as business, photography, or computer science
Museum Studies	Courses in liberal arts, art history, studio arts, photography, business, and chemistry	Fine Arts, Liberal Arts, or Business/Marketing
Philosophy	Courses in liberal arts, math, science, philosophy, and ethics	Liberal Arts
Psychology	Courses in liberal arts, sciences, social sciences	Liberal Arts with science or social science
Public Policy Sociology and Anthropology	Courses in liberal arts, sciences, and math	Liberal Arts, Environmental Studies, Economics, Government, Science

NATIONAL TECHNICAL INSTITUTE FOR THE DEAF

Majors and Options	Transfer Course Recommendations without Associate Degree	Appropriate Associate Degree Programs for Transfer
Accounting Technology, Administrative Support Technology, Applied Computer Technology, Applied Mechanical Technology, ASL-English Interpretation, Business, Business Technology, Computer Aided Drafting Technology, Computer Integrated Machining Technology, Laboratory Science Technology, Pre-baccalaureate Studies	Transfer requirements vary by program.	Transfer requirements vary by program. Please contact NTID Department of Admissions, 585-475-6700, toll free in the U.S. and Canada at 866-644-6843, or by video-phone at 585-743-1366.

COLLEGE OF SCIENCE

Majors and Options	Transfer Course Recommendations without Associate Degree	Appropriate Associate Degree Programs for Transfer
Chester F. Carlson Center for Imaging Science Imaging Science	Courses in math, computer science, and liberal arts	AS degree in Liberal Arts with math/science option, Computer Science, Engineering Science, Science
Thomas H. Gosnell School of Life Sciences Biology	Courses in liberal arts, sciences, and math	AS degree in Biology or Liberal Arts with biology option
Bioinformatics Biotechnology and Molecular Bioscience	Courses in liberal arts, sciences, math, and computing	AS degree in Biotechnology or Liberal Arts with biology
Environmental Science	Courses in liberal arts, sciences, and math	AS degree in Biology, Chemistry, Environmental Science, Liberal Arts with science option
School of Mathematical Sciences Applied Mathematics Applied Statistics Computational Mathematics	Courses in liberal arts, physics, math, and chemistry	AS degree in Liberal Arts with math/science option
School of Chemistry and Materials Science Biochemistry Chemistry	Courses in liberal arts, chemistry, math, and physics	AS degree in Liberal Arts with chemistry option; Chemical Technology, Laboratory Technology
School of Physics and Astronomy Physics	Courses in calculus or higher mathematics, college chemistry, calculus-based physics, and liberal arts	No common program available.

CENTER FOR MULTIDISCIPLINARY STUDIES

Majors and Options	Transfer Course Recommendations without Associate Degree	Appropriate Associate Degree Programs for Transfer
Applied Arts and Science		The applied arts and science program is particularly appropriate for individuals who have prior college-level learning, are interested in changing majors, have unique ideas about how they want to design their academic areas of study, or want to prepare themselves for a career that requires skills and expertise from several disciplines.

University Costs

The following information is provided to assist students and their families in understanding the full range of student financial aid and scholarship programs available to undergraduates, as well as the costs, payment procedures, and refund policies associated with student enrollment at RIT.

Costs and payment procedures

Charges for tuition, fees, and room and board are computed on a term basis. University billing statements may be paid by cash, check, or electronic check (e-check). The university does not accept credit card payments for tuition, fees, and room and board that appear on the student billing statement. However, we have an arrangement for a third-party vendor to accept MasterCard, VISA, and Discover Card when payment is made online. The vendor does charge a service fee for each credit card transaction.

Billing-related payments by check may be mailed to: Rochester Institute of Technology, Student Financial Services, P.O. Box 92878-200, Rochester, N.Y. 14692-8978. Payment also may be made in person at the Student Financial Services Office on the first floor of the Student Services Center. Credit card and e-check payment information can be found on the Student Financial Services website at rit.edu/eservices.

Due dates are clearly designated on the billing statement and our website. Failure to pay the amount due or arrange an optional payment plan by the due date will result in a late payment fee for students without a valid deferral.

Due dates for the 2014-2015 academic year are as follows:
Fall Semester—August 15, 2014
Spring Semester—January 15, 2015
Summer Term—May 15, 2015

Tuition assessment policies

1. Degree-seeking day college students are charged the undergraduate rate for all courses taken, including those courses taken while on co-op.

2. Students on co-op will not be charged tuition for those semesters unless they also are enrolled in classes.

3. Non-degree seeking students are charged for the type of course taken (day rate for day courses, graduate rate for graduate courses).

4. Students taking courses during summer semester should refer to the Summer Bulletin for policies and procedures.

FEE SCHEDULE 2014–15
(DEGREE-SEEKING DAY COLLEGE STUDENTS EXCEPT NTID)*

Tuition	Per Semester	Per Year (Two Semesters)
Full-time Undergraduate (12–18 Cr. Hrs.)	$17,628	$35,256
Part-time Undergraduate (Less than 12 Cr. Hrs.)	$1,259/Cr. Hr	
Student Activities Fee *(Mandatory Charge)*		
Full-time Undergraduate	$130	$260
Part-time Undergraduate	$65	$130
Student Health Fee *(Mandatory Charge)*		
Full-time Undergraduate	$126	$252
Residence Hall Room Charges §		
Double Occupancy	$3,379	$6,758
Single Occupancy	$3,886	$7,772
Board/Meal Plans **		
20 Plan	$2,605	$5,210
14 Meals (Includes $157 debit/ sem.) + 5 meal options	$2,405	$4,810
10 Meals (Includes $650 debit/ sem.) + 5 meal options	$2,405	$4,810
Part Time Programs		
1 -11 credit hours		$807/Cr. Hr.
12-18 credit hours		$17,628

* See the National Technical Institute for the Deaf section of this bulletin for NTID cost information.
§ Additional single-occupancy rates are available, depending on square footage of rooms.
**Additional meal plans also are available, providing for different meal and debit account amounts. Information can be obtained from RIT Food Service upon request.

Other fees

In addition to the fees specified below, certain groups of students may incur other fees, as follows:

Orientation fees:
New freshman students: $225 (one-time charge)
New transfer students: $105 (one-time charge)

Photo/print facilities fee: $149 charged to all full-time photo and print media students; $75 per term charged to all part-time photography and print media students

Some courses require additional charges to cover laboratory, studio, or supply fees. Consult the registrar's schedule for those courses with additional fees.

Costs for books and supplies: These costs vary with the program followed and, to some extent, the electives chosen. In programs with minimal expenses (e.g., liberal arts, business, hospitality),

books and supplies will average $1,925 or more annually. In the arts and crafts, costs may range from $900 to $1,100, and in photographic illustration, a realistic allowance is $2,000 a year in addition to cameras and related supplies.

Student accident and sickness insurance: All registered students are required to maintain medical insurance while attending RIT. Insurance coverage can be through RIT, a family member's policy, or a personal policy.

A student accident and sickness insurance plan is available through RIT. There is a separate charge for this insurance. The plan provides coverage, within limits specified in the policy, for sickness and injury, outpatient services, emergency care, and prescriptions.

Enrollment in this plan is voluntary for all students except registered international undergraduate students (full- and part-time) on A, B, E, F, G, I, J, K, O, Q, R, and V visas. These students will be enrolled automatically in the basic accident and sickness policy on a semiannual basis.

There is no need to waive coverage if it is not desired. Students who want to enroll in this plan may enroll online or by mail. An open enrollment period is available at the beginning of each academic semester. Payment can be made by check, money order, or credit card, or the premium can be added to the student's account.

The open enrollment period ends 30 days after the start of the academic semester in which the student first registers at RIT.

For plan and enrollment information, visit the university health plans website at universityhealthplans.com, or call (800) 437-6448. Students are not required to obtain the RIT student accident and sickness insurance plan to receive services at the RIT Student Health Center.

Vocational rehabilitation

Students receiving vocational rehabilitation (VR) support for fees and tuition must file authorization with RIT before registration. If authorization has not been received before registration, students must either obtain from their VR counselors a letter of commitment stating the dollar amount that is authorized and present it to Student Financial Services or be prepared to pay for the charges in question. If authorization is received after a student has paid the charges, he or she will receive a refund.

1. Students must pay all charges not authorized for payment by VR before the semester due date.

2. VR counselors should specify each charge they are covering on their authorization forms.

3. Clarification of VR authorization/billing procedures should be addressed to:

Rochester Institute of Technology
NTID/VR Billing
Student Financial Services
25 Lomb Memorial Drive
Rochester, NY 14623-5603

Financial standing

Students, former students, and graduates are in good financial standing when their account is paid in full through the Student Financial Services Office. A late payment fee will be charged to all student accounts that become past due. This includes, but is not limited to, deferred payment accounts that become past due. Those whose account is not paid in full will not receive transcripts, diplomas, or other forms of recognition or recommendation from the university.

The university reserves the right to change its prices and pricing policies without prior notice.

Electronic billing procedures

The university has an electronic billing (eBill) program for students. Each month, all RIT students receive an e-mail notification on their official university e-mail account stating that their eBill is available. Students have the option of granting additional access to allow for a parent, guardian, sponsor, or other authorized user to receive eBill notifications.

Refund policies

The acceptable reasons for withdrawal with full refund during the semester are:

1. Active military service: A student called to active military service during the first eight weeks of the term may receive a full tuition refund. If called after the eighth week, he or she may elect to complete the course by making special arrangements with both the instructor and department, or may withdraw and receive a full tuition refund. If he or she withdraws, the course must be repeated at a later date.

2. Academic reasons: Students sometimes register before grades for the previous semester are available. If they later find they are subject to academic suspension or have failed prerequisites, they will be given a full refund upon withdrawal.

3. Part-time students: If part-time students drop a course during the official drop/add period (first six days of classes in any semester), they may contact the Student Financial Services Office for a full refund for the course dropped.

A full-time student must officially withdraw from all courses or take a leave of absence in order to be eligible for a partial tuition refund. Students must complete a leave of absence or withdrawal form, which can be initiated with their academic department. A partial refund will be made during a semester if withdrawal/leave of absence is necessitated for one of the following reasons:

1. Illness, certified by the attending physician, causing excessive absence from classes

2. Withdrawal for academic or disciplinary reasons, at the request of RIT, during a semester

3. Transfer by employer, making class attendance impossible

4. Withdrawal for academic, disciplinary, or personal reasons at the request of the student, approved by the student's adviser or department representative and the Student Financial Services Office

Partial refund schedule for tuition

For more information, please visit rit.edu/sfs/refund for refund schedules and questions regarding refund policies.

Please note that nonattendance does not constitute an official withdrawal.

A student is not officially withdrawn until he or she receives a copy of the withdrawal form. The date on which a withdrawal form is properly completed will be the date of official withdrawal used to determine the refundable amount.

If the student drops his or her course load from full-time (12 or more credits) to part-time (less than 12 credits) status during the official drop/add period, he or she may contact the Student Financial Services Office for a refund based on the difference between the full-time tuition charge and the total per-credit charge for the part-time course load.

No refund will be made for classes dropped after the official drop/add period unless the student is officially withdrawing from the university.

Advance deposits are not refundable.

If institutional charges are reduced due to withdrawals, financial aid programs are reimbursed before a cash refund is issued to the student. The student also is responsible for any unpaid balance at the time of withdrawal. Aid programs are reimbursed in the following sequence: Federal Direct Unsubsidized Loan, Federal Direct Subsidized Loan, Graduate PLUS Loan, Parent PLUS Loan, Federal Pell Grants, Federal SEOG, other federal grants, state aid, institutional aid. If a credit balance still remains, the student is then issued a refund.

For further information or comments regarding refund policies and specific withdrawal dates, contact the Student Financial Services Office.

Appeal process

An official appeal process exists for those who feel that individual circumstances warrant exceptions from published policy. The inquiry in this process should be made to Mary Beth Nally, director of Student Financial Services.

Partial refund schedule for room and board

To complete a withdrawal from RIT, a resident student must check out with Housing Operations. All students on a meal plan should check out with the Food Service administrative office, located in the Student Alumni Union, Room A520 (lower level). Refunds, when granted, are from the date of official checkout. Room and board refund policies are established by the Center for Residential Life and RIT Food Service.

Refund schedule and percentages for room and board are as follows:

Room

1. During the first week of classes—90 percent of unused room charge
2. During the second week of classes—75 percent of unused room charge
3. During the third week of classes—60 percent of unused room charge
4. During the fourth week of classes—50 percent of unused room charge
5. Fifth and subsequent weeks—no refund

Board

1. Within the first four weeks—75 percent of the unused meal/debit charges
2. After the fourth week (during week five through the end of week eight)—50 percent of the unused meal/debit charges
3. During the last two weeks of classes—no refund

Any student who intentionally defrauds or attempts to defraud the university of tuition, fees, or other charges, or who gives false information in order to obtain financial aid, is subject to legal liability, prosecution, and university disciplinary action.

Financial Aid and Scholarships

rit.edu/financialaid

RIT feels strongly that cost should not prohibit qualified students from considering RIT. With this in mind, the university offers a full range of financial aid programs.

More than 77 percent of RIT full-time undergraduate students receive some type of financial assistance each year. Last year, RIT undergraduates received more than $285 million from all sources, including more than $165 million in scholarships and grants.

Your financial need

Eligibility for need-based financial aid at RIT begins with three basic requirements: graduation from high school or its equivalent, admission in an approved degree program, and demonstration of financial need. Most financial aid programs also require at least half-time enrollment.

Financial need is the difference between the cost of education and the amount a student is expected to contribute toward those educational costs (the expected family contribution). The formula used to calculate the expected family contribution is called the federal methodology, and use of the formula is required when colleges are determining a student's financial need for any federal financial aid programs. Financial aid programs are designed to supplement the expected family contribution.

The Free Application for Federal Student Aid (FAFSA) should be completed in order to determine a student's financial need. Information on the FAFSA is used to calculate the expected family contribution. All colleges and universities that award federal financial aid use the FAFSA. Students can complete the FAFSA online at fafsa.gov.

Determination of financial aid eligibility can be complex. Therefore, families are encouraged to contact the Office of Financial Aid and Scholarships with any questions or concerns. Students and families are encouraged to pursue all available sources of financial aid. If students are denied financial aid from one source, that does not necessarily mean they will be denied financial aid from another source.

Application

The process of applying for financial aid should begin in January of the year the student plans to attend. The application priority date for freshmen applying for fall entry is March 1. The application priority date for transfer students entering RIT in the fall is March 15. Both freshmen and transfer students applying for spring entry should file the FAFSA by November 1. Current RIT students should submit the FAFSA by April 1. Filing the FAFSA by these priority dates will allow RIT to provide students with financial aid awards when award notification begins. Applications received after these dates will be awarded as long as funds are available.

Students must reapply for financial aid each year by completing the FAFSA. Also, students must maintain minimum standards of satisfactory academic progress. The Office of Financial Aid and Scholarships will make every effort to provide a similar amount of institutional gift aid, provided students apply on time and demonstrate a similar amount of financial need.

Notification

Freshman and transfer students can expect notification of financial aid awards beginning March 15. Current RIT students can expect award notification beginning in June.

Types of aid

At RIT, there are four general categories of financial aid: scholarships, grants, loans, and employment. An applicant for financial aid is considered for each of these categories.

Scholarships

Scholarships generally are awarded on the basis of academic record. RIT awards many such scholarships each year. Other typical scholarship sources include corporations, private donors, foundations, fraternal organizations, unions, and local and state governments.

RIT offers academic merit scholarships to both freshman and transfer students. For example, Presidential Scholarships, Achievement Scholarships, and Computing Medal Scholarships are awarded to freshmen. Trustee Scholarships, Achievement Scholarships, and Phi Theta Kappa Scholarships are awarded to transfer students. Scholarship recipients are chosen on the basis of their academic record, recommendations, extracurricular activities, and requirements for their intended major. The combined value of merit scholarships from all sources cannot exceed tuition. Please contact the Office of Financial Aid and Scholarships for more details on these programs.

The Office of Financial Aid and Scholarships encourages students to apply for scholarships awarded by private organizations. This is an excellent source of funding that may reduce the need to borrow. In many cases, no adjustment to a student's financial aid award is necessary. If we are required by federal regulations to adjust a financial aid award as a result of an outside scholarship, we will make every effort to reduce the student's loan or work study award before reducing RIT need-based grants.

Grants

Grants are gifts of financial assistance awarded on the basis of demonstrated need. Grant award amounts from RIT vary up to $16,000 per academic year. RIT also awards grants under the federally funded Supplemental Education Opportunity Grant Program (SEOG). The Federal Pell Grant and the New York State Tuition Assistance Program (TAP) are additional examples of grants. Other states offer grants as well.

Student loans

Student loans are provided through a formal financial obligation that must be repaid. Students need to be aware of the interest rates, the method of payment after graduation, and the effect that loans will have on their ability to meet later financial obligations. Student loans generally are not repaid until after graduation or termination of study.

Many students utilize the Subsidized Federal Direct Loan or the Unsubsidized Federal Direct Loan in meeting their costs. RIT also

awards Federal Perkins Loans. These programs are administered by the Office of Financial Aid and Scholarships for eligible students.

Parents also are eligible to participate in the Federal Parent Loan for Undergraduate Students (PLUS) program. This program is available to supplement other aid programs in meeting educational costs. While the PLUS is not based on need, the amount borrowed in any year cannot exceed educational costs minus other financial aid received.

Private lenders also offer educational loans to assist families in meeting educational expenses. These loans are available to students who are creditworthy as determined by the lender. We encourage students and families to use alternative loans as a last option after first pursuing all federal loan options. Students have the option of choosing their lender for a private loan. Additional information is available from the Office of Financial Aid and Scholarships.

Employment

Employment opportunities are available to assist RIT students in meeting college expenses. Students may choose to defray some of their expenses by working part time while attending the university.

As part of a financial aid award at RIT, students may be offered employment in the federal work-study program. More than 6,000 students are employed on campus each year. The Student Employment Office also assists students in securing part-time employment off campus.

RIT's cooperative education program is another employment opportunity available to assist in meeting college expenses. Students are encouraged to contact the Office of Cooperative Education and Career Services and their academic adviser to learn more about co-op opportunities.

Academic progress requirements for state aid programs

New York State Tuition Assistance Program (TAP)

In order to receive a TAP grant, an individual must be admitted as a full-time student in an approved program, meet New York State residency and income requirements, pursue the program of study in which he or she is enrolled, and make satisfactory progress toward completion of his or her program of study.

TAP academic requirements are current as of the 2014-15 year. Standards are subject to change by legislative action.

Completion of a course is defined as meeting course requirements and receiving a letter grade of A, B, C, D or F.

State regulations mandate that if a student repeats a course in which a passing grade acceptable to the university was previously received, the repeated course does not count toward the minimum 12-credit-hour course load required for TAP and other state programs.

In addition, an accelerated TAP payment cannot be received unless the recipient completes a minimum of 24 RIT credit hours in the previous two terms. An accelerated term is the third consecutive term of enrollment at RIT.

Waiver of academic progress standards for TAP

Students who have been denied TAP benefits due to failure to maintain satisfactory standards of academic progress may request a one-time waiver of those standards. State regulations require that these waivers be granted only under exceptional or extraordinary circumstances. Students failing to meet satisfactory progress standards will be given the opportunity to contact an institutional representative in the Office of Financial Aid and Scholarships to discuss their situation. The institutional representative will require documentation as appropriate and establish deadlines for submission of this documentation.

Under the regulations established by the Commissioner of Education, the decision of the institutional representative will be final. Students who, in the judgment of the institutional representative, satisfactorily meet the criteria for the waiver may have one waiver at the undergraduate level. Those wishing to apply for waivers must do so during the term in which notification of TAP denial was sent.

Reasons for which a waiver may be granted include the following:

1. Verifiable illness of the student or member of the student's immediate family during the semester in which academic standards were not met
2. Death of a member of the student's family during the semester in which standards were not met
3. Divorce/separation within the student's immediate family creating a demonstrable financial/emotional disruption sufficient to affect progress
4. Circumstances that the student feels were extenuating; applicants must explain why circumstances were extenuating and beyond their control

These regulations are subject to legislative change.

TAP Satisfactory Academic Progress Standards for non-remedial (HEOP) students who received their first TAP award in 2010-2011 and thereafter

	1st	2nd	3rd	4th	5th	6th	7th	8th
Before being certified for this payment	6	12	18	24	30	36	42	48
A Student Must Have Accrused At Least This Many Credits	0	6	15	27	39	51	66	81
With At Least This Grade Point Average	0	1.5	1.8	1.8	2.0	2.0	2.0	2.0
A Student Must Have Completed At Least This Many Credits in Most Recent Semester a State Award Was Recieved	0	6	6	9	9	12	12	12

TAP Satisfactory Academic Progress Standards for HEOP students and students who first received state payments prior to July 1, 2010.

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Before being certified for this payment	6	12	18	24	30	36	42	48	54	60
A Student Must Have Accrused At Least This Many Credits	0	3	9	21	33	45	60	75	90	105
With At Least This Grade Point Average	0	1.1	1.2	1.3	2.0	2.0	2.0	2.0	2.0	2.0
A Student Must Have Completed At Least This Many Credits in Most Recent Semester a State Award Was Recieved	0	6	6	9	9	12	12	12	12	12

Please note: *Only students in the HEOP program are eligible for more than four years of undergraduate awards.*

Academic progress requirements for federal aid programs

Federal regulations require financial aid recipients to maintain minimum standards of satisfactory academic progress (SAP) for continued receipt of federally sponsored aid. All students receiving federal assistance must remain admitted in a degree program. Regulations require a maximum time frame for degree completion, a quantitative measurement (credits attempted versus earned toward a degree) and a qualitative measurement (cumulative grade-point average). The annual review of academic progress at the end of the spring semester each year considers all terms of enrollment, including terms in which no federal aid was received.

Students are allowed a maximum of 150 percent of the published program length to complete their program (i.e. 120 credit program = 180 credit maximum).

The minimum qualitative, or grade point average requirement, is outline below:

Completion of 1st semester—minimum cumulative GPA = 1.5
Completion of 2nd semester—minimum cumulative GPA = 1.5
Completion of 3rd semester—minimum cumulative GPA = 1.8
Completion of semesters 4 through 12—minimum cumulative GPA = 2.0

In order to successfully meet the quantitative component of satisfactory academic progress, students must complete 66.67 percent of credits attempted. The following are considered attempted credits:

- withdrawals
- repeated courses
- non-matriculated courses
- incompletes
- grade exclusions
- credit by exam

Additional eligibility requirements

Transfer students

Cumulative grade-point average requirements are the same as for nontransfer students (i.e., students must obtain a 2.0 GPA at the end of their second year). Transfer students are expected to complete 66.67 percent of credits attempted. Transfer students also are allowed a maximum of 150 percent of the published program length to complete their program.

Repeated course work

Students repeating a course previously passed may do so only once. A course repeated more than once will not be included when determining enrollment status for federally sponsored financial aid.

The federal standards of satisfactory academic progress are applicable to the following aid programs: Federal Work-Study, Federal Pell and SEOG grants, and Federal Perkins, Direct Subsidized, Direct Unsubsidized, and Direct PLUS loans.

Student loan recipients also should note that all Federal Direct Loan Programs have specific annual and cumulative maximum amounts. The loan limits are listed in the Undergraduate Financial Aid Programs 2014-2015 chart and in the U.S. Department of Education Student Guide. Copies of the guide are available in the Office of Financial Aid and Scholarships.

Notification and appeal

Students whose academic progress is not in compliance with federal regulations will be notified of the deficiency. Students who do not meet minimum SAP standards may continue to receive federal aid during a probationary period, not to exceed one payment period, as the result of a successful appeal. After one payment period on probation students must make SAP or must be meeting the requirements of an academic plan. Students may appeal due to special circumstances such as death of a relative, or injury or illness of the student. The following information must be provided to the Office of Financial Aid and Scholarships to be considered for receipt of federally sponsored financial aid during a probationary period and under an academic plan:

- Documentation of student's special circumstances
- Written letter from student indicating why the student failed to make SAP and what has changed in the student's situation that would allow the student to meet SAP standards, and
- A written plan of work from the student's academic adviser that outlines the courses required and the minimum GPA requirements for the next academic year

Academic progress requirements for RIT grants and scholarships

Academic progress requirements for RIT need-based grants are the same as the requirements for federal aid programs. Academic requirements and award duration for merit or special-purpose scholarship programs sponsored by RIT may differ from those used in RIT's need-based programs. Recipients are advised of merit scholarship terms and conditions at the time awards are made.

Student responsibilities

Recipients of financial aid are responsible for reporting any significant changes in their financial situation during the year to the Office of Financial Aid and Scholarships for review. These changes may require a revision to the applicant's financial aid.

Financial aid refund policy

Return of federal funds

In accordance with federal regulations, the Office of Financial Aid and Scholarships recalculates federal aid eligibility for students who withdraw, drop out, are suspended, or take a leave of absence prior to completing 60 percent of a term.

"Withdrawal date" is defined as the actual date the student initiated the withdrawal process, the student's last date of recorded attendance, or the midpoint of the semester for a student who leaves without notifying the university. Recalculation is based on the percent of earned aid using the following formula: number of days completed up to the withdrawal date/total days in the semester. Aid returned to federal programs is then equal to 100 percent minus the percentage earned multiplied by the amount of federal aid disbursed.

Funds are returned to the federal government in the following sequence: Federal Direct Unsubsidized Loans, Federal Direct Subsidized Loans, Federal Perkins Loans, Federal Graduate PLUS, Federal Parent PLUS Loans, Federal Pell Grants, Federal SEOG, other federal grants.

Late disbursement

If the student is otherwise eligible, the first disbursement of Federal Direct Subsidized Loan or Federal Direct Unsubsidized Loan proceeds is allowed up to 180 days after the student has ceased to be enrolled. Subsequent disbursements are not allowed.

State scholarships

Regulations vary. Any adjustments are done in accordance with the specific requirements of the sponsoring state.

Privately funded grants and scholarships

In the absence of specific instructions from the sponsor, 100 percent of the semester award will be credited to the student's account.

RIT grants and scholarships

If a credit balance remains after all federal, state and private adjustments, a percentage of the remaining credit balance is returned to the RIT scholarship account according to the following formula, where A = scholarship amount; B = scholarship plus student payments; C = percent returned to scholarship program; D = remaining credit balance; and E = amount returned to scholarship program:

$$A/B=C$$

$$CxD=E$$

UNDERGRADUATE FINANCIAL AID PROGRAMS 2014-2015

MERIT SCHOLARSHIPS	ELIGIBILITY	AMOUNT†	WHERE TO APPLY
RIT Presidential Scholarships	Freshman applicants with combined SAT scores of 1950 or higher (or ACT composite of 28 or higher) and a secondary school rank in the top 20% at the end of junior year, OR combined SAT scores of 1860 or higher (or ACT composite of 27 or higher) and a secondary school rank in the top 10% at the end of the junior year.	$10,000 to $16,000 per year (amounts based on merit). Renewable.	All freshman applications submitted to RIT by February 1 will be reviewed for possible selection.
National Merit, National Achievement, and National Hispanic Scholarships	Semifinalists or finalists in any of these three national scholarship programs.	Combined RIT Presidential and Merit Scholarships totaling $18,000 or more per year. Renewable.	High school records provided for admission must indicate student's semifinalist or finalist selection.
RIT Achievement Scholarships for Business, Liberal Arts, and Hospitality Management	Freshman applicants for these programs demonstrating outstanding leadership, service, entrepreneurship, or citizenship with combined SAT score of 1800 or higher (ACT 26) and B+ average.	$7,000 to $10,000 per year. Students qualifying for an additional RIT merit scholarship will automatically be awarded the scholarship with the highest amount. Renewable.	Freshman admission applications for these academic programs submitted by February 1 will be reviewed for possible selection based on activities, recommendations, and academic record.
RIT Achievement Scholarships for Art, Design, and Crafts	Freshman applicants for these academic programs with combined SAT score of 1800 or higher (ACT 26) and B+ average who submit outstanding art portfolios.	$7,000 to $10,000 per year. Students qualifying for an additional RIT merit scholarship will automatically be awarded the scholarship with the highest amount. Renewable. Up to 25 awarded each year.	Freshman admission applications and art portfolios submitted by February 1 will be reviewed for possible selection.
RIT Achievement Scholarships—All Programs	Freshman applicants with combined SAT score of 1800 or higher (ACT 26), strong extracurricular achievements, and B+ average.	$7,000 to $10,000 per year. Students qualifying for an additional RIT merit scholarship will automatically be awarded the scholarship with the highest amount. Renewable. Up to 100 awarded each year.	Freshman admission applications submitted by February 1 will be reviewed for possible selection.
RIT Computing Medal Scholarships	Awarded to RIT Computing Medal winner from a participating high school.	$7,000 per year. Students qualifying for an additional RIT merit scholarship will automatically be awarded the scholarship with the highest amount. Renewable.	Must apply for admission to RIT by February 1 to be considered.
RIT Innovation and Creativity Award Scholarships	Awarded to Innovation and Creativity Award winners selected by participating high schools based on outstanding achievements in innovation, creativity, and entrepreneurship.	$7,000 per year. Students qualifying for an additional RIT merit scholarship will automatically be awarded the scholarship with the highest amount. Renewable.	Must apply for admission to RIT by February 1 to be considered.
RIT National Co-op Scholarships	Winners selected based on academic record and required scholarship application essay.	$6,000 per year. Students qualifying for an additional RIT merit scholarship will automatically be awarded the scholarship with the highest amount. Renewable. Up to 10 awarded each year.	Submit scholarship application online at: waceinc.org. Apply between October 1 and February 15.
RIT/FIRST Robotics Scholarships	Freshman applicants with combined SAT score of 1800 or higher (ACT 26) and B+ average who have participated on a high school FIRST team.	$6,000 per year. Students qualifying for an additional RIT merit scholarship will automatically be awarded the scholarship with the highest amount. Renewable. Up to 10 awarded each year.	Download scholarship application at: usfirst.org. Mail scholarship application to RIT and apply for admission by February 1.
RIT/Project Lead The Way (PLTW) Scholarships	Freshman applicants with combined SAT score of 1800 or higher (ACT 26) and B+ average who complete two or more PLTW courses.	$7,000 per year. Students qualifying for an additional RIT merit scholarship will automatically be awarded the scholarship with the highest amount. Renewable. Up to 10 awarded each year.	Submit a letter of recommendation from a PLTW teacher along with RIT admission application and school transcripts by February 1.
RIT Hillside Scholarships	Awarded to incoming freshman and transfer students to recognize outstanding graduates of the Hillside Work-Scholarship Connection program. Recipients are identified based on secondary grades, college entrance examina¬tion scores, personal recommendations, and involvement in the Hillside Work-Scholarship Connection program.	$10,000 per year. Students qualifying for an additional RIT merit scholarship will automati¬cally be awarded the scholarship with the highest amount. Renewable.	Must apply for admission to RIT by February 1 to be considered.
RIT Trustee Scholarships for Transfer Students	Transfer applicants with a GPA of 3.3 or higher (computed by RIT) who will complete an associate degree before entering RIT.	$10,000 per year with transfer GPA of 3.6 or higher; $7,000-$8,500 per year with GPA of 3.3-3.59. May be combined with Phi Theta Kappa scholarship. Renewable.	Submit all required admission application documents by: March 15 for summer/fall entry; November 15 for spring entry.

RIT Achievement Scholarships for Transfer Students	Transfer applicants with 3.3 or higher transfer GPA (computed by RIT) and 30 semester or 45 quarter hours completed at previous institution.	$7,000 per year. May not be combined with RIT Trustee Scholarship. Renewable.	Submit all required admission application documents by March 15 for summer/fall entry; November 15 for spring entry.
RIT Phi Theta Kappa Scholarships for Transfer Students	Awarded to transfer students with an associate degree elected to Phi Theta Kappa honor society.	$2,000 per year. May be combined with RIT Trustee or Achievement Scholarship. Renewable.	Proof of PTK membership must be submitted with transfer admission application.
RIT Nathaniel Rochester Society (NRS) Scholarships	Full-time undergraduate students who have achieved 2nd year standing at RIT with a GPA of 3.4 or higher. Winners selected by NRS scholarship Committee.	Maximum award is $2,000 for four semesters of academic study (applied toward tuition charges). Awarded in addition to other financial aid and scholarships.	Download scholarship application at: rit.edu/nrs and file the completed application in March.
ROTC Scholarships	Students enrolling in ROTC who are academically qualified.	Tuition support, fees, books, and monthly stipend.	Air Force: (585) 475-5197; Army: (585) 475-2881; Navy: (585) 275-4275
RIT/ROTC Subsidy	Army, Air Force, or Navy ROTC cadets awarded three- or four-year scholarships prior to enrollment.	Up to the amount of a standard room and board plan, minus other financial aid and benefits.	Contact the Office of Financial Aid and Scholarships.

† Scholarship amounts indicated are based on RIT full-time tuition rates. Awards may be prorated for NTID-sponsored students

NEED-BASED GRANTS	ELIGIBILITY	AMOUNT†	WHERE TO APPLY
RIT Grants	Students demonstrating financial need.	Amounts vary up to $16,000 per year for full-time study.	File the Free Application for Federal Student Financial Aid (FAFSA) by March 1 for priority consideration.
RIT RCSD Scholarship Initiative	Awarded to qualified freshman graduates of the Rochester City School District who have both lived in the city and attended an approved high school within the RCSD for the last three years of high school.	Full tuition through a combination of RIT scholarships and state and federal need-based grants.	Must apply for admission to RIT by February 1and be certified by the high school guidance office to be considered.
Say Yes to Education Scholarships	In partnership with Say Yes to Education, awarded to qualified graduates of the Syracuse and Buffalo City School Districts. Recipients are participants in the Say Yes to Education program.	Full tuition through a combination of RIT scholarships and state and federal need-based grants.	Must apply for admission to RIT by February 1 and be certified by Say Yes to be considered.
RIT Endowed Scholarships	Full-time RIT students meeting selection criteria as established by the donor for each program; most awarded to upperclassmen based on financial need and academic performance at RIT.	Amounts vary	File the Free Application for Federal Student Aid (FAFSA) by the priority deadline.
NTID Grant-in-Aid	Full-time students enrolling in RIT's National Technical Institute for the Deaf (NTID) who demonstrate financial need.	Amounts vary.	File the Free Application for Federal Student Aid (FAFSA) by the priority deadline.
RIT/NTID Grant	NTID students who are enrolled in an RIT bachelor's degree program who demonstrate financial need.	Amounts vary.	File the Free Application for Federal Student Aid (FAFSA) by the priority deadline.
RIT Part-time Studies Grant	Part-time undergraduate students enrolled for less than 12 credit hours in an RIT degree program who demonstrate financial need.	Amounts vary.	File the Free Application for Federal Student Aid (FAFSA) by the priority deadline.
New York State Tuition Assistance Program (TAP)	Full-time students who are New York state residents and meet state income guidelines.	$500-$5,165 per year for entering freshmen; transfer and returning student maximum varies.	File New York state Express TAP Application and the Free Application for Federal Student Aid (FAFSA).
New York State Aid for Part-time Studies (APTS)	Matriculated undergraduate New York state residents enrolled for 3-11 credits per term who meet NYS residency requirements and demonstrate financial need based on NYS net taxable income; must not have received the equivalent of four years of NYS TAP aid.	Maximum award is $2,000 per year, not to exceed cost of tuition.	Submit Aid for Part-time Studies Application to RIT's Office of Financial Aid and Scholarships.
Federal Pell Grant	Students who are pursuing their first bachelor's degree and meet need criteria.	$602 to $5,730 per year; prorated for part-time study.	File the Free Application for Federal Student Aid (FAFSA).
Federal Supplemental Educational Opportunity Grant (SEOG)	Students with high financial need (those who qualify for a Federal Pell Grant).	$100-$4,000 per year.	File the Free Application for Federal Student Aid (FAFSA).
NYS Higher Education Opportunity Program (HEOP)	Economically and academically disadvantaged residents of New York state.	Amounts vary, based on individual need and New York state funding.	Contact the HEOP office at RIT (585-475-2221) for eligibility guidelines.
Other State Grants	Varies.	Amounts vary.	Contact the State Education Department in your state of residency

† Scholarship amounts indicated are based on RIT full-time tuition rates. Awards may be prorated for NTID-sponsored students.

LOANS	ELIGIBILITY	AMOUNT†	WHERE TO APPLY
Federal Perkins Loans	Students who meet requirements established by federal government.	Up to $5,500 per year. ($27,500 limit for undergraduate study.)	File the Free Application for Federal Student Aid (FAFSA).
Federal Direct Loans	All students enrolled at least half-time in a degree program.	Maximum amount: 1st year: $3,500; 2nd year: $4,500; 3rd, 4th, 5th years: $5,500. Additional maximum $2,000 Unsubsidized Federal Direct Loans – all years.	File the Free Application for Federal Student Aid (FAFSA).
Federal Direct Loans – Independent Students	All independent undergraduates enrolled at least half time in a degree program.	Maximum amount (including unsubsidized): 1st year: $9,500; 2nd year: $10,500; 3rd, 4th, 5th years: $12,500.	File the Free Application for Federal Student Aid (FAFSA).
Federal Direct PLUS Loans	Parent of a dependent student who is enrolled at least half time in a degree program.	Total cost of education minus all other financial aid awarded.	File the FAFSA and obtain loan application from RIT Office of Financial Aid and Scholarships.

† Scholarship amounts indicated are based on RIT full-time tuition rates. Awards may be prorated for NTID-sponsored students

EMPLOYMENT	ELIGIBILITY	AMOUNT†	WHERE TO APPLY
Federal Work Study Program	Students with financial need; most jobs provided are on campus, and some community service positions are available.	Varies depending on hours and wage rate.	File the Free Application for Federal Student Aid (FAFSA).
RIT Employment Program	No financial need requirement; may be on campus or off campus.	Varies depending on hours and wage rate.	Contact the RIT Student Employment Office at rit.edu/seo.

† Scholarship amounts indicated are based on RIT full-time tuition rates. Awards may be prorated for NTID-sponsored students.

OTHER AWARDS	ELIGIBILITY	AMOUNT†	WHERE TO APPLY
Regents Award for Child of Deceased and Disabled Veterans (CV)	Students whose parent(s) served in the U.S. Armed Forces during specified periods of war or national emergency and, as a result of service, either died, suffered a 40% or more disability, was classified as missing in action, or was a prisoner of war. The veteran must currently be a New York state resident or have been a New York state resident at the time of death.	$450 per year for up to five years, depending on the normal length of the program.	Same as TAP. In addition, file the CV Award Supplement available at hesc.com. June 30 deadline.
Military Enhanced Recognition Incentive and Tribute (MERIT) Scholarship	Children, spouses, and financial dependents of members of the United States Armed Forces or state-organized militia who, at any time on or after Aug. 2, 1990, while New York state residents, died or became severely and permanently disabled while engaged in hostilities or training for hostilities.	Award equal to SUNY four-year college tuition and mandatory educational fees (or student's actual tuition and fees, whichever is less) and allowances for room and board, books, supplies, and transportation.	Same as TAP. In addition, file the Military Service Recognition Scholarship Supplement, available at hesc.ny.gov.
Memorial Scholarships for Families of Deceased Firefighters, Volunteer Firefighters, Police Officers, Peace Officers, and Emergency Medical Service Workers.	Must be a child or spouse of deceased firefighter, volunteer firefighter, or emergency medical service worker, police officer, peace officer, who died as a result of injuries sustained in the line of duty.	Award equals SUNY four-year college tuition and fees and allowances for room and board, books, supplies and transportation.	Same as TAP. In addition, file the appropriate award supplement, available at hesc.ny.gov. June 30 deadline.
NYS Aid to Native Americans	Members of a New York state tribe and their children who are attending, or planning to attend, a college in New York state and are New York state residents.	Up to $2,000 per year for a maximum of four years (five years for certain programs)	Contact: the Native American Education Unit, NYS Education Department, Room 461 EBA, Albany, NY 12234, (518) 474-0537.
New York Scholarships for Academic Excellence	Outstanding graduate from registered New York state high schools. Awards are based on grades in certain Regents exams.	$1,500 to top graduating senior of each high school in the state; $500 to other academically gifted students.	Contact your high school guidance counselor.
Veterans Tuition Awards	Eligible veterans admitted in an approved program in New York State.	$5,895 or tuition, whichever is less.	Same as TAP. In addition complete the New York State Veterans Tuition Award Supplement
Veterans Benefits	Eligible veterans and their dependents.	Amounts vary	Contact the Department of Veterans Affairs at 1-888-442-4551 or visit their website at www.va.gov. or gibill.va.gov/apply-for-benefits.
Aid to Native Americans	Students who are at least one-quarter American Indian, Eskimo, or Aleut who demonstrate financial need	Amounts vary	Contact U.S. Department of Interior, Bureau of Indian Affairs, Federal Bldg., Room 523, 100 S. Clinton St., Syracuse, NY 13202.

† Scholarship amounts indicated are based on RIT day tuition rates. Awards may be prorated for NTID-sponsored students or for evening tuition rates.

Notes:

This chart covers the most commonly awarded financial aid programs available to full-time undergraduate students at RIT. Information is correct as of June 2014. Most programs require satisfactory progress toward degree completion to maintain eligibility. Filing the FAFSA by March 1 (March 15 for transfer students and April 1 for continuing students) will ensure priority consideration for all programs. Applications filed after this date will receive consideration as long as funds remain available.

Restricted and Endowed Scholarships

Each year the university awards restricted and endowed scholarships, made possible through the generosity of hundreds of individuals and organizations. Awards are made by RIT's Office of Financial Aid and Scholarships or RIT academic departments in accordance with the special criteria of each scholarship. All applicants for financial aid are automatically considered for scholarships for which they meet the established criteria.

Academic Excellence Endowed Scholarship
Harriet Thayer Adams Scholarship
Max Adler Scholarship
Advantage Federal Credit Union Endowed Scholarship
George Alden Scholarship Fund
Susan E. and Scott E. Alexander NRS Scholarship
Mary R. Alexander Scholarship
Fanny Knapp Allen Scholarship
Theodore & Betty Jane Altier Scholarship
Ames Amzalek Scholarship
Salvador Anchondo Jr. Memorial Scholarship
Robert W. Anderson Endowed Scholarship
Betsy L. Andrews Scholarship
Clara L. Andrews Scholarship
Ezra R. Andrews Scholarship
Kate Rider Andrews Scholarship
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Index

A

Academic Advising 225
Academic Affairs 176
  Faculty in 180
Academic Calendar . . inside front cover
Academic Enrichment 222
Academic Policies and Procedures 225
Academic Probation/Suspension . . 226
Academic Programs of Study 4
Academic Support Center 228
Accelerated Dual Degree/4+1 Options 222
Accounting
  BS Degree 31
  Minor 181
Accounting Technology
  AAS Degree 139
Accreditation 2
Administration and Trustees 272
Administrative Support Technology
  AAS Degree 139
Admission
  Guidelines, Freshman 251
  Guidelines, NTID 135, 250
  Guidelines, Transfer 253
  International 249
  Undergraduate 249
Advanced Placement 225
Advertising Photography
  as option in Photographic and Imaging Arts 99
Advertising and Public Relations
  BS Degree 109
  BS/MBA Degree Option 110
  Immersion 208
  Minor 181
Aerospace Engineering
  as option in Mechanical Engineering 66
Africa and the Diaspora
  Immersion 208
Alcohol and Drug Policy 246
Alternative Energy
  as option in Environmental Sustainability, Health and Safety 18
Ambulance 237
American Art
  Immersion 208
  Minor 181
American Crafts, School for 85
American Politics
  Immersion 208
  Minor 182
American Sign Language *(see ASL-English Interpretation)*
American Sign Language and Deaf Cultural Studies
  Immersion 209
  Minor 182
Animation
  as option in Film and Animation 97
Apartments 239
Applied Arts and Science
  AAS Degree 178
  BS Degree 177
  Diploma 178
Applied Computer Technology
  AAS Degree 141
  AS Degree 140
  AOS Degree 142
Applied Ethics
  as specialization in Philosophy . . 118
Applied Informatics
  Minor 182
Applied Liberal Arts
  AS Degree 143
Applied Mathematics
  BS Degree 168
  BS/MS Degree Option 169
  BS/MBA Degree Option 169
Applied Mechanical Technology
  AAS Degree 143
Applied Science and Technology, College of 10
Applied Statistics
  BS Degree 169
  BS/MS Degree Option 170
  Immersion 209
  Minor 183
Arabic Language
  Minor 198
Arabic Language and Culture
  Immersion 215
Archaeology
  as track in Sociology and Anthropology 123
  Immersion 209
Archaeological Science
  Minor 183
Art Conservation
  as option in Museum Studies . . . 116
Art, School of 89
Art and Design
  Undeclared Option 84
Arts and Imaging Studies
  AAS Degree 144
  AOS Degree 145
  as option in Pre-baccalaureate Studies (NTID) 153
ASL-English Interpretation
  AAS Degree 138
  BS Degree 137
Associate+Bachelor's Degree Programs (NTID) 130
Astronomy
  Immersion 209
  Minor 183
Attendance, Class 227
Audio
  as option in Computer Engineering Technology 14
  as option in Electrical Engineering Technology 16
Audiology Services (NTID) 234
Auditing Courses 226
Automotive Engineering
  as option in Mechanical Engineering 66

B

Biochemistry
  BS Degree 162
Bioengineering
  as option in Mechanical Engineering 66
Bioinformatics
  BS Degree 164
  BS/MS Degree Option 165
Biology
  BS Degree 166
Biology: Cellular and Molecular
  Minor 184
Biology: Ecology and Evolution
  Minor 184
Biomaterials
  as concentration in Biomedical Engineering 55
Biomedical Device and System Design
  as concentration in Biomedical Engineering 55
Biomedical Engineering
  BS Degree 54
Biomedical Photographic Communications
  as option in Photographic and Imaging Technology 103
Biomedical Sciences
  BS Degree 75
Biological Sciences Research Scholars Program 224
Biomedical Signal Processing
  as concentration in Biomedical Engineering 56
Biotechnology and Molecular Bioscience
  BS Degree 166
Biotechnology Policy
  as concentration in Public Policy 122
Bookstore *(see Campus Stores)*
Buckley Amendment 225
Bus and Shuttle Services 235
Business
  AS Degree (NTID) 146
  Undeclared option 35
Business Administration
  Minor 184
Business, Saunders College of 30
Business Technology
  AOS Degree (NTID) 147

C

Campus
  Social Events 240
  Stores 244
  Visits . . . . . .
Campus Life (NTID) 242
Cardiac Ultrasound
  (see *Echocardiography*)
Career Exploration Studies (NTID) 131
Career Resource and Testing Center (NTID) 136
Center for
  Imaging Science, Chester F. Carlson 164
  Multidisciplinary Studies 176
  Orientation and Transition 229
  Residence Life 239
  Women and Gender 238
Ceramics
  BFA Degree 85
Chemical Engineering
  BS Degree 56
  BS/MS Degree Option 57
Chemical Engineering Systems Analysis
  Minor 185
Chemistry
  BS Degree 162
  BS/MS Degree Option 163
  Immersion 210
  Minor 185
Chemistry Research Scholars Program 224
Child Care *(see Margaret's House)*
Chinese Language
  Minor 198
Chinese Language and Culture
  Immersion 215
Civil Engineering Technology
  BS Degree 12
Class Attendance 227
Clean and Renewable Energy
  as option in Electrical Engineering 60
College Activities Board 241
College Level Examination Program 226
College of
  Applied Science and Technology . . 10
    Faculty in 28
  Business 30
    Faculty in 36
  Computing and Information Sciences 38
    Faculty in 50

Engineering 52
Faculty in 71
Health Sciences and Technology. . 74
Faculty in 81
Imaging Arts and Sciences 82
Faculty in 105
Liberal Arts. 108
Faculty in 126
National Technical Institute for the Deaf 130
Faculty in 156
Science 160
Faculty in 173
Communication
BS Degree 110
Immersion 210
Minor 185
Communication Studies and Services (NTID) 233
Computational Mathematics
BS Degree 170
BS/MS Degree Option 171
Computer Aided Drafting Technology
AAS Degree 148
AOS Degree 148
Computer Crime Policy
as concentration in Public Policy. 122
Computer Engineering
BS Degree 58
BS/MS Degree Option 58
Minor 186
as option in Electrical Engineering 60
Computer Engineering Technology
BS Degree 14
BS/MS Degree Option 15
Computer Integrated Machining Technology
AOS Degree 149
Computer Science
BS Degree 40
BS/MS Degree Option 41
Minor 186
Computer Software Policy
as concentration in Public Policy. 122
Computing and Information Sciences, B. Thomas Golisano College of 38
Computing Exploration
Undeclared option. 39
Computing Security
BS Degree 41
BS/MS Degree Option 42
Computing Services *(see Information and Technology Services)*
Conduct Policies 245
Confidentiality of Student Records 225
Construction Management
as option in Civil Engineering Technology 13
Minor 187
Cooperative Education and Career Services 222, 229
Costs and Tuition
RIT. 256
NTID. 135, 136
Counseling and Academic Advising Services (NTID). 136, 234
Counseling Center 229
Course Registration 226
Crafts
Undeclared Option 85
Creative Writing
Immersion 210
Minor 187
Credit by Exam. 225
Criminal Justice
BS Degree 112
Minor 187
Cultural Anthropology
as track in Sociology and Anthropology. 123
Immersion 210
Curriculum Requirements
Liberal Arts. 7
Wellness Education 7

D

Database Design and Development
Minor 187
Day Care *(see Margaret's House)*
Deaf Cultural Studies/ASL
Certificate 152
Deans 272
Dean's List Eligibility 226
Design, School of 92
Diagnostic Medical Sonography
BS Degree 76
Certificate 77
Digital Business
Minor 187
Digital Cinema *(see Motion Picture Science)*
Digital Literatures and Media
Minor 188
Digital Politics and Organization
as track in Political Science 119
Directory 277
Disability Services 230
Diversity at RIT 230
Diversity in the U.S.
Immersion 211
Double Majors 222
Drug and Alcohol Policy. 246

E

Early Admission 249
Echocardiography
Certificate 77
Ecological Principles and Conservation
as option in Environmental Sustainability, Health and Safety. 18
Economics
BS Degree 113
BS/MBA Degree Option. 114
Immersion 211
Minor 188
Economics Undergraduate Research 224
Electrical Engineering
BS Degree 59
BS/MS Degree Option 60
Minor 189
Electrical Engineering Technology
BS Degree 15
Electrical/Mechanical Engineering Technology
BS Degree 16
BS/MS Degree Option 17
Electronic Billing Procedures 257
Emergency
Notification. 236
Preparedness 236
Emeriti Faculty 273
Endowed Scholarships. . . . . .
Energy Policy
as concentration in Public Policy. 122
Energy and Environment
as option in Mechanical Engineering 66
Engineering Exploration 54
Engineering, Kate Gleason College of 52
Engineering Management
Minor 189
Engineering Policy
as concentration in Public Policy. 122
Engineering Studies
as option in Pre-baccalaureate Studies (NTID) 154
Engineering Technology, School of. . 12
Engineering Technology
Undeclared Option 12
English Language Center 231
Entertainment and Event Management
as concentration in International Hospitality and Service Management. 24
Entrepreneurship
Minor 189
Entrepreneurship and Student Innovation, Simone Center for. 224
Environmental Microbiology
as option in Environmental Sustainability, Health and Safety. 18
Environmental Modeling
Minor 189
Environmental Policy
as concentration in Public Policy. 122
Environmental Science
BS Degree 167
BS/MS Degree 167
Minor 190
Environmental Studies
Immersion 211
Minor 190
Environmental Sustainability, Health and Safety
BS Degree 17
BS/MS Degree Option 19
Ethics
Immersion 211
Exercise Science
Certificate 80
Minor 190
Experiential Learning 222

F

Facilities. 242
Faculty *(see individual colleges under* College of*)*
Federal Aid Programs 263
Fellowships 222
Film and Animation
BFA Degree 96
School of. 96
Film Studies
Immersion 212
Minor 190
Finance
BS Degree 32
Minor 191
Financial Aid and Scholarships 231, 259
Financial Aid Programs. 263
Financial Standing 257
Financial Refund Policy. 257, 262
Fine Art Photography
as option in Photographic and Imaging Arts 100
Fine Arts Studio
BFA Degree 90
First-Year Experiences Program, NTID. 133
First Year Writing. 179
Food and Beverage Management
as concentration in International Hospitality and Service Management 24
Food Service Venues 243
Free and Open Source Software and Free Culture
Minor 191
French Language
Minor 198
French Language and Culture
Immersion 215
Furniture Design
AOS Degree. 87
BFA Degree 86
Future Stewards Program 230

G

Game Design
Minor 191
Game Design and Development
BS Degree 45
BS/MS Degree Option 46
Minor 191
General Education Requirements
Liberal Arts and Sciences 7
NTID 133
Wellness Education 7
Geographic Information Systems
Minor 191
German Language
Minor 199

German Language and Culture
Immersion 216
Glass
BFA Degree 87
Global Justice and Peace Studies
Immersion 212
Global Literatures and Cultures
Minor 192
Global Union. 241
Global Village 243
Globalization Theory
Immersion 212
Grading System. 226
Graduate Enrollment Services 231
Graduation Requirements. 6
Graphic Design
BFA Degree 93

H

Handicap Parking Permits 235
Health and Culture
Immersion 212
Health Communication
as track in Communication 111
Health IT
Minor 192
Health Records 237
Health Sciences and Technology,
College of 74
Health Systems Administration
Certificate 80
Hearing Aid Shop (NTID) 136
Higher Education Opportunity
Program (HEOP). 231
History
Immersion 213
Minor 192
History of Philosophy
as specialization in Philosophy. . 118
Honor Code 245
Honors Program. 222
Hospitality Management
Minor 193
Hospitality and Service Management
AS Degree (NTID) 150
Housing/Recreational
Facilities 239
Housing Connection 239
Housing 239
Human Language Technology and
Computational Linguistics
Immersion 213

I

Illustration
BFA Degree 89
Imaging Arts and Sciences,
College of 82
Imaging and Photographic Technologies
as option in Photographic and
Imaging Technology 104
Imaging Science
BS Degree 164
Center for 164
Minor 193
Imaging Systems
Minor 193
Immunization Requirements. . 237, 250
Independent Study. 223
Industrial Design
BFA Degree 94
Industrial Engineering
BS Degree 61
BS/MBA, BS/MS and BS/ME
Degree Options 62
Minor 193
Information and Communications
Policy
as concentration in Public
Policy. 122
Information and Technology
Services 231
Information Technology
BS Degree 42
Innovative Learning Institute 176
Insurance, Student Accident
and Sickness . . . . . .
Integrated Electronics
Certificate 70
Interactive Games and Media,
School of . . . . . .
Intercollegiate Athletics and
Recreation, Center for. . . . . .
Interior Design
BFA Degree 95
International and Global Studies
BS Degree 114
International Applicants . . . . . .
International Baccalaureate. . . . . .
International Business
BS Degree 32
Minor 194
International Food Marketing and
Distribution
as concentration in International
Hospitality and Service
Management. 24
International Hospitality and
Service Innovation, School of. . 23
International Hospitality and
Service Management
BS Degree 23
International Hotel and Resort
Management
as concentration in International
Hospitality and Service
Management. 24
International Relations
Immersion 213
Minor 194
International Student Services 232
Intramurals 240
Italian Language
Minor 199
Italian Language and Culture
Immersion 216

J

Japanese Language
Minor 199
Japanese Language and Culture
Immersion 216
Jewelry Design, Metals and
BFA Degree 88
Journalism
BS Degree 115
Immersion 213
Minor 194

L

Laboratory Science Technology
AAS Degree 151
AOS Degree 152
Language, Modern
Minors. 198
Language/Culture, Modern
Immersions. 215
Language Science
Immersion 214
Minor 194
Latino/Latina/Latin American Studies
Immersion 214
Minor 195
Leadership Institute and
Community Service Center . . 232
Learning Consortium (NTID) 233
Legal Studies
Immersion 214
Minor 195
Liberal Arts, College of 108
Liberal Arts Exploration. 125
Liberal Arts and Sciences General
Education Requirements 7
Liberal Studies
as option in Pre-baccalaureate
Studies (NTID) 154
Libraries. 232
Literature
Immersion 214

M

Management
as track in Museum Studies 116
BS Degree 33
Minor 195
Management Information Systems
BS Degree 34
Minor 196
Manufacturing Engineering
Technology
BS Degree 19
BS/MS Degree Option 20
Margaret's House (Child Care). . . . 233
Marketing
BS Degree 34
Minor 196
Mathematics
Immersion 215
Minor 196
McNair Scholars Program. 230
Mechanical Engineering
BS Degree 65
BS/MS Degree 66
Minor 197
Mechanical Engineering
Technology
BS Degree 21
BS/MS Degree Options. 22
Media Arts and Technology
BS Degree 98
BS/MBA Degree. 99
Minor 197
Media Sciences, School of. 98
Medical Illustration
BFA Degree 91
Medical Informatics
BS Degree 43
Minor . . . . . .
Mental Health Services (NTID) . . . 234
Metals and Jewelry Design
BFA Degree 88
Microelectronic Engineering
BS Degree 68
BS/MS Degree Options. 69
Minor 197
Military Studies and Leadership
Minor 27, 198
Minors 181
Mobile Escort Service 236
Modern Language
Minors. 198
Modern Languages and Cultures
Immersion 215
Motion Picture Science
BS Degree 98
Multicultural Center for Academic
Success 230
Multidisciplinary Studies,
Center for 176
Museum Studies
BS Degree 116
Immersion 217
Minor 200
Music and Technology
Minor 200
Music Performance
Minor 201

N

National Science Foundation 224
National Technical Institute for
the Deaf. 130
Native American Science and
Technology
Immersion 217
Networking and Systems
Administration
BS Degree 44
Minor 201
New Media Design
BFA Degree 95
New Media Interactive Development
BS Degree 46
New Media Marketing
BS Degree 35
New Media Publishing *(see Media Arts and Technology)*
Notification and Appeal,
Academic 261
NTID Resources. 233
Nutrition Management
BS Degree 78

O

Occupational Health and Safety
as option in Environmental Sustainability, Health and Safety 18
Off-Campus and Apartment Student Association. 239
Office of the President 272
Officers. 272
Open Publishing Lab 224
Optical Science
Minor 201

P

Packaging Science
BS Degree 22
Minor 201
Park Point 2443
Parking and Transportation Services 235
Part-time Enrollment Services 235
Performing Arts Certificate (NTID). 153
Performing Arts Programs (NTID) 242
Philosophy
BS Degree 117
Immersion 218
Minor 202
Specializations 118
Philosophy of Art and Aesthetics
as specialization in Philosophy. . 118
Philosophy of Mind and Cognitive Science
as specialization in Philosophy. . 118
Philosophy of Science and Technology
as specialization in Philosophy. . 118
Philosophy of Social Sciences and Political Philosophy
as specialization in Philosophy. . 118
Philosophy and Law
as specialization in Philosophy. . 118
Photographic Arts and Sciences, School of 99
Photographic and Imaging Arts
BFA Degree 99
Photographic and Imaging Technologies
BS Degree 103
Photojournalism
as option in Photographic and Imaging Arts 101
Physician Assistant
BS/MS Degree 79
Physiological Modeling, Dynamics, and Control
as concentration in Biomedical Engineering 56
Physics
BS Degree 171
BS/MS Degree Option 172
Immersion 218
Minor 202
Politics and the Life Sciences
as track in Political Science 119
Political Institutions
as track in Political Science 119
Political Science
BS Degree 119
BS/MBA Degree Option. 120
Minor 203
Portfolio Guidelines. 82
Portuguese Language
Minor 199
Portuguese Language and Culture Immersion 216
Pre-baccalaureate Studies (NTID). . 153
Pre Law Study 112
Premedical Studies and Pre-health Professions Advisory Program 75
Production
as option in Film and Animation 97
Production Services 235
Psychology
BS Degree 120
Immersion 218
Minor 203
Public History
as option in Museum Studies. . . 117
Public Policy
BS Degree 121
BS/MS Degree 122
Immersion 218
Minor 203
Public Safety 236

R

RAC Course Work Agreement. . . . 223
Refund Policies, Tuition 257
Appeal Process. 257
Religious Life, Center for. 236
Religious Studies
Immersion 219
Reporter Magazine. 241
Reserve Officer's Training Corp (ROTC)
Army 25
Air Force 26
Residence Halls. 239
Residence Hall Association. 239
Residence Life, Center for. 239
Rhetoric, Media and Culture
as track in Communication 111
RIT Community. 239
RIT Online 178
RITreat 236
Robotics
as option in Electrical Engineering 60
ROTC *(see Reserve Officer Training Corps)*
Russian Language
Minor 200
Russian Language and Culture Immersion 217

S

Safety and Security Report 236
Scholarships
Application Process. 259
Notification. 259
Restricted and Endowed. 266
Types of Aid 259
School of
American Crafts. 85
Art 89
Chemistry and Materials Sciences. 162
Design 92
Engineering Technology. 12
Film and Animation 96
International Hospitality and Service Innovation 23
Life Sciences (Thomas H. Gosnell). 164
Mathematical Sciences 168
Media Sciences 98
Photographic Arts and Sciences . 99
Physics and Astronomy 171
Science and Mathematics
as option in Pre-baccalaureate Studies (NTID) 155
Science and Technology Studies Immersion 219
Science Exploration, Undeclared . . 162
Science of Film, Photography and Imaging
Immersion 219
Science, College of 160
Science, Technology, and Society
Minor 204
Self-Instruction Lab (NTID) 233
Sexual Assault Information and CARES Hotline 236
Social Inequities
Immersion 219
Sociology
as track in Sociology and Anthropology. 124
Sociology and Anthropology
BS Degree 123
Minor 204
Software Engineering
BS Degree 47
BS/MS Degree Option 48
Minor 205
Spanish Language
Minor 200
Spanish Language and Culture
Immersion 217
Speech and Language Services (NTID) 234
Structural Design
as option in Civil Engineering Technology. 13
Minor 205
Student Alumni Union 243
Student Clubs 241
Student Conduct Policies 244
Student Financial Services 237
Student Government 2414
Student Health Center. 237
Student Life Team (NTID) 234
Student Loans 259
Student Music Association 242
Student Professional Associations. . 241
Student Retention. 227
Student Services 228
Studio Residency Program
Ceramics. 86
Furniture Design 87
Glass 88
Metals and Jewelry Design. 89
Study Abroad Program 224
Summer Vestibule Program (NTID) 235
Support Service Orientation Workshops (NTID). 235
Suspension, Academic. 226
Sustainable Product Development
Minor 205

T

Teaching and Learning Services. . . 178
Technical Communication
as track in Communication 111
Telecommunications
as option in Computer Engineering Technology. 14
as option in Electrical Engineering Technology. 16
Text and Code
Immersion 220
3D Digital Graphics
BFA Degree 92
Transcripts. 225
Transfer Admission 249
Transfer Credit 225
TRiO Student Support Services . . . 237
Trustees 272
Tuition
RIT. 256
NTID. 235
Tuition Assistance Program (TAP). . 260

U

Ultrasound
(see Diagnostic Medical Sonography)
Undeclared Options
Computing Exploration 39
Engineering Exploration 54
Liberal Arts Exploration. 125
Science Exploration. 162
Undeclared Art and Design 84
Undeclared Business. 35
Undeclared Crafts 85
Undeclared Engineering Technology. 12
University Studies 179
Undergraduate Admission 249
Undergraduate Financial Aid
Employment. 265
Loans. 265
Merit Scholarships. 263
Need-based Grants 264
Other Awards. 265
Undergraduate Research 224
Undergraduate Research and Mentoring for Deaf Students in Biology . . . 224
University Costs 256
University Studies Program 178
University Writing Commons 179
University Writing Program 179
Urban Studies
as track in Sociology and Anthropology. 124
Immersion 220
Minor 206

V

Vehicle Registration 235
Veteran Enrollment Services. 238
Visual Culture
  Immersion 220
  Minor 206
Visual Media
  as option in Photographic and Imaging Arts 102
Vocational Rehabilitation 257

W

Water Resources
  as option in Civil Engineering Technology 13
  Minor 207
Web Design and Development
  Minor 207
Web Development
  Minor 207
Wellness Education Requirement . . . 7
Wellness, Intercollegiate Athletics and Intramural Support (NTID) 234
Wireless Communication
  as option in Electrical Engineering 60
Withdrawal from Courses. 226
WITR Radio 241
Women's and Gender Studies
  Immersion 220
  Minor 207
Women and Gender, Center for . . . 238
Writing Across the Curriculum . . . 179
Writing and Rhetoric
  Immersion 221

Notes

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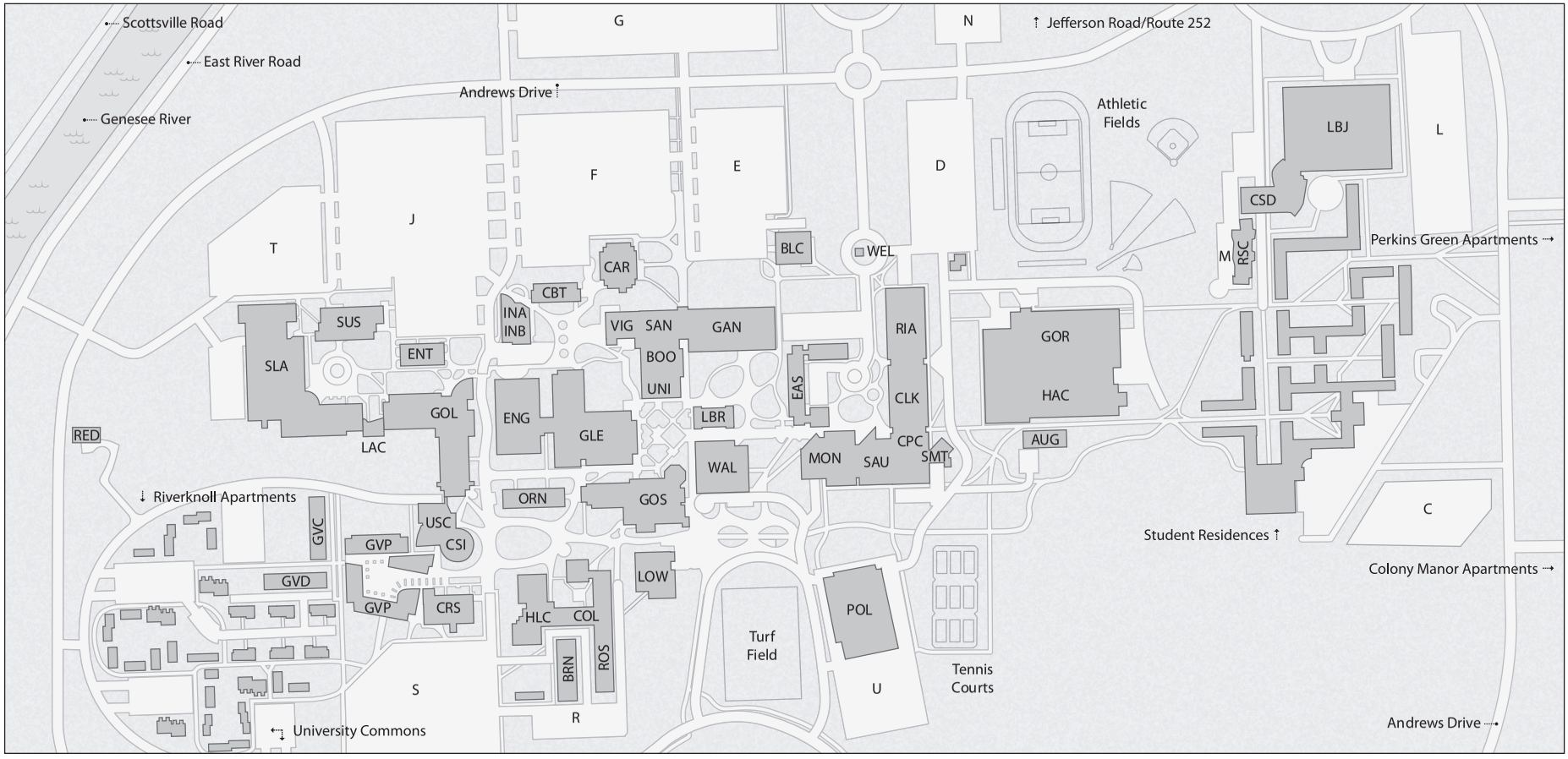
Notes



RIT CAMPUS MAP

AUG	August Center
BLC	Bausch & Lomb Center
BOO	James E. Booth Hall
BRN	Brown Hall
CAR	Chester F. Carlson Center for Imaging Science
CBT	Center for Bioscience Education & Technology
CLK	George H. Clark Gymnasium
COL	Color Science Hall
CPC	Campus Center
CRS	Crossroads
CSD	CSD Student Development Center
CSI	Center for Student Innovation
EAS	George Eastman Hall
ENG	Engineering Hall
ENT	Engineering Technology Hall
GAN	Frank E. Gannett Hall
GLE	James E. Gleason Hall
GOL	Golisano Hall
GOR	Gordon Field House and Activities Center
GOS	Thomas Gosnell Hall
GVC	Global Village Way C
GVD	Global Village Way D
GVP	Global Village Plaza
HAC	Hale-Andrews Student Life Center
HLC	Hugh L. Carey Hall
INA	Institute Hall A
INB	Institute Hall B
LAC	Laboratory for Applied Computing
LBJ	Lyndon Baines Johnson Hall
LBR	Liberal Arts Hall
LOW	Max Lowenthal Hall
MON	Monroe Hall
ORN	Orange Hall
POL	Gene Polisseni Arena
RED	Red Barn
RIA	Frank Ritter Ice Arena
ROS	Lewis P. Ross Hall
RSC	Rosica Hall (under construction)
SAN	Sands Family Studios
SAU	Student Alumni Union
SLA	Louise Slaughter Hall
SMT	Schmitt Interfaith Center
SUS	Golisano Institute for Sustainability
UNI	University Gallery
USC	University Services Center
VIG	Vignelli Center for Design Studies
WAL	Wallace Library
WEL	Welcome Center

R·I·T

Rochester Institute of Technology

Periodicals