R·I·T

General Information & Undergraduate Programs 1992–93

Rochester Institute of Technology
Rochester, New York

Rochester Institute of Technology
1992-93 Institute Calendar

• FALL QUARTER

August 31	Move-in Day for New Residents
August 31-Sept. 3	Fall Orientation
September 2	Open Registration (New and Returning Students)
September 3-5	All Classes Begin
September 10	End of Drop/Add Period
October 23	Last Day to Withdraw with a Grade of "W"
November 11	Last Day Class
November 14	Last Saturday Class
November 13, 14, 16,17	FINAL EXAMS
November 18	Last Evening Class
November 20-29	Fall/Winter Break

• WINTER QUARTER

November 30	Open Registration
November 30	Evening Classes Begin
December 1	Day Classes Begin
December 5	Saturday Classes Begin
December 8	End of Drop/Add Period
December 19	Last Day of Classes Before Break
January 4, 1993	Classes Resume
February 5	Last Day to Withdraw with a Grade of "W"
February 22	Last Day Class
February 23-26	FINAL EXAMS
February 26	Last Evening Class
February 27	Last Saturday Class
February 28-March 7	Winter/Spring Break

• SPRING QUARTER

March 8	Open Registration
March 8	Evening Classes Begin
March 9	Day Classes Begin
March 13	Saturday Classes Begin
March 16	End of Drop/Add Period
April 30	Last Day to Withdraw with a Grade of "W"
May 17	Last Day Class
May 18-21	FINAL EXAMS
May 21	Last Evening Class
May 22	Last Saturday Class
May 22	COMMENCEMENT
May 23-31	Spring/Summer Break

About this bulletin

The RIT Undergraduate Bulletin does not constitute a contract between the Institute 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, and other charges; plus 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 of the same publication. Because of this, Rochester Institute of Technology does not assume a contractual obligation with its students for the contents of this Undergraduate Bulletin.

General Information and Undergraduate Study 1992-93

For more information concerning undergraduate study at RIT, or for a complete list of courses, write or phone:

Rochester Institute of Technology
Office of Admissions
Bausch & Lomb Center
P.O. Box 9887
Rochester, N.Y. 14623-0887
716-475-6631

Contents

An Introduction to Rochester Institute of Technology

Founded in 1829 and emphasizing career education, RIT is a privately endowed, coeducational university comprised of eight colleges.

RIT's reputation for quality comes from a dedication to providing the finest possible career preparation for today's students. This has attracted some of the nation's leading faculty to RIT and has led to the development of academic programs that combine outstanding teaching, a strong foundation in the liberal arts and sciences, modern classroom facilities, and work experience gained through the Institute's cooperative education program.

More than 200 different programs attract 11,500 undergraduate and 1,700 graduate students to an astounding array of distinctive academic areas such as microelectronic engineering, imaging science, computer graphics, packaging science, film/video, biotechnology, ultrasound, printing management, international business management, telecommunications technology, and the programs of the School for American Craftsmen and the National Technical Institute for the Deaf.

As a major comprehensive university, RIT's programs extend beyond science and technology. RIT offers more liberal arts courses and a larger liberal arts faculty than you would find at most liberal arts colleges. With a strong foundation in humanities and social sciences, RIT students not only understand the latest technological developments, but are also able to address the larger philosophical and ethical issues presented by technology.

Charter: RIT is chartered by the legislature of the State of New York and accredited by the Commission on Higher Education of the Middle States Association for Colleges and Schools. In addition to institutional accreditation, curricula in some of the colleges are accredited by appropriate professional accreditation bodies. Where applicable, specific mention of these is included in the college descriptions.

Campus, student body, and alumni: The campus occupies 1,300 acres in suburban Rochester, the third largest city in New York State.

The student body consists of approximately 8,500 full-time undergraduate students, including nearly 1,100 deaf students, who attend the National Technical Institute for the Deaf (NTID) at RIT, 1,700 graduate students, and

3,000 part-time undergraduate students. RIT alumni number more than 60,000 worldwide, including 2,600 deaf graduates.

Enrolled students represent all 50 states and 63 foreign countries. More than one-third are transfer students, who have enrolled from two-year colleges or other four-year institutions. About one-third of the Institute's students are women, and adult students comprise a significant proportion of the total enrollment.

Veterans, often a little older and usually ready to move directly toward a career goal, find at RIT a serious purpose and a place to make up lost time with minimal adjustment problems.

The nearly 1,100 deaf students enrolled in RIT's National Technical Institute for the Deaf make a distinct contribution to the educational environment. Deaf and hearing students often share the same dormitories and sometimes the same room. They play on the same teams and attend many of the same classes. Hearing students may participate in programs for deaf students and may interpret, tutor, or take class notes for them. RIT is proud of its part in this national educational effort for deaf people.

Colleges and schools: Applied Science and Technology (School of Computer Science and Information Technology; School of Engineering Technology; School of Food, Hotel, and Travel Management); Business; Continuing Education; Engineering; Imaging Arts and Sciences (School for American Craftsmen, School of Art and Design, School of Photographic Arts and Sciences, School of Printing Management and Sciences, Center for Imaging Science); Liberal Arts; Science; National Technical Institute for the Deaf

Degrees: RIT offers the associate in arts (AA), associate in science (AS), associate in occupational studies (AOS), bachelor of science (BS), bachelor of fine arts (BFA), bachelor of technology (B.Tech), master of business administration (MBA), master of engineering (ME), master of fine arts (MFA), master of science (MS), master of science for teachers (MST), and the nation's only doctoral program (Ph.D.) in imaging science.

Cooperative education: RIT offers the fourth oldest and one of the largest cooperative education programs in the world, annually placing over 2,500 students in co-op positions with approximately 1,300 employers.

More than 600 companies visit RIT annually, conducting over 9,000 on-campus interviews. In addition, approximately 5,000 positions are listed with the Cooperative Education and Placement Office each year.

Wallace Library: The library contains, in addition to 325,000 books, the largest microfilm collection and the most extensive collections of video cassettes, slides, filmstrips, microfiches, motion pictures, Super 8 cartridges, and recordings of any area college library.

Computing services: RIT provides computing services on VAX/VMS and VAX/ULTRIX (UNIX) systems and various microcomputers at no cost to students regardless of their majors. Central computer systems can be accessed via modem or terminals in six different User Computing Centers. Publications and free seminars are available. Many RIT colleges have additional computing facilities available to students in their programs.

Housing: Many of RIT's full-time students live in RIT-operated residence halls and apartments. On-campus fraternities, sororities, and special-interest houses are available. Freshmen are guaranteed housing; upper-class students may live in residence halls, on-campus apartments, or townhouses.

Specially equipped rooms for deaf students include visual warning systems.

Student activities: Major social events include Homecoming, Parents Weekend, Winter Weekend, and Spring Weekend, along with dances, parties, speakers, and events sponsored by the College Acitivities Board, Residence Halls Association, Greek Council, and special-interest clubs of many kinds.

Three national sororities and 10 national fraternities offer social activities and promote high scholastic and social standards among their members. Student affiliate chapters of a number of national technical associations also are located on the campus.

Athletics, intramurals, fitness: RIT offers a wide variety of activities for students at all levels of ability. Men's hockey, soccer, and lacrosse have been ranked nationally, and many other teams receive recognition in the Northeast.

Men's teams—baseball, basketball, cross country, ice hockey, lacrosse, soccer, swimming, tennis, track, and wrestling

Women's teams—ice hockey, basketball, tennis, track, swimming, soccer, Softball, and volleyball

Over 60 percent of RIT students participate in one or more of our 21 intramural programs. The Hale-Andrews Student Life Center, which opened early in 1992, offers some of the finest indoor facilities in the country, including a gym with five multipurpose courts, racquetball courts, fitness center, locker rooms with saunas, dance and aerobics studio, and a running track. Other facilities include an ice arena, swimming pool, tennis courts, and an all-weather track.

Emphasis on diversity
RIT is proud of its multicultural campus and is fortunate to have a student body that consists of many different backgrounds, cultures, and lifestyles. All students greatly benefit by living and learning in an environment that values diversity.

RIT's encouragement of the appreciation of diveristy is evidenced in liberal arts courses, campus events and special programs (including the annual International Banquet, Black History Month, Martin Luther King Celebration, and Hispanic Heritage Week).

Students are encouraged to take advantage of the many opportunities RIT provides; the world in which they will live and work will be composed of people from many backgrounds, lifestyles, and cultures. All should strive to end ethnic prejudice, as there is no room for cultural factionalism in today's world. There is also no room for prejudice against those with alternative lifestyles or physical disabilities.

Graduates will have a lifelong advantage if they leave RIT with an understanding and appreciation of society's rich diversity.

Sponsored research
Sponsored research is a vital and integral component of RIT's research activity. Faculty undertake research for a variety of important reasons—to advance others' knowledge, for professional development, and to strengthen academic programs. Sponsored research, programs, and projects enhance the institute's academic programs, broaden its research resources, provide the opportunity for student participation in research, permit university/industrial partnerships and exchange of ideas, and serve the wider community in a variety of ways.

Moreover, grants and contracts provide a substantial revenue source for the university. External funding for research comes from federal and state agencies, private foundations, and corporate sponsors. RIT's most active sponsors include the National Science Foundation (NSF), the National Institutes of Health (NIH), the Department of Education, the Department of Defense, National Aeronautics and Space Administration (NASA), the Central Intelligence Agency (CIA), IBM, Eastman Kodak Company, and the Society of Manufacturing Engineers (SME).

Visits to campus: Visits are encouraged and can be arranged in advance by writing to the RIT Admissions Office or calling 716-475-6631. Visits to the National Technical Institute for the Deaf may be arranged by calling 716-475-6405 (voice) or 475-2181 (TDD).

Academic Programs of Study

The academic programs, course curricula, policies, and standards described in this *Undergraduate Bulletin* are in effect for students admitted to RIT during the 1992-93 academic year. The purpose of this bulletin is to provide students with a solid base of information to use in planning their undergraduate education.

Useful Definitions

Matriculated, active student: In order to to earn any degree from RIT, a student must be accepted into an academic program through the admissions process and begin a course of study (matriculation). To remain "active," a student must demonstrate continued progress toward completing his/her degree requirements. Failure to register for coursework in more than four successive academic quarters (eight quarters for College of Continuing Education students) results in the loss of active status. Inactive students will need to reapply for admission to RIT.

Cooperative education: Required for two to five quarters in many of RIT's undergraduate programs and optional in most others, "cooperative education," or "co-op," allows students to work in full-time, paid positions related to their fields of study. Savings from co-op earnings help offset tuition and other expenses. The Office of Cooperative Education and Placement recruits employers, advises students, schedules job interviews, and can be a source of great assistance to students before, during, and after a co-op experience. For additional information, students should contact the Office of Cooperative Education and Placement.

Lower/upper division courses: In general, lower division courses (with registration numbers from 100 to 399) are designed for students in their first or second year of study. Upper division courses (400 through 699) are designed for students in their third, fourth, or fifth year.

Elective courses: Most degree programs include unspecified, or "elective," coursework. Where "free electives" are indicated, any credit-bearing course may be applied. In other instances, the elective course must come from a particular discipline of courses (e.g., "professional" or "liberal arts" electives). Academic advisors will help students identify those options.

Additional Information

RIT courses: Course descriptions for most courses can be found in the *Undergraduate Courses Bulletin,* published annually and available through the Office of Admissions.

Graduate programs: Master's and doctoral degree programs, plus other post-baccalaureate offerings, are fully described in the *Graduate Bulletin,* published annually and available through the Office of Admissions.

New York State immunization requirement: New York State Public Law 2165, June 1989, requires that all matriculated students enrolled for more than nine quarter credit hours in a term and born after January 1, 1957, must provide RIT Student Health Services 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, 1969, 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 acceptance packet or available from the Student Health Services office.

Graduation Requirements

To earn any academic credential from RIT, you must satisfy a number of requirements. Graduation requirements *may* vary slightly from program to program, and all students are strongly encouraged to seek out and use the academic advising resources within their colleges. In general, students should expect to satisfy the following requirements before they can graduate from RIT:

A. Completion of academic curricula
   1. Satisfactorily complete all of the courses in your academic program. Specific course requirements for each program are identified in the following pages. This bulletin *and careful consultation with your academic advisor* provide the best resources for planning your academic program at RIT.
   2. Your program curricula may include several types of courses, including cooperative education, field experience, practi-

cums, thesis and research, and physical education. Most RIT students will need to satisfy a physical education requirement, and many academic programs require one or more quarters of cooperative education.
   3. The curriculum in effect at the time of your admission into a program will normally be the one you must complete in order to graduate. Occasionally, with faculty approval, course substitutions and other minor curricular modifications may occur. Although there is no time limit within which you must complete your course requirements, the curriculum under which you are certified to graduate must be no more than seven years old.

B. Grade point average standard
   1. Successful candidates for an undergraduate degree, diploma, or certificate must have a program cumulative grade point average of at least 2.0.
   2. Graduation honors are conferred on associate and bachelor's degree recipients who achieve a 3.40 or higher program cumulative GPA.

C. Residency and minimum earned hours
   At least 45 of the credit hours used toward a degree program must be earned by successfully completing RIT courses. In addition, at least 30 of the final 45 hours of any program must be earned through RIT courses. Credit earned through transfer, credit by exam/experience, CLEP, advanced placement, or audit are 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 less than 180 cumulative earned hours (90 hours for associate degrees). Cumulative earned hours include RIT courses, transfer credit, credit by exam/experience, CLEP, and advanced placement credit.

D. Demonstration of writing skills
   Students must demonstrate, to the satisfaction of the dean of their college, that they have the writing skills needed for successful entry into their chosen careers. The criteria and standards for evaluating abilities are determined by each academic department.

E. Full payment of all financial obligations to RIT

Undergraduate Full-Time Programs	College	Cert.	Dipl.	AOS	AS	AAS	BFA	BS	Part-Time Option	Page
Accounting	Business, Continuing Ed.					5002		0502	Y	44
Applied Accounting	NTID		5002			5002				126
Applied Art & Computer Graphics	NTID	5012	5012			5012				142
Applied Arts & Sciences	Continuing Education		5699			5699		5699	Y	53
Applied Computer Technology	NTID	5101	5101			5101				129
Architectural Drafting	NTID		5304							137
Architectural Technology	NTID					5304				137
Biology	Science				5604			0401		107
Biotechnology	Science							0499		108
Business Administration	Continuing Education					5001			Y	57
Business Occupations	NTID	5005								127
Business Technology	NTID			5005						127
Ceramics & Ceramic Sculpture	Imaging Arts and Sciences					5610	1009			77
Chemistry	Science				5619			1905	Y	109
Civil Technology	NTID					5309				138
Communication, Tech. & Professional	Liberal Arts							0601		102
Communications										
Biomedical Photographic	Imaging Arts & Sciences					5299		1217		81
Computer Science	Applied Science & Technology				5101	5101		0701	Y	10
Computer Systems	Applied Science & Technology					5101			Y	11
Computing, Biomedical	Science				†			1217		116
Craft Major, Double	Imaging Arts & Sciences						1009			78
Criminal Justice	Liberal Arts							2105	Y	97
Deaf Studies	Continuing Education	5506							Y	60
Design										
Graphic	Imaging Arts & Sciences					5012	1009			76
Industrial and Interior	Imaging Arts & Sciences					5012	1009			76
Diag. Med. Sonography (Ultrasound)	Science	5299						1299		120
Dietetics & Nutritional Care, General	Applied Science & Technology					5404		1306		35
Economics	Liberal Arts							2204	Y	101
Educational Interpreting	NTID					5506				149
Electrical/Mechanical Technology	Applied Science & Technology							0925	Y	14
Electromechanical Technology	NTID					5311				138
Emergency Management	Continuing Education	5508								58
Engineering										
Computer Engineeringt	Engineering							0999		66
Electrical Engineering	Engineering							0909		67
Industrial Engineering	Engineering							0913		69
Mechanical Engineering‡	Engineering							0910		71
Microelectronic Engineering	Engineering							0999		73
Engineering Science	Engineering				5809				Y	65
Engineering Technology										
Civil Engineering Technology	Applied Science & Technology							0925		15
Computer Engineering Technology	Applied Science & Technology					5399		0925	Y	19
Electrical Engineering Technology	Applied Science & Technology							0925	Y	17
Electrical Technology	Applied Science & Technology					5310			Y	18
Electromechanical Technology	Applied Science & Technology					5311			Y	26
Manufacturing Engineering Technology	Applied Science & Technology							0925	Y	27
Manufacturing Technology	Applied Science & Technology					5399			Y	29
Mechanical Engineering Technology	Applied Science & Technology							0925	Y	24
Mechanical Technology	Applied Science & Technology					5315			Y	25
Telecommunications Technology	Applied Science & Technology							0925	Y	21
Environmental Management	Continuing Education							0420		62
Film/Video	Imaging Arts & Sciences					5008	1010			82
Finance	Business							0504	Y	45
Fine & Applied Arts	Continuing Education		5012						Y	61
Food Management	Applied Science & Technology					5404		1307		31
Food Marketing & Distribution	Applied Science & Technology							1307		32
General Education (AA Degree)	Continuing Education				5699				Y	58
General Management	Continuing Education					5004			Y	56
Glass	Imaging Arts & Sciences					5012	1009			77
Health Systems Administration	Continuing Education	5299							Y	55
Hotel and Resort Management	Applied Science & Technology					5010		0508		33

Undergraduate Full-Time Programs	College	Cert.	Dipl.	AOS	AS	AAS	BFA	BS	Part-time Option	Page
Illustration										
Medical Illustration	Imaging Arts & Sciences						1299			77
Painting-Illustration	Imaging Arts & Sciences					5610	1002			76
Printmaking-Illustration	Imaging Arts & Sciences					5610	1002			76
Imaging Science	Imaging Arts & Sciences					5007		1011		89
Imaging & Photographic Technology	Imaging Arts & Sciences					5009		1011		83
Industrial Drafting	NTID		5303							139
Industrial Drafting Technology	NTID			5303		5303				139
Information Systems	Business							0599		46
Information Technology	Applied Science & Technology							0699		12
Instrument Making & Experimental Work	Continuing Education		5312						Y	63
International Business	Business							0513		49
Logistics & Transportation Mgmt.	Continuing Education					5004			Y	57
Machine Shop	Continuing Education		5303						Y	63
Management	Business							0506	Y	47
Managing Communication Services	Continuing Education	5008							Y	60
Manufacturing Processes	NTID		5312	5312						140
Marketing	Business, Continuing Ed.					5004		0509	Y	48
Mathematics										
Applied Mathematics‡	Science				5617			1701		112
Computational Mathematics‡	Science							1703		113
Medical Laboratory Technology	NTID					5205				131
Medical Record Technology	NTID					5213				132
Medical Technology	Science				†			1223		117
Metalcrafts & Jewelry	Imaging Arts & Sciences					5012	1009			77
Newspaper Operations Management	Imaging Arts & Sciences							0699		93
Nuclear Medicine Technology	Science	5299			†			1299		118
Office Technologies	NTID		5005			5005				128
Ophthalmic Optical Finishing Technology	NTID	5212	5212	5212		5212				133
Packaging Science	Applied Science & Technology							4999		37
Painting, Printmaking	Imaging Arts & Sciences					5610	1002			76
Personnel Administration	Continuing Education					5004			Y	57
Photo/Media Technologies	NTID	5007	5007			5007				143
Photographic Illustration, Professional	Imaging Arts & Sciences					5007	1011			87
Photographic Marketing Management	Business							0509		50
Photographic Systems Management	Imaging Arts & Sciences					5007		0599		85
Photography	Imaging Arts & Sciences		5007						Y	87
Physics	Science				5619			1902		115
Polymer Chemistry	Science							1907		111
Printing	Imaging Arts & Sciences					5009		0699	Y	91
Printing & Applied Computer Science	Imaging Arts & Sciences							0699		94
Printing Production Technology	NTID	5009	5009	5009		5009				146
Printing Systems	Imaging Arts & Sciences							0699		92
Production Managment	Continuing Education					5004			Y	57
Professional Photography	Imaging Arts & Sciences					5007			Y	88
Public Relations										
Communications, Advanced	Continuing Education	5008							Y	59
Graphic Communications	Continuing Education	5008							Y	59
Professional Writing	Continuing Education	5008							Y	59
Quality Implementation, Basic Quality	Continuing Education	5399							Y	55
Real Estate**	Continuing Education								Y	57
Social Work	Liberal Arts							2104	Y	99
Statistics, Applied‡	Science							1702		114
Technical Communication										
Basic	Continuing Education	5008							Y	59
Advanced	Continuing Education	5008							Y	59
Tool & Die Making	Continuing Education		5312						Y	63
Travel Management	Applied Science & Technology					5011		0510		34
Weaving & Textile Design	Imaging Arts & Sciences					5012	1009			77
Woodworking & Furniture Design	Imaging Arts & Sciences				5317	5012	1009			77

*Higher Education General Information Survey
† Students in these programs receive an AS in general science (HEGIS M5649) upon successful completion of the first two years.
‡Dual degrees (BS/MS) option also available
§Bachelor of Technology degree also available
**Courses offered for NYS licensing

The Liberal Arts Curriculum

The curriculum in the humanities and social sciences that all RIT students pursue may be best understood by examining the chart opposite. Students in associate and baccalaureate degree programs complete the enure liberal arts curriculum, or a modification of it, as a component of their particular degree programs. Academic advisors in the College of Liberal Arts and in other colleges help students interpret the liberal arts curriculum as it applies to their degree programs.

The basic curriculum consists of 14 courses (54 quarter credits) arranged in five groups:

1. English Composition
2. The core curriculum of six foundation courses in the humanities and social sciences (200-300 course numbers)
3. A disciplinary or interdisciplinary concentration of three advanced courses (400 course numbers)
4. Three advanced electives (400 and 500 course numbers)
5. The Liberal Arts Senior Seminar and Project

The specific Core Courses are listed below (six must be selected):

Literature, required

Fine Arts, one required from Visual Arts, Musical Arts, or Fine Arts

History, one required from either Modern American or Modern European history

Philosophy, one required from Ethics, Critical Thinking, or Selected Issues or one required from Science, Technology, and Values

Social Sciences, two required from Principles of Economics I, American Politics or Political Decision Making, Introduction to Psychology, Foundations of Sociology, or Cultural Anthropology

Concentration

A concentration is a group of closely related advanced courses from which a student will choose three.

A concentration is pursued in the third, fourth, or fifth year of the baccalaureate programs and can take either of the following forms:

1. Disciplinary Concentration—three related courses in a single discipline leading to in-depth knowledge of the methods, problems, and achievements of that mode of inquiry
2. Interdisciplinary Concentration—three related courses from different disciplines, each one of which speaks to some aspect of a common area, subject, or topic

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English Composition
4 credits

**The Core Courses
6 foundations; 4 credits each
(200–300 course numbers)**

————— Humanities Requirements —————
(4 courses)

Philosophy or Science, Technology and Values	History	Literature	Fine Arts

————— Social Science Requirements —————
(Each student will choose 2 of the 4 courses.)

Psychology	Economics	Political Science	Sociology/Anthropology

3-course concentration with prerequisites, 4 credits each
(400 course numbers)

concentration	concentration	concentration

The concentration may be in a disciplinary or interdisciplinary area.

3 electives, 4 credits each
(400–500 course numbers)

| elective	elective	elective

Senior Seminar and Project
2 credits

Senior seminar and project

The purposes of the Senior Seminar and Project are:

1. to give seniors the opportunity to prepare papers or projects that call for analysis and synthesis and for the application of their liberal arts experience to major issues that may affect their professional careers,
2. to provide seminars for all senior students on a general theme, and
3. to provide an advanced experience of problem solving and value clarification

The Senior Seminar is designed and implemented each year by a faculty committee. The seminar topic may change from one year to another.
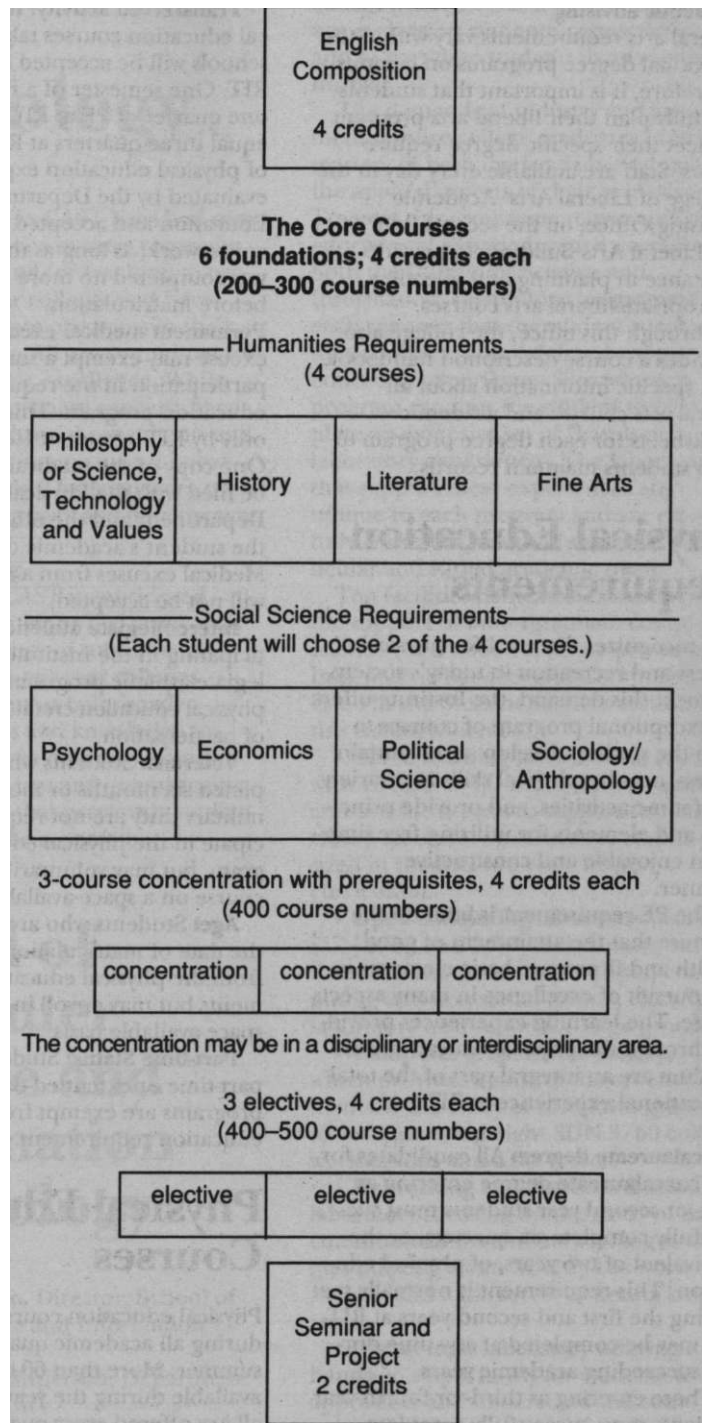
Academic advising

Liberal arts requirements vary within the individual degree programs on campus. Therefore, it is important that students carefully plan their liberal arts program to meet their specific degree requirements. Staff are available every day in the College of Liberal Arts' Academic Advising Office, on the second floor of the Liberal Arts Building, to provide assistance in planning and selecting appropriate liberal arts courses.

Through this office, the college also provides a course description handbook with specific information about all liberal arts courses and academic worksheets for each degree program to help students maintain records.

Physical Education Requirements

RIT recognizes the need for physical fitness and recreation in today's society. To meet this demand, the Institute offers an exceptional program of courses to help the student develop and maintain fitness, acquire physical skills in a variety of lifetime activities, and provide principles and elements for utilizing free time in an enjoyable and constructive manner.

The PE requirement is built on the premise that the attainment of good health and fitness are basic elements in the pursuit of excellence in many aspects of life. The learning experiences provided through the physical education curriculum are an integral part of the total educational experience at RIT.

Baccalaureate degree: All candidates for the baccalaureate degree entering as first- or second-year students must successfully complete six quarters, or the equivalent of two years, of physical education. This requirement is normally met during the first and second years at RIT, but may be completed at any time during succeeding academic years.

Those entering as third- or fourth-year students must successfully complete three quarters of physical education unless they have completed the equivalent or earned a baccalaureate degree at another institution.

Associate degree: All candidates for the associate degree are required to successfully complete three quarters, or the equivalent of one year, of physical education. This requirement is normally met during the first year at RIT but may be completed at any time during succeeding academic quarters.

Transferred activity: In general, physical education courses taken at other schools will be accepted in transfer at RIT. One semester of a PE course equals one quarter of PE at RIT; two semesters equal three quarters at RIT. Other forms of physical education experience may be evaluated by the Department of Physical Education and accepted in lieu of PE coursework, as long as the experience was completed no more than one year before matriculation.

Permanent medical excuse: A medical excuse may exempt a student from participation in the required physical education program. This will be granted only by RIT's Student Health Services. One copy of the medical excuse should be filed with the Physical Education Department and the other copy taken to the student's academic department. Medical excuses from a family physician will not be accepted.

Intercollegiate athletics: Students participating in the Institute's intercollegiate athletic programs will be granted physical education credit for the season (s) of participation.

Veterans: Students who have completed six months or more of active military duty are not required to participate in the physical education program, but may voluntarily enroll in any course on a space-available basis.

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

Part-time Status: Students enrolled in part-time or extended-day academic programs are exempt from the physical education requirement.

Physical Education Courses

Physical education courses are offered during all academic quarters, including summer. More than 60 courses are available during the year, although not all are offered every quarter. Registration for physical education classes coincides with the dates and times for the academic departments. A nominal fee is charged in some courses requiring specialized instruction and/or facilities.

Cardiovascular and strength activities
Aerobic Dance, Army Conditioning Drills, Conditioning, Jogging, Karate, Rung Fu, Swimming for Fitness, Weight Training, Yoga and T'ai Chi, Red Barn Ropes

Recreation and sports activities
Aquathenics, Archery, Badminton, Ballroom Dance, Billiards, Bowling, Canoeing, Cross Country Skiing, Dance Performance I and II, Diving, English Horseback, Fencing, Fishing, Frisbee, Golf, Hunting, Ice Skating, Juggling, Modern Dance, Nightclub Dancing, Outdoor Experiential Education, Racquetball, Scuba Diving, Self-Defense (women), Skiing (downhill), Swimming, Tennis, Western Horseback, Rock Climbing, Skeet and Trap

Life support and safety programs
CPR and First Aid, Lifeguarding, Water Safety Instruction, Health/Mind-Body Connection

College of Applied Science and Technology

Wiley R. McKinzie, Dean

The College of Applied Science and Technology (CAST) provides programs that stress the development, integration, and implementation of technology in areas ranging from the manufacturing environment to a global service economy. Modern technology is a focal point in each CAST program. This technology is used to provide the productive manufacture and distribution of durable goods and the proper flow of many forms of information worldwide and to enhance customer satisfaction in the service sector.

The college units are the School of Engineering Technology; the School of Computer Science and Information Technology; the School of Food, Hotel, and Travel Management; and the Department of Packaging Science. The college has programs at the associate, baccalaureate, and master's degree levels. The Department of Military Science and the Department of Aerospace Studies, ROTC, are also part of the college.

Resources
The experiential nature of all of the programs in the College of Applied Science and Technology requires excellent facilities and equipment. The Institute continually updates and adds equipment to maintain laboratories that contain state-of-the-art equipment. Engineering technology programs share facilities with the College of Engineering with additional laboratories in CAD/CAM systems, robotics, controls, and soils. A CAD laboratory based on workstations supports a number of courses. Extensive computer facilities are dedicated to academic support of undergraduate computer science and its joint programs. The packaging science laboratories have some of the most advanced and sophisticated packaging testing equipment in the country.

Acceptance of the associate degree
All units within CAST strongly encourage the transfer of students from two-year colleges. Most CAST programs give students with an appropriate associate degree full junior standing, and such students are eligible to graduate from RIT in two academic years, including the required co-op experience. Sudents with a less appropriate academic background may have to complete additional coursework.

Faculty
Faculty members in CAST have had considerable experience in their respective industrial fields and/or teaching in two-year and four-year colleges and have completed graduate programs in their various specialties. All are committed to rigor and academic excellence. While teaching is their primary concern, they serve as active industrial consultants and researchers to maintain current knowledge in their fields. The faculty are committed to student growth and development.

Program planning
Each student in CAST is considered individually when his or her program is planned. The variety of subject backgrounds from the two-year colleges necessitates an almost tailor-made pattern of courses and knowledge to assure that associate degrees retain the integrity they deserve and guaranteeing, as far as possible, that previously studied material will not be repeated.

School of Computer Science and Information Technology

William J. Stratton, Director, School of Computer Science and Information Technology
John A. Biles, Chairperson, Department of Computer Science
Peter H. Lutz, Chairperson, Department of Information Technology

The School of Computer Science and Information Technology offers programs leading to the bachelor's and master's degrees in two fields.

The school's nationally accredited BS degree in computer science is designed to meet the continuing demands for computer science in industry, government, and education. The information technology programs were developed to meet the rapidly evolving industrial and governmental need for a new professional: the information technologist. At the undergraduate level, both programs are offered to high school and two-year

college graduates, as first-year and upper-division students, respectively, and to part-time students in an evening format.

The demands of industry and government require college graduates to have a mastery of both the fundamentals and the applied aspects of their profession. To meet this requirement, two applied educational experiences are woven into both the Computer Science and Information Technology programs. First, each requires that the student successfully complete a well-defined cooperative education experience. Second, each program requires the student to complete an extensive set of "hands-on" laboratory experiences. The laboratories that support these experiences are unique to each program and are carefully crafted to meet the student's particular and varied academic needs.

Ten facilities dedicated exclusively to the support of undergraduate computer science (in addition to those provided by Information Services and Computing, listed in the Student Services section of this catalog) include:

• Three teaching laboratories, each with 15 SUN 3/50 and 3/80 workstations and two file servers to support formal, closed laboratory instruction, emphasized in the first two years of the curriculum.

• Open computing laboratory with 30 SUN 3/50 and 3/80 workstations with three file servers to support open computing and occasional formal, closed laboratory instruction for large groups.

• Computer graphics laboratory, which provides a state-of-the-art environment for the study of computer graphic techniques using eight SUN 3/60 color workstations and a file server.

• Networking and distributed systems laboratory focusing on the study of data communications and networking strategies utilizing seven SUN 2/120 workstations and a file server as networking tools.

• Digital logic laboratory offering a hands-on opportunity for students to appreciate and understand the computer equipment they work with throughout the program. This lab is designed for non-electrical engineering students.

• CS learning laboratory, an area in the computer science laboratory space for students and faculty to meet informally for help sessions and other discussions.

Undergraduate computer science has focused on the use of the UNIX operating system because of its applicability to software development. All of the above facilities support UNIX.

Three facilities available to undergraduate information technology students include:

• The information technology lab, with 15 Macintosh II computers and 14 IBM PC/386 class computers, all connected to the campus-wide computing network. This laboratory is the principal computing lab for the program and includes animation and digitizing equipment.

• The InfoTech instructional lab, with 10 additional color Macintosh II computers, used in classroom situations to impart skills and techniques to students in the program. This lab is scheduled by instructors to provide a hands-on component to their classes as they deem appropriate. The computers in this lab are also connected to the campus-wide computing network.

• The information technology computer-integrated laboratory, with 6 X terminals, an IBM PS/2, and an IBM RS-6000, plus various manufacturing equipment on a rotating basis. The computers in this lab are also connected to the campus-wide computing network.

All computer science and information technology facilities are connected by a high-speed Ethernet network through which students also access off-campus networks such as NYSERNET, USENET, and BITNET. There are 77 dial-in modem connections, more than 20 printers, and Apple Macintosh microcomputers available for student use.

Computer Science Department

John A. Biles, Chairman

The bachelor of science program, which is fully accredited by the Computer Science Accreditation Board (CSAB), attracts students who are interested in both the mathematical theory and technical applications of computer science. Most employers look for students who not only are good computer scientists, but also understand the tools and techniques of mathematics, science, and industry. The BS program, then, is for the mathematically adept student who wishes to become a computing professional with knowledge of relevant applications areas. The program also is attractive to students transferring to RIT with an associate degree in computer science backed up by significant coursework in mathematics and science.

Computer science covers a wide spectrum of the field of computing. A computer scientist can specialize in areas such as data communications and networking, software engineering, parallel computation, digital systems design and

Yr.	TYPICAL COMPUTER SCIENCE PROGRAM, BS DEGREE	189-200 Qtr. Cr. Hrs.		
		FALL	WTR.	SPG.
1	ICSS-101 Freshman Seminar	1		
	ICSP-241 Programming I-Algorithmic Structures	4		
	ICSP-242 Programming II-Data Structures		4	
	ICSP-305 Assembly Language Programming			4
	SMAM-251, 252, 253 Calculus	4	4	4
	SPSP-311,312 University Physics or SBIB-201,202 General Biology or SCHG-211, 212 Chemical Principles		3-4	3-4
	SPSP-375, 376 University Physics Lab or SBIB-205, 206 General Biology Lab or SCHG-205, 206 Chemistry Lab		1	1
	GLLC-220 English Composition	4		
	'LiberalArts	4	4	4
	‡ Physical Education Electives	0	0	0
2	ICSP 243-Programming III-Design and Implementation	4		
	ICSS-325 Data Organization and Management		4	
	ICSS-315 Digital Computer Organization			4
	Professional Computer Science Elective [1]			4
	SPSP-313 University Physics III or SBIB-203 General Biology III or SCHG-213 Organic Chemistry	3-4		
	SPSP-377 University Physics Lab III or SBIB-207 General Biology III Lab or SCHG-207 Organic Chemistry Lab	1		
	SMAM-265, 266 Foundations of Discrete Mathematics I, II	4	4	
	SMAM-314 Statistics			4
	'Liberal Arts	4	4	4
	Free Elective		4	
	‡ Physical Education Electives	0	0	0
3 4 5	ICSA-444 Technical Writing for Computer Scientists	2		
	ICSS-380 Introduction to Computer Science Theory	4		
	ICSS-440 Operating Systems	4		
	ICSS-420 Data Communication Systems	4		
	ICSP-450 Programming Language Concepts	4		
	Computer Science Concentration [2]	8-12		
	Computer Science Electives [3]	12-16		
	Non-CS Concentration [4]	16		
	"Liberal Arts	26		
	Science Electives	8		
	Free Elective [5]	4		
	Cooperative Education (4 quarters)			

[1]The professional computer science elective in the second year must be chosen from the following courses:
ICSP-306 Systems Programming Fundamentals
ICSP-307 Business Applications Programming
ICSS-312 Introduction to Software Engineering
ICSP-3f9 Scientific Applications Programming

[2]The computer science concentration consists of one of the following course sequences:
Software Engineering
ICSS-S10 Software Specification and Design
ICSS-511 Software Testing and Quality Assurance
ICSS-S55 Software Engineering Project Laboratory
Networking and Distributed Systems
ICSS-540 Operating Systems Laboratory
ICSS-S41 Introduction to Computer Networks
ICSS-542 Distributed Systems Laboratory
Parallel Computing
ICSS-531 Introduction to Parallel Computing
ICSS-532 Parallel Algorithms and Program Design
Computer Graphics
ICSS-S70 Introduction to Computer Graphics
ICSS-571 Computer Graphics Laboratory
Artificial Intelligence
ICSS-455 Artificial Intelligence
ICSS-4S6 Expert Systems
Digital Systems Design
ICSS-400 Logical Design
ICSS-520 Computer Architecture
ICSS-545 Computer Architecture Laboratory
Computer Science Theory
ICSS-470 Finite State Machines
ICSS-480 Formal Languages
ICSS-S15 Analysis of Algorithms
Systems Software
ICSS-520 Computer Architecture
ICSS-540 Operating Systems Laboratory
ICSS-580 Language Processors
Computer Information Systems
ICSS-435 Systems Specification, Design, and Implementation
ICSS-485 Database Concepts
ICSP-488 Programming Systems Workshop

[3]Computer science courses may be taken as computer science electives except as noted in the Course Description Catalog.

[4]A non-CS concentration consists of a set of coherent courses giving the student significant expertise in an area other than computer science. Typical concentrations include mathematics, engineering technology, and business

[5]Any course open to computer science majors may be taken as a tree elective.

' See page 7 for Liberal Arts requirements.

‡ See page 8 tor policy on Physical Education.

computer architecture, systems software, programming languages, computing theory, computer graphics, artificial intelligence, and information systems. It is important to note that programming is an important tool, but is only a part of the vast field of computer science.

An undergraduate computer science student is required to take a core of computer science courses, which provides a solid foundation for advanced work. Building on this base, students can explore a variety of specializations in their junior and senior years, choosing one of nine concentration sequences. In addition, students have the opportunity to develop a broad appreciation of computer applications and the effects of computers on society via computer science electives, liberal arts courses, and a non-computer science concentration in a second discipline.

All students in undergraduate computer science are required to obtain credit for one year (four quarters) of cooperative education prior to graduation. To help ensure that the goals of integrated academic and experiential education are attained, students must attend classes at RIT for at least one quarter after their final co-op block.

Evening programs
The AS, AAS (offered through the Department of Information Technology), and BS programs may be taken on a part-time basis during the evening hours by those who are employed full time and desire a degree. The typical evening student requires approximately 13 quarters to complete all the course requirements for an associate-level degree and approximately 25 quarters for a BS degree (this assumes

no previous course work).

Students with a strong associate degree in computer science can complete the BS degree requirements in 13 quarters.

COMPUTER SYSTEMS PROGRAM, AAS EVENING PROGRAM	96 Credits
COMPUTER SCIENCE	
ICSA-200 Survey of Computer Science	4
ICSA-208 Introduction to Programming	4
ICSA-210 Program Design & Validation	4
ICSP-305 Assembly Language	4
ICSS-315 Digital Computer Organization	4
ICSA-300 Business Applications Using COBOL	4
ICSA-303 Advanced Business Applications	4
ICSA-483 Applied Database Management	4
ICSS-435 System Spec., Design, & Implementation	4
ICSA-411 Data Communication	4
MATHEMATICS	
CTAM-201, 202 Technical Mathematics	8
CBCH-351 Business Statistics	4
SMAM-265, 266 Discrete Mathematics	8
LIBERAL ARTS	
CHGL-220 Communciations	4
Humanities Electives	12
Social Science Electives	8
CHGH-260 Introduction to Literature	4
BUSINESS	
CBCE-201 Organization & Management	4
CBCA-201 Financial Accounting	4

COMPUTER SCIENCE PROGRAM, AS EVENING PROGRAM	96-99 Credits
COMPUTER SCIENCE	
ICSA-200 Survey of Computer Science	4
ICSP-241, 242, 243 Programming I, II, III	12
ICSP-305 Assembly Language	4
ICSS-325 Data Organization & Management	4
ICSP-315 Digital Computer Organization	4
Computer Science Elective	4
MATHEMATICS	
SMAM-251, 252, 253 Calculus I, II, III	12
SMAM-351 Probability	4
SMAM-265, 266 Discrete Mathematics	8
SPSP-311,312, 313 University Physics I, II, III	15
or	
SCHG-211, 212 Principles I, II	12
LIBERAL ARTS	
CHGL-220 Communciations	4
CHGH-260 Introduction to Literature	4
Humanities Electives	12
Social Science Electives	8

COMPUTER SCIENCE PROGRAM, BS EVENING PROGRAM	184-195 Credits
COMPUTER SCIENCE	
ICSP-241, 242, 243 Programming I, II, III	12
ICSP-305 Assembly Language	4
ICSS-325 Data Organization & Management	4
ICSS-315 Digital Computer Organization	4
ICSS-380 Intro, to CS Theory	4
ICSP-450 Programming Language Concepts	4
ICSS-420 Data Communications	4
ICSS-440 Operating Systems	4
Computer Science Concentration	8-12
Computer Science Electives	12-16
LIBERAL ARTS	
CHGL-220 Communciations	4
CHGH-260 Introduction to Literature	4
Humanities Electives	12
Social Science Electives	8
Liberal Arts Electives	12
Liberal Arts Concentration	12
Senior Seminar	2
MATHEMATICS & SCIENCE	
SMAM-251, 252,253 Calculus I, II, III	12
SMAM-351 Probability	4
SMAM-265, 266 Discrete Mathematics	8
Science Electives	8
SPSP-311, 312, 313 University Physics I, II, III	15
or	
SCHG-211, 212 Principles I, II	12
OTHER	
ICSA-444 Technical Writing	2
Free Electives	8
Non-CS Concentration	16
Co-op Work Experience (1 Year)	

Information Technology Department

Peter H. Lutz, Chairperson

Background

We are in the Information Age, but the supply of technically competent professionals is not currently meeting the demand. In addition, strong computing skills for all individuals are increasingly important. Individuals are devoting more time to familiarizing themselves with the wide variety of computing hardware and software available in today's marketplace. As a result, they spend less time working in application areas and more time developing computing environments—a frustrating experience for both the individual and the corporation.

To effectively address this situation, a new professional has emerged—the information technologist, whose primary responsibility is to "fit" the right computing needs to the environments within an enterprise. The objective of the information technology baccalaureate program is to provide the foundations for a well-educated professional in this field.

Students study a wide variety of computing areas, from elementary programming to data communications to electronic imaging. Through courses in communication, technology transfer, and needs assessment, the student acquires the interpersonal communication skills necessary to confer with less technical professionals in order to assess and facilitate their needs. A cooperative education requirement enhances the academic requirements with real-world experiences.

Program overview

The program of study in information technology consists of a core of computing courses, followed by advanced study in a concentration area chosen by the student. The concentration is intended to give the student education in the area in which he or she intends to work. For example, a student who wants to work in the graphic arts industry might take a sequence of courses from the College of Imaging Arts and Sciences, whereas a student interested in manufacturing could take a sequence of courses in computer integrated manufacturing. A number of concentration areas have been identified, but individually constructed concentrations are also possible.

All of the components in this program, including cooperative education, are uniquely designed to produce an individual of value to industry in the Information Age.

Yr.	TYPICAL INFORMATION TECHNOLOGY PROGRAM, BS DEGREE	180 Qtr. Credit Hours			
		FALL	WTR.	SPG.	SMR.
1	ICSA-201 Freshman Seminar	1			
	ICSA-202 Software Tools	4			
	SMAM-204 Algebra	4			
	GPTC-200 Foundations of Communication	4			
	ICSA-208 Introduction to Programming		4		
	SMAT-420 Calculus		4		
	ICSA-310 Interface Design		4		
	ICSA-210 Prog. Design and Validation			4	
	ICSA-320 Electronic Imaging			4	
	SMAT-421 Calculus			4	
	*Liberal Arts	4	4	4	
2	ICSA-212 Abstractions in Programming	4			
	ICSA-410 Computer Concepts & Software Systems	4			
	SMAM-309 Statistics	4			C
	ICSA-350 Technology Transfer		4		
	ICSA-411 Data Communications		4		
	ICSA-420 AI: Expert Systems		4		P
	ICSA-425 Human Factors			4	
	ICSA-483 Database Management			4	
	Professional Elective			4	
	*Liberal Arts	4	4	4	
3	BBUQ-406 Quality Control	4		C	C
	General Education Elective	4	4	O	
	Professional Elective		4		
	*Liberal Arts		4	P	P
	Science Elective	4	4		
4	Professional Elective	4	4		
	† Concentration Course	4	4	4	
	* Liberal Arts	8	10	4	
	ICSA-455 Needs Assessment		4		
	General Education Elective			4	
	ICSA-599 Senior Seminar			1	
	Cooperative Education (3 quarters after year 2)				

See page 7 for Liberal Arts requirements.
† Concentrations are available in telecommunications, technology transfer, interactive media design, and system integration, or an individual concentration by be designed with the guidance of an advisor.

School of Engineering Technology

W. David Baker, Director

Engineering technology is a relatively new field in higher education, and RIT was a pioneer in the development of such programs. Originally conceived as associate-degree-level educational programs, engineeering technology curricula were designed to prepare people to work with engineers and scientists as technicians.This educational role is now carried out primarily in two-year community colleges and technical institutes.

More recently, RIT has been a leader in the development of baccalaureate programs in engineering technology. The bachelor's degree in engineering technology meets the growing need by business and industry for engineering technologists at the baccalaureate level.

Degree programs
The School of Engineering Technology offers five-year cooperative education programs leading to the bachelor of science (BS) degree in:
- Civil Engineering Technology
- Computer Engineering Technology
- Electrical Engineering Technology
- Mechanical Engineering Technology
- Manufacturing Engineering Technology
- Telecommunications Technology

The upper division of these programs is designed to accept graduates of associate degree programs in similar engineering technology fields and to provide continued study in the student's specialization. Each program consists of a balance of professional studies, liberal education, mathematics, and on-the-job experience. Through the selection of technical electives, students can build and tailor their program based on previous knowledge and co-op experience to launch a career that best meets their needs and aspirations.

Students in the computer engineering technology program have the option of receiving an associate in applied science (AAS) degree after two years of study.

Upper-division evening programs
The following upper-division (junior-senior) programs are offered during the evening hours for part-time students:
1. Electrical Engineering Technology
2. Manufacturing Engineering Technology
3. Mechanical Engineering Technology
4. Telecommunications Technology
5. Electrical/Mechanical Technology

These programs allow students with full-time jobs to obtain a BS degree on a part-time basis.

With the exception of the cooperative education and physical education requirements, requirements for the evening program and graduation are the same as for the full-time day program.

Lower-division evening programs
The School of Engineering Technology offers the following lower-division evening programs:
1. Electrical Technology
2. Electromechanical Technology
3. Mechanical Technology
4. Manufacturing Technology

These programs allow students with full-time jobs to obtain an AAS degree on a part-time basis.

Certificate programs are also available during the evening and award certificates to students who complete a sequence of courses in a single discipline and who do not desire to complete a degree. Further details on these certificates can be found in the RIT catalog of part-time courses.

Additional part-time program information is provided in individual program descriptions on the following pages. Persons wishing further information on part-time evening studies should contact the School of Engineering Technology at 716-475-5190.

Undeclared Engineering Technology Option
Students who are undecided about a choice of engineering technology programs can elect the Undeclared Engineering Technology Option, which allows them to earn RIT credits while investigating the various engineering technology fields. During the first quarter, students take an engineering technology seminar course, allowing them to examine the field. They also work closely with an advisor and meet faculty and students from the engineering technology programs. Students select a major during their first year and, in most cases, graduate at the same time as those who selected a program earlier.

Accreditation
With the exception of the new programs in Telecommunications Technology and Electrical/Mechanical Technology, all programs of study leading to the bachelor's degree are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET). The School of Engineering Technology is a member institution of the American Society for Engineering Education and the Council of Engineering Technology in New York State.

Careers
The bachelor's degree graduate—an engineering technologist—is a distinct type of professional whose main concern and interest is with existing operation, maintenance, and management of products and processes. As such, the graduate qualifies for positions to fulfill a role within the broad engineering requirements of business, industry, and government. Graduates find increasing acceptance in positions formerly filled by engineers in such fields as sales engineering, manufacturing engineering, field service engineering, process engineering, and product engineering.

The associate degree graduate—an engineering technician—works closely with engineers and technologists and is prepared for positions requiring skills in fabricating and producing equipment as well as maintaining and operating apparatus and systems.

Cooperative education plan
An integral and significant part of each School of Engineering Technology program is on-the job experience through the cooperative education plan. This involves alternate periods of study and related industrial employment.

The co-op plan provides opportunity for students to learn and become familiar with direct application of techniques, skills, and the latest developments in their fields. Students are encouraged to explore and test the wide range of opportunities available. Such things as the specific type of work, the size of the company, the location, and familiarization with the industrial community and environment can and do affect an individual's decision on the direction of his or her career. Only co-op can provide a suitable trial ground.

Obviously co-op can also provide a significant income during work periods, which helps defray a major portion of one's educational expenses.

Each student is helped to find work related to specific career goals. However, as is the case in any employment situation, the major impetus must come from the individual. Co-op schedules are shown in the individual program charts on the following pages.

Electrical/ Mechanical Technology Baccalaureate Program

James F. Scudder, Coordinator

Background

This is an interdisciplinary upper-division program in engineering technology that draws on the strengths of several departments within the School of Engineering Technology. The program consists of a core of mathematics, science, and technical courses. Students have an opportunity in the last year of the program to select a three-course concentration in one of several fields of technology. Students with an associate degree in engineering technology or engineering science can complete requirements for a BS degree through this program. Students with baccalaureate degrees in non-technical areas may also be admitted, but will need to make up some lower-division courses in order to complete the program requirements.

The upper-division portion of this degree is available only on a part-time basis both on and off campus.

Transfer admission

It is expected that transfer students from associate degree programs will have a background in the following: mathematics through introductory calculus, physics, English/social sciences/ humanities, computer programming and either DC and AC circuits, electronics, electrical power, microprocessors or drafting and CAD, manufacturing processes, statics, strength of materials, and metallurgy.

Sample technical concentrations

After completing the core, a student will select, with advisor approval, a concentration sequence of three upper-division technical courses. This may be one of the following, or it may be tailored to meet the student's specific needs.

Electrical Systems (select 3 courses)
  Power Systems I
  Electrical and Optical Devices
  Advanced Circuit Theory
  Advanced Electronics
  Control Systems
Mechanical Design

  Dynamics of Machinery
  Machine Design I
  Machine Design II
Manufacturing Management
  Production Control
  Statistical Process Control
  Special Topics in Computer
    Integrated Manufacturing

Yr.	ELECTRICAL/MECHANICAL TECHNOLOGY, BS DEGREE Upper Division Evening Program, Typical Sequence	93-115 Qtr. Credit Hours		
		FALL	WTR.	SPG.
1		4		
	'ITEM-211, 304 Metallurgy and Materials Testing	4		
	SMAT-421 Calculus for Technologists II		4	
	"ITEE-411 Electrical Principles for Design I		4	
	SMAT-422 Solution of Engineering Problems			4
	'ITEE-412 Electrical Principles for Design II			4
2	* ITEM-408 Introduction to Strength of Materials	4		
		4		
	ITEE-337 Machines and Transformers		4	
			4	
	ITEM-404 Applied Mechanics of Materials			4
	•ITEE-413 Applied Microprocessors			4
3	GPTC-403 Effective Technical Communications	4		
		4		
	ITEM-407 MET Lab I		2	
	SCHG-271, 205 Basic Chemistry I/Lab		4	
	SCHG-273,277 Basic Chemistry II/Lab			4
	ITEF-436 Engineering Economics			4
4		4		
		4		
	SMAM-309 Elementary Statistics		4	
			4	
				4
	ITEM-409 MET Lab II			2
5		4		
		4		
			4	
	GLAI-501 Senior Seminar		2	
	ITEF-437 Value Analysis			3
	ITEM-441 Thermodynamics and Heat Transfer			4
6	Technical Concentration	4		

* These courses present materials normally covered in associate degree programs, depending on the specific major. Students should consult an advisor to determine which of these courses should be taken, and which lower-division courses should also be taken.
fSee page 7 for Liberal Arts requirements.

Civil Engineering Technology Department

Robert H. Easton, Chairperson, Civil Engineering Technology Baccalaureate Program

Background

The civil engineering profession requires the services of many individuals with a wide range of backgrounds and interests: technicians, technologists, and engineers.

The technologist translates the innovative concepts of the engineer into functioning systems and structures, using the language of codes, working drawings, and specifications.

Students may choose one of five elective paths that meet their specific interests. Combined with a broad-based civil engineering core curriculum, this approach provides a good entry-level foundation in the industry. Graduates have found extensive employment opportunities.

The program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET) and is operated as a cooperative education program.

Transfer admission

The admission of transfer students at the third-year level is open to all students who have already received an appropriate associate degree, which should include:

Technical math (2 semesters of college-level math with an introduction to calculus)
Drafting
Technical physics (2 semesters)
Soil mechanics
Plan surveying
Route surveying
Statics (mechanics)
Strength of materials
Methods and materials of construction
Students lacking these courses will still be admitted but will be required to take the missing courses concurrently within the program or in addition to the program requirements.

Normally an associate degree in science is acceptable from an engineering transfer program with students taking courses they lack concurrently in the program. Typically these students graduate in the same six academic quarters as an engineering technology transfer student.

Cooperative education plan

Work experience gained while completing alternate work and study quarters is especially valuable. A typical co-op job at an engineering consulting firm might include assisting engineers in design drafting; feasibility and preliminary report writing; inspecting, surveying, or investigating in the field. Other co-op students work in water and wastewater treatment plants, checking control panels, operating systems, pumps, and other equipment. Students working in the construction field typically work a wide range of duties from craft supervision to assisting project superintendents, doing change orders, estimating, drafting, and surveying.

The scope of work accomplished varies with the interests of each student and increases in complexity with each succeeding job. Construction companies, facility departments of large corporations, engineering consultants, testing agencies, and all branches of government employ our students. Some students work all their co-op quarters with the same firm, while others choose from various work experiences. All are expected to use their education on the job and bring back innovative, new, and unusually successful technologies to share with classmates.

Graduates

Past bachelor's degree graduates are employed by consulting engineers; construction companies; industries; and by federal, state, and local government agencies. They are scattered from coast to coast and from New England to Texas. Their titles range from project superintendent, manager, or structural designer to plant operator, inspector, field party chief, and environmental officer. Several graduates have completed master's degrees and have also registered as professional engineers in several states.

Technical electives

It is anticipated that a student will have at least two electives from one of the sequences shown. Other electives may be chosen from within that sequence, from another sequence, or from the other electives shown.

Water Resources

ITEC-482 Hydrology	4 cr.
ITEC-485 Hydraulic Structures	4 cr.
ITEC-480 Groundwater Hydraulics	4 cr.

Environmental Controls

ITEC-510 Design of Water Treatment Facilities	2 cr.
ITEC-514 Land Planning	4 cr.
ITEC-520 Design of Wastewater Treatment Facilities	4 cr.
ITEC-525 Hazardous Waste	4 cr.
ITEC-556 Wastewater Treatment Plant Operation & Control	4 cr.

Construction Management

ITEC-500 Labor Relations	2 cr.
ITEC-509 Cost Estimating	2 cr.
ITEC-560 Construction Project Management I	4 cr.
ITEC-561 Construction Project Management II	4 cr.
ITEC-544 Contracts and Specifications	2 cr.

Structures

ITEC-470 Timber Design	4 cr.
ITEC-518 Masonry Design	2 cr.
ITEC-516 Reinforced Concrete Design	4 cr.
ITEC-552 Steel Design	4 cr.

Building and Heavy Construction

ITEC-460 Construction Equipment	4 cr.
ITEC-550 Construction Practices	2 cr.
ITEC-505 Construction Safety	4 cr.
ITEC-535 Pavement Design	4 cr.
ITEC-444 Mechanical Equipment	2 cr.

Other Electives

ITEF-436 Engineering Economics	4 cr.
SMAM-309 Elementary Statistics	4 cr.
ITEM-440 Applied Thermodynamics	4 cr.
ITEM-405 Applied Dynamics	4 cr.

With departmental approval, technical electives may be selected from existing courses in other RIT colleges.

Also, independent study projects may be pursued for credit in cases where students demonstrate unusual ability and obtain sponsorship of a faculty advisor.

Students are encouraged to utilize the first-class computer facilities and to work with professors on additional applications of computer graphics. The RIT College of Continuing Education offers evening courses, and all day college courses are open if schedules can be arranged and students have the capacity to handle additional credits.

Yr.	CIVIL ENGINEERING TECHNOLOGY, BS DEGREE Typical Sequence	201 Qtr. Cr. Hrs.			
		FALL	WTR.	SPG.	SMR.
1	ITEC-198 Introduction to CET, Freshman	1			
	SMAM-204 College Algebra & Trigonometry	4			
	ITEC-210 Engineering Graphics	4			
	ITEC-330 Materials of Construction	4			
	ICSA-200 Survey of Computer Science	4			
	SMAM-228 Analytic Geometry		4		
	SPSP-211, 271 College Physics I/Lab		4		
	GLLC-220 English Composition		4		
	ITEF-260 Introduction to CAD		4		
	ITEM-302 Introduction to Statics			4	
	SPSP-212, 272 College Physics II/Lab			4	
	ITEC-220 Civil Engineering Graphics			4	
	*Liberal Arts (Core)			4	
	†Physical Education	0	0	0	
2	SPSP-213,273 College Physics III/Lab	4			
	ITEC-320 Plane Surveying	4			
	GPTC-403 Effective Technical Communication	4			
	ITEM-303 Strength of Materials	4			
	ITEC-360 Elementary Soil Mechanics		4		
	ITEC-422 Elements of Building Construction		4		
	SMAT-420 Calculus for Technologists I		4		
	ITEC-340 Route Surveying			4	
	ITEC-380 Elementary Structures			4	
	General Ed. Elective (Math or Sci.)			4	
	*Liberal Arts (Core)		4	4	
	† Physical Education	0	0	0	
1 2	Or completion of an appropriate associate degree or equivalent				

Yr.		FALL	WTR.	SPG.	SMR.
3	SMAT-421 Calculus for Technologists II	4			
	ITEC-199 Introduction to CET, Transfer	1			
	ITEC-420, 421 Hydraulics/Lab (or Technical Elective)	4			
	GLLC-403 or Technical Elective	4			
	ICSA-205 Computer Techniques	4		C	C
	SMAT-422 Solution of Engineering Problems		4		
	ITEC-404 Applied Mechanics of Materials		4		
	ITEC-513 Computer Techniques in CET		2		
	SCHG-271, Basic Chemistry I		3		
	SCHG-205 Chemistry I Lab		1		
	*Liberal Arts (Core)		4		
	ITES-099 Co-op Preparation		0		
4	ITEC-432 Water & Wastewater Transport Systems	2			
	ITEC-490 Structural Analysis	4			
	SCHG-272, 276 Chemistry of Water & Wastewater/Lab	4			
	Technical Elective	4	c		c
	*Liberal Arts (Core)	4			
	ITEC-438 Principles of Treatment of Water & Sewage			4	
	ITEC-495 Structural Design			4	
	ITEC-527, 528 Soil Mechanics & Foundations/Lab			4	
	ITEC-546 Professional Principles & Practices			1	
	*Liberal Arts (Concentration)			4	
5	ITEC-530 Transportation Engineering		4		
	ITEC-422 Elements of Building Construction (or Tech. Elect.)..	C	4		
	Technical Elective		4		
	Technical Elective		2		
	ITEE-414 Basic Electrical Principles	P		4	
	General Ed Elective (Math or Sci.)			4	
	General Ed Elective (Liberal Arts)			4	
	*Liberal Arts (Concentration)		4	4	
	*Liberal Arts (Senior Seminar)			2	

*See page 7 tor Liberal Arts requirements.
†See page 8 for policy on Physical Education.

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Electrical Engineering Technology Department

Thomas Young, Chairperson
Charles L. Swain, Coordinator, Electrical Engineering Technology Baccalaureate Program

This professional program is designed to meet the growing needs for engineering technologists in a rapidly changing society.

The five-year bachelor of science program in electrical engineering technology includes over a year of cooperative work experience for full-time students. The program also accepts transfer students (see Transfer admission, below). The upper-division feature of the program provides a viable option for students who have completed their associate degree and desire to continue their education in technology.

The bachelor of science degree program in electrical engineering technology is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET).

A typical BS program is shown in the chart. The first two years provide basic courses in electricity, analog and digital electronics, physics, technical calculus, and liberal arts. The third and fourth years of the program expand on basic courses with upper-level courses in applied differential equations, liberal arts, transformed circuits, control systems, analog and digital electronics, and mechanical engineering technology. The program is completed with a choice of science, free, and technical electives. Technical elective sequences are available in electric power systems, electronic communications, digital computer design, and microelectronics. Several electives also are available from other technical disciplines, and the student's academic advisor will help to determine the best choices.

Students begin their cooperative work experience in the third year of the program and are required to complete five quarters of such experience. A co-op counselor is assigned to each student.

Transfer admission
Transfer admission is open to graduates of two-year associate degree electrical or electronic engineering technology programs. Students currently enrolled in engineering science associate degree programs also may apply and be assigned to a slightly different series of courses.

Yr.	TYPICAL ELECTRICAL ENGINEERING TECHNOLOGY, BS	191 Qtr. Cr. Hrs.			
		FALL	WTR.	SPG.	SMR
	ITEE 201 DC Circuits	4			
	ITEP-220 Drafting	2			
	ITEP-225 Schematic Capture	2			
	SMAM-204 College Algebra & Trigonometry	4			
	ITEE-207 First Year Orientation	1			
	*Liberal Arts (Core)	4	4	4	
1	ITEE-202 AC Circuits		4		
	ICSA-207 C Programming		4		
	SMAT-420 & 421 Calculus for Technologists I, II		4	4	
	ITEE-203 Electronics 1			4	
	ITEP-301 Digital Fundamentals			4	
	‡ Physical Education	0	0	0	
	SPSP-211,271 College Physics I	4			
	SPSP-212,272 College Physics II		4		
	SPSP-213, 273 College Physics III			4	
	ITEE-361, 362 Electronics II, III	4	4		
	**SMAT-422 Solution of Engineering Problems			4	
2	*Liberal Arts (Core)	4	4		
	ITEE-337 Machines & Transformers	4			
	ITEE-363 Electronics IV			4	
	ITEP-303 Microcomputers		4		
	ITEP-320 Principles of Electronic Design Automation			4	
	‡ Physical Education	0	0	0	
1 2	Or completion of an appropriate associate degree or equivalent				

Yr.		FALL	WTR.	SPR.	SMR.
	ITEE-424 Logic & Digital Devices	4			
	Programming Elective	4			
	*Liberal Arts (Core)	4		C	C
3	SMAM-309 Statistics	4			
	ITES-099 Co-op Preparation	0			
	SMAT-423 Linear Math for Engineering Technology		4		
	Liberal Arts (Concentration)		4		
	ITEE-542 Microprocessors		4		
	GPTC-403 Effective Technical Communications		4		
	General Education Electives	4		4	
	*Liberal Arts (Concentration)	4	C		
4	ITEE-403 Advanced Circuit Theory	4			
	ITEM-408 Introduction to Strength of Materials	4			
	ITEE-442 Advanced Electronics			4	
	Technical Elective			4	
	ITEF-436 Engineering Economics			4	
	ITEE-404 Control Systems		4		
	ITEE-408 Transmission Lines	C		4	
	Senior Seminar			2	
5	Technical Elective		4	4	
	Free Elective			4	
	General Education Elective		4		
	*Liberal Arts (Concentration)		4		

**The program shown is that which would be taken by those who start at RIT as freshmen. Each transfer student will be given a program tailored to their particular needs upon acceptance. Graduates will have to meet a minimum of 36 quarter hours of mathematics and science (including credits transferred) and include mathematics SMAT-422 or equivalent.

* See page 7 tor Liberal Arts requirements.
‡ See page 8 tor policy on Physical Education.

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Students from associate degree programs closely related to electrical technology and who have appropriate circuits and electronics course levels are also accepted, but may be required to complete some lower-level courses before starting the third year of the program.

Technical elective sequences

Computer Design
ITEE-538 Digital Computer Design I
ITEE-539 Digital Computer Design II
ITEE-543 Peripherals and Interfacing
ITEE-565 16-bit Microprocessors

Power Systems
ITEE-550 Power Systems I
ITEE-551 Protective Relaying
ITEE-552 Power Systems II

Electronic Communications
ITEE-534 Analog Communications
ITEE-535 Telecommunications Systems
ITEE-524 Microwave Systems
ITEE-547 Digital Processing of Signals

Microelectronics
ITEE-560 Microelectronics I
ITEE-561 Microelectronics II

Other Electives
ITEE-520 Electrostatic and Magnetic Fields
ITEE-554 Electronic Optic Devices
ITEE-580 Senior Project
ITEF-424 Statistical Quality Control
ITEF-485 Robots in Manufacturing
ITEF-437 Value Analysis

Evening program
The upper-division portion of this program may be taken on a part-time basis during the evening hours by those who are employed full time and desire to receive a TAC/ABET-accredited baccalaureate degree. The typical evening student requires approximately 13 quarters to complete the upper-division course requirements. In the early quarters the fundamentals of mathematics, circuit theory, and power concepts are emphasized to provide the background for later courses in control systems and microprocessors.

Technical electives that are available and appropriate for the evening program are the same as those listed for the full-time program.

Note: Some electives are offered only every other year. Please check with an advisor while planning your technical elective content.

Electrical Technology, Associate Program
This part-time evening program is designed to prepare technicians for employment in the electrical and electronics fields. It also prepares graduates for continuing their studies

	ELECTRICAL ENGINEERING TECHNOLOGY, BS DEGREE, TYPICAL EVENING SEQUENCE, Upper Division Only	FALL	WTR.	SPG.
1	*SMAT-421 Calculus for Technologists II	4		
	†Liberal Arts (Core)	4		
	*SMAT-422 Solution of Engineering Problems		4	
	ITEP-225 Schematic Capture		2	
	ITEE-337 Machines and Transformers		4	
	ITEE-403 Advanced Circuit Theory			4
	ITEP-320 Principles of Electrical Design Automation			4
2	ITEM-408 Introduction to Strength of Materials **or** General Education Elective	4		
	†Liberal Arts (Core)	4		
	ITEE-442 Advanced Electronics		4	
	GPTC-403 Effective Technical Communication		4	
	ITEE-404 Control Systems I			4
	SMAT-423 Linear Math for Technologists			4
3	ITEE-408 Transmission Lines	4		
	General Education Elective	4		
	ITEE-424 Logic and Digital Devices		4	
	SMAM-309 Statistics		4	
	ITEE-542 Microprocessors			4
	ICSA-207 C Programming			4
4	†Liberal Arts (Concentration)	4		
	ITEF-436 Engineering Economics	4		
	†Liberal Arts (Concentration)		4	
	Technical Elective		4	4
	ITEM-441 Thermodynamics & Heat Transfer **or** General Education Elective			4
5	†Liberal Arts (Concentration)	4		
	Senior Seminar	2		

*This sequence is based on students who have had the equivalent of SMAT-420 as a part of their associate degree. If a student has not had this course, the recommended sequence for the first year for these courses is: Fall SMAT-420, Winter SMAT-421, Spring SMAT-422.
†See page 7 for Liberal Arts requirements.

Yr.	ELECTRICAL TECHNOLOGY, AAS DEGREE, TYPICAL EVENING SEQUENCE	96 **Qtr. Cr. Hrs.**		
		FALL	WTR.	SPG.
1	*SMAM-204 College Algebra & Trigonometry	4		
	†CHGL-220 Communications	4		
	ITEE-201 DC Circuits		4	
	†CHGH-260 Introduction to Literature			4
	*SMAT-420 Calculus for Technologists.!		4	
	ITEE-202 AC Circuits			4
2	CTCP-201, 206 Physics I/Lab	4		
	ITEE-203 Electronic Devices	4		
	CTCP-202, 207 Physics II/Lab		4	
	ITEP-225 Schematic Capture		2	
	ITEP-220 Electronic Fabrication Techniques		2	
	CTCP-203, 208 Physics III/Lab			4
	‡General Education.			4
3	ICSA-207 C Programming	4		
	GPTC-403 Effective Technical Communication	4		
	ITEE-361 Applied Electronics I		4	
	SMAT-421 Calculus for Technologists II		4	
	ITEE-362 Applied Electronics II			4
	Technical Elective			4
4	ITEE-363 Applied Electronics for Communications	4		
	ITEP-301 Digital Fundamentals	4		
	ITEE-337 Machines and Transformers		4	
	ITEP-303 Introduction to Microprocessors		4	
	‡General Education.			4
	ITEP-320 Principles of Electronic Design Auto			4

*Alternate sequence based on pretest is CTAM-201, CTAM-202, and SMAT-420.
† Alternate sequence based on pretest is CHGL-204, 205.
‡ General education requirements are: 1 social science (sociology, psychology, economics, political science): 1 humanities (literature, history, fine arts, philosophy).

toward a baccalaureate degree in engineering technology. The program begins with courses in mathematics, physics, and basic electricity. The latter portion of the technical program covers topics in electronics, electrical power, microprocessors, and design automation. Courses in composition, communication, social science, and humanities round out the program.

Computer Engineering Technology, Baccalaureate and Associate Programs

Thomas J. Dingman, Coordinator

There is an increasing need for graduates possessing both computer programming skills and a sound knowledge of computer (digital) electronic hardware. This is true for both technicians with an AAS degree and for technologists with the bachelor of science degree.

Based on a foundation in physics and applied mathematics, the computer engineering technology program is designed to develop the hardware and software skills necessary for design and development of systems involving computers. The upper division of the program also includes a required co-op work/study component, giving the student valid work experience before graduation.

Students completing the first two years of the program will be eligible to receive the AAS degree and enter the employment field as computer technicians.

Computer-aided design plays a significant role in the curriculum. Students learn to work in a design automation environment on computer workstations using design tools running state-of-the-art software. The skills developed both in system operation and design creativity enhance preparation for both co-op and permanent job opportunities.

Electives are available in the upper division and may be taken from computer science or electrical engineering technology courses. Other courses are available on approval by an advisor.

The program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET).

Yr.	TYPICAL COMPUTER ENGINEERING TECHNOLOGY, BS	192 Qtr. Cr. Hrs.			
		FALL	WTR.	SPG.	SMR.
1	ITEP-101 Freshman Seminar	1			
	SMAM- 204 College Algebra and Trigonometry	4			
	SMAT-420, 421 Calculus for Technologists I, II		4	4	
	ICSP-241 Programming I		4		
	ITEE-203 Electronics I			4	
	ITEE-201 DC Circuits	4			
	ITEE-202 AC Circuits		4		
	ITEP-220 Electronic Fabrication Techniques	2			
	ITEP-225 Schematic Capture	2			
	ITEP-301 Digital Fundamentals			4	
	* Liberal Arts (Core)	4	4	4	
	† Physical Education	0	0	0	
2	SPSP-211, 271 College Physics I/Lab	4			
	SPSP-212, 272 College Physics II/Lab		4		
	SPSP-213, 273 College Physics III/Lab			4	
	ICSP-305 Assembly Language Programming			4	
	ICSP-309 "C" Programming			1	
	GPTC-403 Effective Technical Communication (BS) or Liberal Arts (AAS)	4			
	ITEP-303 Microcomputers	4			
	ICSP-242 Programming II		4		
	ITEE-361 Electronics II	4			
	ITEE-362 Electronics III		4		
	ITEP-320 Principles of Electronic Design Automation			4	
	* Liberal Arts (Core)		4	4	
	† Physical Education	0	0	0	
3	ITES-099 Co-op Preparation	0			
	SMAT-422 Solutions of Engineering Problems	4			
	ICSP-243 Programming III	4	C		C
	ITEP-538 Digital Systems Design I	4	O		O
	SMAT-423 Linear Math for Technologists			4	O
	ICSS-325 Data Organization and Management		P	4	P
	ITEP-403 Advanced Circuit Theory			4	
	*Liberal Arts	4		4	
4	SMAM-265, 266 Discrete Math I, II		4	4	
	ICSS-440 Operating Systems	C		4	C
	ITEP-539 Digital Systems Design II		4		
	ITEE-404 Control Systems		4		
	ITEP-429 Advanced Electronics	P		4	P
	*Liberal Arts		4	4	
5	Math/Science Elective		4		
	ICSS-420 Data Communications	C	4		
	ITEP-540 Digital Systems Design III	O	4		
	SPSP-300 Semiconductor Device Physics			4	
	Technical Elective	P	4	4	
	ITEP-571 Topics in Computer Engineering Technology			4	
	* Liberal Arts (Senior Seminar)			2	

*See page 7 tor Liberal Arts requirements.
‡ See page 8 tor policy on Physical Education.

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Transfer admission
Transfer admission is open to graduates of closely allied associate degree programs. Transfer students from such programs may normally expect to complete the requirements for the BS degree in three years, which includes six academic quarters and five quarters of cooperative work experience. Because no single program of study can effectively integrate all AAS transfer students into the curriculum, each qualified transfer student will be evaluated on a course-by-course basis and will be given a specific program of study that best meets his or her career goals, provides a meaningful cooperative work experience, and permits the student to fulfill the degree requirements in a reasonable period of time.

Technical electives

A. ICSP-450 Programming Language Concepts
   ICSS-580 Language Processors
B. ICSP-306 Systems Programming Fundamentals
   ICSS-540 Operating Systems Lab
C. ICSS-541 Introduction to Computer Networks
   ICSS-545 Computer Architecture II
D. ITEE-520 Electrostatic and Magnetic Fields
   ITEE-534 Analog Communications
   ITEE-535 Telecommunications Systems
E. ITEE-560 Microelectronics I
   ITEE-561 Microelectronics II

Other electives might be:
ITEF-436 Engineering Economics
ITEE-547 Digital Processing of Signals
ITEE-554 Electronic Optic Devices
ICSS-570 Introduction to Computer Graphics

Telecommunications Technology, Baccalaureate Program

Carol A. Richardson, Coordinator

This new program is designed to meet the ever increasing need of the telecommunications industry for state-of-the-art principles, applications, equipment, and regulatory policies. Telephone companies, equipment manufacturers, and telecommunications users all need a cadre of those capable of utilizing equipment to its fullest, both from a technical and from a management perspective. The five-year BS program in telecommunications technology includes over a year of cooperative work experience for full-time students.

Two options are available to fulfill the needs of specific employers. The Technical Option is designed for the person whose interests lie in the applications of equipment, while the Management Option is designed for the individual who wants to move into the management of telecommunications resources. The two options differ at the junior and senior levels by six courses, allowing students to choose after they have been introduced to the fundamentals of telecommunications, electronics, mathematics, science, and the liberal arts.

The Technical Option emphasizes the applications and equipment used on specific job sites. Technical electives are available in telecommunications and other areas of electrical engineering technology.

The Management Option emphasizes resource management of an overall telecommunications installation. Business courses in accounting, finance, marketing, and management are included.

Students begin their cooperative work experience in the third year of the program and are required to complete five quarters of co-op. A cooperative education counselor is assigned to each student.

Transfer admission
Transfer admission is open to graduates of two-year associate degree programs on a course-by-course evaluation. Students from closely related programs, such as telecommunications technology or electrical/electronics technology, can normally expect to graduate in three years, which includes seven academic quarters and four quarters of cooperative employment. Graduates of less closely related programs are also

Yr.	TELECOMMUNICATIONS TECHNOLOGY, BS, Typical Sequence	195 Qtr. Cr. Hrs.			
		FALL	WTR.	SPG.	SMR.
1	ITEE-201 DC Circuits	4			
	ITEP-220 Electronic Fabrication Techniques	2			
	ITEM-225 Schematic Capture	2			
	SMAM-204 College Algebra & Trigonometry	4			
	ITEE-209 First Year Orientation—Telecommunications	1			
	"Liberal Arts (Core)	4	4	4	
	ITEE-202 AC Circuits		4		
	ITEE-271 Telecommunications Fundamentals		4		
	SMAT-420,421 Calculus for Technologists I, II		4	4	
	ITEE-203 Electronics I			4	
	ITEP-301 Digital Fundamentals			4	
		0	0	0	
2	SPSP-211, 271 College Physics I/Lab	4			
	SPSP-212, 272 College Physics II/Lab		4		
	SPSP-213, 273 College Physics III/Lab			4	
	ITEE-361, 362 Electronics I, II	4	4		
	SMAT-422 Solution of Engineering Problems	4			
	ICSA-208 Introduction to Programming		4		
	ICSA-411 Data Communications & Computer Networks		4		
	ICSA-210 Program Design & Validation			4	
	ITEE-363 Electronics IV			4	
	"Liberal Arts (Core)	4		4	
	fPhysical Education	0	0	0	
1 2	Or completion of an appropriate associate degree or equivalent				

TECHNICAL OPTION
Upper Division

Yr.	Course	FALL	WTR.	SPG.	SMR.
3	ITEE-472 Telecommunications Concepts *General Education*	4		C	C
	*Liberal Arts (Core)	4		O	
	SMAM-309 Statistics	4		O	
	ITES-099 Co-op Preparation	0		P	P
	SMAT-423 Linear Math		4		
	ITEE-474 Voice Communications		4		
	ITEP-303 Microcomputers		4		
	GPTC-403 Effective Technical Communications		4		
4	ITEE-477 Data Communication Techniques	4	C		C
	*Liberal Arts (Concentration)	4	O		
	ITEE-473 Transmission Systems	4			
	Math/Science Elective	4		4	P
	ICSA-483 Applied Database Management			4	
	ITEE-475 Switching Technologies			4	
	ITEF-436 Engineering Economics			4	
5	ITEE-571 Network Engineering	C	4		
	ITEE-572 Network Management		4		
			4		
	*Liberal Arts (Concentration)		4	4	
				2	
				4	
	ITEE-480 Telecommunication Policy			4	
	ITEE-574 Network Planning & Design			4	

See page 7 for Liberal Arts requirements.
†See page 8 for policy on Physical Education.

welcome to apply but may expect to take longer to complete the program.

Technical electives

Electronic Communications
ITEE-520 Electronic & Magnetic Fields
ITEE 524 Microwave Systems
ITEE-555 Transmission Lines and
   Antennas
ITEE-547 Digital Processing of Signals
ITEE-554 Electronic Optic Devices

Computer Design
ITEE-542 Microprocessors
ITEE-538 Digital Computer Design I
ITEE-539 Digital Computer Design II
ITEE-543 Peripherals and Interfacing
ITEE-565 16-bit Microprocessors

Evening program
The upper division of this program may be taken evenings. A special schedule is available through the department office.
   Also, courses have been identified that can be taken for the equivalent of the lower division of this program. Please contact the department for an appointment with an advisor to discuss this option.

MANAGEMENT OPTION
Upper Division

		FALL	WTR.	SPG.	SMR.
3	ITEE-472 Telecommunications Concepts	4		C O O P	C O O p
	BBUA-301 Financial Accounting	4			
	"Liberal Arts (Core)	4			
	SMAM-309 Statistics	4			
	Co-op Preparation Course	0			
	Math/Science Elective		4		
	ITEE-472 Voice Communications		4		
	BBUA-302 Managerial Accounting		4		
	GPTC-403 Effective Technical Communication		4		
4	ITEE-477 Data Communication Techniques	4	C O O P		c O O p
	BBUB-430 Organizational Behavior	4			
	ITEE-473 Transmission Systems	4			
	GSEE-301 Principles of Economics I	4			
	BBUM-463 Principles of Marketing			4	
	ICSA-483 Applied Database Management			4	
	fGeneral Education Elective			4	
	'Liberal Arts (Concentration)			4	
5	ITEE-571 Network Engineering	C O O p	4		
	ITEE-572 Network Management		4		
	General Education Elective		4		
	"Liberal Arts (Concentration)		4	4	
	Senior Seminar			2	
	BBUB-441 Corporate Finance			4	
	ITEE-480 Telecommunication Policy			4	
	ITEE-574 Network Planning & Design			4	

*   See page 7 for Liberal Arts requirements
† This program is that which would be taken by those who start at RIT as Freshmen. Each transfer student will be given a program tailored to his or her particular needs upon acceptance. Graduates will have to meet a minimum of 36 quarter hours of mathematics and science (including credits transferred) and include mathematics SMAT-422 or equivalent.

Yr.	TELECOMMUNICATIONS TECHNOLOGY—MANAGEMENT OPTION, Typical Evening BS Sequence, Upper Division Only	90-114 Qtr. Cr. Hrs.		
		FALL	WTR.	SPG.
1	"SMAT-420 Calculus for Technologists 1	4 4	4 4	
	SMAT-422 Solutions of Engineering Problems			4
	ITEE-474 Voice Communications			4
2	tITEE-477 Data Communications Technology	4 4		
	GPTC-403 Effective Technical Communications		4 4	
	tLiberal Arts (core)			4 4
3		4 4		
	SMAM-309 Statistics		4 4	
	ICSA-483 Applied Database Management			4 4
4	ITEE-480 Intro, to Telecommunications Policy	4 4		
			4 4	
	fITEE-574 Network Planning & Design			4 4
5		4 4	4 4	
	Senior Seminar			2

' Indicates lower-division make-up course.
† See page 7 for Liberal Arts requirements.
‡ Courses not offered 1992-1993.

Yr.	TELECOMMUNICATIONS TECHNOLOGY—TECHNICAL OPTION, BS Typical Evening Sequence, Upper Division	106-114 Qtr.Credit Hours		
		FALL	WTR.	SPG.
1		4 4	4 4	
	'SMAT-420 Calculus for Technologists I			
	ITEE-472 Telecommunications Concepts..			4
	SMAT-422 Solutions of Engineering Problems			4
	ITEE-474 Voice Communications			
2	^TEE-477 Data Communications Technology	4 4	4 4	
	SMAT-423 Linear Math for Technology			4 4
3		4 4	4 4	4
	ICSA-483 Applied Database Management			4
4	ITEE-480 Intro, to Telecommunications Policy	4 4	4 4	4
	tITEE-574 Network Planning & Design			4
5		4 4	4 4	2

* Indicates lower division make-up course.
† See page 7 tor Liberal Arts requirements.
‡ Courses not ottered in 1992-93.

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Mechanical Engineering Technology Department

Robert Merrill, Acting Chairperson

Baccalaureate program

The demand for technology graduates to support the wide-ranging activities of the mechanical engineering industries is ever on the increase due to discoveries, inventions, and needs that arise from the desire to do things in a more creative and efficient manner. The central theme of all industry is to design and produce a functional, reliable, and profitable product or service. This task can only be accomplished by individuals who are familiar with the concepts, the body of knowledge, and the skills that apply to their field.

The Mechanical Engineering Technology Program develops in students the ability to conceive the design problem and to derive solutions through the application of familiar concepts in innovative ways, so that graduates can make a vital contribution to technological enterprise in their subsequent careers.

The program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET) and is operated on the cooperative education plan.

Program objectives

The program objectives are to prepare graduates to occupy professional positions in machine design; manufacturing; test engineering; field service engineering; technical sales; thermal analysis; product design; utilities operations; heating, ventilating, and air conditioning; and plant operations. The program emphasizes the development of a design methodology, and this is reinforced through the use of project-oriented assignments.

Curriculum

In the early quarters, students develop their skills in the fundamentals of mechanics, mathematics, materials technology, and computer-aided design. In later quarters, courses focus both on mechanical design and applied thermofluid engineering. Individuals may specialize by taking technical concentrations in such areas as machine design, air conditioning, thermal power, plastics processing, and manufacturing.

A substantial measure of laboratory work is required, including the preparation of quality reports. Use of the computer is emphasized throughout the curriculum.

Yr.	MECHANICAL ENGINEERING TECHNOLOGY, BS DEGREE Typical Sequence	194 Qtr. Cr. Hrs.			
		FALL	WTR.	SPG.	SMR.
1	ITEM-101 Freshman Seminar	1			
	SMAM-204 College Algebra & Trigonometry	4			
	GLLC-220 English Composition	4			
	ITEC-210 Intro, to Engineering Graphics	4			
	ITEF-220 Manufacturing Processes I	4			
	SMAM-228 Analytic Geometry		4		
	SPSP-211, 271 College Physics I/Lab		4		
	ITEM-220 Mechanical Design Drafting		4		
	ITEM-211 Introduction to Materials Technology		3		
	ITEM-304 Materials Testing		1		
	SMAT-420 Calculus for Technologist I			4	
	SPSP-212, 272 College Physics II/Lab			4	
	ITEF-260 Introduction to CAD			4	
	ITEM-302 Introduction to Statics			4	
	*Physical Education	0	0	0	
2	SMAT-421 Calculus for Technologist II	4			
	SPSP-213, 273 College Physics III/Lab	4			
	ITEM-212 Metrology	2			
	ITEM-303 Strength of Materials	4			
	SMAT-422 Solutions to Engineering Problems		4		
	ITEM-330 Computational Methods in MET		4		
	ITEM-308 Kinematics		4		
	SMAM-309 Statistics			4	
	ITEM-432 Computers in MET			2	
	General Ed. Elective			4	
	†Liberal Arts (Core)	4	4	4	
	*Physical Education	0	0	0	
1 2	Or completion of an appropriate associate degree or equivalent				

		FALL	WTR.	SPG.	SMR.
3	ITES-099 Co-op Preparation	0			
	ITEM-404 Applied Mechanics of Materials	4			
	SCHG-271 Basic Chemistry I	3			
	SCHG-205 Chemistry I Lab	1		C	C
	GPTC-403 Effective Technical Communication	4		0	0
	ITEM-405 Applied Dynamics		4	o	o
	SCHG-273, 277 Basic Chemistry II/Lab		4	p	p
	ITEM-407 MET Lab I		2		
	†Liberal Arts (Core)	4	4		
	†Liberal Arts (Concentration)		4		
4	ITEM-416 Materials Technology	4			
	ITEM-440 Applied Thermodynamics	4			
	ITEM-411 Electrical Principles for Design I	4	C		c
	ITEM-409 MET Laboratory II	2	0		0
	†Liberal Arts (Concentration)	4	0		0
	ITEM-460 Applied Fluid Mechanics		p	4	p
	ITEM-506 Machine Design I			4	
	Technical Elective Sequence			4	
	ITEE-XXX Electrical Technology Elective			4	
5	ITEM-465 Thermofluids Laboratory		3		
	ITEM-508 Machine Design II	C	4		
	Technical Elective Sequence	0	4	8	
	†Liberal Arts (Concentration)	0	4		
	ITEM-442 Heat Transfer	p		4	
	†Liberal Arts (Senior Seminar)			2	

*See page 8 for policy on Physical Education.
†See page 7 tor Liberal Arts requirements.

Transfer admission
Transfer students enter this program at the third-year level, having received an appropriate associate degree in mechanical technology, design-drafting technology, air conditioning technology, engineering science, or an acceptable equivalent. It is expected that these associate degree programs will have provided the student with background in the following:

- Mathematics through Introductory Calculus
- Physics
- Mechanical Drafting
- Computer Drafting
- Manufacturing Processes
- Statics and Elementary Strength of Materials
- Computer Use
- Metallurgy
- Electric Circuits

Elective Concentrations in Mechanical Engineering Technology
In the last three quarters of students' programs, they may elect to take a concentration in one of the following areas: mechanical design; heat, power, and HVAC; plastics processing; manufacturing; or concurrent engineering.

Custom sequences can be developed with departmental approval.

Evening program
The upper division of this program may be taken on a part-time basis during evening hours by those who are employed full time and desire to receive a TAC/ABET-accredited baccalaureate degree.

The typical evening student requires approximately 13 quarters to complete the upper-division course requirements.

Students also may elect certain courses from the manufacturing engineering technology and electrical engineering technology programs with department approvals.

Note: some electives are offered only every other year. Please check with an advisor when planning your program technical electives.

Mechanical Technology, associate program
This part-time evening program is designed to prepare technicians for employment in the mechanical design and manufacturing fields. It also prepares graduates for continuing their studies toward a baccalaureate degree in engineering technology. The program

Yr.	MECHANICAL TECHNOLOGY, AAS DEGREE Typical Evening Sequence	96 Qtr. Cr. Hrs.		
		FALL	WTR.	SPG.
1	*SMAM-204 College Algebra & Trigonometry	**4**		
	ITEC-210 Introduction to Engineering Graphics	**4**		
	ITEF-220 Manufacturing Processes		4	
	ITEM-220 Mechanical Design Drafting		4	
	ITEF-260 Introduction to CAD			4
	* SMAM-228 Analytic Geometry			4
2	† CHGL-220 Communications	4		
	SPSP-211, 271 Physics I/Lab	4		
	SPSP-212, 272 Physics II/Lab		4	
	CHGL-315 Report Writing		2	
	ITEM-212 Metrology		2	
	SPSP-213, 273 Physics III/Lab			4
	‡General Education.			4
3	ITEM-302 Introduction to Statics	4		
	ITEM-330 Computational Methods in MET	4		
	ITEM-303 Strength of Materials		4	
	SMAT-420 Calculus for Technologists I		4	
	ITEM-308 Kinematics			4
	ITEM-305 Pneumatic and Hydraulic Systems			4
4	ITEM-211 Introduction to Materials Technology	3		
	ITEM-304 Materials Testing	1		
	*CHGH-260 Introduction to Literature	4		
	ITEE-411 Electrical Principles for Design I		4	
	ITEM-315 Principles of Mechanical Design I		4	
	Technical Elective			4
	‡General Education			4

*Alternate sequence based on pretest is CTAM-201, 202.
† Alternate sequence based on pretest is CHGL-204,205.
‡ General Education requirements are: I Social Science (Sociology, Psychology, Political Science, Economics): 1 Humanities (Literature, History, Fine Arts, Philosophy).

Yr.	MECHANICAL ENGINEERING TECHNOLOGY, BS DEGREE, Typical Evening Sequence, Upper Division Only	103 Qtr. Cr. Hrs.		
		FALL	WTR.	SPG.
1	SMAT-421 Calculus for Technologists II	4		
	GPTC-403 Effective Technical Communication	4		
	SMAT-422 Solution of Engineering Problems		4	
	ITEM-404 Applied Mechanics of Materials		4	
	ITEM-405 Applied Dynamics			4
	ITEM-432 Computers in MET			2
	ITEM-407 Mechanical Engineering Tech. Lab I			2
2	SCHG-271, 205 Basic Chemistry I/Lab	4		
	SCHG-273, 277 Basic Chemistry II/Lab		4	
	*Liberal Arts (Core)	4	4	4
	ITEM-416 Materials Technology			4
3	ITEM-409 Mechanical Engineering Tech. Lab II	2		
	General Education Elective	4		
	ITEE-411 Electrical Principles for Design I		4	
	* Liberal Arts (Concentration)		4	4
	ITEE-XXX Electrical Technology Elective			4
4	SMAM-309 Elementary Statistics	4		
	* Liberal Arts (Concentration)	4		
	ITEM-506 Machine Design I		4	
	ITEM-508 Applied Thermodynamics		4	
	ITEM-508 Machine Design II			4
	ITEM-460 Applied Fluid Mechanics			4
5	Technical Elective	4		
	ITEM-465 Thermofluid Laboratory	3		
	* Liberal Arts (Senior Seminar)		2	

*See page 7 tor Liberal Arts requirements.

begins with courses in mathematics, physics, mechanical drafting, computer-aided design (CAD), and manufacturing processes. The advanced portion of the technical program covers topics in mechanics, hydraulics, materials, and machine design. Courses in composition, communication, social science, and humanities round out the program.

Electromechanical Technology, associate program

This part-time evening program is designed to prepare technicians for employment in electromechanical positions where a knowledge of mechanical and electrical disciplines is required. It also prepares graduates to continue their studies toward a baccalaureate degree in engineering technology. The program begins with courses in mathematics, physics, mechanical drafting, and basic electricity. The advanced portion covers topics in electronics, mechanics, hydraulics, electrical power, and micro-processors. A final design course ties all of the disciplines together. Courses in composition, communication, social science, and humanities round out the program.

	ELECTROMECHANICAL TECHNOLOGY, AAS DEGREE Typical Evening Sequence	FALL	WTR.	SPG.
1	* SMAM-204 College Algebra & Trigonometry	4		
	ITEC-210 Introduction to Engineering Graphics	4		
	†General Education		4	
	ITEE-201 DC Circuits		4	
	ITEE-202 AC Circuits			4
	*SMAM-228 Analytic Geometry.			4
2	SPSP-211, 271 Physics I/Lab	4		
	ITEE-203 Electronic Devices	4		
	SPSP-212, 272 Physics II/Lab		4	
	CHGL-315 Report Writing		2	
	ITEP-225 Schematic Capture		2	
	†CHGL-220 Communications			4
	ITEC-210 Engineering Graphics			4
	SPSP-213, 273 Physics III/Lab			4
3	ITEM-302 Introduction to Statics	4		
	ICSA-208 Computer Techniques—Pascal	4		
	ITEM-303 Strength of Materials		4	
	SMAT-420 Calculus for Technologists I		4	
	ITEM-305 Pneumatic & Hydraulic Systems			4
	‡General Educatioa			4
4	ITEF-331 Programmable Controllers	4		
	ITEP-301 Digital Fundamentals	4		
	ITEP-303 Introduction to Microprocessors		4	
	ITEE-337 Machines & Transformers		4	
	†CHGH-260 Introduction to Literatura			4
	ITEM-351 Electromechanical Design			4

Alternate sequence based on pretest is CTAM-201, 202.
† Alternate sequence based on pretest is CHGL-204, 205.
‡ General Education requirements are: 1 Social Science (Sociology, Psychology, Political Science, Economics):
* 1 Humanities (Literature, History, Fine Arts, Philosophy).*

Manufacturing Engineering Technology Department

V. Raju, Chairperson

Leaders in the manufacturing engineering profession estimate that the present shortage of qualified manufacturing engineers and technologists is between 50,000-100,000 people—and the need is increasing. They also estimate that between 20,000-30,000 new jobs are created in manufacturing engineering every year. The two principal factors generating this demand are industrial productivity and technological innovations. The rate of increase of productivity in American industry is lagging behind most industrial nations.

Realizing that competitive positions in world and domestic markets are tied to the productivity of manufacturing units, there is considerable effort by industrial organizations to improve productivity. This nationwide effort is causing organizational and planning changes in many corporations, which now recognize the manufacturing unit as the key to profits; for example, many corporations have placed manufacturing engineers in charge of new product design functions in an effort to insure product *manufacturability.*

Efforts to improve productivity have led to the rapid introduction of new processes, equipment, and increased levels of automation. This has created a demand for personnel well-versed in the new manufacturing technologies: computer-aided design, computer numerical control, microprocessor controls, robotics, computer-aided manufacturing, flexible manufacturing systems, assembly automation, and computer-integrated manufacturing.

The manufacturing engineering technology program is designed to meet industry demands. The program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET) and is operated on the cooperative education plan.

Program objectives
The primary objective of the manufacturing engineering technology program is to prepare individuals for professional employment in the manufacturing field. This program is designed to provide the academic skills necessary for applying both today's and tomorrow's manufacturing technologies. These academic skills are enhanced by a full co-op program in manufacturing

	MANUFACTURING ENGINEERING TECHNOLOGY, BS DEGREE, Typical Sequence				
		FALL	**WTR.**	**SPG.**	**SMR.**
1	ITEF-101 Freshman Seminar	1			
	SMAM-204 College Algebra & Trigonometry	4			
	GLLC-220 English Composition	4			
	ITEC-210 Intro, to Engineering Graphics	4			
	ITEF-220 Manufacturing Processes I	4			
	SMAM-228 Analytic Geometry		4		
	SPSP-211, 271 College Physics I/Lab		4		
	ITEM-220 Mechanical Design Drafting		4		
	ITEM-211 Introduction to Materials Technology		3		
	ITEM-304 Materials Testing		1		
	SMAT-420 Calculus for Technologists I			4	
	SPSP-212, 272 College Physics II/Lab			4	
	ITEF-260 Introduction to CAD			4	
	ITEM-302 Introduction to Statics			4	
	*Physical Education		0		
2	SMAT-421 Calculus for Technologists II	4			
	SPSP-213, 273 College Physics III/Lab	4			
	ITEM-303 Strength of Materials	4			
	ITEM-212 Metrology	2			
	SMAT-422 Solutions of Engineering Problems		4		
	ICSA-206 Computer Techniques—BASIC		4		
	Technical Elective		4	4	
	*Physical Education		0		
	SMAM-309 Statistics			4	
	†Liberal Arts (Core)			4	
	General Education Elective			4	
	*Physical Education		0		
1 2	Or completion of an appropriate associate degree or equivalent				

		FALL	WTR.	SPG.	SMR.
3	ITES-099 Co-op Preparation	0			
	GPTC-403 Effective Communication	4			
	ITEF-460 Computer Aided Design	4			
	ITEE-411 Electrical Principles for Design I	4		C O O p	C O O P
	ITEF-502 Non-traditional Manufacturing Processes	4			
	ITEF-471 Computer Numerical Control		3		
	ITEE-413 Applied Microprocessors		4		
	ITEF-410 Computers in Manufacturing		3		
	†Liberal Arts (Core)		8		
4	ITEF-470 Controls for Mfg. Automation	3			
	ITEF-425 Statistical Quality Control	3			
	SCHG-271 Basic Chemistry I	3			
	SCHG-205 Chemistry I Lab	1	C O O P	3	C O O p
	ITEF-472 Tool Engineering			3	
	ITEF-485 Robots in Manufacturing			4	
	ITEF-437 Value Analysis			4	
	†Liberal Arts (Concentration)			4	
	Technical Elective			4	
5	ITEF-475 Computer Aided Manufacturing		4		
	Technical Elective		3		
	SCHG-273 Basic Chemistry II	C O O P	3		
	SCHG-277 Basic Chemistry Lab II		1		
	ITEF-436 Engineering Economics			4	
	ITEF-510 Process Design			4	
	Technical/General Education Elective			4	
	† Liberal Arts Concentration			4	
	†Liberal Arts (Senior Seminar)			2	

*See page 8 for policy on Physical Education.
†See page 7 for Liberal Ads requirements.

industries. Throughout the academic program, a large measure of hands on laboratory experiences related to manufacturing technology is provided.

Curriculum

The curriculum has been designed with the aid and consultation of professionals in the field. The program's major emphasis is on computer-integrated manufacturing. Subjects covered include traditional and non-traditional manufacturing processes, fundamentals of electronics and microprocessors, computer-aided design, computer numerical control, robotics, group technology, computer-aided process planning, materials requirements planning, flexible manufacturing systems, quality control, engineering economics, value analysis, and plastics.

Transfer admission

Transfer students from two-year colleges should have an AAS degree or equivalent in one of the following majors: manufacturing technology, mechanical technology, management engineering technology, engineering science, electrical technology, computer technology, quality control technology, design and drafting technology, electromechanical technology. Students with other backgrounds may have to take additional courses to meet the entrance requirements.

Evening program

The upper division of this program may be taken on a part-time basis during the evening by those who are employed full time and desire to receive a TAC/ABET-accredited baccalaureate degree.

The typical evening student requires approximately 13 quarters to complete the upper-division course requirements. In the early quarters, the fundamentals of mathematics, electronics, and processes are emphasized to provide the background for later courses in computer integrated manufacturing and technical electives. Students also may elect certain courses from other programs.

Note: some technical electives are offered only every other year. Please check with an advisor when planning your program technical elective content.

Yr.	MANUFACTURING ENGINEERING TECHNOLOGY, BS DEGREE Typical Evening Sequence, Upper Division	118 Qtr. Cr. Hrs.		
		FALL	WTR.	SPG.
1	SMAT-420 Calculus for Technologists I	4		
	ITEF-502 Nontraditional Manufacturing Processes	3		
	SMAT-421 Calculus for Technologists II		4	
	GPTC-403 Effective Technical Communications		4	
	SMAT-422 Solutions of Engineering Problems			4
	ITEF-460 Computer Aided Design			4
2	*Liberal Arts (Core)	8		
	ITEF-471 Computer Numerical Control		4	
	ITEE-411 Electrical Principles for Design I		4	
	ITEE-413 Applied Microprocessors			4
	ITEF-410 Computers in Manufacturing Eng. Tech			3
3	SCHG-271 Basic Chemistry I	3		
	SCHG-205 Basic Chemistry Lab I	1		
	ITEF-470 Controls for Mfg. Automation	4		
	SCHG-273,277 Basic Chemistry II/Lab		4	
	SMAM-309 Statistics		4	
	ITEF-425 Statistical Quality Control II			3
	ITEF-437 Value Analysis			4
4	ITEF-485 Robots in Manufacturing	4		
	ITEF-436 Engineering Economics	3		
	Technical Elective		4	
	General Studies Elective		4	
	*Liberal Arts (Cora)		4	
	Technical Elective			4
	ITEF-475 Computer Aided Manufacturing			4
5	* Liberal Arts (Concentration)	8		
	ITEF-472 Tool Engineering		4	
	*Liberal Arts (Concentration)		4	
	Liberal Arts (Senior Seminar)			2
	ITEF-510 Process Design			4

See page 7 for Liberal Arts requirements.

Manufacturing Technology, associate program

This part-time evening program is designed to prepare technicians for employment in the manufacturing field. It also prepares graduates for continuing their studies toward a baccalaureate degree in engineering technology. The program begins with courses in mathematics, physics, mechanical drafting, CAD, and manufacturing processes. The latter portion of the technical program covers topics in mechanics, materials, tool design, CNC, and computer integrated manufacturing. Courses in composition, communication, social science, and humanities round out the program.

Yr.	MANUFACTURING TECHNOLOGY, AAS DEGREE, Typical Evening Schedule	Qtr. Cr. Hrs.		
		FALL	WTR.	SPG.
1	* SMAM-204 College Algebra & Trigonometry	4		
	ITEF-220 Manufacturing Processes	4		
	ITEC-210 Introduction to Engineering Graphics		4	
	ITEM-220 Mechnical Design Drafting		4	
	* SMAM-228 Analytic Geometry.			4
2	ITEF-260 Introduction to CAD	4		
	† CHGL-220 Communications	4		
	SPSP-211, 271 Physics I/Lab	4		
	SPSP-212, 272 Physics II/Lab		4	
	CHGL-315 Report Writing		2	
	ITEM-212 Metrology		2	
	SPSP-213, 273 Physics III/Lab			4
	‡General Education			4
3	ITEM-302 Introduction to Statics	4		
	ICSA-206 Computer Techniques—BASIC	4		
	ITEM-303 Strength of Materials		4	
	SMAT-420 Calculus for Technologists I		4	
	ITEF-375 Introduction to CAM			4
	ITEF-372 CAD Applications to Tool Design			4
4	ITEM-211 Introduction to Materials Technology	3		
	ITEM-304 Materials Testing	1		
	†CHGH-260 Introduction to Literature	4		
	ITEF-330 Introduction to CIM		4	
	Technical Elective		4	4
	‡General Education.			4

*Alternate sequence based on pretest Is CTAM-201 and CTAM-202.\
†Alternate sequence based on pretest in CHGL-204, 205.
‡General Education requirements are: 1 Social Science (Sociology. Psychology, Political Science, Economics): 1 Humanities (Literature, History, Fine Arts, Philosophy).

School of Food, Hotel, and Travel Management

(100 Years of Service to Hospitality Education)

Francis M. Domoy, Director

RIT's School of Food, Hotel, and Travel Management offers five programs: hotel and resort management; travel management; food management; nutrition management; and food marketing and distribution.

The school prepares students for a wide variety of career choices that include, but are not limited to, food management; hotel/resort management; health care; travel consulting; and food marketing, sales, and distribution. A career in the hospitality industries has become highly specialized in today's business world, and RIT graduates are in demand.

The five school programs provide a broadly based view of hospitality, travel, and client care through a common core of courses. This approach promotes an understanding of the interrelationships among the food, lodging, and travel components and allows students to retain the flexibility to switch majors or jobs if their career goals change.

Freshman students not sure of a career field can apply for an undeclared major within the school. Prior to fall enrollment of the sophomore year, a student must decide upon a major. This option allows the student to experience courses in all fields within the hospitality industry before selecting a specific major.

These diverse and specialized fields require a common set of abilities: creative problem solving, technical knowledge, leadership, and excellence. The school's first priority is to equip students with these skills and qualities.

Now in its 100th year, RIT's School of Food, Hotel, and Travel Management is one of the nation's leading hospitality-travel management programs and has been recognized for its programs by *Forbes, Travel Weekly, Nation's Restaurant News,* and *Corporate Travel* magazines.

The curriculum is fully integrated, encompassing a broad base of competencies defined in partnership with school faculty, students, and industry. Students may take electives that contribute to building a strong concept of the total industry by studying accounting, marketing, finance, economics, computer science, business management, behavioral science, nutrition, food preparation, food and beverage service principles, hotel operations, travel, and other topics.

The goal of the school is to offer students a rigorous, challenging, and interdisciplinary program of study in order to develop their talents. It provides them with the opportunity to develop their full potential in a managerial environment Small classes promote a dynamic learning interaction among faculty, students, and industry professionals.

Objectives

It is the mission of the school to prepare students to excel in their chosen profession by developing:

1. Theoretical and technical knowledge essential to successful attainment of professional, executive-level management

2. The ability to apply knowledge and original thinking to solving management problems

3. The skills and techniques of leadership

4. An awareness of and desire for a lifetime of learning

5. An intellectual spirit for constructive thought and action in building a good life and effective citizenship

Cooperative education

The School of Food, Hotel, and Travel Management requires each student to combine 1,600 hours of practical co-op experience with classroom theory in order to graduate.

Cooperative education (co-op) is one of the many ways students are introduced to hands-on learning and employment in the hospitality and travel industries. Coop is usually taken after the freshman and sophomore years and during any quarter in the junior and senior years, except the final quarter of 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 advisor, and the employing firm.

Many students find that their career goals take shape and become refined as they progress through co-op experiences. In general, co-op provides students with the opportunity to apply the theory of classroom instruction to an actual work setting.

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 the fields of their expertise: travel, marketing, hospitality operations, nutrition, and health care, to name a few.

Advisory Council

National industry leaders comprise the National Advisory Board, contributing professional and technical expertise to the school's undergraduate programs and strengthening the development of the school.

Transfer students

Students who have earned an associate degree in a business program prior to enrollment at RIT may normally expect to complete the BS degree in two years, which requires six academic quarters and two quarters of coop. The school recognizes as fully as possible the past academic accomplishments of each student. Transfer agreements exist between the school and many two-year colleges. These formal arrangements serve as a guide in the evaluation of students' previous college credit. For specific details about your community college or previous credit, call the school's student services office at 716475-2356.

Facilities

State-of-the-art equipment and laboratories are available to enhance the educational experience of all students. Henry's, a full-service, licensed restaurant, provides an excellent training environment for students, who manage special luncheons and dinners with the help of computerized beverage and pointof-sale systems. The food lab is commercially equipped for developing, testing, and evaluating new food products and testing equipment

Information management is a critical element within food, hospitality, and travel industries. The school is fortunate to have for instruction the American Airlines SABRE computerized reservation and accounting systems in the live mode. The AT&T computer laboratory and the training studio allow students to prepare for the technology they will encounter on the job. Data base, spreadsheet, and various other software applications are used in conjunction with classroom activities. PRONET, a real time, worldwide agricultural commodities net and other market information nets are also available for use.

Spanish proficiency

Prior to graduation from RIT, students must demonstrate proficiency in communicating in the Spanish language with a specialization in terminologies common to their field of study, i.e., hotel, travel, food management; food marketing and distribution; or nutrition management. This proficiency can be met through high school or previous college education, residence abroad, or enrollment in Spanish language courses at RIT. This demonstrated proficiency must be jointly approved by the student's advisor and the school director.

Food Management

The foodservice industry employs more people than any other industry in the nation and will continue to do so as the public demands more services. Foodservice offers an array of work places located far and wide: restaurants from full service to cafeteria; fast-food and special chain operations; hotel fine dining and catering; clubs; contract services for manufacturing; business firms; recreation and sports centers; education, health, and life institutions; retail stores; governmental agencies; and food vending.

Students in foodservice management experience a sampling of these foodservice sectors during cooperative education. By graduation students will have accumulated more hours of work experience than in any other four-year hospitality management program in the country. It is because of this depth of exposure that RIT students are in demand by food and beverage operations.

The program prepares students for management by lab experience in Henry's, the school's full-service, licensed restaurant. In addition, students develop competencies in problem solving and decision making through individual and team-based class projects, computerized exercises, and industry-related activities.

Students learn basic principles and procedures of nutrition; sanitation; menu planning and merchandising; product development; equipment design; food production, presentation, and service; purchasing; cost control, and the management of Henry's. The program requires several management topic courses, including accounting, computer science, data analysis, leadership and executive development, personnel and labor management, and organizational behavior. These professional and business courses are balanced by a strong component of liberal arts and science.

The first student chapter chartered by a state restaurant association is available to foodservice management students. The New York State Restaurant Association's goal is to foster interchange of ideas between industry and students and professional growth in organizational and social skills. Juniors are encouraged to attend the annual National Restaurant Association show in Chicago.

Yr.	FOOD MANAGEMENT, BS DEGREE, Typical Sequence	182 Qtr. Credit Hours			
		FALL	WTR.	SPG.	SMR.
1	ISMH-200 Hotel Operations	4			
	ISMF-222 Intro, to Foodservice Management	4			
	ISMF-220 Career Seminar	2			
	ISMD-213 Nutrition Science	4			
	GLLC-220 English Composition	4			
	ISMH-205 Hospitality Industry Real Estate		4		
	SMAM-225 Algebra for Management Sciences. . . . .*		4		
	GLLL-332 Literature		4		
	ISMF-224 Decision Making in Foodservice Mgt		4		
	ISMF-225 Principles of Food Production			4	
	SMAM-301, 311 Statistics I and Lab			4	
	ICSA-200 Survey of Computer Science			4	
	*Liberal Arts			4	
	†Physical Education	0	0	0	
	ISMF-499 Cooperative Education				Co-op
2	BBUA-301 Financial Accounting	4			
	SMAM-302, 312 Statistics II and Lab	4			
	GSSE-301 Principles of Economics I	4			
	ISMH-210 Hotel Marketing and Sales		4		
	ISMF-330 Quantity Food Production		4		
	ISMF-321 Menu Planning and Merchandising		2		
	BBUA-302 Managerial Accounting		4		
	ISMT-206 Travel Distribution Systems			4	
	ISMF-331 Restaurant Operations			6	
	GSSE-302 Principles of Economics II			4	
	*Liberal Arts	4	4	4	
	†Physical Education	0	0	0	
	ISMF-499 Cooperative Education				Co-op
3	ISMF-424 Food and Labor Cost Control	4			
	Sxxx-xxx Science Elective with Lab	4			
	SMAM-303, 313 Statistics III and Lab	4			
	ISMF Electives	4	4		
	BBUM-463 Principles of Marketing		4		
	BBUB-430 Organizational Behavior		4		
	ISMH-480 Personnel and Training			4	
	ISMH-355 Financial Mgt. for Hospitality Ind			4	
	*Liberal Arts		4	8	
	ISMF-499 Cooperative Education				Co-op
4	ISMF-416 Product Development	6			
	Free Elective	4		4	
	ISMH-470 Leadership and Executive Development			4	
	*Liberal Arts (Senior Seminar)	2			
	*Liberal Arts	4		8	
	ISMF-499 Cooperative Education		Co-op		

*See page 7 for Liberal Arts Requirements.
†See page 8 for policy on Physical Education.

Food Marketing and Distribution

This program prepares graduates for industry positions in food marketing, sales, and distribution and logistics. Graduates are uniquely qualified for positions in an array of food marketing and distribution industries worldwide. In particular, they understand a variety of issues—foodservice operations and food marketing, logistics, distribution, and packaging.

Many of the normal food management course requirements remain in this option. Other curriculum topics include commodity analysis; food marketing, processing, packaging, distribution; national and global logistics; and quality assurance.

Specific course content is defined in the RIT Course Catalog. An outline of the courses is provided in the chart opposite.

Yr.	FOOD MARKETING AND DISTRIBUTION, BS DEGREE	184 Qtr. Credit Hours			
	Typical Sequence	FALL	WTR.	SPG.	SMR.
1	ISMF-222 Intro, to Foodservice Management	4			
	GLLC-220 English Composition	4			
	SMAM-225 Algebra for Management Sciences	4			
	ISMT-206 Travel Distribution Systems	4			
	ISMH-205 Hospitality Industry Real Estate		4		
	GLLL-332 Literature		4		
	ISMF-224 Decision Making in Foodservice Mgt		4		
	IPKG-201 Principles of Packaging		4		
	ISMF-220 Career Seminar		2		
	ICSA-200 Survey of Computer Science			4	
	GSSE-301 Principles of Economics I			4	
	*Liberal Arts			4	
	CBCL-234 Intro, to Logistics & Transportation			4	
	†Physical Education	0	0	0	
	ISMF-499 Cooperative Education				Co-op
2	BBUA-301 Financial Accounting	4			
	SMAM-301, 311 Statistics I and Lab	4			
	ISMF-330 Quantity Food Production	4			
	Sxxx-xxx Science Elective with Lab	4		4	
	BBUA-302 Managerial Accounting		4		
	ISMF-331 Restaurant Operations		6		
	CBCL-241 International Logistics & Transportation		4		
	GSSE-302 Principles of Economics II			4	
	*Liberal Arts		4	4	
	SMAM-302, 312 Statistics II and Lab			4	
	†Physical Education	0	0	0	
	ISMF-499 Cooperative Education				Co-op
3	SMAM-303, 313 Statistics III and Lab	4			
	ISMF-310 Commodity Market Analysis	4			
	IPKG-432 Packaging for Distribution	4			
	ISMF-416 Product Development		6		
	ISMF-5xx FHTM Elective		4		
	ISMF-315 Food Service Marketing			4	
	IPKG-433 Packaging for Marketing			4	
	ISMH-480 Personnel and Training			4	
	*Liberal Arts	4	8	4	
	ISMF-499 Cooperative Education				Co-op
4	ISMF-410 Food Processing /Quality Assurance	4			
	ISMF-5XX FHTM Elective	4		4	
	ISMH-470 Leadership and Executive Development			4	
	Free Elective			4	
	*Liberal Arts (Senior Seminar)			2	
	*Liberal Arts	8		4	
	ISMF-499 Cooperative Education		Co-op		

*See page 7 for Liberal Arts requirements.
†See page 8 for policy on Physical Education.

Hotel and Resort Management

This is a professionally oriented curriculum for students interested in careers involving the management and operation of hotel, resort, leisure time, and related enterprises. A composite of discipline areas allows students to understand the physical characteristics of the properties and to gain the business expertise necessary to manage and market them.

The program builds student skills with a balanced academic program of the basic principles of hotel and restaurant operations, tourism, resort development and management, business and financial management, and liberal arts, together with paid work experience (co-op) for four quarters, hands-on class projects, laboratories, and school activities. Specialized courses include data analysis, hotel engineering and maintenance, hotel marketing and sales, personnel and executive development, and negotiation and conflict management. Industry professionals regularly offer their expertise in all of the program courses.

Students develop communication skills through participation in the student chapter of the Hotel Sales and Marketing International Association (HSMAI), and seniors are encouraged to attend the annual International Hotel/Motel and Restaurant show in New York City.

| Yr. | HOTEL AND RESORT MANAGEMENT, BS DEGREE | 182 Qtr. Credit Hours | | | |
	Typical Sequence	FALL	WTR.	SPG.	SMR.
1	ISMF-200 Hotel Operations	4			
	ISMF-222 Introduction to Foodservice Management	4			
	ISMF-220 Career Seminar	2			
	GLLC-220 English Composition	4			
	ISMH-205 Hospitality Industry Real Estate		4		
	ISMH-210 Hotel Marketing and Sales		4		
	SMAM-225 Algebra for Management Science		4		
	GLLL-332 Literature		4		
	ISMT-206 Travel Distribution Systems			4	
	ISMF-224 Decision Making in Foodservice Management			4	
	ICSA-200 Survey of Computer Science			4	
	* Liberal Arts	4		4	
	† Physical Education	0	0	0	
	ISMF-499 Cooperative Education				Co-op
2	ISMH-310 Resort Development and Management	4			
	SMAM-301, 311 Statistics I and Lab	4			
	ISMF-330 Quantity Food Production	4			
	ISMH-315 Hotel Engineering and Maintenance		4		
	BBUA-301 Financial Accounting		4		
	Sxxx-xxx Science Elective with Lab		4		
	GSSE-301 Principles of Economics I		4		
	ISMH-355 Financial Management for Hotel Industry			4	
	BBUA-302 Managerial Accounting			4	
	GSSE-302 Principles of Economics II			4	
	* Liberal Arts	4		4	
	† Physical Education	0	0	0	
	ISMF-499 Cooperative Education				Co-op
3	BBUM-463 Principles of Marketing	4			
	ISMF-424 Food and Labor Cost Control	4			
	SMAM-302, 312 Statistics II and Lab	4			
	Sxxx-xxx Science Elective with Lab	4			
	BBUB-430 Organizational Behavior		4		
	SMAM-303, 313 Statistics III and Lab		4		
	* Liberal Arts		8	8	
	FHTM Elective			4	
	ISMH-480 Personnel and Training			4	
	ISMF-499 Cooperative Education				Co-op
4	ISMF-331 Restaurant Operations	6			
	ISMH-470 Leadership and Executive Development	4			
	FHTM Electives	4		8	
	Free Elective			4	
	* Liberal Arts (Senior Seminar)			2	
	* Liberal Arts	4		4	
	ISMF-499 Cooperative Education		Co-op		

*See page 7 for Liberal Arts requirements.
†See page 8 for policy on Physical Education.

Travel Management

The growth of modern travel has created many technical problems for the traveling public and with that the need to consult highly qualified experts to plan, arrange, and coordinate travel. Today, more than ever before, travelers are faced with many alternatives for transportation, accommodations, and other travel services and rely increasingly on the travel professional to guide them wisely and honestly. Travel agencies and corporate travel consultants have an important impact on the hospitality-travel economies, including foodservice, lodging and leisure, and travel and transportation industries.

Travel management combines a study of specialized courses in travel management with a sound general education that includes courses in accounting, management principles, marketing, business law, foreign languages, and computer science. The program is structured to provide students with a balance of hands-on experience and management theory. This is necessary to further their understanding of why the travel industry operates as it does in its business environment. This career orientation provides both the four-year and transfer student with a balance of theoretical classroom instruction and experiential opportunities that are furnished by cooperative education.

Equipped with this program, students in travel management prepare for careers in corporate travel, consulting, and professional meeting management. Employment opportunities are also excellent with airlines, hotels, resorts, retail travel agencies, and other businesses.

American Airlines SABRE Systems Available to students in the School of Food, Hotel, and Travel Management in live mode are the automated reservation and accounting systems designed by American Airlines to allow corporate travel planners and meeting managers to serve the client faster, while handling the complex details of their business more efficiently. The reservation system, SABRE, enables travel professionals to give their clients immediate confirmation for flights operated by airlines worldwide.

Students work at SABRE reservation sets, with video screens and keyboards, which are linked direcdy to American's worldwide travel information system. This provides access to accommodations at hotels—domestic and international—major car rental firms, and wholesale tour operators who design tours to such destinations as Hawaii, the Caribbean, Mexico, Canada, and the U.S. mainland.

Yr.	TRAVEL MANAGEMENT, BS DEGREE Typical Sequence	182 Qtr. Credit Hours			
		FALL	WTR.	SPG.	SMR.
1	ISMF-220 Career Seminar	2			
	GLLC-220 English Composition	4			
	ISMT-210 Introduction to AA SABRE	4			
	ISMH-200 Hotel Operations	4			
	* Liberal Arts	4	4		
	ISMH-205 Hospitality Industry Real Estate		4		
	GLLL-332 Literature		4		
	SMAM-225 Algebra for Management Science		4		
	GSSE-301 Principles of Economics I			4	
	ISMT-206 Travel Distribution Systems			4	
	ICSA-200 Survey of Computer Science			4	
	SMAM-301, 311 Statistics I and Lab			4	
	† Physical Education	0	0	0	
	ISMF-499 Cooperative Education				Co-op
2	ISMH-310 Resort Development & Management	4			
	ISMF-222 Introduction to Foodservice Management	4			
	ISMT-312 Travel Reservation Procedures	2			
	ISMT-314 Salesmanship Techniques in Travel		2		
	BBUA-301 Financial Accounting		4		
	ISMH-210 Hotel Marketing & Sales Mgt		4		
	BBUA-302 Managerial Accounting			4	
	ISMF-224 Decision Making in Food Sci. Mgt			4	
	SXXX-xxx Science Elective with Lab			4	
	GSSE-302 Principles of Economics II	4			
	* Liberal Arts	**4**	8	4	
	† Physical Education	0	0	0	
	ISMF-499 Cooperative Education				Co-op
3	BBUM-463 Principles of Marketing	4			
	SMAM-302, 312 Statistics II and Lab	4			
	ISMT-413 Corporate Travel Marketing & Sales	4			
	ISMT-420 Corporate Travel Planning		4		
	BBUB-430 Organizational Behavior		4		
	SMAM-303, 313 Statistics III and Lab		4		
	ISMH-355 Financial Mgmt. Hospitality Industry			4	
	SXXX-XXX Science Elective with Lab			4	
	ISMT-410 Meeting Management			4	
	* Liberal Arts	4	4	4	
	ISMF-499 Cooperative Education				Co-op
4	* Liberal Arts (Senior Seminar)	2			
	ISMH-480 Personnel & Training	4			
	Free Elective	4			
	FHTM Electives	6		8	
	ISMH-470 Leadership & Executive Development		*Liberal Arts	4	
				4	
	ISMF-499 Cooperative Education		Co-op		

*See *page 7 for Liberal Arts requirements.*
†See *page 8 tor policy on Physical Education.*

SABRE provides the student with a view of a worldwide market distribution system. The system also performs fare quotations, currency conversions, and, with the aid of the Telenet printers, prepares a printed ticket, a comprehensive invoice, and a passenger itinerary.

Students are also versed in the use of SABRE's special file designed for the frequent business traveler. Known as STARS (Special Travelers Account Record System), the file contains not only addresses and telephone numbers, but individual preferences in flight times, aircraft, seating, menus, etc. It will also automatically "remember" the traveler's customary requests with regard to hotel reservations, car rentals, and billing procedures.

General Dietetics And Nutritional Care (Nutrition Management*)

People are increasingly interested in nutrition requirements for good health and long life. They are concerned about balanced menus away from home and about the availability of special diet menus for those with serious ailments. Physical fitness centers seek educated advice about meal planning.

Dietitians are involved with people of all ages, cultures, and economic means. They enjoy people and learn to understand them as individuals, thereby helping to solve their nutritional needs. Dietitians are health professionals who apply the science and art of human nutrition.

The nutrition management program offers a challenging curriculum that prepares students for diverse career opportunities. From their base of knowledge about nutrition, registered dietitians practice in many settings. Possible career paths may be developed in private practice; community nutrition and public health, wellness and fitness programs for sports; education and corporations; clinical dietetics or food management in hospitals and long-term care facilities; research for clinical, educational, or food manufacturing operations; nutrition education; restaurant consulting, and writing.

Dietetics program options

All RIT nutrition management students are enrolled in the traditional program in nutrition management during the first two years. Upon completion of the necessary preprofessional (first and second year) courses, students may apply for admission into the coordinated dietetics program. Applications for this program must be submitted by February 15 to be considered for admission into the professional phase the following September.

Traditional dietetics option
The program in traditional dietetics leading to a BS degree meets the education requirements of the American Dietetic Association. Four-year students must complete three quarters of approved cooperative work experience. To become credentialed as a registered dietitian (RD), students also need to complete an approved, supervised practice and pass the National Registration Examination of the American Dietetic Association.

RIT is currently applying to the New York State Education Department for permission to change the name of this program to Nutrition Management.

Yr.	NUTRITION MANAGEMENT, BS DEGREE, DIDACTIC OPTION	182 Qtr. Credit Hours			
	Typical Sequence	FALL	WTR.	SPG.	SMR.
1	* SCHG-201, 205 Survey of General Chemistry/Lab	4			
	GLLC-220 English Composition	4			
	ISMD-213 Contemporary Nutrition	4			
	ISMF-222 Introduction to Foodservice Management	4			
	GSSE-301 Principles of Economics I		4		
	* SCHG-202, 207 Survey of Organic Chemistry/Lab		4		
	GLLL-332 Literature		4		
	ISMF-224 Decision Making in Foodserve Management		4		
	ISMF-225 Principles of Food Production			4	
	ICSA-200 Survey of Computer Science			4	
	* SCHG-203 Biochemistry I			4	
	GSSE-302 Principles of Economics II			4	
	‡ Physical Education	0	0'	0	
2	* SBIG-210 Microbiology	4			
	* SCHG-204 Biochemistry II	4			
	SMAM-225 Algebra for Management Science	4			
	ISMF-321 Menu Planning and Merchandising		2		
	SMAM-301, 311 Statistics I and Lab		4		
	SBIG-211, 231 Human Biology I/Lab		4		
	SBIG-212,232 Human Biology II/Lab			4	
	BBUQ-301 Financial Accounting			4	
	† Liberal Arts	4	8	8	
	‡ Physical Education	0	0	0	
	ISMF-499 Cooperative Education				Co-op
3	ISMF-416 Product Development	6			
	BBUB-430 Organizational Behavior	4			
	ISMF-330 Quantity Food Production	4			
	ISMF-424 Food & Labor Cost Control		4		
	ISMF-512 Design and Layout of Food Operations		2		
	ISMD-554 Nutrition in Life Cycle		5		
	† Liberal Arts	4	4		
	ISMF-499 Cooperative Education			Co-op	Co-op
4	ISMD-525 Advanced Nutrition/Diet Therapy I	5			
	ISMH-470 Leadership and Executive Development	4			
	ISMH-480 Personnel & Training		4		
	* ISMD-526 Advanced Nutrition/Diet Therapy II		4		
	Free Electives		4	4	
	ICSA-519 Principles & Methods Diet. Education			4	
	* ISMD-550 Community Nutrition			8	
	† Liberal Arts	8	4		
	† Liberal Arts (Senior Seminar)		2		

These courses offered ONLY in the quarters listed on the schedule
†See page 7 tor Liberal Arts requirements.
‡See page 8 for policy on Physical Education.

Yr.	NUTRITION MANAGEMENT, BS DEGREE, CP OPTION	95 Qtr. Credit Hours			
	Junior and Senior Years	FALL	WTR.	SPG.	SMR.
3	ISMD-402 Dietetic Environment	4			
	ISMF-416 Product Development	6			
	BBUB-430 Organizational Behavior	4			
	ISMF-330 Quantity Food Production	4			
	* Liberal Arts		4		
	ISMD-512 Design and Layout of Food Operations		2		
	ISMD-554 Nutrition in Life Cycle		5		
	ISMF-424 Food and Labor Cost Control		4		
	ICSA-519 Principles & Methods of Detetic Education			4	
	ISMD-551 Food Systems Management II			8	
	ISMH-480 Personnel & Training			4	
4	ISMD-560 Clinical Dietetics I	4			
	ISMD-561 Clinical Dietetics II	4			
	*Liberal Arts	8		8	
	Liberal Arts (Senior Seminar)		2		
	ISMD-562 Clinical Dietetics III		4		
	ISMD-563 Clinical Dietetics IV		8		
	ISMD-550 Community Nutrition			8	

See page 7 for Liberal Arts requirements.

Coordinated program option
This option combines the undergraduate curriculum and planned supervised practice to meet the academic and performance requirements established by the American Dietetic Association for eligibility as a registered dietitian (RD).

This option is planned to integrate formal teaching and over 900 hours of planned, supervised practice in hospitals, long-term care facilities, school and corporate food services, and community health agencies. Academic and supervised practice phases are taught together to reinforce each other. Learning experience involves team teaching by RIT faculty and clinical instructors, each contributing his or her expertise in the profession.

Co-op is not required of students in C.P. because the supervised practice hours in the junior and senior years establish their eligibility to take the National Registration Examination for dietitians upon graduation.

Completion of this option leads to a bachelor of science degree plus eligibility to take the national examination.

Transfer credit
Two-year transfer program for food-service management, hotel and resort management, and travel management. Students who have earned an appropriate associate degree or its equivalent before enrolling at RIT may normally expect to complete the requirements for the BS degree in two years, including six academic quarters and cooperative education.

Transfer students must complete a minimum of 85-90 quarter credit hours with an earned minimum grade point average of 2.0 and two quarters of approved cooperative education assignments.

Transfer students with less than two years of college or from other educational backgrounds can also be accommodated. The amount of transfer credit is determined by evaluating the individual's transcript.

In every instance it is the policy of the college to recognize as fully as possible the past academic accomplishments of each student.

Two-year transfer program for coordinated dietetics. RIT makes every effort to facilitate transfer credit. Due to specific areas of study required by the American Dietetic Association and RIT, transfer students applying for admission to the professional phase of the C.P. in dietetics must meet course prerequisites listed in the preprofessional phase.

The following areas of study must be completed:
Food and Nutrition Principles
General and Organic Chemistry
Biochemistry I
Physiology
Management Courses: Mathematics, Accounting, and Statistics
Economics
TOTAL of 24 credit hours of liberal arts (including Introduction to Sociology)

Applicants are required to have a minimum grade point average of 2.5 from two years of basic professional courses before they are considered for admission in the coordinated program.

Students who are not accepted in the coordinated program may be admitted to the traditional program in general dietetics. Due to the special professional requirements of the American Dietetic Association, the amount of transferable credit and estimated time to complete work for the BS degree must be determined by evaluation of each individual's transcript.

Department of Packaging Science

Daniel L. Goodwin, Director

Packaging Science, baccalaureate program

The interdisciplinary Packaging Science Program, leading to the bachelor of science degree, provides educational opportunities for men and women seeking careers in the multifaceted packaging industry. Graduates are prepared for initial employment in such areas as package engineering, development, sales, purchasing, structural design, production, research, and marketing.

The program was developed because of a close and long-established relationship between the packaging industry and RIT. The multi-billion-dollar industry exhibits dynamic growth and provides employment for many thousands of men and women with wide-ranging skills and expertise.

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 strong backgrounds in business, engineering, and science.

Program characteristics
The program is:
1. Career oriented—graduates are ready to enter directly into a position of responsibility.
2. Interdisciplinary—students become familiar with the many facets of packaging through courses in several RIT colleges.
3. Flexible—offering three options (management, technical, and printing) with ample opportunity for electives according to interest.
4. Representative of industry needs—content developed with the assistance of the Rochester Area Packaging Association, consultants from the industry, and educational specialists.
5. Adaptable to a modified cooperative plan—scheduled at the student's convenience, following development of appropriate skills.

Transfer admission
Transferring into the program with advanced standing is particularly advantageous, since RIT has had many years of experience in assimilating graduates of two-year colleges into its programs and moving them directly into a chosen

Yr.	PACKAGING SCIENCE—MANAGEMENT OPTION, BS DEGREE	192 Qtr. Credit Hours			
		FALL	WTR.	SPG.	SMR.
1	IPKG-201 Principles of Packaging	4			
	IPKG-301 Engineering Design Graphics		3		
	IPKG-311 Packaging Materials I			4	
	IPKG-341 Computer Applications			4	
	SPSP-211, 271 Collge Physics/Lab	4			
	SMAM-225 Algebra for Management Science		4		
	SMAM-226 Calculus for Management Science			4	
	GSSE-301,302 Principles of Economics I, II	4	4		
	* Liberal Arts (Foundation)	4	4	4	
	† Physical Education	0	0	0	
2	IPKG-312 Packaging Materials II	4			
	IPKG-313 Methods of Evaluation	3			
	IPGK-321 Rigid Containers		4		
	IPKG-322 Flexible Containers			4	
	SCHG-201, 221 Survey of General Chemistry/Lab		4		
	SCHG-202, 222 Survey of Organic Chemistry/Lab	4			C O O P
	SPSP-341 Foundations of Scientific Thinking		2		
	SMAM-309 Elementary Statistics			4	
	PPRT-200 Introduction to Printing	3			
	BBUA-301 Financial Accounting		4		
	* Liberal Arts (Foundation)	4	4	8	
	† Physical Education	0	0	0	
3	IPKG-401 Career Seminar		1		
	IPKG-420 Technical Communication	4			
	IPKG-431 Packaging Production Systems	4			
	IPKG-432 Packaging for Distribution		4		
	IPKG-433 Packaging for Marketing			4	C O O P
	IPKG-485 Shock and Vibration			4	
	BBUB-430 Organizational Behavior			4	
	BBUM-463 Principles of Marketing	4			
	GLLC-501 Effective Speaking		4		
	* Liberal Arts (Concentration)	4	4	4	
	Free Elective		3		
4	IPKG-462 Packaging Regulations		3		
	Professional (Packaging) Electives	4	4	4	
	* Liberal Arts (Electives and Senior Seminar)	6	4	4	
	Management Electives	4		4	
	Free Electives		4	4	

Yr.	PACKAGING SCIENCE—TECHNICAL OPTION, BS DEGREE	192 Qtr. Credit Hours			
		FALL	WTR.	SPG.	SMR.
1	IPKG-201 Principles of Packaging	4			
	IPKG-301 Engineering Design Graphics		3		
	IPGK-311 Packaging Materials I		4		
	SMAM-204 Modern Algebra	4,			
	SMAM-214, 215 Introduction to Calculus		3	3	
	SGHG-208, 209 College Chemistry	4		4	
	GLCC-501 Effective Speaking			4	
	* Liberal Arts (Foundation)	4	8	4	
	† Physical Education	0	0	0	
2	IPKG-312 Packaging Materials II	4			
	IPKG-313 Methods of Evaluation	3			
	IPGK-321 Rigid Containers		4		
	IPKG-322 Flexible Containers			4	
	IPKG-341 Computer Applications			4	C O O P
	SMAM-319 Data Analysis			4	
	SCHO-231, 232 Organic Chemistry	3	3		
	SCHO-235, 236 Organic Chemistry Lab	1	1		
	* Liberal Arts (Foundation)	4	4	4	
	Free Electives	3	3		
	† Physical Education	0	0	0	
3	IPKG-401 Career Seminar		1		
	IPKG-420 Technical Communication		4		
	IPKG-431 Packaging Production Systems	4			
	IPKG-432 Packaging for Distribution		4		
	IPKG-433 Packaging for Marketing			4	C O O P
	IPKG-485 Shock and Vibration			4	
	SPSP-211, 212,213 College Physics	3	3	3	
	SPSP-271, 272, 273 College Physics Lab	1	1	1	
	SPSP-341 Foundations of Scientific Thinking	2			
	PPRT-200 Introduction to Printing	3			
	* Liberal Arts (Concentration)	4	4	4	
4	IPKG-462 Packaging Regulations		3		
	Professional (Packaging) Electives	4	4	4	
	BBUM-463 Principles of Marketing		4		
	BBUB-430 Organizational Behavior			4	
	* Liberal Arts (Electives and Senior Seminar)	6	4	4	
	Free Electives	4		3	

•See page 7 for Liberal Arts requirements,   † See page 8 for policy on Physical Education.

career field. Some candidates now in four-year colleges will find in the packaging science program a career opportunity with outstanding potential. Courses for associate degree holders (AA, AS, AAS) are arranged to meet program requirements and to correct deficiencies resulting from work taken at other institutions not offering the courses required for graduation. With a selective choice of electives, graduates of two-year colleges find it possible to complete the aging science curriculum in two additional years at RIT.

Principal field of study
The principal field of study is defined to be all courses in the Packaging Science Department, as well as the required courses in the College of Science (for the technical option), colleges of Business and Science (management option), and colleges of Science and Imaging Arts and Sciences (printing option). Matriculated students not maintaining a 2.0 cumulative grade point average in their principal field of study are subject to academic probation or suspension, according to Institute policy.

Yr.	PACKAGING SCIENCE—PRINTING OPTION, BS DEGREE	192 Qtr. Credit Hours			
		FALL	WTR.	SPG.	SMR.
1	IPKG-201 Principles of Packaging	4			
	IPKG-301 Engineering Design Graphics		3		
	IPGK-311 Packaging Materials I			4	
	IPKG-312 Packaging Materials II			4	
	SMAM-225 Algebra for Management Science	4			
	SMAM-226 Calculus for Management Science		4		
	SMAM-309 Elementary Statistics			4	
	SPSP-211, 271 College Physics/Lab	4			
	SPSP-341 Foundations of Scientific Thinking			2	
	* Liberal Arts (Foundation)	4	8	4	
	† Physical Education	0	0	0	
2	IPKG-313 Methods of Evaluation	3			
	IPGK-321 Rigid Containers		4		
	IPKG-322 Flexible Containers			4	
	IPKG-341 Computer Applications	4			
	IPKG-420 Technical Communication		4		
	SCHG-201, 221 Survey of General Chemistry/Lab	4			C
	SCHG-202,222 Survey of Organic Chemistry/Lab		4		o
	PPRT-200 Introduction to Printing	3			o
	PPRT-213 Principles of Copy Preparation			3	p
	PPRT-239 Gravure Process			3	
	PPRT-342 Properties of Paper			3	
	* Liberal Arts (Foundation)	4	4	4	
	† Physical Education	0	0	0	
3	IPKG-401 Career Seminar		1		
	IPKG-431 Packaging Production Systems	4			
	IPKG-432 Packaging for Distribution		4		
	IPKG-433 Packaging for Marketing			4	
	IPKG-462 Packaging Regulations		3		c
	IPKG-485 Principles of Shock and Vibration	4			o
	PPRT-240 Lithographic Process			3	o
	PPRT-328 Flexographic Process			3	p
	BRUM 430 Organizational Behavior	4			
	GSSE-301, 302 Principles of Economics I, II		4	4	
	* Liberal Arts (Concentration)	4	4	4	
4	Professional (Packaging) Electives	4	4	4	
	GLLC-501 Effective Speaking	4			
	PPRT-372 Image Capture and Conversion			3	
	* Liberal Arts (Electives and Senior Seminar)	4	6	4	
	Free Electives	2	4	3	

*See page 7 for Liberal Arts requirements.
†See page 8 tor policy on Physical Education.

Department of Military Science and Reserve Officers' Training Corps (ROTC)

Yr.	DEPARTMENT OF MILITARY SCIENCE FOUR-YEAR PROGRAM	Qtr. Credit Hours		
		FALL	WTR.	SPG.
1 MS I	‡MMSM-201 Introduction to Military Science ‡MMSM-202 Applied Military Dynamics ‡MMSM-203 Military Heritage	2	2	2
2 MS II	*MMSM-301 Military Geography *MMSM-302 Psychology and Leadership *MMSM-303 The Military and American Society	2	2	2
3 MS III	*MMSM-401 Military Tactics *MMSM-402 Military Communications *MMSM-403 Military Operations	3	3	3
4 MS IV	*MMSM-501 Combined Arms Operations *MMSM-502 Military Administration and Logistic Management *MMSM-503 Military Ethos	3	3	3

*A Leadership Lab, which is conducted on a weekly basis for one hour, is an integral part of each course offered throughout the year. Class 1, Lab 1 = Credit 2, or Class 2, Lab 1 = Credit 3.
‡Completion meets physical education requirements.

Yr.	DEPARTMENT OF MILITARY SCIENCE TWO-YEAR PROGRAM BASIC CAMP/ADV. PLACEMENT/SUMMER COMPRESSION	Qtr. Credit Hours		
		FALL	WTR.	SPG.
3 MS III	*MMSM-401 Military Tactics *MMSM-402 Military Communications *MMSM-403 Military Operations	3	3	3
4 MS IV	*MMSM-501 Combined Arms Operations *MMSM-502 Military Administration and Logistic Management *MMSM-503 Military Ethics	3	3	3

*A Leadership Lab, which is conducted on a weekly basis for one hour, is an integral part of each course offered throughout the year. Class 1, Lab 1 = Credit 2, or Class 2, Lab 1 = Credit 3.

LTC John M. Laage, Professor of Military Science

Overview
RIT offers full-time students from all degree fields the opportunity to enroll in our program. Participation in the program includes classroom instruction and leadership, physical, and tactical training.

Those who join the Reserve Officers' Training Corp become cadets in a dynamic and challenging aspect of life at RIT. Annual social events include a formal dinner in the Winter Quarter and a Spring Quarter Military Ball. Army cadets also assist in the fall student orientation, demonstrations of military training throughout the academic year, special events geared toward fostering community relations, and fund raising for worthy charities. Army ROTC extra-curricular activities include color guard, pistol team, rappelling, cross-country skiing, rafting exercises, survival training, Ranger Challenge Competition, and numerous field events throughout the year.

The Department of Military Science and Army ROTC offer an educational experience unavailable from any other source. Students receive hands-on training with Army weapons and equipment. Additionally, they gain practical on-campus leadership experience and may choose further leadership development at Army posts statewide and overseas, in preparation for leading the men and women of today's Army.

The program is divided into two parts: the basic course (freshman and sophomore years) and the advanced course (junior and senior years).

Scholarship opportunities
Our program offers students the opportunity to compete for two- and three-year scholarships during the freshman and sophomore years. These scholarships pay 80 percent of tuition, $450 per year for books, and $1,000 per year cash stipend. They are based on academic achievement and leadership potential. Both enrolled cadets and non-enrolled students may apply for a scholarship.

Financial benefits
A subsistence allowance of $100 per month is provided, tax free, directly to each contracted ROTC cadet throughout the school year. This, plus pay for Advanced Camp attendance, amounts to over $2,500 for the last two years of college.

RIT offers room scholarships and tuition supplement to cadets who are recipients of 4-year, 3.5-year, and 3-year ROTC scholarships. To receive RIT's room scholarship and tuition supplement, students must file a Financial Aid Form by March 1. Contact the Financial Aid Office for further information.

Basic course
During the basic course, non-scholarship students have absolutely no military service obligation. The flexible curriculum develops self-confidence and leadership abilities and tests responsibility. Freshmen and sophomores participate approximately two hours per week. A student may sample ROTC at any time within his or her first two years. Cadets enrolled in military science study basic military organization, tactics, and history and take a course on college survival. Completion of the basic course qualifies a cadet for enrollment in the advanced course, scholarships, airborne training, air assault training, and many other opportunities to gain valuable on-the-job experiences.

Summer camp program
A two-year program is offered to all qualified students with two academic years remaining who did not previously participate in the Basic Course. Students in this program attend the six-week Basic Summer Camp between their sophomore and junior years. Upon successful completion of the camp, the student may be enrolled in the Advanced Course

for the last two years. It should be noted that two-year scholarships are available on a competitive basis during the Basic Summer Camp. Interested students should begin processing applications for this program early in the Winter Quarter of their sophomore year.

Veterans
Students with prior military service and members of the Army National Guard and Army Reserve are eligible for entry into the Advanced Course once they have completed one year of college.

Advanced course
The Advanced Course is conducted during the last two years (three years if you co-op) and includes attendance at the ROTC Advanced Camp, normally between your junior and senior years. Military Science Department classes during the Advanced Course serve as a prelude to subsequent instruction at specific Army Service Schools. Advanced Course ROTC cadets perform in leadership positions with a cadet company and may participate in and/or lead various training activities.

The program includes an annual trip to Fort Drum, N.Y. Usually scheduled during September, this exercise is conducted in preparation for the Advanced Camp at Fort Bragg, N.C., which trains and evaluates thousands of cadets annually from all schools on the eastern seaboard. The six-week Advanced Camp gives each participant an opportunity to plan, organize, and lead his or her peers through a vigorous and challenging training program. Attendees are paid travel expenses and a salary for this intellectually and physically rewarding experience.

After Advanced Camp, selected cadets have the opportunity to participate in the Cadet Troop Leader Training Program for an additional two or three weeks in active army units in leadership positions through the U.S. and overseas.

Airborne (parachute) and air assault (helicopter) training also are available on a competitive basis to cadets in the upper division of ROTC. RIT cadets may earn their badges as parachutists or air assaultists and become fully qualified to be assigned duties in these activities after commissioning.

Professional military education
In addition to the Military Science curriculum and the Fort Bragg Advanced Camp, each cadet must complete a course in the following fields of study:
1. Written communication
2. Military history
3. Human behavior
4. Computer literacy
5. Math reasoning
6. Foreign language (scholarship cadets only)

Graduate school opportunities
Commissioned officers may have an opportunity to pursue graduate work in their chosen discipline. Normally the cost of a graduate degree or attendance at a professional school is at the individual's expense. Certain specialties may be paid for by the U.S. Army.

Technological enrichment program
Students who plan to pursue graduate studies in high-technology areas can compete for a full graduate school scholarship through the Army in their senior year.

For additional information
To learn more about broadening your career options through Army ROTC, visit or call the Department of Military Science on the third floor of the George Eastman Building (475-2881 or -2882).

AFROTC — Air Force Reserve Officer Training Corps, Department of Aerospace Studies

Lt. Col. Thomas E. Tschorke, Professor of Aerospace Studies

Background
Air Force Reserve Officer Training Corps (AFROTC) opened at RIT in September 1985. Since 1947 AFROTC has afforded graduating college students an appointment as commissioned officers in the United States Air Force. There are three methods to obtain a commission: through the Air Force Academy, the Air Force Officer Training School, and our Air Force ROTC program. Participation in ROTC allows college students a firsthand view of the air force while attending the college of their choice. Activities are extremely varied and enriching, encompassing classroom instruction, leadership experiences, visits to air force bases, summer field training, physical fitness, and more.

Characteristics
The Department of Aerospace Studies at RIT has designed an approach to its curriculum totally compatible with the normal four-year curriculum in some RIT colleges and with the five-year cooperative education program in a larger number of colleges within the Institute. RIT and the Department of Aerospace Studies believe the program will develop very well-rounded individuals fully prepared to enter into their chosen career fields and become future leaders in our society.

Four-year program
This program has three distinct parts: the General Military Course (GMC), the Professional Officer Course (POC), and the Summer Field Training.

Cadets normally enter the four-year program directly from high school. The GMC is taken by freshmen and sophomores. Cadets entering this curriculum incur no military commitment. Air Doctrine, Air Force Mission Structure, Organization, the Nature of Conflict, Air Power Development, National Security, the Evolution of Air Power, and more are studied. Successful completion of the GMC requirements and the four-week field training exercise qualifies a student to apply for entry into the POC.

The POC is the advanced Aerospace Studies curriculum and is conducted during the junior and senior years at RIT. The curriculum prepares cadets for entry into the Air Force as commissioned second lieutenants. Fundamentals of leadership and management, ethics, staffing, planning, coordinating, the need for national security, policy direction and implementation, and actual leadership case studies are examined.

Additionally, in both the GMC and POC curricula, several instructional blocks on written and oral communication skills are taught. Every cadet must complete a Summer Field Training encampment, normally between the sophomore and junior years. In the four-year program, the summer exercise is four weeks long. The curriculum and activities at summer field training educate and evaluate a student's leadership potential and qualify the cadet for entry into the POC. The training program includes leadership evaluation exercises, orientation, survival training, officer training, confidence courses, aircraft and aircrew orientation, physical training, and more.

Leadership and management experience is gained in the Air Force ROTC curriculum through a series of Leadership Laboratories, conducted in the Fall, Winter, and Spring quarters throughout the four- and 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, and career decision making are all part of the Leadership Laboratory.

The four-year program is very comprehensive. Spirited and well-rounded Air Force officers are the result.

Yr.	AFROTC—DEPARTMENT OF AEROSPACE STUDIES*	Qtr. Credit Hours		
		FALL	WTR.	SPG.
1	IMAF-210, 211, 212 Air Force Today I, II, III	1	1	1
	IMAF-201, 202, 203 Leadership Lab I	1	1	1
2	GLAA-201, 202, 203 Hist. of Air Power I, II, III	1		1
	IMAF-301, 302, 303 Leadership Lab II	1	1	1
3	BBUB-310,311 Air Force Ldr. & Mgmt. I, II	5		5
	IMAF-401, 402, 403 Leadership Lab III	1	1	1
4	GSSM-401,402 Nat'l Security Forces I, II	5		4
	IMAF-404, 405, 406 Leadership Lab IV	1	1	1
5	IMAF-501, 502, 503 Leadership Lab V	1	1	1

*NOTE:
1. This is a typical flow Certain degree programs may desire the Air Force Junior- and Senior-Level courses to be taken in any one of the following combinations: years 3 and 5, years 4 and 5, or as printed in years 3 and 4.
2. While students are enrolled at RIT but not taking Air Force Junior- or Senior-Level courses, they must be enrolled in a Leadership Lab.
3. Although the number of credit hours seem less than required, the contact hours actually meet or exceed those required by AFROTC/Hdqtrs.

Two-year program

This program allows students to join the cadet corps with as little as two years remaining at college. The General Military Course (GMC) material and leadership laboratories are obviously not taught, but instead cadets receive all GMC curriculum and laboratory experience in a six-week summer field training exercise, usually conducted between their sophomore and junior years. Successful completion of the summer camp qualifies cadets for entry into the Professional Officer Course (see "Four-year program"). Cadets then complete their remaining AFROTC requirements as members of the Professional Officer Corps.

Other programs

Several other programs and activities are afforded to cadets in both the two- and four-year Air Force ROTC programs. They are offered to highly competitive cadets to further develop the officer "whole person" concept. These programs include: airborne training with the U.S. Army, Advanced Training Program (an on-the-job training program at selected air bases), base visitations, and Arnold Air Society.

Physical education graduation requirements

Physical education graduation requirements can be satisfied by completion of the Department of Aerospace Studies Leadership Laboratories. Students must be enrolled in Air Force ROTC (the two- or four-year program) to enroll in the leadership laboratories.

Qualifications and selection procedure

To become a member of the Air Force ROTC requires many different and varied qualifications. Some are very simply met; others are more complex, involving Air Force Officer Qualifying Testing, physicals, interviews, and selection boards. Please contact the Air Force ROTC office for complete details and learn how you may qualify. The phone number is 716-475-5196.

Scholarships

Air Force ROTC offers a variety of scholarships to qualified students in many academic disciplines. Four-year, three-year, and two-year scholarships are available in technical, non-technical, pilot, navigator, and missile career fields. The needs of the air force dictate which scholarships will be offered on a yearly basis. Competition is very keen. High-school students must complete their applications for a four-year scholarship very early in the senior year. Any student awarded a scholarship is entitled to numerous benefits. Most scholarships pay the majority of tuition and textbook expenses. Also, contract cadets receive a non-taxable allowance of $100 per month during the school year.

Air Force ROTC specialized programs

The AFROTC also has several specialized career programs, pre-health being the most widely known. In addition a number of graduate study programs are available. Certain specialties may be paid in full; the requirements are extremely varied, and contact with the AFROTC detachment at RIT is imperative.

Financial assistance

Every scholarship cadet and all POC cadets receive a $100 monthly allowance. RIT offers room scholarships and tuition supplement to cadets who are recipients of four-year and three-year Type I, Type II, and targeted ROTC scholarships through the College Scholarship Program. In order to receive RIT's room scholarship and tuition supplement, students must file a Financial Aid Form by March 1. Contact the Financial Aid Office for further information. In addition, during field training, transportation and room and board are paid, and a salary of $16 per day is provided. Other student loan programs are available to cadets from both the air force and RIT.

Commissioning

The commissioning of cadets as second lieutenants takes place close to graduation day ceremonies. Prior to commissioning, each cadet must perform the following:

1. Complete all degree requirements
2. Complete the aerospace studies curriculum
3. Complete the applicable summer training
4. Complete one quarter of English composition (scholarship recipients only)
5. Complete one quarter of college mathematics
6. Complete one year of a foreign language (scholarship recipients only)

For more AFROTC information

Call the department at 716-475-5196 or visit us on campus, 3211 Eastman Building.

College of Business

Richard N. Rosett, Dean

In an era of increasing global competitiveness, with an emphasis on quality management, the environment that graduates of the College of Business will enter is both complex and rapidly changing. A well-educated and prepared manager must have a broad foundation of knowledge not only in business but also in the social sciences, humanities, and science in order to be professionally competitive. In addition, specialization is necessary if one hopes to make immediate contributions to an organization following graduation.

Plan of education

To achieve the educational aims described above, the College of Business has prepared a program that has four components: the liberal arts, the business core, the major, and the cooperative work experience.

The liberal arts component of the business student's program is found in 16 courses (nearly one-third of the total program) in the humanities, social sciences, and sciences. Within this component, the student is expected to display proficiency in both oral and written forms of communication and to choose a humanities or social science concentration. The capstone course of the liberal arts program is a senior seminar in which a subject is explored in depth.

Integrated throughout the business core are themes such as global competitiveness, quality management, customer satisfaction, ethics, diversity, and problem solving. Courses in economics, mathematics, data analysis, computers, and organizational behavior provide the fundamental knowledge and interpersonal analytical skills necessary for the pursuit of advanced study in a major. They also provide the foundation to consider career alternatives.

In the third component, the major, students concentrate their study in a specific business career field.

Majors offered by the college are as follows:

Accounting
Public Accounting Option
General Accounting Option

Finance

Information Systems
(Major offered daytime only)

International Business
(Dual major offered daytime only)

Management
General Management Option
Entrepreneurship Option

Marketing

Photographic Marketing Management
(Major offered daytime only)

By building on the liberal arts and business core components, the major will provide mastery of marketable skills.

The final component, cooperative work experience, offers the chance to apply and question what has been learned in the classroom. These hands-on, paid work opportunities occur in the last two years so that a student will have prerequisite academic preparation to contribute to the workplace.

The exciting and challenging programs in the college provide a unique level of competence as well as a foundation for continuous intellectual and career growth.

Cooperative education

Cooperative education is an integral part of the program. Students obtain practical work experience in an area related to their chosen field of interest. This work experience is part of the student's career exploration and provides not only practical experience that can be related to course work but also an opportunity to observe and perform work direcdy related to the student's major. This experience should help the student develop a greater insight into his or her chosen field and provide a record of practical experience that may increase the student's opportunities for placement and more rapid career advancement upon graduation.

All College of Business students are required to complete two successful cooperative work experiences. These "work blocks" take place following the completion of the sophomore year. While RIT and the College of Business cannot guarantee anyone cooperative employment, RIT's Office of Cooperative Education and Placement is available to assist students in their job search efforts.

Advising

The College of Business is committed to providing advising services throughout a student's academic program. In its Student Services Office, all students are assured administrative support to effectively deal with registration, records, and scheduling. In addition, the administrative staff is prepared to provide students with information about other support areas within RIT such as career and personal counseling. Students are also assigned an individual faculty advisor in their major area of study once the major is declared. Faculty advisors are an integral part of the student's advising network and are available for questions about courses and scheduling, as well as for cooperative education assessment and placement advising.

Transfer programs

The College of Business has, for many years, integrated transfer students into its baccalaureate degree programs. Typically, students who have earned an associate degree in a business program prior to enrollment at RIT may normally expect to complete the requirements for the BS degree in two years, which includes six academic quarters and two required quarters of cooperative work experience.

In every instance, it is the policy of the college to recognize as fully as possible the past academic accomplishments of each student.

Part-time studies

Evening classes are offered by the college for students who wish to pursue a baccalaureate degree in the areas of accounting, marketing, finance, and management. These upper-level programs are designed for students who have earned an associate degree.

RIT's College of Continuing Education offers lower-divison business courses for those students who are just beginning their college studies and who are interested in pursuing an associate degree. Upon successful completion of the associate degree, students may transfer to the College of Business.

Students who wish to pursue part-time studies during the day have the option of selecting one of the following baccalaureate degree programs: accounting, finance, information systems, international business, marketing, management, and photographic marketing management.

Resources

The College of Business is housed in the Max Lowenthal Building. In addition to modern classrooms, facilities include time-sharing terminals on line with RIT's extensive computer systems and excellent software support. The college also has two labs with IBM personal computers available for student use.

Business students especially benefit from RIT's library and its extensive collection of business texts, periodicals, and references.

Accreditation

RIT is accredited by the nationally recognized Middle States Association of Colleges and Schools and by the American Assembly of Collegiate Schools of Business (AACSB), a professional accreditation held by approximately 270 of the 1,200 undergraduate business programs in the United States.

Professional affiliations

The public accounting curriculum of the College of Business is registered with the New York State Education Department, and graduates meet the educational requirements for candidacy for the Certified Public Accountant (CPA) examination.

The college's Center for Production and Inventory Management is affiliated with the American Production and Inventory Control Society (APICS) and operates an international information service for APICS.

Membership in professional organizations contribute to the quality of the college's programs.

Graduate programs

The College of Business offers both a part-time and full-time master's degree program in business administration. The program is professional in nature and prepares the student in all aspects of business management as well as offering a concentration in a field of specialization. Undergraduate business students may want to consider the 4:1 program, which allows completion of both a BS and MBA in five years. Details are contained in the Graduate Bulletin, available from the Admissions Office.

The Core Curriculum

All students in the College of Business are required to take the business core courses described below (and later displayed in the sample four-year program charts). These courses provide the skills specific to functional competencies in accounting, finance, marketing, and production management, and serve as a foundation for advanced study in a specific area of interest.

Business core courses
Business Concepts and Directions
Algebra for Management Science
Calculus for Management Science
Survey of Computer Science
Economics I (Macro)
Economics II (Micro)
Financial Accounting
Managerial Accounting
Legal Environment of Business
Introduction to Data Analysis
Management Science
Organizational Behavior
Corporate Finance
Information Systems
Principles of Marketing
Operations Management
Business Environment
Strategy and Policy

Additional requirements
2 contemporary science courses
7 lower-division liberal arts courses
3 upper-division liberal arts electives
3 upper-division liberal arts
 concentration courses
Senior Seminar
2 quarters cooperative education

Department of Accounting and Finance

Accounting major
The accounting major provides fundamental theory and practice in the required accounting core. Beyond this core, students choose an option that best fits their career interests.

Students wishing to become certified public accountants must choose the public accounting option and complete each course prescribed in this program. The program is registered by the New York State Board for Public Accountancy, which means that the prescribed course work satisfies the state's CPA examination educational requirements. Candidates must have earned at least a "C" grade point average in their accounting courses to be admitted to the CPA exam.

The general accounting option allows more flexibility in choice of courses. This flexibility permits students to tailor their program to meet the diverse industrial, commercial, and municipal opportunities for accounting graduates. Of particular interest to both students and employers in the current environment is the opportunity to take advanced courses in computer and information sciences. Students should consult with an advisor before choosing electives in this option.

Yr.	TYPICAL SCHEDULE, ACCOUNTING, BS DEGREE	188 Qtr. Credit Hours			
		FALL	WTR.	SPG.	SMR
1	0102-011 Freshman Seminar	0			
	0102-230, 231, 232 Business Concepts and Directions	2	2	2	
	0106-330 Introduction to Data Analysis			4	
	0511-301, 302 Principles of Economics I & II	4	4		
	0602-200 Survey of Computer Science		4		
	1016-225, 226 Alg. for Mgmt. Sci; Calc. for Mgmt. Sci	4	4		
	*Liberal Arts (lower division core)	4	4	8	
	Contemporary Science	4		4	
	†Physical Education	0	0	0	
2	0101-301, 302 Financial and Managerial Accounting	4	4		
	0102-233, 234 Business Concepts and Directions	2	2		
	0101-319 Legal Environment of Business	4			
	0101-320 Business Law		4		
	0102-430 Organizational Behavior 2			4	
	0105-463 Principles of Marketing			4	
	0106-334 Management Science	4			
	*Liberal Arts (lower division core)	4	8		
	*Liberal Arts (upper div. concentration & elect.)			8	
	†Physical Education	0	0	0	
	Completion of College Writing Competency Requirement				
3	0101-408, 409 Intermediate Accounting I & II	4	4		
	0101-431 Cost Accounting	4			
	0101-522 Tax Accounting I	4			
	0104-441 Corporate Finance	4			
	0106-401 Operations Management		4		
	Accounting Elective			4	
	Free Electives		4	8	
	*Liberal Arts (upper div. concentration or elect.)		4	4	
4	0102-507 Business Environment	4			
	0102-551 Strategy and Policy		C	C	4
	0106-505 Information Systems	4	O	O	
	Free Electives	8	O	O	4
	*Liberal Arts (upper div. concentration or elect.)		P	P	8
	*Liberal Arts (Senior Seminar)	2			

*See page 7 for Liberal Arts requirements.
†See page 8 for policy on Physical Education.
**NOTE: Students are expected to complete co-op requirement during the junior and senior years in accordance with specific requirements for their major. General co-op guidelines for the College of Business are discussed on page 42.

Accounting Major Curriculum Chart

Business Core

Accounting Core
Intermediate Accounting I, II
Cost Accounting
Tax Accounting I
Business Law

General Accounting Option
1 elective in Accounting
4 free electives

Public Accounting option
Tax Accounting II
Auditing
Advanced Accounting
Accounting Theory
Advanced Corporate Finance

NOTE: Business law, tax accounting II, auditing, advanced accounting, accounting theory and advanced corporate finance are required for New York State certification.
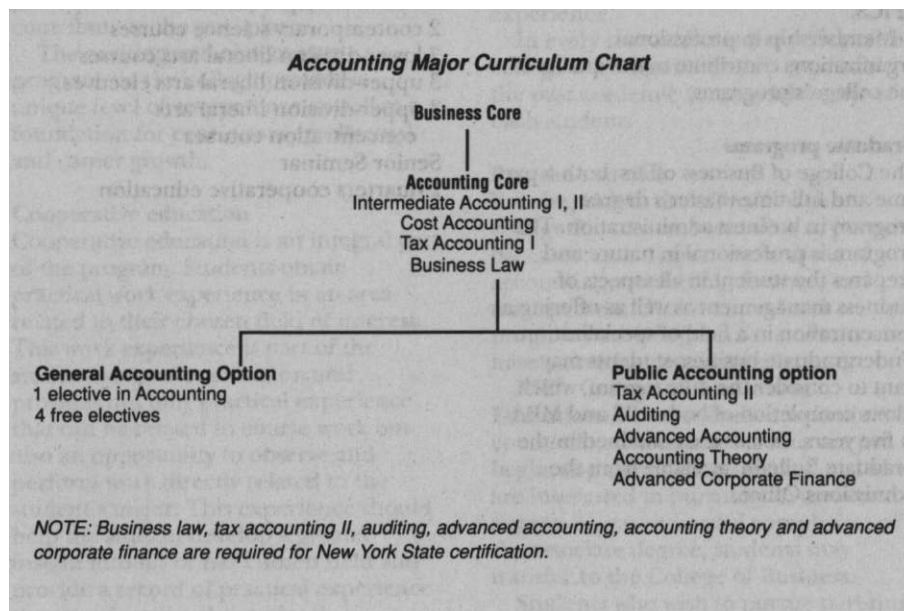
Finance Major

The finance major will prepare students for financial management positions in financial, commercial, industrial, and governmental organizations. Students are taught the principles of financial decision making and given an understanding of the economic, legal, and financial environment in which they must operate.

Finance major graduates would pursue management positions in commercial, industrial, or governmental organizations. The finance student interested in security analysis will usually find positions in asset and securities management with financial institutions such as banks, brokerage houses, insurance companies, or real estate firms.

Yr.	TYPICAL SCHEDULE, FINANCE, BS DEGREE	188 Qtr. Credit Hours			
		FALL	WTR.	SPG.	SMR
1	0102-011 Freshman Seminar	0			
	0102-230,231, 232 Business Concepts and Directions	2	2	2	
	0106-330 Introduction to Data Analysis			4	
	0511-301, 302 Principles of Economics I & II	4	4		
	0602-200 Survey of Computer Science		4		
	1016-225, 226 Alg. for Mgmt. Sci; Calc. for Mgmt. Sci	4	4		
	Contemporary Science	4		4	
	*Liberal Arts (lower division core)	4	4	8	
	†Physical Education	0	0	0	
2	0101-301, 302 Financial and Managerial Accounting	4	4		
	0102-233, 234 Business Concepts and Directions	2	2		
	0101-319 Legal Environment of Business		4		
	0102-430 Organizational Behavior			4	
	0105-463 Principles of Marketing			4	
	0106-334 Management Science	4			
	*Liberal Arts (lower division core)	8	4		
	*Liberal Arts (upper div. concentration & elect.)			8	
	Free Elective		4		
	†Physical Education	0	0	0	
	Completion of College Writing Competency Requirement				
3	0103-405 Intermediate Microeconomics	4			
	0103-406 Intermediate Macroeconomics		4		
	0104-441 Corporate Finance	4			0‡
	0104-445 Advanced Corporate Finance		4		0
	0104-507 Security Analysis		4		0
	0104-525 Theory of Finance			4	p
	0106-401 Operations Management	4			
	*Liberal Arts (upper div. concentration or elect.)			4	
	Free Electives	4	4	8	
4	0102-507 Business Environment	4			
	0102-551 Strategy and Policy		0‡	4	
	0104-510 Financial Institutions and Markets		0	4	
	0106-505 Information Systems	4	0		
	*Liberal Arts (upper div. concentration or elect.)	4	p	8	
	*Liberal Arts (Senior Seminar)	2			
	Free Elective	4			

*See page 7 for Liberal Arts requirements.
†See page 8 for policy on Physical Education.
‡NOTE: Students are expected to complete co-op requirement during the junior and senior years in accordance with specific requirements for their major. General co-op guidelines for the College of Business are discussed on page 42.

Finance Major Curriculum Chart

Business Core

Finance Core
Advanced Corporate Finance
Security Analysis
Financial Institutions and Markets
Theory of Finance
Intermediate Microeconomics
Intermediate Macroeconomics

Department of Decision Sciences

Information systems major
The information systems major will prepare students for careers involving the development and management of information systems. The curriculum provides students with a thorough understanding of data processing fundamentals, including the ability to write properly documented programs. Students are introduced to the tools available for the analysis, design, and implementation of computer-based and manual information systems. As a result, they are able to design practical, cost-effective systems that will satisfy an organization's needs. Major career directions for graduates of this program include applications programming, systems analysis, and information systems management.

Yr.	TYPICAL SCHEDULE, INFORMATION SYSTEMS, BS DEGREE	188 Qtr. Credit Hours			
		FALL	WTR.	SPG.	SMR
1	0102-011 Freshman Seminar	0			
	0102-230,231,232 Business Concepts and Directions	2	2	2	
	0602-200 Survey of Computer Science	4			
	0602-208 Introduction to Programming		4		
	0602-210 Program Design and Validation			4	
	0511-301, 302 Principles of Economics I & II		4	4	
	1016-225, 226 Alg. for Mgmt. Sci.; Calc. for Mgmt. Sci	4	4		
	Contemporary Science	4		4	
	*Liberal Arts (lower division)	4	4	4	
	†Physical Education	0	0	0	
2	0602-300 Business Applications Using Cobol	4			
	0102-233, 234 Business Concepts and Directions	2	2		
	0602-303 Advanced Business Applications		4		
	0106-363 Systems Analysis & Design I			4	
	0101-301, 302 Financial & Managerial Accounting	4	4		
	0101-319 Legal Environment of Business			4	
	0106-334 Management Science		4		
	0106-330 Introduction to Data Analysis	4			
	*Liberal Arts (lower division core)	4	4	8	
	†Physical Education	0	0	0	
	Completion of College Writing Competency Requirement				
3	0602-483 Applied Database Management	4			
	0106-464 Systems Analysis & Design II	4			
	0102-430 Organizational Behavior			4	C‡OOp
	0104-441 Corporate Finance		4		
	0105-463 Principles of Marketing			4	
	0106-401 Operations Management	4			
	*Liberal Arts (upper div. concentration or elec.)	4	8	4	
	Free Electives		4	4	
4	0106-540 Microcomputer Hardware & Applications		4		
	0106-553 Information Systems Management		4		
	Information Systems Elective	C‡OOP	4		
	0102-507 Business Environment			4	
	0102-551 Strategy and Policy		4		
	*Liberal Arts (upper div. concentration or elec.)		4	4	
	*Liberal Arts (Senior Seminar)				
	Free Elective			4	

*See page 7 for Liberal Arts requirements.
†See page 8 for policy on Physical Education.
‡NOTE: Students are expected to complete co-op requirements during the junior and senior years in accordance with specific requirements for their major. General co-op guidelines tor the College of Business are discussed on page 42.

**Information Systems Major
Curriculum Chart**

Business Core

Information Systems Core
Introduction to Programming
Program Design and Validation
Business Applications Using COBOL
Advanced Business Applications
Systems Aanlysis and Design I, II
Applied Database Management
Microcomputer Hardware and Applications
Information Systems Management

Information Systems Electives
(One required from the following list)
Computer Programming & Problem Solving
Data Communications and Networks
Computer Concepts and Software Systems

Department of Management and Marketing

Management major

The management major is designed for students who wish to pursue management positions in a business organization. Careers may develop in areas as diverse as sales or production or various levels of management, including the potential to rise to the executive level.

The two options in this major are general management and entrepreneurship. The general management option is designed for students interested in working in medium- to large-sized organizations, while the entrepreneurship option specializes in entrepreneurial or stable small business organizations.

This major emphasizes Total Quality Management and customer satisfaction. It also provides knowledge on relevant aspects of the Malcolm Baldrige Award for Quality.

Yr.	TYPICAL SCHEDULE, MANAGEMENT MAJOR, BS DEGREE	188 Qtr. Credit Hours			
		FALL	WTR.	SPG.	SMR
1	0102-011 Freshman Seminar	0			
	0102-230, 231, 232 Business Concepts and Directions	2	2	2	
	0106-330 Introduction to Data Analysis			4	
	0511-301, 302 Principles of Economics I & II	4	4		
	0602-200 Survey of Computer Science		4		
	1016-225, 226 Alg. for Mgmt. Sci.; Calc. for Mgmt. Sci	4	4		
	Contemporary Science	4		4	
	*Liberal Arts (lower division)	4	4	8	
	†Physical Education	0	0	0	
2	0101-319 Legal Environment of Business		4		
	0102-233,234 Business Concepts and Directions	2	2		
	0101-301,302 Financial & Managerial Accounting	4	4		
	0102-430 Organizational Behavior			4	
	0105-463 Principles of Marketing			4	
	0106-334 Management Science	4			
	*Liberal Arts (lower division)	4	4	4	
	*Liberal Arts (upper div. concentration or elect.)	4		4	
	Free Elective		4		
	†Physical Education	0	0	0	
	Completion of College Writing Competency Requirement				
3	0102-455 Human Resources Management	4			
	0104-441 Corporate Finance	4			C‡
	0106-401 Operations Management	4			0
	Major Electives	4	8	8	0
	Free Electives		8	8	p
4	0102-507 Business Environment			4	
	0102-551 Strategy and Policy		C‡	4	
	0106-505 Information Systems	4	O		
	*Liberal Arts (upper div. concentration or elect.)	8	O	8	
	*Liberal Arts (Senior Seminar)	2	P		
	Free Elective	4			

*See page 7 lor Liberal Arts requirements.
†See page 8 tor policy on Physical Education.
‡NOTE: Students are expected to complete co-op requirements dunng the junior and senior years in accordance with specific requirements tor their major. General co-op guidelines tor the College of Business are discussed on page 42.

Management Major

Business Core

Management Core
Human Resources Management

Management Major Electives
1 Management Elective
2 College of Business Electives

General Management Option
Management Leadership
Organizational Design & Performance

Entrepreneurship Option
Entrepreneurship
Entrepreneurial Field Studies
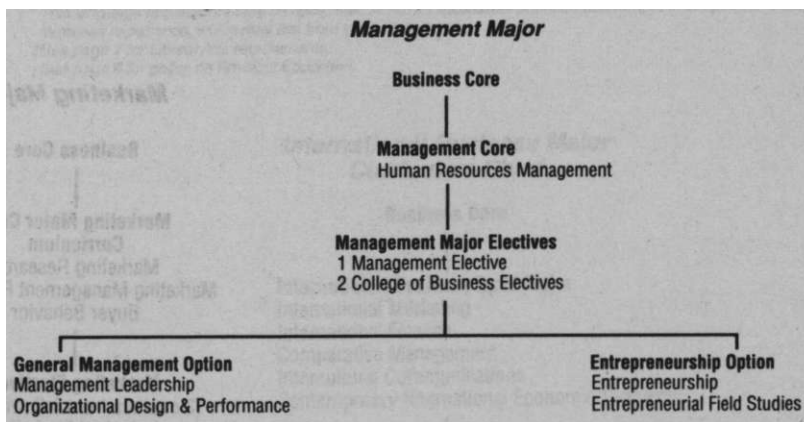
Marketing major

The marketing major prepares students for entry-level marketing management positions. As marketing majors, students acquire knowledge of markets, marketing, and consumer behavior through a combination of academic education and cooperative field education. The combination provides an understanding of problems related to a number of marketing areas: e.g., advertising, sales management, retailing, marketing research, and product planning.*

For the student interested in a business career with an objective to explore, experience, and experiment, the marketing major is an ideal option. With a marketing background, the student will find a wide variety of employment opportunities that center on customer satisfaction and customer understanding and analysis, the major focus of any business. To develop this focus, the marketing curriculum provides an understanding of business in general, and specific marketing operations with emphasis on customer motivation, quality management, and business problem solving.

Those interested in direct marketing may want to take the following additional courses offered by the College of Imaging Arts and Sciences and the Marketing Group: Introduction to Printing, Typography I, Layout & Printing Designs, Copy Preparation, Materials & Processes of Photography (10-week summer course).

Yr.	TYPICAL SCHEDULE, MARKETING MAJOR, BS DEGREE	188 Qtr. Credit Hours			
		FALL	WTR.	SPG.	SMR
1	0102-011 Freshman Seminar	0			
	0102-230, 231,232 Business Concepts and Directions	2	2	2	
	0106-330 Introduction to Data Analysis			4	
	0602-200 Survey of Computer Science		4		
	1016-225, 226 Alg. for Mgmt. Sci.; Calc. for Mgmt. Sci	4	4		
	0511-301, 302 Principles of Economics I & II	4	4		
	Contemporary Science	4		4	
	*Liberal Arts (lower division core)	4	4	8	
	†Physical Education	0	0	0	
2	0101-301, 302 Financial & Managerial Accounting	4	4		
	0102-233, 234 Business Concepts and Directions	2	2		
	0101-319 Legal Environment of Business		4		
	0102-430 Organizational Behavior			4	
	0105-463 Principles of Marketing			4	
	0106-334 Management Science	4			
	*Liberal Arts (lower division core)	8	4		
	*Liberal Arts (upper div. concentration or elective)			8	
	Free Elective		4		
	†Physical Education	0	0	0	
	Completion of College Writing Competency Requirement				
3	0104-441 Corporate Finance	4			
	0105-505 Buyer Behavior	4			
	0105-551 Marketing Research		4		
	0106-401 Operations Management			4	0
	Marketing Electives		4	4	0
	*Liberal Arts (Senior Seminar)	4	4	8	p
	Free Electives	4	4		
4	0102-507 Business Environment	4			
	0102-551 Strategy and Policy			4	
	0105-550 Marketing Management Problems		C‡	4	
	0106-505 Information Systems	4	O		
	Marketing Elective			4	
		2	p		
	Free Electives	4		8	

*See page 7 for Liberal Arts requirements.
†See page 8 for policy on Physical Education.
‡NOTE: Students are expected to complete co-op requirements during the junior and senior years in accordance with specific requirements for their major. General co-op guidelines for the College of Business are discussed on page 42.

Marketing Major

Business Core

Marketing Major Core Curriculum
Marketing Research
Marketing Management Problems
Buyer Behavior

Marketing Electives
(3 courses from following list)
Industrial Marketing
International Marketing
Seminar in Marketing
Sales Management
Marketing Communications
Marketing through Retailers
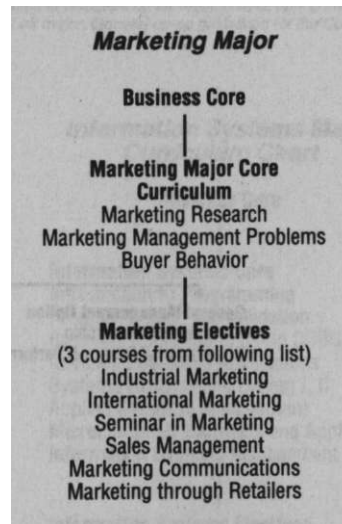
International Business major

The international business major is offered by the College of Business in cooperation with the College of Liberal Arts. Designed to meet the growing interest of American business in global markets, the international business major has an adjunct major in finance, marketing, or management.

Students in international business develop the business and liberal arts foundations necessary to understand business, political, and cultural diversity. Proficiency in a foreign language is an integral part of the program. Students who have a language proficiency equivalent to college level II may begin level III in their first year. Language levels I and II may be taken at RIT, if necessary, and program credits may exceed the required amount. The cooperative education feature for the international business student may be satisfied through foreign work experience, international experience within a domestic corporation, or study abroad. Designed for highly motivated students with strong academic credentials, the major has a total quarter credit hour requirement of 200.

Upon graduation, international business students are prepared to step into entry-level positions in several aspects of international trade. They can assume positions such as assistant international product managers, assistant export-import managers, international financial analysts, sales representatives, or regional analysts.

	INTERNATIONAL BUSINESS CO-MAJOR, TYPICAL SCHEDULE, BS DEGREE	90(1 Qtr Credit Hours			
		FALL	WTR.	SPG.	SMR
1	0102-011 Freshman Seminar	0			
	0102-230, 231, 232 Business Concepts and Directions	2	2	2	
	0511-301, 302 Principles of Economics I, II	4	4		
	1016-225, 226 Alg. for Mgmt. Sci.; Calc. for Mgmt. Sci	4	4		
	Contemporary Science	4		4	
	0106-330 Data Analysis			4	
	0602-200 Survey of Computer Science		4		
	*Language III			4	
	†Liberal Arts (lower division core)	4	4	4	
	‡Physical Education	0		0	
2	0101-301,302 Financial and Managerial Accounting	4	4		S
	0102-233,234 Business Concepts and Directions	2			T
	0106-334 Management Science	4			U
	0101-319 Legal Environment of Business		4		D Y
	0102-430 Organizational Behavior			4	A B
	0105-463 Principles of Marketing			4	R O A D
	*Language IV, V, VI	4	4	4	O P T I O N
	†Liberal Arts (lower division core)	4	4	4	
	‡Physical Education	0	0	0	
	Completion of College Writing Competency Requirement				
3	0106-401 Operations Management	4			C
	0104-441 Corporate Finance	4			O
	0535-520 Intercultural Communications		4		O
	0105-555 International Marketing		4		P
	0102-432 Comparative Management			4	
	0511-442 Contemp. International Economic Problems			4	
	Functional Area		4	4	
	†Liberal Arts (upper div. concentration or elect.)	4	4	4	
	†Liberal Arts (lower division core)	4			
4	0106-505 Information Systems	C	4		
	0102-507 Business Environment	O	4		
	0104-504 International Finance	O		4	
	0102-551 Strategy and Policy	P		4	
	Functional Area		4	8	4
	†Liberal Arts (upper div. concentration or elect.)		4		8
	0520-501 Senior Seminar			2	

*This language requirement may be completed at RIT in successive previous quarters, or in conjunction with the overseas experience, which may last from six to nine months.
†See page 7 for Liberal Arts requirements.
‡See page 8 for policy on Physical Education.

International Business Major Curriculum Chart

Business Core

International Business Dual Major
International Marketing
International Finance
Comparative Management
Intercultural Communications
Contemporary International Economic Problems

Functional Management Business Area
Six Required/Elective Courses in Either Marketing, Finance or Management

Language Courses through Level VI

International Experience

Note: International experience may involve overseas cooperative work experience or work experience in international division of domestic corporations or study abroad.

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Photographic marketing management major

The photographic marketing management major is a joint degree program offered by the College of Business and the School of Photographic Arts and Sciences. This program is designed to provide students with a thorough knowledge of the photographic process and a solid background in business administration and marketing management. The combination of course work in these two disciplines prepares students for management careers in the photographic industry. Opportunities for positions include those in customer service aspects of photofinishing and professional color laboratories and management positions with photographic manufacturers and retailers.

Yr.	PHOTOGRAPHIC MARKETING MANAGEMENT, TYPICAL SCHEDULE, BS DEGREE	188 Qtr. Credit Hours			
		FALL	WTR.	SPG.	SMR.
1	0102-011 Freshman Seminar	0			
	0102-230,231,232 Business Concepts and Directions	2	2	2	
	1016-225, 226 Algebra & Calculus for Mgmt. Sci	4	4		
	0106-330 Intro, to Data Analysis			4	
	0602-200 Survey of Computer Science		4		
	0511-301, 302 Economics I & II	4	4		
	Contemporary Science	4		4	
	*Liberal Arts (lower division core)	4	4	8	
	†Physical Education	0	0	0	
2	0905-301 Film Processing	4			
	0102-233, 234 Business Concepts and Directions	2	2		
	0905-302 Automated Printing		4		
	0905-303 Custom & Professional Finishing			4	
	0101-301,302 Financial & Managerial Accounting	4	4		
	0101-319 Legal Environment of Business		4		
	0102-430 Organizational Behavior			4	
	0105-463 Principles of Marketing			4	
	0106-334 Management Science	4			
	*Liberal Arts (lower division core)	4	4	4	
	†Physical Education	0	0	0	
	Completion of College Writing Competency Requirement				
3	0920-211,212,213 Materials & Processes of Photography …	3	3	3	c‡
	0104-441 Corporate Finance	4			o
	0105-505 Buyer Behavior	4			o
	0105-551 Marketing Research		4		p
	0106-401 Operations Management			4	
	*Liberal Arts (upper div. concentration or elect.)	4	8	8	
	0905-551 Special Topics		3		
4	0102-507 Business Environment	4	c‡		
	0102-551 Strategy & Policy		O	4	
	0105-550 Marketing Management Problems		O	4	
	0106-505 Information Systems	4	P		
	Marketing/Management Electives	4		8	
	*Liberal Arts (Senior Seminar)	2			
	*Liberal Arts (upper div. concentration or elect.)	4			

*See page 7 for Liberal Arts requirements.
†See page 8 for policy on Physical Education.
‡NOTE: Students are expected to complete co-op requirements during the junior and senior years in accordance with specific requirements tor their major. General co-op guidelines tor the College of Business are discussed on page 42.

Photographic Marketing Management Major Curriculum Chart

Business Core
|
Marketing /Management Major Courses
Buyer Behavior
Marketing Research
Marketing Management Problems
3 Marketing/Management Electives
|
Photo Core Curriculum
Film Processing
Automated Printing
Custom & Professional Photofinishing
Materials & Processes of Photography I, II, III
Special Topics
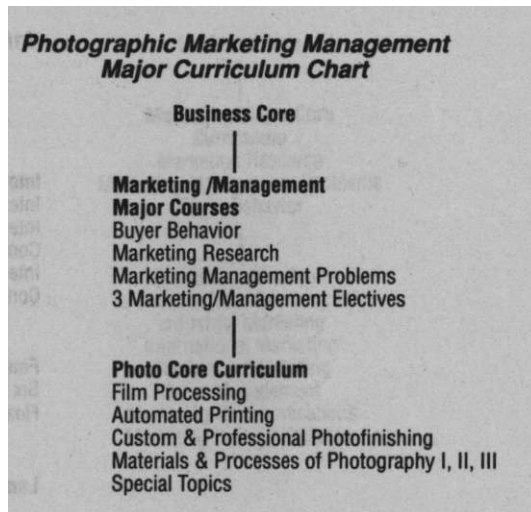
College of Continuing Education

Dr. Lawrence Belle, Dean

Traditional college programs and schedules are not always the answer. For the adult student juggling work, family, and social obligations; for the young adult seeking to upgrade basic skills for college or the job market; for the employee who wants to learn new skills in non-credit workshops and seminars; for the traditional college student who wants a non-traditional degree, the College of Continuing Education may be the answer. Students can earn degrees, diplomas, and certificates.

These courses and programs are offered during the day, at night, on Saturdays, through Weekend College, and even via Telecourses that students can take at home.

CCE is on the forefront of developing new degree programs such as environmental management. Its precollegiate programs help underserved and other young adults decide what they want to study and what they want to do, as well as master the skills necessary to do them. CCE also offers diverse non-credit courses in areas ranging from total quality management and computing to printing and the graphic arts.

The CCE Academic Division offers numerous options in areas such as management, machine tool, fine and applied arts, technical communication, business administration, health systems administration, and emergency management.

The popular applied arts and science degree is now available through distance learning technologies to students who cannot attend classes at RIT. For more information call 716-475-5027.

The School of Professional Studies develops and delivers innovative and interdisciplinary bachelor's degrees for new and emerging careers. For example, the bachelor of science in environmental management provides in-depth knowledge of solid waste management science and technology, plus training in related disciplines, including politics and policy, economics, budgeting and finance, environmental regulatory law, public relations, and communications. It is the first program of its kind and has attracted the attention of students and employers both locally and across the country. For more information, call 716-475-7213.

The Career and Human Resource Development Department (CHRD) provides graduate study leading to a master of science degree in career planning and human resource development. The behavioral science-based program emphasizes the areas of organizational development, career development, human resource development, and statistical analysis. The program is open to both full- and part-time students and prepares professionals for employment in education, business, industry, and social service agencies. The summer executive program enables experienced practitioners to complete a degree in as few as two years. Call 716-475-5069 for additional information.

As part of its dedication to the local community, CCE is committed to developing new programs for minority and other underserved populations. CCE offers Talent Connection, which provides a full curriculum of non-credit courses in mathematics, communication, science, computer skills, and career preparation, and a Saturday morning Office Technologies Program. The Center for Science Communication and Technology is a summer program of career exploration. CCE is also the home of the School Science, Challenger Center Project. Call 716-475-7056 for further information.

CCE's Division of Training and Professional Development serves business, industrial, and community audiences with seminars, workshops, and custom training programs. TPD offers non-credit programming in Total Quality Management, manufacturing and engineering, computer software and applications, food and hospitality, and real estate—to name a few. TPD's Training Center of the Graphic Arts provides training and research for all aspects of the graphic arts industry.

CCE's open enrollment policy allows a student to take any course or pursue any degree for which he or she has sufficient background. Many courses have prerequisites that students are expected to have met before enrolling. Prerequisites are listed in the course descriptions printed in RIT's *Undergraduate Courses* bulletin. Academic advisors are available throughout the year to answer questions regarding course or program choices.

Students who wish to enroll in a CCE math or communication course are asked to take diagnostic tests that will assist in their placement in appropriate courses. Distance learning students may be tested off campus. Call 716-475-2234 to arrange to take either on- or off-campus diagnostic exams. Students in Dynamic Communication II (CHGL-205) and Communication 220 are required to take an exit examination. Those who do not pass may work out a program with their instructors for mastering needed skills and may retake the exit test later. When they pass the test, students receive the grade they earned in the course.

In support of and in compliance with RIT's policy of assuring competency in written communication, all students matriculated in a CCE BS degree program must satisfy CCE's communication competency requirement. Information about this requirement and the various methods for satisfying it is available at the CCE office; it may also be obtained from a CCE advisor or from Betty Conley, Communication chair, 716-475-4936.

Students matriculated in CCE bachelor's degree programs are normally expected to complete their degrees within seven years.

Specially trained financial aid counselors can provide students with information about some of the grants and loans available for part-time students. In addition to federal, state, and private programs, RIT has special financial aid funds for part-time students that can cut tuition costs by as much as 50 percent. Many companies have employer education benefits that will pay for some or all tuition costs; active U.S. Army Reserve and National Guard members are eligible for benefits that pay up to 90 percent of tuition. Call 716-475-2958 for more information on financial aid.

For more information on any of the programs offered by CCE, call 716-475-2234.

What about transfer credit from other schools?
Degree programs in CCE are structured to permit transfer of credit from other accredited institutions. When a student matriculates into a specific program, a complete evaluation is made of prior academic work. The student will know immediately how much transfer credit is awarded and what courses will be needed to earn a specific degree.

Transfer credit may also be awarded for courses included in the New York State Education Department Publication, *Guide to Educational Programs in Non-Collegiate Organizations.* Call 716-475-2218 for more information.

Who teaches our courses?
Most credit and non-credit courses in the College of Continuing Education are conducted by instructors who teach what they do professionally. Our faculty are selected for their professional competence, academic background, and teaching ability.

When are courses taught?
In addition to our weekly evening and trick-work schedules, we also offer courses on television and through audio conferences and Weekend College.

Telecourses offer quality programming that students can take at home. Courses combine video-tape lectures aired on cable and public broadcast television with textbook readings, audio and computer conferencing, assignments, exams, and a limited number of class meetings. Students have access to instructors by mail, computer, telephone, or individual appointment. These electronic delivery systems allow students to learn at times and places convenient to them. For more information, call 716-475-5089.

Weekend College courses meet on Saturdays (leaving the rest of your weekend free), usually every other weekend, and a full course may be completed in five weekends. Students enjoy the schedule and the seminar-like environment. Through Weekend College, you can earn credits toward a degree or complete a certificate or diploma program. For more information, call Joyce Clayton at 716-475-5511.

Academic Division

Lynda Rummel, Associate Dean and Director
Nancy Kunkler, Barbara Warth, Sandy Yeomans, Academic Program Assistants

The Academic Division of CCE provides credit-bearing courses and programs specifically designed with the adult, part-time student in mind. Each program of study is designed to meet the interests of students and Rochester's expanding business, artistic, and industrial complex.

The Academic Division also houses the School of Professional Studies, through which new full-time bachelor's degrees are developed and launched. The school currently houses a BS program in environmental management and is developing a BS program in technology marketing and distribution.

The Academic Division offers the following academic programs and courses:

- A wide variety of courses and course combinations of special interest, including many of the general education courses (liberal arts, science, mathematics, computer science, and communication) required in all RIT undergraduate degree programs.
- Certificates of achievement in:
  PC Applications Software
  Small Business Management
  International Business and Culture
  Customer and Consumer Service
  Environmental Management with options in solid waste management science, technology, and implementation
  Business and Career Communication
- Certificates for the following New York State Education Department registered programs:
  Quality Management—Basic Quality
  Quality Management—Quality Implementation
  Health Systems Administration
  Emergency Management
  Management Development
  Basic and Advanced Technical Communication
  Managing Communication Services
  Public Relations Communications—Professional Writing and Graphic Communication
  Advanced Public Relations Communications
  Deaf Studies
- Diplomas in:
  Management Development, with concentrations in seven areas
  Fine and Applied Arts, with crafts and design options
  Machine Shop, with three areas of specialization
- Associate degrees in:
  AAS degrees in accounting, business administration, marketing, personnel administration, production management, and logistics and transportation
  AA degree in General Education (with career options)
- Diploma, AAS, and BS degrees in Applied Arts and Science (individualized multi-disciplinary study)
- Bachelor of science degree in Environmental Management (through the School of Professional Studies)

Applied Arts and Science Degrees

Lynda Rummel, Chairperson

Adult students returning to college on a part-time basis need high-quality degree programs in a variety of fields that are both flexible and recognize an adult's prior college-level learning. The College of Continuing Education offers the opportunity to tailor an individualized program of technical and professional study through its Applied Arts and Science program. There are three levels:

Diploma
36 credits; 1 area of concentration

Associate of Applied Science (AAS) degree
52 core credits in general education plus 38 credits in 1-2 areas of concentration

Bachelor of Science (BS) degree
90 core credits in general education plus 90 credits in 2-4 areas of concentration

Individualized Concentrations
The associate and bachelor's degrees allow you to study several different professional and technical areas, selected specifically to meet your unique career and personal goals. The diploma focuses on one concentration . For your professional concentrations, you can draw on a wealth of educational resources from across RIT colleges and departments, including: engineering technologies, sciences, computing, photography, printing, business and management, liberal arts, physical and social sciences, mathematics, fine arts, and applied communication. Concentrations in health systems administration, management, applied computing, and telecommunications are now available through distance delivery.

No two Applied Arts and Science programs will be exacdy alike because each takes into account the student's previous learning and brings together a special combination of courses that are right for his or her career and professional development. For example, one individualized program might lead to a bachelor's degree with concentrations in computing, graphic arts, and management, while another could lead to a bachelor's degree that combines fields of communication and health systems administration.

As their career plans evolve and the demands of their technical and professional fields change, students meet regularly with advisors to review and update plans of study.

Course requirements, CIDB-AAS & BS degrees

	Math/Computer/Science	Qtr. Cr.	Liberal Arts	Qtr. Cr.	Concentration(s) *1 or 2	Qtr. Cr.
Phase 1 & 2 CIDB-AAS 90 Hrs. Total	**Math** Tech Math CTAM-201, 202 or College Math for Business CBCH-201, 202 or Math Thought/ Process CTAM-205 and Modern Math Methods CTAM-206	8	Communication † CHGL-220 Literature GLLL-332 Communication Elective Humanities Electives Behavioral Science Electives	4 4 4 8 8	To be developed by student with advisor	38
	Computer Intro to Computers/ Prog. CTDS-200 or Intro to Computer Science ICSA-270 or Data Processing CBCC-321	4				
	Science College SPSP-211, Physics/ 212, 213; Lab 271, 272, 273 or Contemporary Science CTCS-221, 222, 223, 224, 289 (3 of 5 courses)	12				
Phase 3 & 4 CIDB-BS 180 Hrs Total	**Math/Science** Math or Science Electives§	8	**Liberal Arts** Humanities Elective‡ Liberal Arts Concentration¶ Liberal Arts Electives¶ Senior Seminar	4 12 16 2	**Concentration(s)* 2 or 3** To be developed by student with advisor	48

* A concentration » 20 (or more) QH in one subject area (i.e.. Applied Computing, Communication, Business).
† These communication courses require pretest; call 475-2234 tor information. Students completing BS degree must also pass a communications competency test.
‡ Must choose one course each from three different areas of Humanities (i.e., Fine Arts, History, Philosophy, or Science/ Technology and Values).
§ Cannot be in the same area as professional concentration.
P Students choosing a Liberal Ads area for a professional concentration must choose their "Liberal Arts Concentration" and "Liberal Arts Electives" in other disciplinary or interdisciplinary areas in the College of Liberal Arts.

Common features
Every Applied Arts and Science degree has certain features in common:
1. An approved program of study developed with an individual advisor and advisory committee.
2. General education courses in mathematics, computer science, science, and liberal arts (52 credits for the AAS; 90 for the BS)
3. One or more professional concentrations that provide each student with the opportunity to develop an interdisciplinary program tailored to specific career and personal objectives.

Recognition for prior college-level learning
Each program begins by taking account of what the student already knows and has accomplished. For example, college credits earned at RIT or father institutions may be reviewed to see how they might be applied to the program of study; professional certifications and experiences will be 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. For information, contact Bette Anne Winston, coordinator, at 716-475-2218.

Business and Management Studies

Daniel Smialek, Chairperson

Approximately 50 credit-bearing courses in business and management subjects are available through CCE. Courses leading to an AAS degree and transferable to appropriate baccalaureate degree programs in RIT's College of Business and other schools are available in business administration, accounting, marketing, personnel administration, production management, and traffic and transportation.

For those interested in a short-term concentration in one of these fields, CCE also offers a Management Development Program leading to a management certificate and management diploma, a Small Business Management Program, and a program in Customer and Consumer Service. Courses also may be taken individually.

General requirements for an AAS degree, diploma, or certificate in business or management are:
- Completing the necessary quarter credits
- Following the program outline when selecting courses
- Achieving a program GPA of at least 2.0 in order to be certified

Small Business Management
Daniel Smialek, Chairperson

The certificate of achievement program in Small Business Management is designed for enterprising individuals who want to launch a new venture or improve an existing small business. It is especially appropriate for entrepreneurs, key members of family-owned businesses, and key employees in companies with sales under $2 million.

The three courses in the program are tightly integrated, to provide a solid foundation in managing, marketing, and financing small businesses. The faculty include academically qualified entrepreneurs who have managed their own small companies. Courses may count as business electives in degree programs, may serve as foundation courses for the management diploma, and do not have to be taken in sequence. Typically, the program is offered as part of Weekend College and our regular schedule.

Like most courses in CCE, Small Business Management courses may be taken on an audit basis (non-credit, without exams), at a reduced rate. For more information, call Daniel Smialek at 716-475-5023.
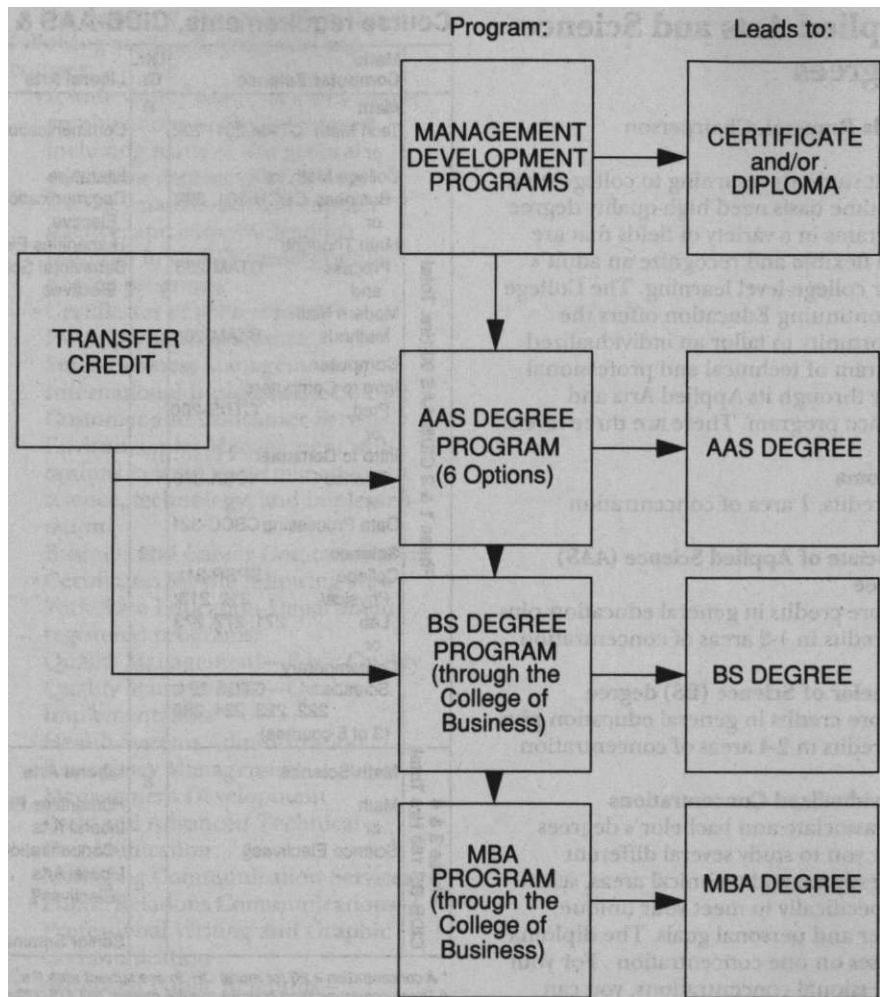
Courses	Credit Hours
New Venture Development, CBCE-221	4
Small Business Management & Finance, CBCE-222	4
Small Business Marketing & Planning, CBCE-223	4
Certificate Total	12

International Business and Culture
Ronald Hilton, Chairperson

CCE's International Business and Culture Certificate of Achievement Program prepares you to make the most of expanding business opportunities in the emerging democracies of Eastern Europe, the booming economies of Asia and Western Europe, and with neighbors such as Canada and Latin America. Courses focus on the knowledge and skills required for transacting trade across national borders with individuals whose behavior and expectations are based on different cultural orientations, documentation requirements, standards, and business practices. Managers, marketing specialists, financial analysts, and others who complete the program will gain a keen understanding of the values, structures, and systems of the international marketplace.

Designed for those already in the work force, the certificate program was developed by RIT faculty in association wtih the International Business Council of the Rochester Chamber of Commerce and other prominent international business leaders from upstate New York.

The curriculum for the Certificate in International Business and Culture consists of three core courses and four electives. Core courses provide fundamental information on business practices, cultural differences, and international economic factors. The electives allow students to specialize in specific content areas and geographic regions. As new international developments occur, electives will be added.

Credits may be applied to a professional concentration in the Applied Arts and Science degree programs; courses may also be taken individually for professional development. For further information, contact Ronald Hilton at 716-475-4986.

Core Courses	Credit Hours
Doing Business in International, Markets, CBCE-325	4
Communicating Across Cultures, CHGS-326	4
International Economic Policies & Principles, CHGS-327	4
Total	**12**

General Electives (select two)

International Trade: Importing & Exporting, CBCU331	2
International Advertising & Public Relations, CBCG-333	2
Health, Safety, & Security Abroad, CEMP-330	2
Nuances for Women in International Business, CHGS-351	2
Total	**4**

Region-Specific Electives (select two)

Doing Business in the European Econ. Community, CHGS-341	2
Doing Business in Germany, CHGS-342	2
Doing Business in Latin America, CHGS-343	2
Doing Business in Japan, CHGS-344	2
Total	**4**
Program Total	**20**

Customer and Consumer Service
Daniel Smialek, Chairperson

In today's competitive and growing service economy, the key to success is customer satisfaction, which comes from delivering quality products and services that are strongly shaped by thorough attention to customer needs.

The Customer and Consumer Certificate of Achievement Program focuses on customer satisfaction as the sustainable competitive advantage for both manufacturing and service industries (e.g., health care, communications, banking and finance, transportation, retailing). Special attention is paid to developing an orientation toward customer satisfaction throughout organizations and to the relationship between customer satisfaction and customer service. This program is designed for:

- managers and potential managers who want to implement customer satisfaction principles and practices throughout their organizations
- current and future managers, supervisors, and personnel in sales, customer service, customer relations, quality management, and human resource management

The program consists of 16 credits—10 in required core courses and an additional six selected from an array of specialized electives. Individual courses and/or the certificate may be applied to appropriate undergraduate degree programs. The program may also be acquired as a post-baccalaureate credential. For more details, call 716-475-5023.

Core Courses	Credit Hours
The New Service Economy, CHGS-227	2
Introduction to Quality, CIDA-230	4
Customer Service Technology, CBCE-306	4
Total	**10**

Electives (select any 6 credits)

Marketing Practices for the Service Economy, CBCG-362	2
Recruiting, Training, and Supervising Service Industry Personnel, CBCI-225	2
Leadership Skills for Quality, CIDA-330	4
Interpersonal Communication for Customer Service, CHGU340	2
Special Topics Courses	2-4
Total	**6**
Program Total	**16**

Quality Management
Daniel Smialek, Chairperson

Poor quality in manufacturing and service can cost companies as much as 20 percent of revenue in rework, scrap, brand switching, and loss of goodwill. Organizations have begun to understand that prevention saves more time and money than discovery of flaws after the fact.

CCE's new management-oriented certificate programs focus on quality as a priority. Developed in cooperation with industry, the courses can help you develop a Total Quality Management environment to combine the theory and practice of statistical quality control with leadership, teamwork, and problem-solving concepts and skills.

The certificate in Basic Quality teaches the "nuts and bolts" of a quality organization and prepares you to introduce quality concepts to your organization. The certificate in Quality Implementation teaches you how to put quality principles to work for you. Together the certificate package can prepare you to work as a quality trainer, facilitator, team leader, or manager at various levels of an organization. For more information, contact Daniel Smialek at 716-475-5023.

Certificate in Basic Quality	Credit Hours
Introduction to Quality, CIDA-230	4
Basic SQC Techniques, CIDA-231	4
Leadership Skills for Quality, CIDA-330	4
Total	**12**

Certificate in Quality Implementation Statistics for Total Quality	
CIDA-340	4
Costing for Quality, CIDA-410	4
Implementing Total Quality, CIDA-430	4
Total	**12**

Health Systems Administration
Kalman Vizy, Chairperson

The health care industry has been transformed in recent years by advances in technology, new modalities of care, changes in financing and organization, greater demand for accountability, and a general expansion as the population ages. These developments have led to increasing demand for administrators at all levels.

CCE's concentration of courses in Health Systems Administration is designed to equip students with the skills necessary to obtain entry-level positions in health administration. Such students are typically those with a clinical background in nursing or an allied profession desiring to change their professional emphasis. However, certain courses may also be of interest to administrators desiring to upgrade their skills in special areas.

The sequence of six courses consists of three survey courses (a systems overview, administration in the health care setting, and finance and budgeting), followed by three specialized courses (legal aspects of health care, quality assurance, and program planning and development).

Health Systems Administration Certificate
This is an upper-level concentration generally requiring previous course work or experience and permission of the chair for enrollment. Students may earn the certificate and/or apply the courses to the professional concentration requirements for the degree in Applied Arts and Science. The program has been developed with the assistance of Rochester-area health care administrators and subject matter experts, and courses are taught by experienced professionals. For further information regarding course content and admissions requirements, contact Kalman Vizy at 716-475-7359.

Courses	Credit Hours
Survey of Health Care Systems, CBCF-310	4
Health Care Administration, CBCF-320	4
Health Care Economics and Finance, CBCF-351	4
Legal Aspects of Health Care Administration, CBCF-421	4
Health Care Quality Assurance, CBCF-431	4
Health Planning and Program Development, CBCF-441	4
	Total 24

The Management Development Program

Danial Smialek, Chairperson

The Management Development Program has two components: the Management Certificate and the Management Diploma. By successfully completing the Management Process (CBCE-200, 201, 202), a 12-credit course in practical supervision, management, and communication skills, students may earn the Management Certificate. To receive a Management Diploma, students must complete 16 additional credits in one of seven business/management concentrations.

The program is structured to provide a broad foundation in applied general management and focused study in a specialized field. It is specifically designed for new supervisors, emerging managers, those seeking supervisory and management positions, and for new and re-entering students. *Both parts of the program are also appropriate for individuals with degrees* in the liberal arts, sciences, or technologies who wish to acquire new professional skills and expand their career opportunities.

Students may take one or both parts of the program, and both may be completed in one academic year. Credits earned in the program can be applied to various degree programs. Management Certificate and Diploma courses are typically offered as part of our Weekend College and our regular schedule. For further information, call Daniel Smialek at 716-475-5023.

Management Certificate
Daniel Smialek, Chairperson

The Management Certificate is earned by successfully completing CCE's unique three-quarter, 12-credit course, The Management Process. The course focuses on:
- practical applications of management theory
- management problems, solutions, and ideas
- personal development as an effective manager

The Management Process offers a comprehensive, integrated study of supervisory management. Topics covered include effective motivation, decision making, team building, conflict resolution, problem solving, time and stress management, communication techniques and strategies, planning, organizing, staffing, performance appraisal, and leadership.

In this program students associate with others who have similar career aspirations, job responsibilities, and challenging problems on the job. Through case studies, role plays, simulations, and other instructional methods, students learn effective supervisory and management practices. Instruction is usually guided by a team of management specialists, rather than by a single instructor.

Courses	Credit Hours
Management Process I, CBCE-200	4
Management Process II, CBCE-201	4
Management Process III, CBCE-202	4
	Total 12

Management Diploma
Daniel Smialek, Chairperson

In the Management Diploma Program, students concentrate their studies in one of seven specific areas of business and management (such as accounting or marketing) that may be immediately relevant on the job.

A Management Diploma is earned by completing 16 quarter credits in addition to, typically, a Management Certificate. However, one of the following options may be substituted for the Management Certificate:
- the Small Business Management Certificate
- three core courses and one elective course from the Customer and Consumer Service Certificate Program
- three foundation courses (Organization and Management, CBCE-203; Communication, CHGL-204 or 205 or 220; and one additional business elective)
- or approved equivalents

Courses applied toward a Management Diploma may also be counted as professional courses in appropriate degree programs.

Accounting	Credit Hours
Mgmt. Process or approved alternative, CBCE-200, 201, 202	12
Financial Accounting, CBCA-201	4
Managerial Accounting, CBCA-203	4
Intermediate Accounting I, CBCA-308	4
Intermediate Accounting II, CBCA-309	4
	Total 28

General Management	Credit Hours
Mgmt. Process or approved alternative, CBCE-200,201,202	12
Financial Accounting, CBCA-201	4
Managerial Accounting, CBCA-203	4
Data Processing Principles, CBCC-321	4
Marketing, CBCG-361 OR Business Elective	4
	Total 28

Marketing	Credit Hours
Mgmt. Process or approved alternative, CBCE-200, 201, 202	12
Marketing, CBCG-361	4
Effective Selling, CBCG-210	4
Advertising Principles, CBCG-213	4
Business Elective	4
	Total 28

Personnel Administration	Credit Hours
Mgmt. Process or approved alternative, CBCE-200, 201, 202	12
Personnel Administration, CBCI-229	4
Interviewing Techniques, CBCI-224	4
Business Law I, CBCB-301	4
Business Elective	4
	Total 28

Production Management	Credit Hours
Mgmt. Process or approved alternative, CBCE-200, 201, 202	12
Production Management, CBCJ-209	4
Fundamentals of Industrial Engineering, CBCJ-305	4
Industrial Engineering Economy, CBCJ-306	4
Data Processing Principles, CBCC-321	4
	Total 28

Logistics & Transportation Management	Credit Hours
Mgmt. Process or approved alternative, CBCE-200,201,202	12
Intro, to Logistics & Transportation, CBCU234	4
Traffic & Transportation Law, Rates, Accounting, & Control, CBCL-239	4
International Logistics & Transportation, CBCU241	4
Marketing, CBCG-361	4
	Total 28

Real Estate Management   Credit Hours
Mgmt. Process or approved alternative,
     CBCE-200,201,202   12
Basic Real Estate Principles,*
     CBCM-201   4
Advanced Real Estate
     Principles,* CBCM-202   4
Real Estate Investment &
     Finance, CBCM-203   4
Business Elective   4
              Total 28

*These courses provide an excellent foundation for a real estate career and are approved by the New York State Division of Licenses as preparation for the salesperson's and broker's license examinations in real estate.

Business and Management AAS Degree Programs

Daniel Smialek, Chairperson

Programs leading to an AAS degree in business administration are available in accounting and business administration. These programs are fully transferable to baccalaureate degree programs in RIT's College of Business.

Programs leading to an AAS degree in management are offered in marketing, personnel administration, production management, logistics and transportation. Management programs are also transferable to a BS degree program in RIT's College of Business.

All business and management degree programs include a core group of business courses in organization and management, accounting, data processing, and business law. Approximately half of the credits in degree programs are earned through these professional courses, which may count in Management Diploma programs, as well as in AAS degrees. In addition, all business and management degree programs include a broad spectrum of courses in communication, behavioral/social sciences, humanities, math, and science.

For more information, call Daniel Smialek at 716-475-5023.

Professional Concentration Requirements, Business and Management AAS Programs

Accounting   Credit Hours
Intermediate Accounting I,
     CBCA-308   4
Intermediate Accounting II,
     CBCA-309   4
Business Law I, CBCB-301   4
Business Law II, CBCB-302   4
History or Fine Arts Elective   4
              Total 20

Business Administration   Credit Hours
History or Fine Arts Elective   4
Legal Environment of Business,
     CBCA-201   4
3 Business Electives   12
              Total 20

Marketing   Credit Hours
Effective Selling, CBCG-210   4
Advertising Principles, CBCG-213   4
Business Law I, CBCB-301   4
2 Business Electives   8
              Total 20

Personnel Administration   Credit Hours
Personnel Administration, CBCI-229   4
Interviewing Techniques, CBCI-224   4
Business Law I, CBCB-301   4
2 Business Electives   8
              Total 20

Production Management   Credit Hours
Production Management, CBCJ-209   4
Fundamentals of Industrial
     Engineering, CBCJ-305   4
Industrial Engineering
     Economy, CBCJ-306   4
Business Law I, CBCB-301   4
Elective   4
              Total 20

Logistics & Transportation Management   Credit Hours
Intro, to Logistics &
     Transportation, CBCU234   4
Traffic & Transportation Law, Rates,
     Accounting, & Control, CBCL-239   4
1 Transportation & Logistics Elective   4
Business Law I, CBCB-301   4
Elective   4
              Total 20

Core Requirements, All Business and Management AAS Programs

Below are the core requirements for all business and management degree programs to which professional program requirements are added.

	PROFESSIONAL COURSES		Qtr. Cr.	GENERAL EDUCATION		Qtr. Cr.	MATH, STATISTICS & SCIENCE		Qtr. Cr.
Required Courses 92 Credits		CBCA-201	4		CHGL-220		Science Electivesf		8
	Managerial Accounting	CBCA-203	4	and		8	Math for Business	CBCH-201, 202	8
		CBCE-203	4		GLLL-332		Statistics	CBCH-351, 352	8
	Data Proc. Principles	CBCC-321	4	or		or			
		CBCG-361	4		CHGL-204	8			
		CBCE-353	4	Dyn. Comm II	CHGL-205				
				Economics	GSSE-301, 302	8			
			20		GBSP-210	4			
				Sociology	GBSS-210	4			
		Total	44		Total	24		Total	24

In sequentially numbered courses, the lower number course is prerequisite.

(1) The Management Process (CBCE-200, 201, 202) may be substituted tor the following.   †   uir. or.
Dynamic Communication I (CHGL-204)..4
Organization & Management (CBCE-203)......................................4
1-Ruclnn^i elective..4
7 Business elective..•»

Science electives may include any of the following:
Contemporary Science/Biology CTCS-221
Contemporary Science/Chemistry CTCS-222
Contemporary Science/Physics CTCS-223
Contemporary Science/Oceanus CTCS-224
CollegePhysics SPSP-211. 212, 213

' These communication courses require pretest; call 475-2234 for information. Students who take CHGL-204 should also take CHGL-205. Students who take CHGL-220 should also take GLLL-332.

Emergency Management
Kalman Vizy, Chairperson

Heightened public and governmental awareness of the hazards associated with high technology has led to stringent new federal and state laws requiring communities to plan comprehensively for toxic chemical or radiation emergencies. In addition, there has always been a need to protect the public during natural emergencies such as floods, earthquakes, and tornados.

Emergency management practitioner organizations and the federal government are working to develop national standards for the accreditation of emergency managers. CCE's certificate in Emergency Management is intended to upgrade the skills of existing emergency managers in police, fire, and ambulance work; public safety planners; and emergency officials in industry and to provide a strong foundation for emergency response personnel desiring to develop a new career specialty. Possession of this certificate is expected to bear significantly on graduates' ability to qualify for national accreditation.

The five-course sequence is designed to provide students with knowledge of the physical phenomena underlying emergency situations, such as elementary meteorology, earthquake phenomena, toxic chemicals, and radiation; the legal aspect of emergency planning and operations; the theory and methodology of emergency planning, including evacuation planning and management; and the theory and practice of operations at a disaster scene. Up to four credits may be awarded to emergency response agency personnel for demonstrable training or experience in lieu of the Emergency Operations course.

Courses are scheduled so that the certificate may be completed in less than two years. The courses may also be applied toward professional requirements for the BS degree in Applied Arts and Science.

Certificate courses were developed with the assistance of local and state professionals in emergency management and are taught by such professionals. For advising and further information about this program, call Kalman Vizy, 716-475-7359.

Emergency Management	Credit Hours
Earth Science for the Emergency Manager, CEMP-201	4
Man-made Hazards, CEMP-202	4
Emergency Preparedness Laws & Regulations, CEMP-301	4
Emergency Planning & Methodology, CEMP-302	4
Emergency Operations, CEMP-381	4
Total	20

The Liberal Arts Degree Program

Ronald Hilton, Chairperson

The associate in arts (AA) is the only liberal arts degree program offered by the College of Continuing Education. Students will sample literature, arts, philosophy, history, and the other disciplines that have traditionally been at the core of a college education. At the same time, they will consider the relationship of these studies to 20th century technology and business.

After fulfilling the basic course requirements, students finish the degree by choosing one of two options: to deepen understanding of the liberal arts by adding courses in the humanities, communication, and social sciences; or to take advantage of RIT's extensive opportunities in career training by including 20 credits of study in a specific career skill. Areas of career study include:

Accounting
Advertising Design
Communication
Deaf Studies
Fine Arts
General Management & Supervision
Industrial Management
Marketing
Personnel Management
Public Relations Communications
Real Estate
Small Business Management
Technical Communication

For more information in the career skills option contact Ronald Hilton, 716-475-4986.

Public Relations Communications

Ronald Hilton, Chairperson

Public relations communications are vital to virtually every human endeavor. Almost every organization employs individuals, either in house or by contract through public relations agencies, who can prepare press releases, brochures, newsletters, annual reports, point-of-purchase promotions, and other persuasive, informative materials in a variety of media.

Underlying successful public relations communications are skills in two key areas: writing and graphic communication. CCE offers a certificate program in each of these specialties. Both programs share a core of courses that provides an introduction to public relations and teaches widely used principles and techniques of advertising, project management, and persuasion. The professional writing program provides specialized instruction in writing marketing materials, inbound and outbound publications, corporate-level communications, and speeches and scripts. The graphic communication program (designed specifically for non-artists) focuses on understanding the components of the advertising process, the use of effective design principles in the preparation of layouts, and the combining of creative and technical skills to achieve design success.

These programs are intended for individuals who wish to enter the field of public relations or take on PR responsibilities; who have been working in a particular aspect of public relations and wish to upgrade or broaden their skills; and/or who have been performing PR tasks for which they have had little formal preparation.

Course requirements, General Education (CHGE), AA Degree

		Qtr. Cr.		Qtr. Cr.
Required Courses 92 Credits	Humanities...........CHGH-201, 202, 203	12	Economics..........................GSSE-301	4
	Introduction to Literature....... GLLL-332	4	Psychology GBSP-210	4
	Fine Arts: Visual Arts GSHF-213		Philosophy GSHP-210	4
	Fine Arts: Musical Arts GSHF-214		Electives*...	20
	History: Modern European...GSHH-302		Career Skills Area................................	20
	or	4		
	History: Modern American ...GSHH-301			
	Political Decision Making GSSM-215	4		
	Contemporary Science Elective	4		
	Science, Technology & Humanity Elective	4		

*Students may petition the chairperson for Liberal Arts to apply courses outside the area generally regarded as general education electives. This must be a written request.

Up to four credits may be awarded by examination or for courses taken at another college. Prerequisite for the core courses is demonstration (by examination, portfolio, or transcript) of a command of standard written English.

Courses are scheduled so that the core and one or both of the certificate options may be completed in four quarters of part-time study. Students may earn one or both certificates, and students not wishing to take an entire certificate program may take specific individual courses. Courses may be applied toward appropriate diploma, AAS, and BS degree programs. Students must achieve a program GPA of at least 2.0 in order to be certified. For advising and further information about these courses, transfer credit, credit for college-level learning, and financial assistance, call Ronald Hilton, 716-475-4986.

Core Courses	Credit Hours
Introduction to Public Relations CHGL-360	2
Psychology of Persuasion, CHGS-320	2
Advertising Evaluation & Techniques, CBCG-214	4
Managing the Project, CHGU332	2
Total	10

Professional Writing	Credit Hours
Core Courses	10
Writing for the Organization I, CHGL-365	2
Writing for the Organization II, CHGU366	2
Promotional Writing, CHGU331	2
Scripting and Speechwriting, CHGU367	4
Total	20

Graphic Communication	Credit Hours
Core Courses	10
Graphic Communication for the Non-Artist I, CHAD-270	3
Graphic Communication for the Non-Artist II, CHAD-271	3
Art for Reproduction, CHAD-220	3
Total	19

Advanced Public Relations Communications

Ronald Hilton, Chairperson

The advanced public relations communications certificate provides students who are working—or plan to work— in a variety of communications fields with advanced knowledge and skills, particularly writing skills, in public relations communications. It has been especially designed for graduates of the Professional Writing Program described above, but it is open to those who can demonstrate the necessary prerequisite skills and understandings.

The certificate equips students with more complete and professional portfolios as well as the knowledge to work in public relations campaigns and in a variety of media settings and capacities. It is especially attractive to persons already working in the communications industry who desire increased versatility, upward mobility, or specific competencies. Students include those who have already undertaken or completed an undergraduate degree in English, journalism, business administration, marketing, and even public relations. Regardless of background, students find this more advanced certificate provides a capstone to their undergraduate public relations education.

Like its predecessor programs, this one has been prepared in close consultation with practicing professionals in the local public relations community.

Core Courses	Credit Hours
The Public Relations Campaign, CHGL-411	4
The Mass Media in Public Relations, CHGS-451	4
Communicating in Print & Broadcast, CHGL-412	4
Seminar in Public Relations Communications, CHGL-413	4
Total	16

Up to four credits may be awarded by examination or for courses taken at another college. Courses are scheduled so that the entire certificate may be completed in one calendar year. Courses may be applied toward BS degree programs. Students must achieve a program GPA of at least 2.0 in order to be certified. For advising or further information about this program, call Ronald Hilton at 716-475-4986.

Technical Communication

Elizabeth Conley, Chairperson

In this age of rapidly expanding technologies, technical communication is an essential, challenging, and lucrative profession, one that can be practiced within an organization or outside, through independent contracting.

As the technologies grow, so does the need for communicators skilled in conveying many kinds of information in many different forms to diverse audiences. Industrial, business, scientific, medical, and non-profit sectors have recognized the importance of communication to their successes. The ability to present information effectively—in media such as manuals, brochures, data sheets, promotional materials, systems documentation, reports, trade and professional journals, and videos, among

others—is a highly valued asset in the workplace today.

The following sequence of courses, designed to be completed in two consecutive quarters of part-time study, provides a strong, practical foundation in technical communication skills for those wanting to work in the profession or those whose advancement in other careers is directly related to their ability to communicate clearly, correctly, and concisely.

Basic Technical Communication	Credit Hours
Phase I	
Technical Writing & Editing, CHGL-323	4
Research Techniques, CHGU324	2
Phase II	
Instructional Design Principles, CHGL-325	2
Document Design Principles, CHGL-326	2
Practicum: Designing Manuals, CHGL-327	2
Total	12

Up to four credits may be awarded by examination or for courses taken at another college. Prerequisite for the Basic sequence is demonstration (by examination, portfolio, or transcript) of a command of standard written English. Students must achieve a program GPA of at least 2.0 in order to be certified.

For those interested in further professional development and instruction in more specialized topics, the following sequence of courses, designed to be completed in two quarters of study, is offered.

Advanced Technical Communication	Credit Hours
Phase I	
Oral Skills for Technical Communication, CHGL-329	2
Communicating Online, CHGU330	2
Promotional Writing, CHGL-331	2
Phase II	
Writing in the Sciences, CHGU328	2
Managing the Project, CHGL-332	2
Managing Media Presentations, CHGL-333	2
Total	12

Up to four credits may be awarded by examination or for courses taken at another college. Prerequisite for the Advanced sequence is completion of the Basic sequence or the equivalent. Students much achieve a program GPA of at least 2.0 in order to be certified.

Courses in these sequences were developed with the assistance of working technical communicators and are taught by experienced professionals. For advising and further information about these

courses, transfer credit, and financial assistance, call Betty Conley at 716-475-4936.

Managing Communication Services

Elizabeth Conley, Chairperson

Today, in the dynamic and rapidly expanding field of public relations and technical communication, professionals face an interesting and challenging spectrum of communication tasks. In addition to the research and writing competencies that have long been the standard requisites for success in the communication field, today's professional communicators—whether within organizations or as contract service suppliers—must be prepared to oversee all phases of their projects from client request through delivery of the product, be it a brochure, training manual, or video. To manage the many functions in this process, communicators must have good interpersonal and leadership skills, administrative skills, fundamental knowledge of print and media technologies, and an understanding of the current and emerging issues that affect the communication field.

The certificate in Managing Communication Services provides these special skills and competencies in four quarters of part-time study, as follows:

Courses	Credit Hours
Creative Leadership Skills, CHGU393	4
Supervising Communication Services, CHGL-394	4
Managing the Project, CHGU332	2
Managing Media Presentations, CHGU333	2
Coordinating Publication Production, CHGU395	2
Communication Seminar, CHGL-396	2
	Total 16

Courses are offered during the evening hours for the convenience of employed adult students. To earn the certificate, students must complete all 16 credits with a program GPA of at least 2.0. However, transfer credit and appropriate work experience will be evaluated for up to four credits in the program.

Courses may be taken individually (provided individual course prerequisites are met) or as part of the certificate program. All courses may be applied to the Applied Arts and Science degree in the College of Continuing Education.

To enter the program, students must have the certificate in either Basic or Advanced Technical Communications or the certificate in Public Relations Communications, Professional Writing or Graphics option; substantial work

experience in either public relations or technical communication; or a relevant undergraduate degree; e.g., in journalism, corporate communication, public relations, technical communication, professional communication.

All courses in the program were developed and are taught by experienced professional communicators. For advising and further information about the program, transfer credit, and financial assistance, call Betty Conley at 716-475-4936.

Business and Career Communication

Elizabeth Conley, Chairperson

Business leaders say that a key to success is the ability to communicate successfully. A CCE certificate of achievement in business and career communication may be earned by completing three four-credit courses designed to provide competency in those written and oral skills demanded in business and industry. Courses may be taken separately and may be used as elective or professional concentration courses in appropriate CCE degrees.

Courses	Credit Hours
Professional Presentations, CHGU301	4
Discussion Skills & Leadership, CHGU302	4
Communicating in Business, CHGU307	4
	Total 12

For advising or further information about this program, call Betty Conley at 716-475-4936.

Deaf Studies

Ron Hilton, Chairperson

The Deaf Studies Certificate is intended primarily to achieve two purposes: first, to permit employees and volunteeers in the private and public sectors to prepare themselves to communicate more effectively with deaf clientele, students, fellow professionals, or employees in business, industries, schools, colleges, and hospitals; and, second, to provide a stimulating foundation for those who wish to pursue further education in the fields of interpreting for the deaf or deaf education.

Rochester has the second highest population per capita of deaf and hard-of-hearing individuals in the United States, a fact that has led to extensive community and educational resources for them.

The 16-credit curriculum is comprised of the seven courses listed below. Although a primary emphasis in the curriculum is learning both Basic Sign Language and American Sign Language, students will also deepen their understanding of the phenomenon of deafness through courses related to the physical, psychological, social, and linguistic aspects of deafness.

Although substitution of one course for another will not generally be permitted, students will be able to challenge course content in any of the courses listed.

The courses have been designed and are largely taught by the faculty of the National Technical Institute for the Deaf at RIT.

Courses	Credit Hours
Sign Language & Manual Communication Systems I, II, III CHGD-211, 212, 213	6
American Sign Language I, II CHGD-311,312	4
Aspects & Issues of Deafness I, II CHGD-241,242	6
	Total 16

For advising or further information about this program, call Ronald Hilton at 716-475-4986.

Fine and Applied Arts and Crafts

Eric Bellmann, Chairperson

Fine and applied arts courses are designed to contribute to the student's personal growth and cultural enrichment. Individual courses are offered, or a diploma may be earned by following a program of study in crafts, fine and applied arts, advertising design, or interior design.

Options begin with introductory courses to provide students with a basic exploration of the creative process and to help them develop visual organization skills. After taking these courses, the student will be able to earn a fine and applied arts diploma by completing the requirements in any of four areas. Students may want to include printing and photography electives in their programs after receiving an advisor's approval. Some courses are offered only in alternate years.

Students should consult with a CCE advisor to plan their course of study and to clarify goals. The chairperson can be consulted regarding course substitution.

Students enrolled in the fine and applied arts diploma program prior to Fall 1980 may elect to follow either the previous program requirements or the program as listed.

For more information, call Eric Bellmann at 716475-4977.

Core Requirements	Credit Hours
Basic Drawing and Media, CHAF-201, 202, 203	6
Basic Design, CHAD-201, 202, 203	6
Introduction to Art Appreciation, CHGH-210	4
Total 16	

Program Requirements, Craft (CHAC)	Credit Hours

In addition to the core requirements, each student must become familiar with three of four areas.

Core requirements*	16
Major craft courses	18
Minor craft courses	6
Third craft choice	2
Electives with advisor's approval	6
Total 48	

Fine Arts (CHAA)	
Core requirements*	16
Advanced Drawing (3 quarters), CHAF-306	6
Basic Figure Drawing, CHAF-207	2
Figure Drawing (2 quarter credit), CHAF-307	4
Electives with advisor's approval	20
Total 48	

Advertising Design (CHAA)	
Core requirements*	16
Display Design, CHAD-211, 212, 213	6
Advanced Design & Typography, CHAD-261, 262, 263	6
Graphic Design, CHAD-311, 312, 313	6
Advertising Design, CHAD-315, 316, 317	6
Basic Figure Drawing, CHAF-207	2
Electives with advisor's approval	6
Total 48	

Interior Design (CHAA)	
Core requirements*	16
Display Design, CHAD-211, 212, 213	6
Marketing, CBCG-361	4
Interior Design, CHAD-224, 225	4
History of Interior Design, CHAD-226	2
Environmental Design, CHAD-251, 252, 253	6
Electives with advisor's approval	10
Total 48	

* Core requirements are prerequisite for all diploma programs.

School of Professional Studies

Through its School of Professional Studies, the Academic Division develops and launches new bachelor's degree programs for full-time students. These programs are designed to meet the educational needs and professional work requirements of the 21st century and typically focus on emerging professions that are multidisciplinary in nature. The curricula are intended to provide a balance of breadth and depth in several fields. This balance equips graduates with a range of knowledge and skills that will allow them to work and advance in a wide variety of professional occupations and settings. Because these curricula typically bring several specialties together, the Academic Division works closely with other RIT colleges to develop and sponsor them.

Environmental Management
John Morelli, Chairperson

Environmental issues are of pressing national and international concern. First among these is the proper and productive management of waste, which threatens to overwhelm us ecologically and financially. Those who work to find solutions in this arena may well make profound contributions to the well being of the environment and society.

The increased cost of waste disposal and concern over related liability have forced both municipal governments and industry to create positions of professional responsibility for environmental management; and as related technical and regulatory issues have become more and more complex, the demand for professional environmental managers has increased dramatically.

RIT's Department of Environmental Management offers a BS degree in environmental management with a concentration in solid waste. The curriculum provides in-depth knowledge of solid waste management science and technology and training across a broad range of related disciplines, including politics and policy, economics, budgeting and finance, environmental regulatory law, public relations, and communications.

This program is regularly offered for full-time students. Because courses are typically scheduled for the late afternoon, the degree can also be pursued on a part-time basis. With the advice of the chairperson, interested persons or working professionals may take individual courses or clusters of specific courses to earn certificates in solid waste science, technology, and/or implementation. Courses offered under the certificate programs can be applied toward the BS in environmental management by students who matriculate in that program. Courses taken under the Certificate in Solid Waste Management Technology may also be applied to a professional concentration in the BS in Applied Arts and Science Program.

Electives
The ample allowance for electives in the curriculum permits students to pursue various competency areas in greater depth and facilitates the acceptance of transfer credits from other institutions.

Cooperative Work Study
As noted in a recent handbook on environmental careers, "Hands-on training [in solid waste management] is practically a must" for success in the field. The co-op work experience is integral to the BS program and will greatly enhance the employability of graduates.

Yr.	BS DEGREE IN ENVIRONMENTAL MANAGEMENT	181 Qtr. Credit Hours			
		FALL	WTR.	SPR.	SMR.
1	*Liberal Arts Core	4	8	4	V A C A T I O N
	SCHG-201 Survey of General Chemistry	3			
	SCHG-221 Lab for SCHG-201	1			
	SMAM-225 Algebra for Management Science	4			
	SBIB-201 General Biology	3			
	SBIB-205 Lab for SBIB-201	1			
	CEMS-200 Environmental Management Seminar	1			
	SCHG-202 Survey of Organic Chemistry		3		
	SCHG-222 Lab for SCHG-202		1		
	SMAM-226 Calculus for Management Science		4		
	ICSA-200 Survey of Computer Science			4	
	SMAM-309 Elementary Statistics			4	
	CHGL-360 Introduction to Public Relations			2	
	CHGL-365 Writing for the Organization I			2	
2	*Liberal Arts Core	4	4	4	V A C A T I O N
	SPSP-211 College Physics I	3			
	SPSP-271 Lab for SPSP-211	1			
	GSSE-301 Principles of Economics 1	4			
	General Elective	4	4	4	
	SPSP-212 College Physics II		3		
	SPSP-272 Lab for SPSP-212		1		
	CHGS-320 Psychology of Persuasion		2		
	CHGL-366 Writing for the Organization II		2		
	Professional Elective			4	
	GSSE-302 Principles of Economics II			4	
3	*Liberal Arts Elective		4		
	CEMS-201 Principles of Municipal Solid Waste Systems	4			
	CEMS-370 Geology for Environmental Management	4		C O O P	C O O P
	CEMS-360 Environmental Chemistry and Microbiology	3			
	CEMS-362 Lab for CEMS-360	1			
	CEMS-301 Solid Waste Mgmt. I: Recycling		4		
	CEMS-380 Hydrology for Environmental Management		4		
	GSSM-455 Politics and Public Policy		4		
	Professional Elective	4			
	CEMS-200 Environmental Management Seminar	1			
	Makeup Work as Necessary	16			
	*Liberal Arts Elective			4	
	CEMS-201 Principles of Municipal Solid Waste Systems		4		C O O P
	CEMS-370 Geology for Environmental Management		4		
	CEMS-360 Environmental Chemistry and Microbiology		3		
	CEMS-362 Lab for CEMS-360		1		
	CEMS-301 Solid Waste Management I: Recycling			4	
	CEMS-380 Hydrology for Environmental Management			4	
	GSSM-455 Politics and Public Policy		4		
	Professional Elective			4	
4	*Liberal Arts Elective	4		4	
	ITEF-436 Engineering Economics	4	C O O p		C O O p
	CEMS-311 Solid Waste Mgmt. II: Reduction	4			
	CEMS-480 Environmental Regulatory Law	4			
	CEMS-475 Special and Hazardous Wastes			4	
	CEMS-321 Solid Waste Management ill: Land Applications			4	
	CEMS-452 Public Budgeting and Finance			4	
5	*Liberal Arts Elective			2	
	*Liberal Arts Senior Seminar		2		
	CEMS-331 Solid Waste Mgmt. IV: Energy Recovery and Material Conversion	C O O p	4		
	CEMS-510 Integrated Solid Waste Management Seminar		4		
	IPKG-530 Packaging and the Environment		4		
	CEMS-511 Senior Project Paper			4	

*See *page 7 tor Liberal Arts requirements.*

Machine Shop Diploma Programs

Henry Cooke, Chairperson

A diploma of the Institute can be earned by completing one of our technical diploma programs. These programs include the basic courses in their respective specialized fields, so that maximum benefit will accrue for a minimum expenditure of time. Enrollment in or completion of a diploma program does not preclude the possibility of later pursuing a degree program; in fact, some courses are applicable to degree programs if the student should decide to pursue a degree at a later dme.

Students not interested in pursuing a diploma program may register for individual courses of their choice as long as they meet any prerequisites.

Diplomas of the Institute are granted in the following programs: instrument making and experimental work; machine shop; tool and die making; turret lathe and chucker operations and set-up; computer service technology.

Machine Tool Programs
Apprenticeship programs
In cooperation with local industry, CCE offers a wide selection of courses applicable to apprenticeship programs. Applicants seeking to complete courses required in apprenticeship programs should consult with their company training director to determine courses required.

Machine shop
For tool room work, there are a number of precision machines to perform the required machining operations: Bridgeport vertical mills, Pratt & Whitney jig bore, cylindrical grinders, surface grinders, electrical discharge machines (EDM), engine lathes, pantograph machine, and punch presses for trying out of dies. Other active facilities in the machine shop are numerical control, computer-aided manufacturing (CAM) and heat treating labs.

Students must register in the proper sequence for the following programs. For example, when Shop Mathematics (TLDT-051) has been completed, the next course to complete would be TLDT-052, etc.

Specialized industrial training
Specialized intensive training programs may be developed on a one-time basis or as on-going programs to meet the specific needs of a given company or organization.

If seeking advanced standing in subjects in the machine shop area, a student must submit transcripts of courses taken at other schools and/or take an examination in those courses for which he or she seeks credit. The examination fee is $50 per credit. An admission card must be received before being admitted to the test. The test may be scheduled at City Center.

TOOL AND DIE MAKING (CTML)	
Phase 1	Mechanical Blueprint Reading....................................CTIS-200 Machine Shop Lecture.....................................CTIS-201,202, 203 Machine Shop Lab.....................................CTIS-206,207,208 Shop Mathematics.......................................TLDT-051,052,053
2	Advanced Machine Shop ICTIS-104,105,106 Shop Trigonometry.......................................TLDT-054,055,056
3	Tool & Die Making ICTIS-121, 122, 123 Heat Treatment..CTIS-161,162
4	Tool & Die Making IICTIS-124,125, 126 Organization and Management................................CBCE-203 Interpersonal Communication Skills.........................CHGL-240
5	Tool & Die Making IIICTIS-127,128, 129 Electives (any 3 quarters)

MACHINE SHOP (CTMS)	
Phase 1	Mechanical Blueprint Reading....................................CTIS-200 Machine Shop Lecture...............................CTIS-201, 202, 203 Machine Shop Lab.....................................CTIS-206, 207, 208 Shop Mathematics......................................TLDT-051, 052, 053
2	Advanced Machine Shop I.........................CTIS-104,105, 106 Heat Treatment...CTIS-161.162
3	Advanced Machine Shop II.......................CTIS-107, 108, 109 Interpersonal Communication Skills.........................CHGL-240

INSTRUMENT MAKING AND EXP. WORK (CTIM)	
Phase 1	Mechanical Blueprint Reading....................................CTIS-200 Machine Shop Lecture..............................CTIS-201, 202, 203 Machine Shop Lab.....................................CTIS-206, 207, 208 Shop Mathematics......................................TLDT-051, 052, 053
2	Instrument Making I.....................................CTIS-111,112,113 Shop Trigonometry......................................TLDT-054, 055, 056
3	Instrument Making II....................................CTIS-114,115,116 Heat Treatment...CTIS-161, 162
4	Instrument Making III....................................CTIS-117,118,119 Organization and Management................................CBCE-203 Interpersonal Communication Skills.........................CHGL-240
5	Electives (any three quarters)
	Electives (any 3 quarters of the following) Precision Measurement.............................CTIS-101, 102, 103 Engineering Graphics..ITEC-210 Numerical Control (CNC) Mill.....................................CTIS-281 Numerical Control (CNC) Lathe.................................CTIS-282 Computer Programming for N/C (CAM).....................CTIS-283 Survey of CAD...ITEF-200 Intro, to CAD (AutoCad)...ITEF-260 Intro. To CAD (CADKEY)..ITEF-261 Statistical Quality Assurance....................................TLDT-055

College of Engineering

Paul E. Petersen, Dean

The programs offered by the College of Engineering prepare students for careers in industry or for graduate study in specialized fields. The curricula emphasize fundamentals and, in the fourth and fifth years, provide courses that allow students to specialize in their chosen fields of study. To help ready students for life in the larger community, a balance among humanistic-social subjects, the physical sciences, and professional studies is maintained.

Five-year programs
The college offers five five-year cooperative education programs leading to the bachelor of science degree with majors in electrical, computer, industrial, mechanical, and microelectronic engineering.

Resources
The departments of Electrical, Industrial and Manufacturing, and Mechanical Engineering maintain extensive laboratory facilities in the James E. Gleason Building to provide both undergraduate and graduate instruction and research by faculty and graduate students. The departments of Computer Engineering and Microelectronic Engineering operate laboratories in the Center for Microelectronic and Computer Engineering, with over 10,000 square feet of clean room space for the fabrication of integrated circuits and a 14-station HP/Apollo/Mentor Graphics VLSI Design Center. The Institute's extensive computer facilities are augmented for students and faculty in the College of Engineering by the Gleason User Center and the Center for Electronic Design Analysis, which houses 24 Sun/Valid workstations. Small computers and personal computers are found in virtually all offices and most labs. Laboratory instruction is a vital part of the college's five undergraduate curricula, and the faculty pride themselves on having integrated both the computer and real-life laboratory work in the academic program. Laboratory experience helps prepare engineering students for industrial work assignments while on co-op. This experience, in turn, strengthens the total academic program by exposing the student to state-of-the-art computers and equipment.

The cooperative plan
Students in the five-year cooperative programs attend classes during the Fall, Winter, and Spring quarters of their first and second years. Before beginning the third year, students are assigned to A or

Cooperative education plan

Year		Fall	Winter	Spring	Summer	
		RIT	RIT	RIT	-	and
3 and 4	A	RIT	CO-OP	RIT	CO-OP	
	B	CO-OP	RIT	CO-OP	RIT	
5	A	RIT	CO-OP	RIT	-	
	B	CO-OP	RIT	RIT	-	

B co-op block. In any given quarter, students in one block are on their co-op assignments, while those in the other block attend classes. Employment arrangements are made by each student through his or her co-op coordinator in the Center for Cooperative Education and Placement. The chart shows the co-op schedule for students in the College of Engineering.

Academic advising
Upon entry into the college, each student is assigned an advisor. The advisor is available for both academic and career advising or counseling.

Transfer programs
The college has a tradition of admitting graduates from two-year community colleges in engineering science and engineering technology. The mix of significant numbers of transfer students and regular undergraduate students gives RIT's engineering programs a unique academic atmosphere.

The AS graduate in engineering science with above-average scholastic achievement can usually enter one of the five BS programs as a regular third-year student. It may be necessary to adjust a few courses to accommodate program differences in the first two years, since transfer credits are granted on the basis of course-by-course evaluation.

The AAS graduate in technology who has demonstrated outstanding achievement should consider transfer to a BS program in engineering as one alternative for continuing formal education. The exact number of transfer credits for which he or she may qualify varies widely, and the student should contact the department head.

Orientation
The engineering programs are strongly oriented toward mathematics and the physical sciences. Emphasis is placed on these subjects in the first two years to provide a foundation for the applied sciences and engineering subjects that follow later in the programs.

Careers
Graduates qualify for professional work in design and development of equipment and systems, research and experimental work, supervision of technical projects, and managerial positions in industry. Increasing numbers of graduates continue their education for the master of science or the doctor of philosophy degrees.

Entrance requirements (BS)
Applicants for the engineering program must be high school graduates and must have completed elementary and intermediate algebra, plane geometry, trigonometry, and both physics and chemistry in high school. Advanced algebra, solid geometry, and calculus, while not required, are highly desirable. The applicant's proficiency in the required entrance subjects should be high since these provide a good index of his or her ability to cope with the more advanced courses in the science programs.

All applicants are required to take entrance examinations as described in the general section of this bulletin.

Accreditation
All of the college's programs of study leading to the bachelor of science degree are accredited by the Accreditation Board for Engineering and Technology (ABET). The college is a member of the American Society for Engineering Education. All graduating seniors are eligible and encouraged to sit for the intern engineer portion of the New York State Professional Engineering examination during their final quarter.

Undeclared Engineering
The Undeclared Engineering Program is a one-year option for students who prefer additional time in which to decide their major in engineering. Students can choose a major at the end of fall, winter, or spring quarter of their first year.

During their first year students take the foundation courses required by all the engineering disciplines. Course work taken as an undeclared engineering

student will transfer into electrical, industrial, mechanical, and microelectronic engineering programs without any loss of time toward graduation. Students changing to computer engineering may need to spend the following summer quarter in school to make up the programming requirements.

During the fall quarter, undeclared engineering students are required to take a one-credit course, Introduction to Engineering, which provides tours through the various departmental facilities, the chance to learn about the course of study in each program, and sometimes the opportunity to work on a simple design project under the guidance of a faculty member.

Typical First-Year Schedule
Fall
Calculus I
Chemical Principles I
Chemical Principles Lab I
FORTRAN
Introduction to Engineering
Liberal Arts

Winter
Calculus II
Chemical Principles II
Chemical Principles Lab II
University Physics I
University Physics Lab I
Liberal Arts

Spring
Calculus III
Calculus IV
University Physics II
University Physics Lab II
Liberal Arts

Engineering Science and Part Time
An increasing number of students desire to pursue engineering degrees part time while maintaining full-time employment. In response to their needs, the college offers several options. Those lacking the normal mathematics and science background to meet engineering program admission requirements are encouraged to seek additional preparation through the College of Continuing Education. For those meeting the normal requirements, an associate degree in engineering science (AS) may be earned entirely through part-time evening study. The mathematics, science, liberal arts, and core engineering science courses included in this program prepare graduates for transfer into most ABET-accredited engineering programs at the third-year level.

Engineering science graduates with appropriate professional elective courses will be accepted as third-year students in either the Mechanical or Electrical Engineering departments at RIT. All upper-division electrical enginering courses are offered in the late afternoon

TYPICAL ASSOCIATE DEGREE IN ENGINEERING SCIENCE	96 Qtr. Cr. Hrs.	
Math & Science	Electrical Option	Mechanical Option
CTAM-251, 252, 253 (*SMAM-251, 252, 253) Calculus	12	12
CTAM-305 (SMAM-305) Calculus	4	4
CTAM-306 (SMAM-306) Differential Equations	4	4
SMAM-331 Matrix Algebra	4	
CTAM-318 (SMAM-318) Boundary Value Problems		4
CTCC-241 (Lec) & 246 (Lab) (SCHG-208) Engineering Chemistry ..	3,1	3, 1
CTCC-242 (Lec) & 247 (Lab) (SCHG-242) Engineering Chemistry ..		3,1
Physics		
CTCP-301, 302, 303 (Lec) (SPSP-311, 312, 313) Physics .. .	12	12
CTCP-306, 307, 308 (Lab) (SPSP-375, 376, 377) Physics	3	3
CTCP-457 (SPSP-314) Modern Physics	4	
Science Elective		4
General Education		
CHGL-204 Dynamic Comm I AND CHGL-205 Dynamic Comm II OR CHGL-220 (GCLC-220) Communications	4	4
Two of Three Social Sciences: GHGS-211 (GSSP-210) Psychology CHGS-221 (GSSE-301) Economics CHGS-231 (GSSE-210) Sociology	8	8
One Humanities Course: i.e., Political Science, Philosophy, History, Fine Arts CHGL-260 (GLLL-332) Literature	4 4	4 **4**
Professional		
EMEM-336, 359 Statics, Dynamics	9	9
EMEM-342 Introduction to FORTRAN	3	3
EEEE-351 Circuit Analysis	4	4
EEEE-380 Electrical Engineering Lab I	1	1
EEEE-240 Introduction to Digital Systems	4	
EEEE-365 Introduction to Micro Computers	4	
EEEE-330 C Programming Seminar	1	
EEEE-310 Numerical Methods	3	
EMEM-211 Introduction to Graphics		3
EMEM-347 Engineering Mechanics		4
EMEM-348 Engineering Mechanics Laboratory		1

*Equivalent Course Numbers

or evening. However, mechanical engineering majors will generally be required to take upper-division courses during the normal day schedule. For transfer to other engineering departments, students are advised to contact the respective department head and arrange the appropriate course schedule before they complete 45 credits of the Engineering Science Program.

As with full-time students, part-time students are required to complete the equivalent of five quarters of approved cooperative work experience. Arrangements can be made for part-time students to use approved portions of their regular employment to satisfy some or all of the co-op requirements. Those wishing further information on part-time study in engineering should contact the Dean's Office at 475-2145.

Graduate degrees
Programs leading to the master of science degree are offered in the computer, electrical, mechanical engineering, and the applied and mathematical statistics departments. The programs may be pursued part time or full time, since most courses are offered in the late afternoon and early evening.

In addition the College of Engineering offers post-baccalaureate professional programs leading to the master of engineering degree. Study may be pursued in such areas as manufacturing, industrial, mechanical, engineering management, microelectronic manufacturing engineering, and systems engineering. The program is unique in that it extends the undergraduate cooperative concept to the graduate level in an industrial internship for which academic credit is granted.

Designed as a full-time program, the master of engineering degree may also be pursued on a part-time basis by engineers employed locally.

The College of Engineering offers joindy with the College of Science a program leading to the master of science degree in materials science and engineering.

Computer Engineering

Roy S. Czernikowski, Head

The computer engineering program focuses on the design and development of computer systems and computer-integrated systems with due consideration to such engineering factors as function, performance, cost, reliability, and maintainability. The goal of the computer engineer is to build computer systems or computer-integrated systems to meet applicadon requirements with attention to the hardware/software interaction and all the aspects just mentioned.

The program prepares graduates to design and implement various engineering products with embedded computers and to undertake graduate study, where sophisticated computer system design can be addressed.

It strives to interweave and span the topics from formal specifications to heuristic algorithm development, from system architecture to computer design, from interface electronics to real-time applications, and from interprocess communications management to VLSI implementation.

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

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

Combined BS/MS degree sequence in computer engineering
The Department of Computer Engineering also offers a combined bachelor of science and master of science degree course sequence over five calendar years. This accelerated sequence provides an excellent opportunity for outstanding undergraduate students to pursue a graduate degree in a cohesive program. Applications to this special sequence will be accepted from matriculated undergraduate computer engineering students who have completed all the courses in the first two years of the baccalaureate program with a cumulative grade point average of at least 3.4 out of 4.0. At least 55 of these credits must have been earned at RIT. Continuance in this program also requires the maintenance of at least a 3.0 overall grade point average and at least 3.0 in the 45 quarter credits directly applicable to the master of science degree portion.

Principal field of study
For students matriculated in the interdisciplinary computer engineering program, the principal field of study is defined to be all courses taken in the College of Engineering and the School of Computer Science and Information Technology. Matriculated students not maintaining a 2.0 cumulative grade point average in their principal field of study are subject to academic probation and suspension according to Institute policy.

Yr.	TYPICAL BS DEGREE IN COMPUTER ENGINEERING	199 Qtr. Credit Hrs. FALL	WTR.	SPG.
1	EECC-200 Introduction to Computer Engineering	1		
	ICSP-241 Programming I Algorithmic Structures	4		
	ICSP-242 Programming II Data Structures		4	
	EECC-250 Assembly Language Programming			4
	SCHG-208 College Chemistry I	4		
	SMAM-251, 252, 253 Calculus I, II, III	4	4	4
	SMAM-305 Calculus IV			4
	SPSP-311, 312 University Physics I, II		4	4
	SPSP-375, 376 University Physics Lab I, II		1	1
		4	4	
	† Physical Education	0	0	0
?	EECC-341 Intro, to Digital Systems for Computer Engineers		4	
	EECC-361 Modeling of Linear Systems			4
	EEEE-351 Circuit Analysis I			4
	EEEE-380 Electrical Engineering Lab I			1
	EMEM-335 Elements of Statics		2	
	EMEM-349 Elements of Dynamics			3
	ICSP-243 Programming III Design & Implementation	4		
	ICSP-319 Scientific Applications Programming			4
	ICSS-325 Data Organization & Management		4	
	SMAM-265 Foundations of Discrete Math		4	
	SMAM-306 Differential Equations	4		
	SPSP-313 University Physics III	4		
	SPSP-377 University Physics Lab III	1		
	SPSP-314 Modern Physics		4	
		4		
	† Physical Education	0	0	0

Yr.		FALL WTR.		SPG. SMR.
3	EECC-550 Computer Organization			4
	EECC-561 Digital Systems Design for Computer Engineers			4
	EEEE-352 Circuit Analysis II	3		
	EEEE-441, 442 Electronics I, II	3		3
	EEEE-390, 395 Electrical Engineering Lab II, III	1		1
	ICSS-440 Operating Systems	4		
	* Liberal Arts	4		4
4	EECC-452 Linear Control Systems			4
	EECC-553 Digital Control Systems Design	4		
	EECC-560 Interface & Digital Electronics	4		
	EECC-630 Intro, to VLSI Design			4
	ICSP-450 Programming Language Concepts	4		
	SMAM-351 Probability and Statistics I			4
	*Liberal Arts	4		4
5	EECC-551 Computer Architecture	4		
	EECC-655 Projects in Computer Engineering	4		
	EECC-694 Data & Computer Communications			4
	‡ Professional Elective — Free elective	4		4
	*Liberal Arts			4
		4		4
	* Liberal Arts (Senior Seminar)	4		2

*See page 7 for Liberal Arts requirements.
†See page 8 for policy on Physical Education.
‡Professional electives must have a 25% engineering design component.

Electrical Engineering

R. Unnikrishnan, Head

Every time you turn on a TV, open a refrigerator, make a phone call, play a computer game, or gaze at the images of Venus and Jupiter sent by space probes, you are witnessing electrical engineering at work. From the mundane to the esoteric, electrical engineering has affected modern living tremendously.

RIT has one of the finest electrical engineering programs around, combining the rigor of theory with the flexibility of engineering practice. Electrical engineering has the most comprehensive curriculum of all engineering programs— an electrical engineer synthesizes science, technology, and common-sense design into things such as consumer products, electronic components, microchips, computers, signal processing, power systems, microwaves, telecommunications, robotics, and transportation, to name a few. Graduates carry the passport to technical and management positions in industry, admission to prestigious graduate schools, and opportunities for entrepreneurship. Undoubtedly electrical engineering holds the key to a challenging and most fulfilling career in this decade and the coming century.

The faculty stresses laboratory use to strengthen students' knowledge of electrical engineering, and the laboratory is an integral part of a large number of courses. There is continual effort by the faculty to keep the laboratory equipment and experience up to date.

Since the ability to design is an important part of engineering, the student also is presented with challenging problems of design in a number of courses.

The co-op requirement enhances student knowledge acquired in the classroom and the laboratory. The exposure and experience gained by the student in industry make him or her keenly aware of the constraints imposed by the industrial environment on the solution of engineering problems. The co-op experience also helps the student decide which career path would be most challenging and rewarding. Co-op experience results in the production of a mature graduate with well-developed academic and industrial perspectives.

Yr.	TYPICAL BS DEGREE IN ELECTRICAL ENGINEERING	197 Qtr. Credit Hrs.		
		FALL	WTR.	SPG.
1	EEEE-203 EE Freshman Seminar	1		
	EEEE-240 Intro. to Digital Systems		4	
	EEEE-365 Intro. to Microcomputers			4
	SCHG-208 College Chemistry I	4		
	SMAM-251, 252, 253 Calculus I, II, III	4	4	4
	SPSP-311, 312 University Physics I, II		4	4
	SPSP-375, 376 Univ. Phys. Lab. I, II		1	1
	*Liberal Arts (Core)	8	4	4
	†Physical Education Elective		0	0
2	EEEE-310 Numerical Methods		3	
	EEEE-351 Circuit Analysis I			4
	EEEE-380 Electrical Engr. Lab I			1
	EMEM-335 Elements of Statics		2	
	EMEM-349 Elements of Dynamics			3
	EMEM-431 Thermodynamics for EE			4
	SMAM-305 Calculus IV	4		
	SMAM-306 Differential Equations		4	
	SMAM-331 Matrix Algebra			4
	SPSP-313 University Physics III	4		
	SPSP-377 University Physics Lab III	1		
	SPSP-314 Modern Physics I		4	
	EEEE-345 C-Programming for Engineers	4		
	*Liberal Arts (Core)	4	4	
	†Physical Education Elective	0	0	0
		FALL WTR.		SPG. SMR.
3	EEEE-352 Circuit Analysis II	3		
	EEEE-441, 442 Electronics I, II	3		3
	EEEE-390, 395 Electrical Engineering Lab II, III	1		1
	EEEE-453 Linear Systems I			4
	EEEE-471 Electromagnetic Fields I			4
	SMAM-324 Vector Calculus	3		
	SMAM-351 Probability			4
	SMAM-420 Complex Variables	4		
4	EEEE-513 Intro. to Automatic Controls			4
	EEEE-534 Intro. to Communication Systems			4
	EEEE-521 Introduction to Photonics			4
	EEEE-544 Semiconductor Electronics	4		
	EEEE-545 Digital Electronics			4
	EEEE-554 Linear Systems II	4		
	EEEE-472 Electromagnetic Fields	4		
	*Liberal Arts (Concentration)	4		
5	EEEE-531 Energy Conversion	4		
	‡Professional Electives	8		8
	Free Elective			4
	*Liberal Arts (Concentration)	4		4
	*Liberal Arts (Senior Seminar)			2

*See page 7 for Liberal Arts requirements.
†See page 8 for policy on Physical Education.
‡One of the professional electives must be a design elective.

In modern society, engineering decisions are rarely made without considering the ethical and socio-economic impact. The ability to communicate clearly and effectively with others is also an indispensable tool for the engineer. A significant portion of the curriculum is devoted to the study of liberal arts throughout the five years of the program. These courses are aimed at making students more sensitive to the factors that normally surround any decision-making situation, improving their ability to communicate with others and making their professional life more meaningful and rewarding.

The first two years of the curriculum are devoted to the mastery of laws of mathematics and principles of science essential to the study of electrical engineering. Some technical courses directly

involving electrical engineering principles are also offered. The third and fourth years build on the foundation laid in the first two years by focusing on the subjects that form the core of electrical engineering. Courses in circuits, electronics, linear systems, electromagnetic fields, physics of semiconductor devices, communication systems, control systems, and energy conversion are taught in these two years. The fifth and final year allows the student to specialize in an area of his or her professional interest. Professional elective courses are generally taken from the Electrical Engineering Department, while free electives do not have that restriction.

Each of the listed professional electives includes significant design emphasis. Students must enroll in EEEE-650, Design of Digital Systems, as a design elective and three of the following courses. For convenience they have been grouped by interest areas. Some courses apply to more than one area.

PROFESSIONAL ELECTIVES

Electromagnetic Fields and Optics
EEEE-621 Microwave Engineering
EEEE-622 Antenna Design
EEEE-672 Optical Devices and Systems
EEEE-674 Fiber Optics: Theory and Applications
EEEE-776 Electro-Optics

Control Systems
EEEE-614 Design of Digital Control Systems
EEEE-605 Robotic Vision
EEEE-645 Special Semiconductor Devices
EEEE-650 Design of Digital Systems
EEEE-665 Microcomputer-Based System Design

Communications
EEEE-692 Communication Networks
EEEE-693 Digital Data Communications
EEEE-694 Information Theory and Coding
EEEE-650 Design of Systems

Signal Processing
EEEE-677 Digital Filters and Signal Processing
EEEE-679 Analog Filter Design
EEEE-605 Robotic Vision
EEEE-779 Digital Image Processing

Computers
EEEE-650 Design of Digital Systems
EEEE-651 ASIC Design
EEEE-665 Microcomputer-Based System Design
EEEE-666 16-Bit Microcomputer

Yr.	TYPICAL COMBINED BS/MS DEGREE IN ELECTRICAL ENGINEERING	234 Qtr. Credit Hrs.			
		FALL	WTR.	SPG.	SMR.
1	Same as BSEE	17	17	17	0
2	Same as BSEE	17	17	16	Co-op
3	Same as BSEE	14	Co-op	16	Co-op
4	EEEE-544 Device Physics	4			
	EEEE-531 Energy Conversion	4			
	EEEE-472 E & M Fields II	4			
	Liberal Arts	4			
	EEEE-534 Intro, to Communications		4		
	EEEE-554 Analytical Techniques II		4		
	EEEE-554 Linear Systems II		4		Co-op
	Liberal Arts		4		
	EEEE-514 Intro, to Controls			4	
	EEEE-521 Photonics			4	
	EEEE-545 Digital Electronics			4	
	Graduate Course			4	
	Thesis			1	
5	EEEE-765 Analytical Techniques III	4			
	Graduate Course	4			
	Professional Elective	4			
	Liberal Arts	4			
	Thesis	2			
	Graduate Course		4		
	Graduate Course		4		
	Professional Elective		4		
	Professional Elective		4		
	Thesis		2		
	Graduate Course			4	
	Graduate Course			4	
	Professional Elective			4	
	Senior Seminar			2	
				4	

Note: Two of the professional electives will be counted twice—once toward the BS and once toward the MS. The free elective will be replaced by a graduate course for the BSEE.

Microelectronics
EEEE-670 Introduction to Microelectronics
EEEE-650 Design of Digital Systems
EEEE-651 ASIC Design
EEEE-723 Semiconductor Physics
EEEE-726 Analog IC Circuits

EEEE-699 Senior Design Project (may be undertaken in an interest area)

Extended day schedule (for part-time evening students)
In order to permit a person working full time in industry to earn a BS degree in electrical engineering (accredited by the Accreditation Board of Engineering and Technology), courses also are scheduled in the late afternoons and evenings. These courses are offered and taught by the faculty of the Department of Electrical Engineering and meet the same standards as those taught during regular hours. Students entering these programs must be employed full time in a technical position. Applicants to the extended day schedule will be evaluated in the same manner as those transferring to the full-time day schedule of the program. A student must plan to take two courses in each academic quarter.

Combined five-year BS/MS degree program
In addition to the bachelor of science and master of science degree programs, a combined BS/MS degree program is also available for the electrical engineering student. Enrollment in this program requires successful completion of at least 234 quarter credit hours. After completing this requirement, the student is awarded the BS and MS degrees simultaneously. A student may apply to this program in the second quarter of his or her third year, providing that a minimum grade point average of 3.4 has been obtained at the end of the previous (first) quarter. Although admission requirements are stricter for this program, overall requirements for graduation remain the same (a minimum GPA of 2.0 for BSEE and 3.0 for MSEE). The work period between the second and third years is credited as co-op for BS/MS students.

Transfer students are also considered for admission to this program after completion of two quarters at RIT with a grade point average of 3.4. All other requirements are the same.

The first three years of the program are identical for the BSEE and the combined BS/MS program. Further information can be obtained from the Department of Electrical Engineering at 716-475-2165. A typical fourth- and fifth-year program schedule is shown above.

Industrial and Manufacturing Engineering

Jasper E. Shealy, Head

Industrial engineering differs from other branches of the engineering program in at least two ways. First, industrial engineering education is relevant to most types of industry and commercial activity. Second, it is that major branch of engineering concerned not only with machines, but also with people.

Specifically, industrial engineering is concerned with the design, improvement, and installation of integrated systems of people, materials, and equipment. It draws upon specialized knowledge and skills in the mathematical and physical sciences, together with the principles and methods of engineering analysis and design.

The industrial engineering curriculum covers the principal concepts of human performance, mathematical modeling, computer programming and applications, management systems, and manufacturing processes. The curriculum stresses the application of computers in solving the engineering problems of today. For example:

1. The undergraduate industrial engineer at RIT uses computer graphics to design the layout of manufacturing plants and to develop dynamic, animated computer simulation models.

2. He or she also uses computers to control flexible manufacturing systems involving robots, machines, and conveyors.

3. The industrial engineering student uses the computer in conjunction with touch-sensitive devices, voice recognition systems, and robots in the analysis and design of man/machine systems.

Through the use of professional and free electives, the engineering student can build a strong concentration of courses in manufacturing expertise involving robotic, automation, design for manufacturing, NC programming, safety, and other related areas. In addition, other program concentrations enable the industrial engineering student to build a minor concentration of study in manufacturing, ergonomics, mechanical or electrical engineering, or computer science.

Yr.	TYPICAL BS DEGREE IN INDUSTRIAL ENGINEERING	199 Qtr. Credit Hrs.		
		FALL	WTR.	SPG.
1	EIEI-201 Introduction to Industrial Engineering	4		
	EIEI-202 Computing for Industrial Engineers		4	
	EIEI-203 Freshman Seminar	1		
	SCHG-208, 209 College Chemistry I. II	4		4
	SMAM-251, 252, 253 Calculus I, II, III	4	4	4
	SPSP-311,312 University Physics I, II		4	4
	SPSP-375, 376 University Physics Lab I, II		1	1
	* Liberal Arts (Core)	4	4	4
	† Physical Education Elective		0	0
2	EMEM-331 Mechanics I	4		
	EMEM-332 Mechanics II			4
	SMAM-305 Calculus IV	4		
	SMAM-306 Differential Equations		4	
	SMAM-328 Engineering Mathematics			4
	SPSP-313 University Physics III	4		
	SPSP-377 University Physics Lab III	1		
	EMEM-343 Materials Processing		4	
	EMEM-344 Materials Science			4
	EIEI-301 Computer Tools for Increased Productivity		2	
	Science Elective		4	
	* Liberal Arts (Core)	4	4	4
	† Physical Education Elective	0	0	0
		FALL WTR.		SPG. SMR.
3	EIEI-420 Work Measurement & Analysis I	4		
	EIEI-520 Engineering Economics	4		
	EIEI-401 Introduction to Operations Research I	4		
	SMAM-351 Probability	4		
	SMAM-352 Applied Statistics I			4
	EIEI-415 Human Factors			4
	EIEI-481 Management Theory & Practice			4
	EIEI-422 Systems & Facilities Planning			4
4	EIEI-510, 511 Applied Statistics I, II	4		4
	EIEI-402 Introduction to Operations Research II	4		
	EIEI-503 Simulation	4		
	EIEI-516 Human Factors II	4		
	EIEI-630 Computer Aided Manufacturing			4
	EIEI-530 Engineering Design			4
	* Liberal Arts (Concentration)			4
5	EIEI-560 Project Design			4
	‡ Professional Elective	8		8
	Liberal Arts (Concentration)	4		4
		3		
	* Liberal Arts (Senior Seminar)			2

See page 7 for Liberal Arts requirements.
†See page 8 tor policy on Physical Education.
‡At least one professional elective must be selected from the following courses: EMEM-431 Thermodynamics; EMEM-415 Fluid Mechanics I; EEEE-351, 352 Circuit Analysis I. II.

Careers

Some of the activities of industrial engineers include work measurements, operations research, applied statistics, human factors, plant layout, materials handling, production planning and control, manufacturing, and management consulting.

Balance rather than 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 partial listing of industrial engineering co-op assignments:

1. Hospitals
   a. improve efficiency of a patient therapy department
   b design optimal patient scheduling for physicians
   c. establish outpatient clinic staffing levels
2. Manufacturing industries
   a. perform product life studies
   b. layout new and existing work areas
   c. design and implement an information system
   d. investigate production processes involved in cleaning carbide dies
   e. investigate and analyze the costs of purchasing new vs. repairing existing equipment
   f. investigate waiting lines in connection with a product line
   g. investigate delivery service, including scheduling, route modification, and material handling
   h. assist in setting up a production control monitoring board
   i. create computer programs for pricing policies, blending problems, and truck scheduling
   j. perform downtime studies of various operations using time study and work sampling
   k. develop and computerize a forecasting model
   1. perform ergonomic studies and evaluations of workstations and product designs

Mechanical Engineering

Charles W. Haines, Head

Mechanical engineering is perhaps the most comprehensive of the engineering disciplines, and the mechanical engineer's interests encompass the design of such diverse systems as missiles, power plants, robots, and machine tools. 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 in the areas of production and economics, mechanical engineers are often called upon to assume management positions.

The Mechanical Engineering Department is staffed to offer professional courses in the areas of thermal systems, applied mechanics, manufacturing, materials science, environmental science, systems analysis, computer-aided graphics and design, robotics, and aerospace engineering. The department's laboratories are equipped to provide extensive experimentation in these areas. For instance, they include a laser doppler anemometer for measuring fluid velocities, a sting balance for measuring drag and lift, dynamic system simulators, spectrum analyzer, and a modal analysis system.

Students have an opportunity to participate in the design of a solar-powered car, which is entered in regional and national competitions. They are also encouraged to participate in the student chapters of professional societies such as ASME, SME, and SAE.

The 196-quarter-credit program provides students with a broad base of academic and practical experience. Students devote the first two years to the study of mathematics, physics, chemistry, and mechanics, while the third and fourth years emphasize engineering science fundamentals in solid body mechanics, thermal fluid sciences, and electrical engineering. A student may then specialize by choosing technical and free electives in his or her area of interest. Each of the listed technical electives includes one significant design project.

Yr.	TYPICAL BS DEGREE IN MECHANICAL ENGINEERING	196 Qtr. Credit Hrs.		
		FALL	WTR.	SPG.
1	EMEM-203 Freshman Seminar	1		
	SMAM-251, 252, 253 Calculus I, II, III	4	4	4
	SCHG-208, 209 College Chemistry I, II	4		4
	EMEM-343 Materials Processing	4		
	SPSP-311, 312 University Physics I, II		4	4
	SPSP-375, 376 University Physics Lab I, II		1	1
	EMEM-211 Intro, to Graphics		3	
	EMEM-342 Fortran			3
	*Liberal Arts (Core) 1,2	4	4	
	† Physical Education Elective	0	0	0
2	SMAM-305 Calculus IV	4		
	SMAM-306 Differential Equations		4	
	SMAM-318 Matrices and Boundary Value Problems			4
	SPSP-313 University Physics III	4		
	SPSP-377 University Physics Lab III	1		
	SMAM-314 Statistics		4	
	EMEM-336 Statics	4		
	EMEM-347 Mechanics of Materials		4	
	EMEM-348 Mechanics of Materials Lab		1	
	EMEM-344 Materials Science		4	
	EMEM-311 Computer-Aided Design			3
	EMEM-359 Dynamics			5
	* Liberal Arts (Core) 3,4	4		4
	† Physical Education Elective	0	0	0
		FALL WTR.		SPG. SMR.
3	EMEM-437 Machine Design	4		
	EMEM-440 Numerical Methods	4		
	EMEM-413 Thermodynamics	4		
	Science Elective	4		
	EMEM-415 Fluid Mechanics			4
	EMEM-416 Thermal Fluid Sci. & Energy Lab I			1
	EMEM-518 Adv. Computational Techniques			4
	EEEE-364 Digital Circuits and Microprocessors			4
	* Liberal Arts (Core) 5			4
4	EMEM-514 Heat Transfer	4		
	EMEM-543 Systems Dynamics	4		
	EMEM-545 Systems Dynamics Lab	1		
	EMEM-550 Transport Phenomenon	4		
	Liberal Arts (Core) 6	4		
	EMEM-551 Thermal Fluid Sci. & Energy Lab II			1
	Technical Elective 1,2			8
	EMEM-464 Design for Manufacture			4
				4
		FALL WTR.		SPG. SMR.
5	EMEM-630 Senior Design Project I	4		
	EMEM-631 Senior Design Project II			4
	Technical Elective 3	4		
	Free Elective 1,2	4		4
	* Liberal Arts (Concentration) 2, 3	4		4
	* Liberal Arts (Senior Seminar)			2

*See page 7 for Liberal Arts requirements.
†See page 8 for policy on Physical Education.

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Technical electives

Solid Body Mechanics
EMEM-672 Dynamics of Machinery
EMEM-694 Stress Analysis
EMEM-658 Engineering Vibrations
EMEM-615 Robotics
EMEM-620 Optimal Design
EMEM-643 Control Systems
EMEM-618 Compuer-Aided Engineering

Thermal Fluid Science
EMEM-635 Heat Transfer II
EMEM-652 Turbomachinery
EMEM-660 Refrigeration and Air
  Conditioning
EMEM-605 Applications in Fluid
  Mechanics

Aerospace
EMEM-671 Aerospace Structures
EMEM-675 Aerodynamics
EMEM-678 Propulsion
EMEM-682 Flight Dynamics

Free Elective Courses

EMEM-637 Laser Engineering
EMEM-651 Viscous Flows
EMEM-685 Advanced Strength of
  Materials
EMEM-687 Engineering Economy

Writing competency
The writing policy of the Mechanical Engineering Department requires that during the third year all students take the Test of Standard Written English (TSWE). Those receiving a scaled score of 50 or above will be certified as having satisfied the program's writing competency requirements. Those whose score is below 50 must take and pass the College of Liberal Arts course, College Writing I (0502-302), in order to satisfy competency requirements. This course is defined as an overload.

The aerospace engineering option
The Mechanical Engineering Department offers a concentration in aerospace engineering for students majoring in mechanical engineering. This option is offered to meet increased national interest in the field and to extend aerospace career opportunities to our graduates.

   The Aerospace Engineering Option allows for specialized study in the upper-level undergraduate curriculum focusing on engineering aspects of air- and-space-borne vehicles. Building on the fundamental courses completed by all mechanical engineering students, a balanced exposure to the aerospace area is gained through a sequence of five specialized courses in four broad areas: aerodynamics, aerospace structures,

propulsion, and flight dynamics. In addition, students choosing this option are expected to work on an aerospace engineering design project in Senior Design I and II, capstone design courses taken by all mechanical engineering students in the fifth year of study.

Combined five-year BS/MS degree program
In addition to the bachelor of science and master of science degree programs, a combined BS/MS degree program is also available for the mechanical engineering student. A student enrolled in this program is required to successfully complete at least 228 quarter-credit hours, after which he or she is awarded the BS and MS degrees simultaneously. A student may apply for admission to this program in the winter quarter of his or her sophomore year. A transfer student may apply after completing one quarter at RIT. Admission is based on the student's cumulative grade point average, which must be at least 3.0, three letters of recommendation from the faculty, and a personal interview with the program coordinator. All students in the program are required to maintain a cumulative grade point average of at least 3.0.

Microelectronic Engineering

Lynn F. Fuller, Head

The College of Engineering is proud to offer an undergraduate degree program in microelectronic engineering. This is the only program of its type in the United States that leads to the bachelor of science degree. Offered in conjunction with RIT's College of Imaging Arts and Sciences and the College of Science, the ABET-accredited five-year program provides the broad interdisciplinary background in optics, chemistry, device physics, computer science, electrical engineering, photographic science, and statistics necessary for entry into the microelectronic industry.

Students participate in the required co-op portion of the program after completion of their second year of school. Microelectronic engineering co-op students work for all of the major manufacturers of integrated circuits across the United States. Upon graduation students are well-prepared to enter the industry immediately or to go on to advanced work in graduate school.

Students have hands-on experience in the design and processing of integrated circuits, the vital component in almost every advanced electronic product manufactured today. The undergraduate microelectronic engineering laboratories at RIT are the best in the nation.

As the nationwide shortage of microelectronic engineers increases, RIT graduates will continue to be a valuable resource to the industry. For the students, this program offers an unparalleled opportunity to prepare for professional challenge and success in one of the leading areas of engineering of our time.

Yr.	TYPICAL BS DEGREE IN MICROELECTRONIC ENGINEERING	197 Qtr. Credit Hrs. FALL	WTR.	SPG.
1	EMCR-201 Intro, to Microelectronics	4		
	SCHG-211,212 Chemical Principles I, II	3	3	
	SCHG-205, 206 Chem. Principles I, II Lab	1	1	
	SMAM-251, 252, 253 Calculus I, II, III	4	4	4
	SPSP-311,312 University Physics I, II		4	4
	SPSP-375, 376 Physics Lab I		1	1
	EMCR-221 Intro to Microlithography			4
	* Liberal Arts (Core)	4	4	4
	† Physical Education Elective	0	0	0
2	EEEE-351 Circuit Analysis I			4
	EEEE-380 Electrical Engineering Lab I			1
	EEEE-364 Digital Circuits & Microprocessors		4	
	EMCR-3501.C. Technology			4
	ICSA-220 Fortran	4		
	SMAM-305 Calculus IV	4		
	SMAM-306 Differential Equations		4	
	SMAM-328 Engineering Mathematics			4
	SMAM-314 Statistics		4	
	SPSP-313 University Physics III	4		
	SPSP-377 Physics Lab III	1		
	SPSP-314 Modern Physics		4	
	SPSP-315 Intro. Semiconductor Physics			4
	* Liberal Arts (Core)	4		
	‡ Physical Education Elective	0	0	0

Yr.	TYPICAL BS DEGREE IN MICROELECTRONIC ENGINEERING	FALL WTR.		SPG. SMR.
3	EEEE-352 Circuit Analysis II	3		
	EEEE-441, 442 Electronics I. II	3		3
	EEEE-390,395 Electrical Engineering Lab II, III	1		1
	EEEE-455 Linear Systems			4
	EMCR-530, 540 EM Fields I, II	4		4
	PIMG-541 Fundamentals of Optics			4
	* Liberal Arts (Core)	4		
4	EMCR-520 VLSI Design			4
	EMCR-560 Device Physics	4		
	EMCR-573 Microlithography I Lab			1
	EMCR-640 Microelectronics			4
	PIMG-543 Optical Engineering	4		
	PIMG-561 Microelectronic Chem. I	4		
	PIMG-563 Microlithography I			3
	Liberal Arts (1 Core, 1 Concentration)	4		4
5	EMCR-575 Microlithography II Lab	1		
	EMCR-630 Advanced Micro. Chem	4		
	EMCR-650 I.C. Processing Lab	4		
	EMCR-660 Seminar/Research			4
	EMCR-670 Advanced Microlithography			4
	PIMG-565 Microlithography II	3		
	• Liberal Arts (Concentration)	4		4
	* Liberal Arts (Senior Seminar)			2
	Professional Elective			4

*See page 7 lor Liberal Arts requirements.
†See page 8 for policy on Physical Education.

College of Imaging Arts and Sciences

Margaret O. Lucas, Ph.D., Dean

The College of Imaging Arts and Sciences encompasses the School of Art and Design, the School for American Craftsmen, the School of Photographic Arts and Sciences, the School of Printing Management and Sciences, and the Center for Imaging Science. Students from nearly every state and many foreign countries are enrolled in the five schools.

Visits to the campus and the college are encouraged. Please contact the Admissions Office.

The School of Art and Design

The School of Art and Design enrolls approximately 1,000 students in programs leading to the following degrees.

Associate (AAS): graphic design, illustration, interior design, painting, printmaking, industrial design

Bachelor of Fine Arts (BFA): graphic design, illustration, industrial design, interior design, medical illustration, painting, printmaking

Bachelor of Science (BS): packaging design

Master of Science for Teachers (MST): art education, graphic design, industrial design, interior design, painting, printmaking

Master of Fine Arts (MFA): computer graphics design, graphic design, industrial design, interior design, medical illustration, painting, printmaking

The School for American Craftsmen

The School for American Craftsmen offers to select students crafts programs leading the following degrees.

Associate (AAS): ceramics and ceramic sculpture, glass, metalcrafts and jewelry, weaving and textile design, woodworking and furniture design

Associate in Occupational Studies (AOS): woodworking and furniture design

Bachelor of Fine Arts (BFA): ceramics and ceramic sculpture, glass, metalcrafts

and jewelry, weaving and textile design, woodworking and furniture design

Master of Science for Teachers (MST): ceramics and ceramic sculpture, glass, metalcrafts and jewelry, weaving and textile design, woodworking and furniture design

Master of Fine Arts (MFA): ceramics and ceramic sculpture, glass, metalcrafts and jewelry, weaving and textile design, woodworking and furniture design

The School of Photographic Arts and Sciences

More than 800 students are enrolled in the School of Photographic Arts and Sciences, which offers programs leading to the following degrees.

Bachelor of Science (BS): biomedical photographic communications, film/video, photo systems management, imaging and photographic technology, photographic marketing management (joint program with the College of Business)

Bachelor of Fine Arts (BFA): professional photographic illustration with major options in advertising photography, photojournalism, and fine art photography

Master of Fine Arts (MFA): imaging arts with concentrations in photography, computer animation, and museum studies

The School of Printing Management and Sciences

The School of Printing Management and Sciences has approximately 400 students, enrolled in the following degree programs.

Bachelor of Science (BS): printing, newspaper operations management, printing systems, printing and applied computer science

Master of Science (MS): printing technology, graphic arts systems, graphic arts publishing

The Center for Imaging Science

RIT offers the only imaging science program in the country. Students learn the application of physics, computer science, and mathematics to the formation, recording, and perception of images. Degrees offered include the following.

Bachelor of Science: imaging science

Master of Science: imaging science, color science

Ph.D.: imaging science

Resources
The college's specialized laboratories, studios, advanced computer facilities, and wide range of equipment make it the most complete of any degree-granting institution in the fields of photography, printing, imaging science, art and design, and craftsmanship.

Photographic archives and a comprehensive art library are available for reference; instructional films and other aids are utilized. Exhibitions regularly feature the work of contemporary painters, designers, photographers, and graphic artists, as well as faculty and student work. Opening receptions provide students with the opportunity to meet the artists and photographers.

Our faculty represent students' greatest resource. Selected on the basis of teaching effectiveness and ability to relate to students, they have had extensive professional and teaching experience.

Hearing-impaired students receive assistance through the NTID educational support team within the college.

Major resources available to students include:
- 160 fully ventilated darkrooms
- 50 studios
- More than $33 million worth of printing and publishing equipment in 15 laboratories
- New $8.5 million imaging science building, which houses research facilities and laboratories for photographic chemistry, digital imaging, holography, emulsion coating, optics, remote sensing, and color science
- Wallace Library, rich in photography; graphic arts publications; and contemporary periodicals in design, arts, and crafts for study and research

• Cooperative efforts with the International Museum of Photography at the George Eastman House
• Library of the Kodak Research Laboratories
• The Melbert B. Cary Jr. Graphic Arts Collection, which contains more than 14,000 volumes of rare books illustrating fine printing and other materials detailing the history of printing, book design and illustrations, papermaking, binding, and other aspects of the graphic arts
• Free student membership at the Rochester Memorial Art Gallery
• Graphic design archives

Cooperative education
Many students in the college participate in cooperative education experiences or internships. Part of the student's career exploration, this work experience provides an opportunity to observe and perform work directly related to the student's major.

The Schools of Art and Design and the School for American Craftsmen have initiated an optional summer co-op following the junior year of study. Co-op is required in the School of Printing Management and Sciences and the Center for Imaging Science and is encouraged in the School of Photographic Arts and Sciences. Students are responsible for finding their co-op positions and for performing productively. Co-op students have the opportunity to evaluate career goals before making employment decisions, develop insight into their chosen fields, gain professional experience for their resumes, and increase their potential for placement and rapid career advancement after graduation.

Junior year abroad
The School for American Craftsmen, in cooperation with the Scandinavian Seminars, offers a junior year abroad. This permits certain well-qualified students to spend their third year of study in one of the Scandinavaian countries, after which they return for a fourth year of study at RIT. Full credit for the year of satisfactory study overseas is granted toward the BFA degree if arrangements are made prior to departure.

Policy regarding student work
The School of Art and Design and the School for American Craftsmen reserve the right to retain student work for educational use or exhibition for a period of time not to exceed one and one-half quarters beyond the year the object was made. The schools also reserve the right to select an example or examples for their permanent collection. Students are reimbursed only for the cost of materials for such work.

Accreditation
The programs offered in the college are fully accredited and approved by the New York State Department of Education and the Middle States Association of Colleges and Secondary Schools. In addition the School of Art and Design and the School for American Craftsmen are accredited by the National Association of Schools of Art and Design.

Attendance regulations
Some of the programs in the college utilize experiential learning as an essential part of the educational program. Therefore, it is imperative that the student regularly attend all classes unless specifically excused for special projects or activities by the instructor. Failure to attend classes or to complete assignments will be taken into consideration in grading.

Portfolio guidelines
The following guidelines are for all undergraduate students (including transfers) applying to the School of Art and Design and the School for American Craftsmen. Presentation of the portfolio is one of the requirements used in totally assessing the applicant's performance and academic capabilities. The selection of the work to be included is an important consideration in determining skills, concepts, craftsmanship, and design sensitivity.

1. The portfolio must contain examples of at least 10 pieces of the applicant's best work. 35mm slides are required, displayed in an 8.5" x 11" vinyl slide protector page with identification. Two of the pieces should be drawings, and it is recommended that they be real-life or observational. Original work is not accepted.

   Medical illustration applicants are required to submit six additional drawings of natural forms (shells, figures, animals) rendered in a single medium.

   School for American Craftsmen applicants should submit samples of work in the area of their selected major.
2. Slides will be returned only when return postage is included.
3. While every precaution will be taken to ensure proper care and handling, the Institute assumes no responsibility for loss of or damage to slides.
4. Slides should be identified by name and address.
5. Please send portfolio and all other application materials to:
   Rochester Institute of Technology
   Office of Admissions
   Bausch & Lomb Center
   P.O. Box 9887
   Rochester, N.Y. 14623-0887
   716-475-6631

School of Art and Design

The program objectives are to prepare students for a wide variety of positions in which art is related to commerce and industry. Students are prepared to accept major responsibility for the creation and execution of projects in graphic, industrial, and interior design; painting; printmaking; illustration; and medical illustration.

The educational objectives of the School of Art and Design are to encourage imagination, creative ability, and a sense of artistic discrimination; to develop the skills essential to professional competence; to relate the various arts and to help students find the means to enjoy them; and to cooperate with the College of Liberal Arts in helping all RIT students grow culturally and socially and inspiring them to make their maximum contributions as creative artists and citizens. Aesthetic and applied concepts are brought together.

Programs
Major concentrations are offered in graphic design, industrial design, interior design, and the fine arts (painting, printmaking, illustration, medical illustration). Electives may be pursued, beginning in the second year, in painting, printmaking, industrial design, interior design, graphic design, and the crafts. The first year forms the foundation preparation for the major concentration, with courses required in drawing and two- and three-dimensional design.

Graphic design deals with systematic thinking, strong visual fundamentals, aesthetic/informational requirements, problem solving, and methodoly. New communication technologies such as computer graphics are utilized.

The industrial design program prepares students for careers in the expanding product design fields. Artistic talent and analytic thought are applied to the design process.

Interior design students study three-dimensional concepts as they relate to space, function, and aesthetic resolution. Practical design projects develop aesthetic understanding, technical abilities, sensitivity to human needs, and awareness of the social consequences of the designer's effort.

The fine arts serve the student who is interested in concentrated study in areas of painting, printmaking, illustration, or medical illustration. Students emerging from this program are prepared as professional artists and have exploratory potentialities for later careers in

teaching. An option within fine arts allows a concentration in medical illustration (see course chart, next page) for a few select students. This option leads to work in health areas.

Medical illustration students will be taught Gross Anatomy through the University of Rochester during the Spring Quarter of the junior year. A tuition surcharge will be in effect that quarter.

The credit requirements for students admitted in September 1992 in the Fine Arts (Painting, Printmaking, Illustration), Graphic Design, Industrial Design, and Interior Design programs are as follows:

	Qtr. Cr.
Required Major	87
Required Professional Electives	21
Open Electives	9
Liberal Arts	50
Art History	18
Creative Sources	6
	191

Freshman Kit for art and design students is approximately $260. There is an additional cost for supplies.

Electives

FADC-411-13	Graphic Design
FADC-511-13	Graphic Design
FADC-520	Professional Design Business Practices
FADD-320	Graphic Visualization
FADD-311-13	Industrial, Interior, and Packaging Design
FADD-411-13	3-D Computer Graphics
FADP-320	Color
FADP-321-23	Illustration
FADP-411-13	Drawing and Painting
FADP-511-13	Painting
FADR-411-13	Printmaking
FADR-511-13	Printmaking
FADP-450	Drawing Problems
FADS-411-13	Sculpture
FSCC-251-53	Ceramics I
FSCG-251-53	Glass I
FSCM-251-53	Metalcrafts I
FSCT-251-53	Textiles I
FSCT-520	Business Practices for Crafts
FSCW-251-53	Woodworking I
PPHF-207-08	Introduction to Filmmaking
PPHG-209	Introduction to TV
PPHG-207-09	Still Photography
PPRT-201-03	Typographical Composition

Yr.	GRAPHIC DESIGN, PAINTING, PRINTMAKING, INDUSTRIAL DESIGN, INTERIOR DESIGN, ILLUSTRATION MAJORS, BFA DEGREE, Typical Sequence	191 Qtr. Credit Hours		
		FALL	WTR.	SPG.
1	FADF-231, 232,233 Two-Dimensional Design	3	3	3
	FADF-241, 242, 243 Three-Dimensional Design	3	3	3
	FADF-205, 206, 207 Creative Sources	2	2	2
	FADF-210, 211, 212 Drawing	4	*4	4
	*Liberal Arts	4	4	4
	†Physical Education Elective	0	0	0
2	FSCF-225, 226, 227 Art and Civilization	3	3	3
	*Liberal Arts	4	4	4
	†Physical Education Elective	0	0	0
	§Electives (must have two studios each quarter-one which must be the core in which you are going to major)			
	HFADC-301, 302, 303 Introduction to Graphic Design	4	4	4
	1JFADU-301, 302, 303 Introduction to Industrial and Packaging Design .	4	4	4
	1FADI-301, 302, 303 Introduction to Interior Design	4	4	4
	HFADP-301, 302, 303 Introduction to Fine Arts	4	4	4
	HFADL-301, 302, 303 Introduction to Illustration	4	4	4
	FSCF-380 Contemporary Art (one quarter required; offered every quarter)	3		
	**Art History Electives (select two)		3	3
3		4	4	4
	Major (one)			
	FADL-401, 402, 403 Illustration			
	FADR-401, 402, 403 Printmaking			
	FADC-401, 402, 403 Graphic Design	6	6	6
	FADP-401, 402, 403 Painting			
	FADU-401, 402, 403 Industrial Design			
	FADI-401, 402, 403 Interior Design			
	§Art Electives (one per quarter)	3	3	3
		4	4	4
4	*Major (one)*			
	FADL-501, 502, 503 Illustration			
	FADR-501, 502, 503 Printmaking			
	FADC-501, 502, 503 Graphic Design	9	9	9
	FADP-501, 502, 503 Painting			
	FADU-501, 502, 503 Industrial Design			
	FADI-501, 502, 503 Interior Design			
	§Art Electives (one per quarter)	3	3	3

See page 7 for Liberal Arts requirements. School of Art and Design students are only required to study 20 qtr. cr. of Liberal Arts Core curriculum. They are advised to select from nine courses other than fine arts.
†See page 8 for policy on Physical Education.*
‡Upon completion of the second year, the associate in applied science degree is awarded.*
§ Additional intercollege studio courses are available by recommendation of the academic advisor and administrator. Electives are registered on a space available basis and subject to change without prior notice. Consult the advisor when planning programs.*
P Core Electives — introductory courses that are prerequisite to the respective third year major. FADC-301, 302, 303, required for entrance into Graphic Design major; FADP-301, 302, 303 for printmaking, and painting majors; FADL-301, 302, 303 for Illustration majors. However, all three Core Electives are available as elective choices.*
**Total of 18 quarter credits of Art History: Art and Civilization and Contemporary Art required.*

Art History (select two)

FSCF-300	History of Design
FSCF-310	History of Crafts
FSCF-320	History of Art Criticism
FSCF-330	Philosophy in Art
FSCF-340	Symbols and Symbol Making
FSCF-350	Asian Art
FSCF-360	18th and 19th Century Art
FSCF-370	20th Century Art
FSCF-390	Selected Topics
FSCF-420	American Art
FSCF-430	Dada and Surrealism
FSCF-440	Conceptual Art
FSCF-450	Pop Art and Pop Culture
FSCF-460	Media, Advertising, and Consciousness

Yr.	MEDICAL ILLUSTRATION OPTION, BFA DEGREE	183 Qtr. Credit Hours		
		FALL	WTR.	SPG.
	(Art and Design portfolio and additional six drawings of natural forms, to be presented as slides, are required for admission.)			
	FADF-231, 232, 233 Two-Dimensional Design	3	3	3
	FADF-241, 242, 243 Three-Dimensional Design	3	3	3
	FADF-205,206,207 Creative Sources	2	2	2
	FADF-210, 211, 212 Drawing	4	4	4
		4	4	4
	tPhysical Education Elective	0	0	0
2‡	FSCF-225, 226, 227 Art and Civilization	3	3	3
		4	4	4
	tPhysical Education Elective	0	0	0
	FADL-301, 302, 303 Medical Illustration	4	4	4
	SBIG-205 General Biology	4		
	SBIG-231, 232 Human Biology		4	4
	"Liberal Arts	4	4	4
	FADM-401, 402,403 Medical Illustration Applications	8	8	5
	§Gross Anatomy (U of R)			7
	HArt Electives	3	3	3
4		4	4	fi
	FADM-501, 502, 503 Advanced Medical Illustration	6	6	6
	"Art Elective (one per quarter)	3	3	3

*See page 7 for Liberal Arts requirements. School of Art and Design students are required to study only 20 qtr. cr. of Liberal Arts core curriculum. They are advised to select from nine courses other than fine arts.
†See page 8 for policy on Physical Education.
‡Upon successful completion of the second year, the associate in applied science degree is awarded.
   A tuition surcharge will be applied in this quarter.
   P Art Electives listed on this page.

Yr.	WOODWORKING AND FURNITURE DESIGN, AOS DEGREE	90 Qtr. Credit Hours		
		FALL	WTR.	SPG.
1	FSCW-220 Materials and Processes	5	5	5
	FADF-205, 206, 207 Creative Sources	2	2	2
	FADF-261, 262, 263 Crafts Drawing	3	3	3
	FADF-231, 232, 233 Two-Dimensional Design	3	3	3
	FSCW-231, 232, 233 Technical Drawing	2	2	2
	'Physical Education Elective	0	0	0
2	FSCW-320 Materials and Processes	7	7	7
	FADF-241, 242, 243 Three-Dimensional Design	3	3	3
	FSCW-331, 332, 333 Furniture History	3	3	3
	FSCW-341, 342, 343 Wood Professional Practices	2	2	2

• See page 8 for policy on Physical Education.

School for American Craftsmen

The program objectives are to provide for creative growth, the development of professional competence, and intellectual and cultural enrichment. Students who complete the two-year program are prepared for work in the design studios and workshops of established craftspeople or as technicians in industry. Those who complete the four-year course of study are prepared for careers as self-employed designer-craftspeople, as designers or technicians in industry, or as teachers or administrators of crafts programs.

In order to achieve the desired occupational goals, the 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 programs strive to inspire the student to seek continual improvement through analysis and self-evaluation, and the AAS and BFA programs cooperate with the College of Liberal Arts in assisting students to develop personally and socially.

Student responsibilities
Students are responsible for the care and cleanliness of their shops and for the care and maintenance of the tools and machines with which they work. No student may use any machine until instruction in its proper use has been given, and responsibility for observing safety precautions is assumed by each student upon entering the school. Some unique supplies are provided for convenience and choice, but financial obligations must be met for successful completion of courses. Fees for kiln firings, supplies, and furnace use are student responsibilities.

Programs of study
The School for American Craftsmen offers a full-time program of study with opportunity for concentration in one of five craft fields: ceramics and ceramic sculpture, metalcrafts and jewelry, weaving and textile design, woodworking and furniture design, and glass. After satisfactory completion of two years of study, the associate in applied science is granted. Those with the aptitude and interest for further study may continue for two additional years. After successful completion of the four-year program, the bachelor of fine arts is awarded.

A double crafts major will study two years in each of two craft areas. A bachelor of fine arts is awarded after four years of study.

A two-year associate in occupational studies is offered in woodworking and furniture and design. The credit requirements are:

	Qtr. Cr.
Required Craft Major	96
Required Professional Electives	12
Open Electives	6
Liberal Arts	50
Art History	18
Creative Sources	6
	188

Double crafts credit requirements are:

	Qtr. Cr.
Required Crafts (2) Major	93
Required Professional Electives	12
Open Electives	6
Liberal Arts	50
Art History	18
Creative Sources	6
	185

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description Catalog from the Admissions Office.

Yr.	CRAFT MAJORS, DOUBLE CRAFTS MAJORS*, BFA DEGREE	188 Qtr. Credit Hours		
		FALL	WTR.	SPG.
1	FADF-231, 232, 233 Two-Dimensional Design	3	3	3
	FADF-205, 206, 207 Creative Sources	2	2	2
	FADF-261, 262, 263 Drawing Crafts	3	3	3
	†Liberal Arts	4	4	4
	Materials and Processes (one)			
	FSCC-200 Ceramics and Ceramic Sculpture			
	FSCG-200 Glass			
	FSCM-200 Metalcrafts and Jewelry	5	5	5
	FSCT-200 Weaving and Textile Design			
	FSCW-200 Woodworking and Furniture Design			
	†Physical Education Elective	0	0	0
2§	FSCF-225, 226, 227 Art and Civilization	3	3	3
	FADF-241, 242, 243 Three-Dimensional Design	3	3	3
	†Liberal Arts	4	4	4
	Materials and Processes (one)			
	FSCC-300 Ceramics and Ceramic Sculpture			
	FSCG-300 Glass			
	FSCM-300 Metalcrafts and Jewelry	5	5	5
	FSCT-300 Weaving and Textile Design			
	FSCW-300 Woodworking and Furniture Design			
	†Physical Education Elective	0	0	0
3	FSCF-380 Contemporary Art (one quarter required; offered every quarter)	3		
	KArt History Electives (select two)		3	3
	†Liberal Arts	4	4	4
	Materials and Processes (one)			
	FSCC-400 Ceramics and Ceramic Sculpture			
	FSCG-400 Glass			
	FSCM-400 Metalcrafts and Jewelry	5	5	5
	FSCT-400 Weaving and Textile Design			
	FSCW-400 Woodworking and Furniture Design			
	"Electives (one per quarter)	3	3	3
4	†Liberal Arts	4	4	6
	Techniques and Thesis (one)			
	FSCC-500 Ceramics and Ceramic Sculpture			
	FSCG-500 Glass			
	FSCM-500 Metalcrafts and Jewelry	8	8	8
	FSCT-500 Weaving and Textile Design			
	FSCW-500 Woodworking and Furniture Design			
	"Electives (one per quarter)	3	3	3

*Double Crafts Major: The first two years are the same as a crafts major: third year FSC-300 (5 cr.), FSC-400 (5 cr); fourth year FSC-400 (5 cr.), FSC-500 (B cr.). BFA degree totals 185 quarter credits.
†See page 7 tor Liberal Arts requirements. School tor American Craftsmen students are required to study only 20 qtr. cr. of Liberal Ads core curriculum. They are advised to select from nine courses other than fine arts.
‡See page 8 lor policy on Physical Education.
§Upon satisfactory completion ot the second year, the associate in applied science degree is granted.
P Total ot 18 quarter credits of Art History: Art and Civilization and Contemporary Art are required.
**Additional intercollege studio courses are available by recommendation of the academic advisor and administrator. Electives are registered on a space available basis and are subject to change without prior notice. Consult the advisor when planning programs. Craft students elect in studio other than their major concentrations.

School of Photographic Arts and Sciences

Elaine O'Neil, Director

The programs of the School of Photographic Arts and Sciences are designed to prepare students for a wide range of careers in photographic and other imaging fields. Studies in photographic arts involve both technical and creative experiences for visual problem solving. The science and technology division of the school emphasizes the physical principles of imaging through studies in image evaluation, unconventional imaging applications, and computer applications, as well as other high-technology areas. All first-year BFA students in photography and students in biomedical photographic communications and technical photography are required to have their own handheld small- or medium-format camera and a professional light meter.

Students have the opportunity to supplement their course work with participation in internships, field trips, presentations by guest speakers, departmental student organizations, and related activities.

We urge our students to take advantage of our school's location. Reflecting Rochester's historic connection with photography, a comprehensive schedule of programs, including exhibitions, lectures, and seminars—is offered by the city's array of cultural institutions every year.

Degrees offered
Department of Applied Photography: BFA degree in professional photographic illustration (advertising photography and photojournalism)—Nancy Stuart, chair

Department of Biomedical Photographic Communications: BS degree in biomedical photographic communications—Michael Peres, chair

Department of Film/Video: BS degree in film/video—Malcolm Spaull, chair

Department of Fine Art Photography: BFA degree in professional photographic illustration, fine art photography option; MFA degree in imaging arts—Martha Leinroth, chair

Department of Imaging and Photographic Technology: BS degree in imaging and photographic technology—Glenn Miller, chair

Department of Photo Systems Management—BS degree in photo systems management—-James Rice, chair

Graduate programs
The School of Photographic Arts and Sciences offers the MFA in imaging arts with two areas of concentration: photography and computer animation. We also offer graduate-level courses of study in photographic preservation and archival practice. The MFA degree is described in the Graduate Bulletin, available from the Admissions Office.

Summer session
The School of Photographic Arts and Sciences offers a wide selection of photographic courses in the Summer Session. These range from beginning photography courses to those requiring a substantial photographic background. For detailed information, write the asociate director of the school.

Memberships
The school maintains memberships in a number of professional organizations: American Management Association, American Society of Training and Development, Association of Professional Color Laboratories, College Art Association, Biological Photographic Association, National Microfilm Association, Ophthalmic Photographic Society, Professional Photographers of America, Society of Motion Picture and Television Engineers, Society of Photographic Scientists and Engineers, Society for Photographic Education, University Film Association.

Transfer admission
Transfer credits from accredited institutions are evaluated on a course-by-course basis. Transfer credits for photography courses are awarded on the basis of a portfolio in addition to course work with a grade of C or better. The portfolio will be reviewed by the department chair. (Portfolio guideleines are available from the Office of Admissions.)

Articulation agreements, which specify the number of transfer credits that are acceptable from another institution, are in effect with approximately 20 colleges and universities.

Writing Policy
In accordance with RIT writing policy, the school has established that all students who intend to receive a bachelor's degree must attain a grade of B or higher in English Composition. (A grade of A or B transferred from another college or earned through advanced placement will satisfy this requirement.) A copy of the school's official writing competency policy may be obtained from the Director's Office or from the Department of Academic Services.

Summer transfer programs
Students who meet the requirements for course work and portfolio work may be accepted into one of several summer transfer programs. These 10-week sessions of intensive study bring students to a second- or third-year technical level in their photography programs. Descriptions of the requirements for each program and year level are indicated below.

Second-year transfer credit requirements

Imaging and Photographic Technology—To become a fall transfer into the sophomore year, candidates must complete a Summer Transfer Program and should have previously completed the following college-level coursework: at least one year of mathematics, including an introductory calculus course; at least four liberal arts courses; and three courses in B&W photography. Additional photography courses may exempt a student from Photography I, a requirement in the Summer Transfer Program. Credit for this is evaluated by transcript and submission of a portfolio. Other credits earned may also be accepted for transfer to upper years. This includes college physics, liberal arts, technical writing, computer programming, chemistry, and additional mathematics.

Biomedical Photographic Communications—Normally a minimum of 32 credit hours in which there are 12 credit hours of liberal arts, 8 of science, and 12 of photography. Students must also complete the 10-week intensive summer courses, Photography I and Materials and Processes of Photography.

Applicants may submit a transcript of college courses completed and request a transfer credit audit. Transfer credit for Photography I is based on acceptable comprehensive portfolio review, satisfactory completion of an appropriate college photography course, and/or evidence of appropriate work experience.

Advertising Photography Photojournalism—Normally a minimum of 30 quarter credits, of which there are 6 credits in design, 12 in liberal arts, and 12 in photography, photography and studio art, or an accepted equivalent. The student may be required to complete the 10-week intensive summer courses, Photography I, Creative Problems, and Introduction to Color Photography.

Third-year transfer credit requirements

Fine Art Photography—After successfully completing one year in RIT's BFA foundation program or at an accredited college with an acceptable portfolio (RIT summer transfer course may be required), the student may major in fine art photography in the second, third, and fourth years.

Advertising Photography Photojournalism—Normally an applicant must have completed an associate degree or equivalent of two years of college with a major in photography (a minimum of 30 quarter credits of photography) plus studio art courses for a minimum of 12 quarter credits; liberal arts for 24 quarter credits; and art history for 9 quarter credits. The student must also complete the 10-week intensive summer course, BFA Photography, and must make up the courses Materials and Processes of Photography and History and Aesthetics of Photography. Portfolio required.

   Entry into advertising photography or photojournalism requires a portfolio review as well as evaluation of transfer credit

   If a student has completed two or more years of intensive study in photography at an accredited school, he or she may submit a portfolio for evaluation by the BFA faculty. A list of the requirements for submission of the portfolio may be obtained from the RIT Office of Admissions, Bausch & Lomb Center, P.O. Box 9887, Rochester, N.Y., 14623-0887.

Biomedical Photographic Communications

Michael Peres, Chairperson

The program prepares students for a photographic career in hospitals and other medical settings such as ophthalmic clinics and veterinary or research centers as well as in other life science situations. The biomedical photographer can be involved in all areas of still imagery—electronic and silver—as well as film and video.

The first-year courses introduce basic principles and theories plus practical experience with photographic equipment and processes. Medical and biological subject matter is included in these first-year practical experiences.

The second year continues to prepare the student with courses in photomacrography, photomicrography, and other studies required for this career. The courses prepare the student for a summer internship in a medical or scientific facility. Completion of the internship is required for the associate degree in biomedical photography.

The junior and senior years include electives in advanced photomacrography and photomicrography, computer graphics, television, advanced color printing, and many others selected in consultation with the advisor. Flexibility is provided to allow students to explore many career-oriented areas of photography. The professional concentration courses in the senior year also encourage students to research a photographic area specific to their career direction.

The Biological Photographic Association, one of the certifying and registering professional organizations in the field, has cooperated in the preparation of criteria and in program development. Thus the RIT program can provide the educational background to start work to become a registered biomedical photographer (RBP) after the student enters the profession. The curriculum is also organized to assist students in preparing for the certified retival angiographer (CRA) exam.

Yr.	BS IN BIOMEDICAL PHOTOGRAPHIC COMMUNICATIONS	189-198 Qtr. Credit Hours		
		FALL	WTR.	SPG.
1	PPHB-050 Freshman Seminar	0		
	PPHB-201, 202, 203 Biomedical Photography I	**6**	**6**	6
	PPHT-211,212,213 Materials and Processes of Photography	3	3	3
	PPHB-211 Survey of Biomedical Photography			1
	SBIG-211, 212 Human Biology		4	4
	ICSA-200 Survey of Computer Science	3		
	* Liberal Arts (Core)	**4**	**4**	**4**
	† Physical Education	0	0	0
2	PPHB-301, 302, 303 Biomedical Photography II	5	5	5
	PPHT-311 Color Photography/Design	**4**		
	PPHT-312 Color Printing/Theory		4	
	PPHB-331,332 Preparation of Biomedical Visuals		3	3
	SCLG-301 Medical Terminology	3		
	* Liberal Arts (Core)	**4**	**4**	**8**
	† Physical Education	0	0	0
	‡Summer Quarter Internship for 10 weeks in a medical setting			
3	PPHB-415 AV Production 1	**4**		
	PPHB-401,402 Advanced Photography in Bio. Comm		**4**	**4**
	§ Professional Electives	3-4	3-4	3-4
	1 Science Electives	3-4	3-4	3-4
	* Liberal Arts (Concentration)	**4**	4	4
	Summer Internship (Optional)			
4	PPHB-501, 502, 503 Photographic Concentration	4	**4**	**4**
	Business Electives	4	**4**	**4**
	§ Professional Electives	3-4	3-4	3-4
	* Liberal Arts (Elective)	4	**4**	4
	* Liberal Arts (Senior Seminar)		2	

*See page 7 for Liberal Ms requirements.
fSee page 8 tor policy on Physical Education.
‡Associate degree awarded upon successful completion of second year and the internship.
§Possible recommended professional electives:
 Ophthalmic Photography
 Video Portable
 Holography
Electives will be made with the chair's permission. Selected professional courses may be substituted for 4, 8, or 12 credits with written permission of advisor.
lOptions include:
 Electron Microscopy
 Medical Terminology
 Computer courses
 Advanced courses in the Biological Sciences

Film/Video

Howard Lester, Chairperson

The degree program in film, video, and animation is for students who recognize the moving image as an expressive force uniquely important to modern life. It will acquaint students with film, video, and animation as creative media and develop their production skills.

The curriculum emphasizes production and encourages professional internships, usually during the summer.

Through lectures and laboratories students develop individual skills in moving image communications and learn the aesthetic principles governing the art. Elective courses are offered to students in applied photography, photographic technology, and the MFA in imaging arts. Other RIT students with a basic knowledge of photography may enroll with the permission of the instructor.

Students typically produce several short films or programs, working through all phases of production: scripting, production planning, budgeting, shooting, sound editing, and working with a laboratory. Students combine their learning of visual and sound artistry through hands-on experience with camera and sound equipment. Because film, video, and animation projects are often designed by individual students, a wide variety of styles and intentions are expressed in the department's work.

Yr.	BS IN FILM/VIDEO	181-189 Qtr. Credit Hours		
		FALL	WTR.	SPG.
1	PPHF-199 Freshman Seminar			2
	PPHF-321 Writing for Film Video I		3	
	PPHF-201, 202 Film Production I, II	5	5	
	PPHF-207 Intro, to Portable Video			4
	PPHF-220 Creative Processes I		2	
	PPHF-210 Materials & Processes of the Moving Image I	2		
	Non-Photo Elective			4
	"Liberal Arts (Core)	**8**	4	4
	† Physical Education	0	0	0
2	‡ Science	4	4	4
	PPHF-311 Portable Video Production	4		
	PPHF-312 Studio & Documentary Video		4	
	PPHF-324 Introduction to Animation	4		
	PPHF-310 Materials & Processes of the Moving Image II	2		
	PPHF-322 Writing for Film Video II			3
	* Liberal Arts (Core)	4	4	4
	Production Emphasis			
	PPHF-205 History & Aesthetics of the Moving Image		3	
	PPHF-434 Advanced Video			3
	Writing/Directing Emphasis			
	PPHF-205 History & Aesthetics of the Moving Image		3	
	PPHF-350 Directing the Actor			3
	Graphics Emphasis			
	PPHF-325 Introduction to Animation II		4	
	PPHF-326 Animation Production			4
	PPHF-206 Film History & Aesthetics			3
	† Physical Education	0	0	0
3	Non-Photo Elective	4	4	4
	PPHF-411 Intro, to Synchronous Film Production	5		
	PPHF-410 Materials & Processes of the Moving Image III	2		
	PPHF-205 History & Aesthetics of the Moving Image	3		
	PPHF-404 Seminar Project Seminar			1
	* Liberal Arts (Concentration)	4	4	4
	Production Emphasis			
	PPHF-412 Narrative Film Production I		5	
	Photo Elective		3 or 4	
	PPHF-420 Sound Recording			3
	PPHF-413 Narrative Film Production II			5
	Writing/Directing Emphasis			
	PPHF-412 Narrative Film Production I		5	
	Photo Elective		3	
	PPHF-435 Advanced Script Writing		3	
	PPHF-413 Narrative Film Production II			5
	Graphics Emphasis			
	PPHF-427 Microcomputer Animation I		4	
	PPHF-428 Microcomputer Animation II			4
	Photo Elective		3 or 4	3 or 4
4	Non-Photo Elective			4
	PPHF-541, 542 Senior Production I, II	6	6	
	PPHF-543 Post-Production			4
	Photo Electives	3-4	3-4	
	* Liberal Arts (Electives)	4	4	4
	* Liberal Arts Seminar			2

' See page 7 tor Liberal Arts Requirements.
fSee page 8 lor policy on Physical Education.
‡ Recommended Science Electives
  ICSA-200 Survey of Computer Science   4 cr.
  tCSP-208 Introduction to Programming   4 cr.
  ICSP-210 Program Design and Validation   4 cr.
  SBIG-289 Contemporary Science-Biology   4 cr. (FWS)
  SBIB-201, 202, 203 General Biology   4cr.
  SCHG-289 Contemporary Science-Chemistry   4 cr. (FWS)
  SPSP-289 Contemporary Science-Physics   4 cr. (FWS)

Imaging and Photographic Technology

Glenn Miller, Chairperson

The curriculum blends a traditional professional photography program with specialized education in technical, industrial, and scientific imaging applications.

It prepares students for entry into any of a variety of picture-making and non-picture-making positions by providing them with a broad background adaptable to a variety of fields. Students' technical skills are complemented by traditional course work in mathematics, computers, science, and liberal arts, including technical writing.

At the same time, however, students develop expertise in a professional or technical field of their choice by taking at least six courses in any one of eight areas of concentration.

The picture-making aspects of photography are included in all four years of the program, with a transition from a comprehensive course in black-and-white photography through color photography and color printing, audiovisual presentations, and television production. The required technical courses include Photographic Sensitometry, Optics and Chemistry, Color Measurement, Photomacrography-Photomicrography, and High-Speed Photography. Also available are a variety of technical and photographic electives such as Holography, Digital Image Processing, Scanning Electron Microscopy, Architectural Photography, Nature Photography, Dye Transfer, and Photoinstrumentation Applications.

In their last two years, students may choose a field of concentration (refer-to section at right). While every student's core program is similar, each graduate's background varies with his or her choice of concentration area.

Another unique feature of the program is that graduates complete at least two required cooperative education work blocks before graduation. Co-op is a definite asset to graduates of any program.

An employment survey conducted by the School of Photographic Arts and Sciences shows the need for graduates with photographic technology backgrounds. Recent graduates of this program are employed as photographic technologists or research associates in various industrial, scientific, or business enterprises; as photographic engineers or junior engineers in a number of imaging-related disciplines; as technical and sales representatives; technical illustrators; high-speed photographers; and as corporate, industrial, advertising, and commercial photographers. The department chairperson has a comprehensive list of graduates' careers.

The Technical Photography Student Association promotes professionalism among students and interaction with the imaging and photographic technology industry. The association regularly invites professionals to RIT for lectures and demonstrations.

Concentration electives (third and fourth years, imaging and photographic technology
Students may pursue one of the following areas of concentration: photographic instrumentation; film/video; business; graphic arts; photo systems management; audiovisual communications; still photography and color printing; science and engineering. The concentrations are intended as planning guides. At least three courses from any one concentration are required to constitute a major concentration area.

Yr.	BS IN IMAGING & PHOTOGRAPHIC TECHNOLOGY	197 Qtr. Credit Hours		
		FALL	WTR.	SPG.
1	**Photographic Technology I**			
	PPHT-201, 202, 203 Photography I	7	7	7
	PPHT-211, 212, 213 Materials & Processes of Photography	3	3	3
	PPHT-220,221 Survey of Imaging & Photographic Technology	0	0	1
	* SMAM-204 College Algebra	4		
	SMAM-214, 215 Introductory Calculus		3	3
	† Liberal Arts (Core)	4	4	4
	‡ Physical Education	0	0	0
2	**Photographic Technology II**			
	PPHT-301 Photographic Sensitometry	3		
	PPHT-302 Technical Photographic Chemistry		3	
	PPHT-303 Photographic Optics			3
	Color Photographic Systems			
	PPHT-311 Color Photo/Design	4		
	PPHT-312 Color Printing Theory		4	
	PPHT-313 Color Measurement			4
	PPHT-321 Applied Computing for Tech. Photography	3		
	SPSP-211, 212, 213 College Physics	3	3	3
	SPSP-271, 272, 273 College Physics Lab	1	1	1
	† Liberal Arts (Core)	4	4	4
	‡ Physical Education	0	0	0
	§ Summer: Co-op (No. 1)			
3	1 Concentration Electives	4	4	4
	Photographic Technology III			
	PPHT-415 System Design for Graphic Presentations	3		
	PPHB-425 Producing Audiovisual Presentations		4	
	PPHT-412 Photomacrography/Photomicrography			3
	PPHF-310 M & P of the Moving Image II	2		
	PPHF-207 Intro, to Portable Video	4		
	ICSA-208 Introduction to Programming			4
	Technical Writing	3-4		
	† Liberal Arts		8	4
	§ Summer: Co-op (No. 2)			
4	t Concentration Electives	4	4	4
	Photographic Technology IV			
	PPHT-501 High-Speed/Time-Lapse	3		
	PPHT-502 Introduction to Research	1		
	PPHT-503 Senior Project		3	
	PPHT-504 Survey of Nonconventional Imaging			3
	BBUB-430 Organizational Behavior	4		
	Business Elective			4
	† Liberal Arts (Concentration/Elective)	4	8	4
	† Liberal Arts (Senior Seminar)			2

• Waiver (with credit) by examination. Exemption (without credit) on recommendation of instructor.
fSee page 7 for Liberal Arts requirements.
fSee page 8 for policy on Physical Education.
§Co-op experiences may be scheduled during the school year as well but this may disrupt normal course schedule.
1Concentration course credits may vary from 3 to 5, but should total approximately 24. A minimum of 197 quarter credit hours are required for the BS degree.
NOTE: Some courses are offered more than once during school year.

Photographic Marketing Management

Offered jointly by the College of Business and the College of Imaging Arts and Sciences, RIT's program in photographic marketing is the only one of its kind in the country.

This rigorous program is designed to provide students with a thorough knowledge of the photographic process and a solid background in business administration with courses in economic, finance, and marketing principles. The combination of work in these two disciplines prepares students for a multifaceted management-level career in the photographic business. Employment opportunities include customer service positions in photofinishing and professional color laboratories and management positions with photographic manufacturers and retailers. For further information, including transfer requirements, contact the College of Business or the College of Imaging Arts and Sciences.

Yr.	BS IN PHOTOGRAPHIC MARKETING MANAGEMENT	192 Qtr. Credit Hours			
		FALL	WTR.	SPG.	SMR.
1	SMAM-225 Algebra for Management Science	4			
	GSSE-301 Principles of Economics I	4			
	BBUM-201 Introduction to the Retail Industry		4		
	SMAM-226 Calculus for Management Science		4		
	GSSE-302 Principles of Economics II		4		
	ICSA-200 Survey of Computer Science			4	
	BBUA-301 Financial Accounting			4	
	* Liberal Arts (lower division core)	8	4	8	
	† Physical Education	0	0	0	
2	PPHA-207, 208, 209 Still Photo I, II, III	3	3	3	
	BBUM-301 Retail Accounting and Merchandise Control		4		
	BBUQ-330 Data Analysis	4			C
	BBUA-302 Managerial Accounting	4			O
	BBUQ-334 Management Science		4		O
	BBUA-319 Legal Environment of Business	4			p
	BBUB-312 Career Seminar			2	
	* Liberal Arts (lower division core)		4	4	
	* Liberal Arts (upper division concentration)			8	
	† Physical Education	0	0	0	
3	PPHT-211,212,213 Materials & Processes of Photography .	3	3	3	
	BBUF-441 Corporate Finance		4		
	BBUM-463 Principles of Marketing	4			c
	BBUM-401 Retail Store Operations & Management			4	O
	BBUQ-401 Operations Management			4	O
	BBUB-430 Organizational Behavior			4	p
	* Liberal Arts (upper division concentration or elective)	8	8		
4	BBUQ-505 Information Systems		4		
	BBUB-507 Business Environment	4			
	PPHT-311 Color Photography Design	4			
	BBUM-501 Senior Seminar in Retail Management			4	
	PPHT-312 Color Printing Theory		4		
	PPHM-320 Mechanics of Photographic Hardware I	4			
	BBUB-551 Policy & Strategy			4	
	PPHM-321 Mechanics of Photographic Hardware II		4		
	PPHM-310 Survey of Production Processing & Finishing		2		
	Free Electives			4	
	* Liberal Arts (Senior Seminar)			2	

'See page 7 tor Liberal Arts requirements.
fSee page 8 for policy on Physical Education.
 NOTE: Students are expected to complete co-op requirements during the junior and senior years in accordance with specific requirements for their major. General co-op guidelines tor the College of Business are discussed on page 42.

Photo Systems Management

James E. Rice, Chairperson

The purpose of this curriculum is to teach students how to get the most out of the sensitized photographic products, equipment, chemicals, and people available to them in a business environment. While a significant amount of theory is presented, the emphasis is on optimizing the results of less-than-perfect situations in a rapidly changing industry.

Students will have the opportunity to study in the program's fully equipped photo laboratory and experience the problems of, and work out solutions to, supervision and training situations that arise. Product costing, inventory, and manpower control are integral parts of the curriculum.

Emphasis is also given to pollution abatement, minimum effluent, and recycling procedures. Laboratory organization provides the opportunity for the student to learn both the theory behind the various types of equipment and the strengths and weaknesses of each type in a production situation.

Graduates learn an appreciation of the changes that are taking place and will continue to occur in the world of imaging. The need to carefully analyze developments and the application of reason and logic to the analysis is emphasized.

A 10-week internship in the photo industry is a requirement for all students.

The program objective is to provide the industry with individuals who possess technical knowledge of the photographic process, understand the basic principles of electronic imaging, are trained in business skills, and are capable of understanding what is required of management in the photo lab industry.

Yr.	BS IN PHOTO SYSTEMS MANAGEMENT	180 Qtr. Credit Hours			
		FALL	WTR.	SPG.	SMR.
3*	PPHM-441,442,443 Basic Photo Lab Oper. 1, II, III	4	4	4	I N T E R N S H I P
	PPHM-315,316 Electricity & Electronics I, II	4	4		
	PRRM-262, 263 Technical Writing		2	2	
	BBUA-301 Financial Accounting	4			
	BBUA-302 Managerial Accounting		4		
	BBUM 463 Principles of Marketing			4	
	OR				
	PPHT-211,212,213 Materials & Processes of Photography..	(3)	(3)	(3)	
	† Liberal Arts (Concentration)	4	4	4	
	Professional Electives			4	
4	PPHM-521, 522 Advanced Photo Lab Oper. I, II	4	4		
	PPHM-530 Photo Lab Materials	2			
	PPHM-420 Statistical Quality Control			3	
	BBUB-430 Organizational Behavior		4		
	PPHM-401 Photo Process Control	4			
	PPHM-525 Photo Lab Management			4	
	Professional Electives		4	4	
	* Liberal Arts (Electives)	4	4	4	
	* Liberal Arts (Senior Seminar)	2			

'Years 1 and 2 of program are identical to those in Imaging and Photographic Technology; see page 83.
tSee page 7 for Liberal Ads requirements.
This program is designed tor the transfer student. Applicants should have 60 semester credit hours or 90 quarter credit hours pnor to starting the third year. A summer transfer program is available and is recommended tor those students without previous photographic or business courses. For those students who desire a tour-year program, the first two years of the Imaging and Photographic Technology Program are an excellent foundation. For further intomnation. contact the chairperson.

Advertising Photography

Nancy Stuart, Chairperson
Department of Applied Photography

RIT's program in advertising photography prepares students to express their creativity in the challenging world of a commercial studio, an advertising agency, or a corporate setting. Whether the subject is a fashion model or a new automobile, RIT students have both the technical and artistic background to create the desired picture. Graduates receive a bachelor of fine arts degree in professional photographic illustration.

Photojournalism

World events today are often etched not by words, but by photographs. RIT's photojournalism program, which leads to a bachelor of fine arts degree in professional photographic illustration, provides the education in both photographic techniques and the artistry of capturing events on film for magazines, newspapers, and independent projects. RIT graduates of this program are well-respected: alumni have won five Pulitzer Prizes in photojournalism since 1980. Although the emphasis is on photography, all students are required to take a journalism course. Students also have the opportunity to explore related disciplines, such as electronic printing and newspaper production.

Areas of concentration
Advertising photography and photojournalism are flexible enough to provide for each student's particular needs. The first two years are the same for both programs. After the second year, students plan programs that will fulfill their objectives. With an advisor, a tentative two-year program is planned for available courses that will meet the professional BFA requirements.

Yr.	ADVERTISING PHOTOGRAPHY OPTION (BFA In Professional Photographic Illustration)	193 Qtr. Credit Hours		
		FALL	WTR.	SPG.
1	PPHL-201, 202, 203 Applied Photo I	7	7	5
	PPHL-205, 206 Creative Problems	3	3	
	PPHL-207 Intro, to Color			3
	FADF-221, 222, 223 Design for Photo I	2	2	2
	* Liberal Arts (Core)	4	4	4
	† Physical Education	0	0	0
2	PPHL-311, 312, 313 Applied Photo II	5	5	5
	PPHA-301, 302, 303 History & Aesthetics of Photo	3	3	3
	FADF-321, 322, 323 Design for Photo II	2	2	2
	PPHT-211, 212,213 Materials & Processes of Photography	3	3	3
	PPHL-315 Colloquia		1	
	* Liberal Arts (Core)	4	4	4
	† Physical Education	0	0	0
3	PPHL-441, 442, 443 Advertising Photography I	5	5	5
	Photo Electives	3-4	3-4	3-4
	FSCF-225, 226, 227 Art & Civilization	3	3	3
	* Liberal Arts (Concentration)	4	4	4
4	PPHL-541, 542, 543 Advertising Photography II	5	5	5
	Photo Electives	3-4	3-4	3-4
	PPHL-461 Prof. Operations Management		4	
	* Liberal Arts (Electives)		4	4
	* Liberal Arts (Senior Seminar)	4		2

' See page 7 tor Liberal Arts requirements.
fSee page 8 lor policy on Physical Education.

	PHOTOJOURNALISM OPTION (BFA in Professional Photographic Illustration)	185-191 Qtr. Credit Hours		
		FALL	WTR.	SPG.
1	PPHL-201, 202, 203 Applied Photo I	7	7	5
	PPHL-205, 206, Creative Problems	3	3	
	PPHL-207 Intro, to Color			3
	FADF-221, 222, 223 Design for Photo I	2	2	2
	* Liberal Arts (Core)	4	4	4
	† Physical Education	0	0	0
2	PPHL-311, 312, 313 Applied Photo II	5	5	5
	PPHA-301, 302, 303 History & Aesthetics of Photo	3	3	3
	FADF-321, 322, 323 Design for Photo II	2	2	2
	PPHT-211, 212, 213 Materials & Processes of Photography	3	3	3
	PPHL-315 Colloquia		1	
	* Liberal Arts (Core)	4	4	4
	† Physical Education	0	0	0
3	PPHL-416, 417,418 Photojournalism I	5	5	5
		3-4	3-4	3-4
	FSCF-225, 226, 227 Art & Civilization	3	3	3
	* Liberal Arts (Concentration)	4	4	4
4	PPHL-516, 517, 518 Photojournalism II	5	5	5
	Photo Electives	3-4	3-4	3-4
	PPHL-461 Prof. Operations Management		4	
	"Liberal Arts (Electives)	4	4	4
	* Liberal Arts (Senior Seminar)			2

' See page 7 for Liberal Arts requirements.
fSee page 8 tor policy on Physical Education.

Fine Art Photography

Ken White, Chairperson

If your interests are in art and photography, you should consider fine art photography as your major. Our program is designed to encourage and facilitate your artistic development, sensitivity, and uniqueness as a visual artist. Our purpose is not to train you for a specific job in photography, but rather to provide you with a rich potential for growth and change and for a lifetime of interesting and challenging work in photography and related fields. Students majoring in fine art photography receive the BFA degree in professional photographic illustration.

Career opportunities
Graduates of our program find careers in a variety of areas: exhibiting artists, teachers, picture editors, picture research, photographer's representatives, photographic archivists, museum and gallery staff, audiovisual specialists, self-employed photographers, color printers, and film/video artists or animators. Some students choose to pursue graduate work and earn an MFA in imaging arts.

Transfer students
College students who wish to transfer to our program can do so if they are studying photography or related imaging arts areas such as painting, graphic design, communication arts, audiovisual, film, and television.

   If you would like specific information, a personal interview, tour, or an opportunity to visit classes and talk with some of our students, call the program chairperson, Ken White, at 71&475-2616.

Photography Diploma

Andrew Davidhazy, Coordinator

This sequence of courses is design to prepare students for the highly competitive field of professional photography. The requirements combine a thorough technical education in photography with an introduction to human relations or psychology. All six courses must be completed before a diploma can be earned. For further information, contact the coordinator at 716-475-2592.

	FINE ART PHOTOGRAPHY OPTION (BFA In Professional Photographic Illustration)	1RQ Otr Credit Hours		
		FALL	WTR.	SPG.
1	PPHL-201, 202, 203 Applied Photo I	7	7	7
	PPHL-205, 206 Creative Problems	3	3	
	PPHL-207 Intro, to Color			3
	FADF-221, 222, 223 Design for Photo I	2	2	2
	* Liberal Arts (Core)	4	4	4
		0	0	0
2	PPHA-313,314 Introduction to Fine Art Photography	4	4	
	PPHA-301, 302, 303 History & Aesthetics of Photography	3	3	3
	PPHA-323 Photo Media Survey			3
	ICSA-200 Survey of Computer Science	4		
	Visual Imaging Electives (or Materials & Processes)	3	3-7	3-8
	" Liberal Arts (Core)	4	4	4
	† Physical Education	0	0	0
3‡	PPHA-401, 402, 403 Photography as a Fine Art 1	4	4	4
	FSCF-225, 226, 227 Art & Civilization	3	3	3
	PPHA411, 412, 413 Contemporary Issues	2	2	2
	Visual Imaging Electives	3-4	3-4	3-4
	* Liberal Arts (Concentration)	4	4	4
4	PPHA-501, 502, 503 Photography as a Fine Art II	4	4	4
	FSCF-380 Contemporary Art	3		
	Visual Imaging Electives	3-4	7-8	7-8
	* Liberal Arts (Electives)	4	4	4
	* Liberal Arts (Senior Seminar)			2

" See page 7 for Liberal Arts requirements.
fSee page 8 for policy on Physical Education.
‡Students wishing to do so can elect to take their third year off campus in this country or abroad.

PHOTOGRAPHY DIPLOMA PROGRAM	Credit Hour*
PPHP-201, 202, 203 Basic Professional Photography	12
PPHP-211, 212, 213 Color Photography	12
PPHP-241, 242, 243 Commercial Photography	9
PPHP-231, 232, 233 Portrait Photography	9
OR	
PPHP-321, 322,323 Commercial Retouching	3
CHGL-240 Interpersonal Communication Skills	4
OR	
CHGS-211 Psychology: Introduction	4
	49

AAS Program in Professional Photography

Andrew Davidhazy, Coordinator

The associate program in professional photography provides students with a balanced education comprised of courses in science, general education, and applied photography. Specific educational goals can be met through careful selection from a list of professional electives.

Although competition in commercial, advertising, and free-lance photography is very great, there is a need for qualified technicians and specialists, particularly in the fields of marketing, training, medicine, graphic arts, photofinishing, law enforcement, and others.

Requirements
The AAS degree is awarded after completion of all courses in Phases I and II (see chart). Transfer students seeking a degree must complete 45 credits at RIT.

Courses are designed for students with well-defined career objectives, but most are also suitable for improving photographic background or providing training that helps further job skills. For any information, contact the coordinator at 716-475-2592.

Course requirements, Professional Photography (PPHH), AAS degree

		MATHEMATICS ANHISCIENCE	Qtr. Cr.	GENERAL EDUCATION	Qtr. Cr.	PROFESSIONAL	Qtr. Cr.
5 1 0 ? . $ o O)	1	Technical Mathematics .... CTAM-201, 202 or Mathematical Thought and Processes .... CTAM-205 and Modern Mathematical Methods CTAM-206	B B	Communications* CHGL-220 and Literature ..CHGH-260 or Dynamic Comm. I* ..CHGL-204 and Dvn. Comm. It CHfil-?0S Psychology . CHGS-211	8 8 4 4	Basic Professional Photography PPHP-201 202 203 Professional Electives	12 12
	Phase 2	Electives	12	CHRR-PPI Electives	4 4	Color Photography PPHP-211 212 213 Professional Electives	12 15

All electives lor degree seeking students are to be selected with coordinator's approval. At least 15 quarter credits must be from the photography area.

• These communications courses required a pretest; call 475-2234 for information. Students who take CHGL-204 should also take CHGL-205; students who take CHGL-220 should also take CHGH-260.

Center for Imaging Science

Dr. Robert Johnston, Interim Director

Students in RIT's Imaging Science Program study the applications of physics, computer science, chemistry, and mathematics to the formation, recording, and perception of images. Design of imaging systems, evaluation of the images they produce, and the application of those systems to a broad range of careers in industry, business, and government are all part of the imaging science curriculum. Concentrations include digital image processing, remote sensing, photographic chemistry, and optics. In addition a concentration in color science is offered in the Munsell Color Science Laboratory within the Center for Imaging Science. Both theoretical studies and practical application of technologies are integral parts of the program.

Imaging science is grounded in the physical and mathematical sciences. Built on this background are advanced studies in imaging principles, chemistry, optics and optical instrumentation, color science and technology, photometry and radiometry, image microstructure, analysis and evaluation of imaging systems, digital image processing, and remote sensing.

Career opportunities exist around the country in areas such as aerospace technology, office information systems, information handling, microelectronics, scientific and optical instrumentation, graphic arts, and photographic materials and systems. Graduates are employed in industrial and governmental research, marketing, and technical representation.

The imaging science faculty are deeply committed professionals who divide their time between teaching and the pursuit of technological advances. In addition, adjunct faculty members from local industry add their experience to the students' education.

The center provides research support and performs contract work for industry and government. This research ensures that students are exposed to the latest developments in a rapidly expanding field.

The Center for Imaging Science offers four programs leading to both undergraduate and graduate degrees: a four-year bachelor of science degree and two master of science programs for students with a bachelor's degree in science or engineering. In addition to the MS degree in imaging science, the center also offers an MS degree in color science and a Ph.D. in imaging science.

Yr.	IMAGING SCIENCE, BS DEGREE	194 Qtr. Credit Hours		
		FALL	WTR.	SPG.
1	PIMG-231 Survey of Imaging Science	3		
	PIMG-232 Imaging Science Seminar		2	
	PIMG-233 Introduction to Imaging Science			2
	PIMG-241 Intro. to VAX/VMS C	3		
	SCHG-211,212 Chemical Principles I, II	3	3	
	SCHG-205, 206 Chemical Principles I, II Lab	1	1	
	SCHG-213 Intro. to Organic Chemistry			3
	SCHG-207 Intro. to Organic Chemistry Lab			1
	SPSP-311, 312 University Physics		4	4
	SMAM-251, 252, 253 Calculus 1, II, III	4	4	4
	* Liberal Arts (Core)	4	4	4
		0	0	0
2‡	PIMG-361 Geometrical Optics		4	
	PIMG-362 Physical Optics			4
	PIMG-345 Interaction Between Light & Matter			4
	SCHA-318 Instrumental Methods of Analysis	3		
	SCHA-311 Instrumental Methods of Analysis Lab	1		
	SMAM-305 Calculus IV	4		
	SMAM-306 Differential Equations		4	
	SMAM-331 Matrix Algebra			4
	SPSP-313 University Physics	4		
	SPSP-314 Introduction to Modern Physics		4	
	* Liberal Arts (Core)	4	4	4
	† Physical Education	0	0	0
3	PIMG-461 Radiometry	4		
	PIMG-462 Vision, Color & Psychophysics		4	
	PIMG-463 Macroscopic Imaging Systems Analysis			3
	PIMG-446, 447 Statistics I, II		4	4
	SPSP-431 Electronics			4
	Professional Electives	3-6	3-6	3
	* Liberal Arts (Core/Concentration)	8	4	4
4	PIMG-506 Research Practices & Technical Communications	3		
	PIMG-507, 508 Sr. Project		3	3
	PIMG-566 Imaging Systems Analysis	3		
	PIMG-567 Advanced Imaging Systems Analysis		3	
	PIMG-568 Quantum Limitations of Imaging Processes			3
	Professional Electives		credit varies	
	* Liberal Arts (Electives)	4	4	4
	* Liberal Arts (Senior Seminar)			2

" See *page 7 tor Liberal Arts requirements.*
f*See page 8 for policy on Physical Education.*
t*Upon successful completion of the second year, the AS in general sciences may be awarded.*

A transfer program is available for the BS program in imaging science. Students with satisfactory credits in mathematics, chemistry, and physics may transfer into the program beginning with the second year by taking a transfer program during Summer Quarter.

Second-year entry transfer credit requirements
Normally a minimum of 42 quarter credit hours are required to transfer into the imaging science BS program at this level. These should include: 8 credits of general chemistry (including lab), 4 credits of introductory organic chemistry, 12 credits in differential and integral calculus, 6 credits in physics, and 12 credits in liberal arts. The student also must complete a summer course, Introduction to Imaging Science I, PIMG-220, with a grade of C or better.

Four-year program: Bachelor of Science in Imaging Science
The course content in this program is typical of science and engineering programs. The first two years contain fundamental courses in mathematics, chemistry, and physics. The student simultaneously applies these fundamentals to studies in imaging science. The imaging science core program then continues with courses in radiometry; the structure of images, color, and visions; and methods for analyzing imaging systems. Third- and fourth-year students select professional elective courses, and in the fourth year a research project is required.

School of Printing Management and Sciences

George Ryan, Interim Director

The School of Printing Management and Sciences offers a complete array of programs based on the concepts needed in all printing industry jobs and encourages customized study in other courses to develop individual talents and interests. The completeness of a student's professional education in the School of Printing and Management Sciences differentiates RIT's programs from those at other colleges.

The school's facilities are unsurpassed: students learn from more than $33 million worth of up-to-date equipment in 15 laboratories and 45,000 square feet of facilities.

Scholarships and financial aid

Our large number of successful graduates testify to the value of RIT's printing programs. No student interested in attending the School of Printing Management and Sciences should turn away without first discussing financial questions with an expert in either RIT's Financial Aid or Admissions offices.

The school enjoys substantial scholarship support from alumni and industry. More than 55 scholarships are available to School of Printing Management and Science students through the Financial Aid Office, and the school itself administers a number of other scholarships that are awarded to entering freshmen and upperclassmen on the basis of previous performance.

The Education Council of the Graphic Arts Industry also offers scholarships. Application should be made by high school students early in their senior year, beause the scholarships involve competitive exams. If information is not available from the high school, candidates may write to:

Education Council of the Graphic
  Arts Industry
3515 Forbes Ave.
Pittsburgh, PA 15213

Students who have completed high school should also contact the council. Many types of scholarships are available for students pursuing an education in graphic arts.

In addition to scholarships and other financial aid, students frequently find part-time employment in various positions on campus. The school employs students as laboratory assistants. These positions are filled on the basis of merit, but many of them are restricted to students needing financial aid. Also, part-time work may be available in the Rochester area in private printing firms and in such RIT-affiliated organizations as the Technical and Education Center of the Graphic Arts and the Research Corporation. Finally, in addition to its educational benefits, cooperative education gives some students the ability to pay part of their college costs with money earned at work.

Cooperative education

The cooperative work/study program (co-op) is an important educational feature required in all programs for at least two quarters. Co-op work/study enlarges and improves a college education by combining formal classroom learning with practical work experience. Its main purpose is educational, but in many cases students also use it to help pay the cost of college. RIT's Office of Cooperative Education and Placement helps students find co-op and permanent placements with a large number of firms.

A wide range of opportunities is available. Students have been employed by federal agencies, industrial organizations, commercial printers, the publishing industry, and service industries for the printing trade in all areas of production, customer service, and plant operations. There are no restrictions on geographic location as long as the position is related to the graphic arts area and approved by the school. Students have been employed all over the United States and in foreign countries. Three students each quarter currently co-op as printing specialists on the Queen Elizabeth II cruise ship.

Transfer credits

RIT encourages transfer students from other colleges and programs by granting the maximum possible transfer credit. Call the school at 716-475-5955 for up-to-date information, transfer recommendations, and other details about transfer credit.

Printing

Prospective students should look at all four of the school's degree programs before making a choice, but many will find the flexibility of the printing degree to be most attractive. The school offers other programs to meet important and specific industry needs (described on succeeding page), but the Printing Program attracts 80 percent or more of students enrolled in the School of Printing Management and Sciences. It allows students the greatest flexibility in customizing their programs for the careers they seek.

This program is based on a solid foundation in technical areas important to the printing industry as well as course work in relevant management disciplines. In addition, it makes available many electives from the management or technical subject areas which can be chosen according to the individual's career goals.

Program of study
The curriculum includes a broad base of core concepts courses in the first two years followed by maximum flexibility through electives in the last two years.

First-year printing courses cover the areas of aesthetics, imaging, and press. These are supplemented by three mathematics courses that cover material needed in later management and technology courses, two courses in chemistry, and four in liberal arts. The math and chemistry courses specified in the table to the right are minimum requirements. Students with good backgrounds in these subjects are encouraged to take higher level courses to enhance their overall education. The liberal arts program is described in greater detail on page 7.

The technology base begun in the first year is extended by concept courses in printing materials, print finishing and distribution, and electronic communications. A management foundation is provided by concept courses in financial controls, management planning (marketing and estimating), and leadership (production and human factors). Skills courses are required in graphic arts computer software, technical writing, and group communication. All students are required to take three courses in liberal arts and two courses in college physics. They may choose a third course in either physics or economics according to their interests.

The third and fourth years involve many elective courses. However, seven liberal arts courses and a communication course are required. Students also are required to select a printing concentration that will consume 33-45 percent of their elective credits.

Yr.	BS IN PRINTING	192 Qtr. Credit Hours		
		FALL	WTR.	SPG.
1	PPRM-099 Student Seminar	0		
	PPRT-230 Printing Processes Concepts	4		
	PPRT-250 Concepts of Design and Typography		4	
	PPRT-270 Prepress Imaging Concepts			4
	SMAM-225 Algebra for Management Sciences	4		
	SMAM-226 Calculus for Management Sciences		4	
	SMAM-319 Data Analysis			4
	* SMAM-220 Fundamentals of Trigonometry			1
	fSCHG-281,282 Chemical Foundations I, II		4	4
	‡ Liberal Arts (Core)	8	4	4
	§ Physical Education	0	0	0
2	PPRM-240 Printing Financial Controls			
	or			
	BBUA-301 Financial Accounting	4		
	PPRM-260 Printing Planning Concepts			
	or			
	H BBUM-463 Principles of Marketing		4	
	PPRM-280 Printing Management Leadership Concepts			
	or			
	1 BBUB-430 Organizational Behavior			4
	PPRM-261 Standard Software Packages	2		
	PPRT-232 Ink and Substrates	3		
	" PPRM-262, 263 Technical Writing I, II		2	2
	PPRT-234 Print Finishing and Distribution		3	
	PPRM-420 Electronic Communications in Prtg/Publishing I			4
	SPSP-211/271,213/273 College Physics I, III & Labs	4	4	
	tSPSP-212/272 College Physics II and Lab			
	or			
	GSSE-301 or 302 Principles of Economics I or II			4
	‡ Liberal Arts (Core)	4	4	4
	§ Physical Education	0	0	0
	Cooperative Education: minimum two quarters required for graduation			
3	PPRM-381 Dynamics of Personal Leadership	3		
	†† Printing Concentration and Professional Electives	9	12	12
	‡ Liberal Arts (Concentration)	4	4	4
4	†† Printing Concentration and Professional Electives	10	10	10
	‡ Liberal Arts (Elective)	4	4	4
	‡ Liberal Arts (Senior Seminar)	2		

• *Required only for those students lacking Trigonometry.*
t*Students will be advised which option to choose, based in large part upon the student's professional career objective.*
f*See page 7 for Liberal Arts requirements.*
§*See page 8 tor policy on Physical Education.*
1*SPMS student must be Junior status or above to enroll in these courses. See your advisor for scheduling of courses.*
"*Students must satisfy the Writing Competency requirement prior to graduation, either by a grade of "0" or higher in Technical Writing II or by passing the Writing Competency test given each quarter,*
ft *Each student has to complete at least one printing concentration. A printing concentration consists of seven prescribed courses totaling 21 to 28 credits. The credit hours earned in printing concentration, professional and free electives must total at least 62 quarter credit hours.*

Professional electives and printing concentrations
During the third and fourth years of the Printing Program, each student must complete 62 credits of professional electives. To meet this requirement, the student completes a specialized printing concentration and additional electives selected from the advanced printing management and technology courses. The remaining electives may be used to expand a student's area of interest or sample many other available areas. With department permission, students take courses from other RIT colleges either as part of their concentration or as electives. The School of Printing Management and Sciences, however, offers more than 70 courses in the fields of printing management, aesthetics, and technology.

The concentration requirement in the printing degree builds a body of in-depth knowledge, a kind of expertise. Each printing concentration consists of seven related courses and allows a student to focus on a specialized career path. In addition, with faculty approval, customized concentrations may be developed. Students work closely with faculty concentration advisors. Following is a **partial** list of printing concentrations.

Printing Concentrations
Color Reproduction
Composition Systems
Flexography Process
Gravure Process
Lithographic Process
Magazine Publishing Production

Management
Packaging Printing
Print-Finishing Management
Printing Design
Printing Supervision
Production Management
Publishing Arts
Quality Control
Sales/Marketing
Screen Process
Small Business Entrepreneurship

Printing Systems

Frank Cost, Coordinator

Students interested in engineering should consider the printing systems program. Printing systems combines engineering course work with a rigorous preparation for management careers in one of America's largest high-tech industries. These careers involve a mixture of high technology and human factors that many people find rewarding and exciting.

Graphic communication reproduction has experienced more changes in technology during the last two decades than during the previous two centuries. Electronics and computers have become important, while the importance of chemistry and mechanics has not diminished. Computers are used in both production and management.

Few industries use the variety of processes and alternative techniques that graphic communication reproduction does. Almost every printing operation can be done by hand-craft methods, machine assistance, or full automation. Each technique has advantages, and effective managers need to understand both how and why a particular technological option fits their needs. The printing systems program educates young men and woman to meet those challenges and become the shapers of the graphic reproduction industries in the coming decades.

Two quarters of cooperative education are required to fulfill school requirements, but most students in this program find it feasible and desirable to take four or more quarters. Therefore, the chart at the right illustrates completion of the program in five years.

Applicants must meet the admission requirements of both RIT's College of Engineering and the School of Printing Management and Sciences.

Transfer into this program from two-year college engineering science programs, math/science transfer programs, or comparable majors is encouraged.

Program of study

The printing systems curriculum features strong courses in printing, industrial or electrical engineering, mathematics, science, and liberal arts. Printing courses provide depth and breadth in technology as well as important studies in managing and working with people. During the second year, students begin either industrial engineering or electrical engineering courses.

The industrial engineering courses deal with design and installation of integrated systems of people, materials, and equipment. Through these courses, printing systems students become expert in understanding and using computers in both manufacturing and management: for example, in plant layout, process development, and control of manufacturing systems with robots and conveyors.

The electrical engineering sequence provides a sound education in the electronics of printing equipment and transmission systems. Printing equipment manufacturers and very large printing companies are interested in graduates with this electrical engineering background.

Yr.	BS IN PRINTING SYSTEMS	194 Qtr. Credit Hours		
		FALL	WTR.	SPG.
	A program combining courses in engineering and printing that provides favorable transfer arrangements from math-science based programs.			
1	PPRM-001 Student Seminar	0		
	Professional Electives	4	4	4
	SMAM-251, 252, 253 Calculus	4	4	4
	SCHG-208, 209 College Chemistry	4		4
	* Liberal Arts (Core)	4	8	4
	† Physical Education	0	0	0
2	PPRM-240 Financial Controls	4		
	PPRM-260 Printing Planning Concepts		4	
	PPRM-280 Printing Management Leadership Concepts			4
	‡ Professional Engineering Specialty		4	4
	SMAM-305 Calculus	4		
	SMAM-351 Probability		4	
	SPSP-311, 312, 313 University Physics	4	4	4
	SPSP-375, 376, 377 University Physics Lab	1	1	1
	* Liberal Arts (Core)	4		4
	† Physical Education	0	0	0
		FALL WTR.		SPG. SMR.
3	‡ Professional Engineering Specialty	8		12
	* Liberal Arts (Concentration/Elective)	8		4
4	‡ Professional Engineering Specialty	4		4
	§ Professional Electives	4		8
	^Technical Writing I, II	2		2
	* Liberal Arts (Concentration/Elective)	4		4
5	‡ Professional Engineering Specialty			4
	§ Professional Electives	10		7
	* Liberal Arts (Elective)	4		4
	* Liberal Arts (Senior Seminar)	2		

‡ Professional Engineering Specialty courses are the following:

Yr.	Industrial Engineering	Electrical Engineering
2	SMAM-352 Applied Statistics I EIEI-202 Computing for Ind. Eng.	SMAM-306 Differential equations ICSA-220 FORTRAN for Elect. Eng.
3	EIEI-401 Operations Research I EIEI-415 Human Factors I EIEI-420 Work Measurement EIEI-422 Systems & Facilities EIEI-550 Safety Engineering	EEEE-310 Numerical Methods EEEE-351 Circuits I EEEE-352 Circuits II SMAM-328 Engineering Mathematics SMAM-420 Complex Variables
4	EIEI-503 Simulation EIEI-511 Regression Analysis	EEEE-453 Signals & Systems EEEE-534 Intro to Communication
5	EIEI-482 Production Control	EEEE-554 Digital Signal Processing

• *See page 7 for Liberal Arts requirements.*
f*See page 8 for policy on Physical Education.*
§ *Professional electives must include one course in each of these areas: aesthetics, printing materials, printing processes, imaging, print finishing.*
I*Students must satisfy the Writing Competency requirement prior to graduation, either by a grade of "B" or higher in Technical Writing II or by passing the Writing Competency test given each quarter.*

I

Newspaper Operations Management

John M. Jakopin, Coordinator

The printing and publishing industries are undergoing dynamic technological changes. Within the newspaper industry changes are particularly drastic, completely altering how things are accomplished. In addition, advances in technology and market penetration of related information-handling systems result in greater competition in the areas of reader interest and advertising appeal. These advances have made it imperative to alter not only the way in which a newspaper is printed and distributed but also the very method by which the information is prepared and processed—perhaps even what will be produced. The earlier distinctions between editorial, advertising, and production blur as production becomes a function of advertising and editorial preparation, a direction enveloping previously distinct functions as well. These trends will result in the integration of these departments into a single entity utilizing a computer system to handle, transmit, and process information and then to control production and delivery.

This new approach requires new abilities and expertise of the people who would guide this changing industry. Graduates of the Newspaper Operations Management Program will have to compete with the existing pools of talent and expertise as the functions of production merge with those of other departments.

They must be prepared in both the new technology and the ability to guide existing manpower and management systems through potentially stormy change to a useful and profitable position in the marketplace. The revolution in this industry points to the need for new people to deal with the technological and managerial problems of such change. This program is intended to fulfill the industry need for such people. As its name implies, the program concentrates on those courses that have been most helpful to graduates, particularly those interested in careers in newspaper management.

The graduate with a BS degree in newspaper management has numerous career choices within the newspaper industry. Many young people find entry positions as production assistants, assistant business managers, technical specialists with suppliers, and computer specialists. These can lead to positions of production director, director of data processing, operations director, business manager, quality control manager, and publisher. All of these positions present a distinct challenge in an industry undergoing vast technological change.

Program of study

The Newspaper Operations Management Program is a four-year course of study leading to a bachelor of science degree. The program stresses management, engineering, sciences, and computer printing technology, as well as liberal arts.

Each student must take mathematics, chemistry, and physics, as shown in the chart above. Placement will be determined through testing and a review of the student's academic background. Preparatory math courses are available if needed. Students with strong science and math backgrounds are encouraged to complete high-level courses in these areas to enhance their overall education.

Professional electives

Students elect courses to suit their individual interests and objectives and to meet the credit requirements of the program. Selection is subject to prerequisite requirements and availability of courses. Twenty-five elective credits are required.

Yr.	BS IN NEWSPAPER OPERATIONS MANAGEMENT	194 Qtr. Credit Hours		
		FALL	WTR.	SPG.
1	PPRM-001 Student Seminar	0		
	PPRT-230 Printing Processes Concepts	4		
	PPRT-250 Concepts of Design & Typography		4	
	PPRT-270 Prepress Imaging Concepts			4
	PPRM-205, 206, 207 Newspaper Seminar	1	1	1
	SMAM-225 Algebra for Management Science	4		
	SMAM-226 Calculus for Management Science		4	
	SMAM-319 Data Analysis			4
	* SMAM-220 Fundamentals of Trigonometry			1
	SCHG-281, 282 Chemical Foundations I, II		4	4
	† Liberal Arts (Core)	8	4	4
	‡ Physical Education	0	0	0
2	PPRM-240 Printing Financial Controls	4		
	OR			
	BBUA-301 Financial Accounting			
	PPRM-260 Printing Planning Concepts		4	
	OR			
	§ BBUM-280 Principles of Marketing			
	PPRM-280 Printing Management Leadership Concepts			4
	OR			
	§ BBUB-430 Organizational Behavior			
	PPRM-261 Standard Software Packages	2		
	PPRT-319 Newspaper Design	3		
	n PPRT-262, 263 Technical Writing 1,11		2	2
	PPRT-320, 330 Newspaper Production 1, II		3	3
	SPSP-211/271, 213/273 College Physics I, III	4	4	
	SPSP-212/272 College Physics II			4
	OR			
	GSSE-301 or 302 Principles of Economics			
	† Liberal Arts (Core)	4	4	4
	‡ Physical Education	0	0	0
3	Cooperative Education: minimum two quarters required for graduation			
	PPRT-232 Ink & Substrates	3		
	PPRT-322 Circulation & Mailroom	3		
	PPRM-381 Dynamics of Personal Leadership	3		
	PPRM-420 Electronic Communications/Printing & Publishing J			4
	PPRT-372 Image Capture & Conversion	3		
	PPRT-382 Tone Reproduction & Halftone Analysis		3	
	PPRT-472 Color Separation Systems			3
	PPRM-511 Labor Relations			4
	PPRT-210 Newspaper Presses			3
	Professional Elective		6	4
	† Liberal Arts (Concentration)	4		
4	PPRM-515 Legal Problems in Printing & Publishing	4		
	PPRM-520 Systems Planning		4	
	PPRM-514 Newspaper Management			4
	Professional Elective	4	7	4
	† Liberal Arts (Elective)	4	4	4
	† Liberal Arts (Senior Seminar)	2		

'Required only for those students lacking Trigonometry.
fSee page 7 tor Liberal Arts requirements.
jbSee page 8 for policy on Physical Education.
§SPMS student must be junior status or above to enroll in these courses. See your advisor for scheduling of courses,
f Students must satisfy the Writing Competency requirement prior to graduation, either by a grade of "S" or higher in Technical Writing II or by passing the Writing Competency test given each quarter.

Printing and Applied Computer Science

Frank Cost, Coordinator

In recent years computers have become widely used in most areas of the graphic arts industry. From typesetting to management information and from inking systems to automated bindery operations, computers in the graphic arts have created a need for personnel with an in-depth knowledge of both printing and computer science. Recognizing this need, the School of Printing Management and Sciences, in cooperation with the Department of Computer Science, established the Printing and Applied Computer Science Program for students who want to combine both fields.

A survey of employers in the graphic arts industry indicates the strong need for trained printing/computer specialists. As more and more graphic firms adopt computer technology, the need will grow for personnel who can develop and utilize equipment, interpret the graphic arts industry to the computer industry, apply computers to printing processes, manage computer systems, and work with vendors.

Many career opportunities are open to graduates with a BS degree in printing and applied computer science. These include data processing supervisor; computer systems analyst; customer training, marketing support, and sales for computer-based printing equipment manufacturers; and custom software design and development. These positions can lead to management responsibilities as production manager, director of computer technology, and operations manager—all stepping stones to top management opportunities.

Two quarters of cooperative education are required to fulfill school requirements, but most students in this program find it feasible and desirable to take four or more quarters. Therefore, the accompanying chart illustrates completion of the program in five years.

Requirements for admission are given in the general information section of this bulletin. Students must meet the requirements of RIT's School of Computer Science and Information Technology.

Students may transfer into this program from two-year college computer science, computer science transfer, math/science transfer programs, or other comparable programs. Transfer students find that many of their two-year college credits are applicable toward the four-year degree.

Yr.	BS IN PRINTING AND APPLIED COMPUTER SCIENCE	195 Qtr. Credit Hours		
		FALL	WTR.	SPG.
	A program combining course work in computer science and printing that provides favorable transfer arrangements from math/science-based programs.			
1	PPRM-001 Student Seminar	0		
	PPRT-230 Printing Processes Concepts	4		
	PPRT-250 Concepts of Design and Typography		4	
	PPRT-270 Prepress Imaging Concepts			4
	ICSP-241,242 Programming I, II	4	4	
	ICSP-305 Assembly Language			4
	SMAM-251, 252, 253 Calculus 1, II, III	4	4	4
	‡ Liberal Arts (Core)	4	4	4
	§ Physical Education	0	0	0
2	PPRM-240 Printing Financial Control	4		
	PPRM-260 Printing Planning Concepts		4	
	PPRM-280 Printing Management Leadership Concepts			4
	ICSP-243 Programming III	4		
	—ICSS-325 Data Organization and Management		4	
	SMAM-305 Calculus IV	4		
	SMAM-265 Discrete Math		4	
	SMAM-351 Probability & Statistics			4
	SPSP-311,312 University Physics I, II & Lab		5	5
	‡ Liberal Arts (Core)	4		4
	§ Physical Education	0	0	0
		Variable Schedule		
3 4 5	† PPRM-262, 263 Technical Writing I, II	2	2	
	ICSS-420 Data Communications Systems	4		
	ICSS-315 Digital Computer Organization	4		
	SMAM-352 Probability & Statistics	4		
	PPRT-232 Ink & Substrates	3		
	ICSS-521 Intro to Microprocessor Systems	4		
	PPRT-234 Print Finishing & Distribution	3		
	PPRM-420 Electronic Communications in Prtg./Publg. 1	4		
	PPRT-500 Quality Control in Graphic Arts	3		
	ICSS-565 Computer Systems Selection	4		
	ICSS-570 Intro Computer Graphics	4		
	PPRM-375 Printing Oper. Measurement and Improvement	3		
	PPRT-444 Web Offset	3		
	Professional Electives	18		
	‡ Liberal Arts (Core)	8		
	‡ Liberal Arts (Senior Seminar)	2		
	‡ Liberal Arts (Concentration)	12		
	‡ Liberal Arts (Elective)	12		
	Co-op (2 quarters required)	0		

fSee page 7 tor Liberal Arts requirements.
§See page 8 tor policy on Physical Education.
†Students must satisfy the Writing Competency requirement prior to graduation, either by a grade of "B" or higher in Technical Writing II or by passing the Writing Competency test given each quarter.

Program of study
The School of Printing Management and Sciences offers a four-year course leading to a bachelor of science degree in printing and applied computer science.

Approximately 20 percent of the course work is in computer science, 30 percent in printing technology and management, 25 percent in math and science, and 25 percent in liberal arts.

The first-year curricula of this program and the Printing Systems Program are practically the same. Therefore, a student may transfer between the programs at that time with no loss of credit.

Professional electives
Students may elect professional courses in printing or computer science and technology to complete their elective course requirement.

Certificate of Achievement Programs

The School of Printing Management and Sciences offers three new certificate programs for part-time students. Designed to provide coursework in specific areas for those with a graphic arts interest, these certificate programs can be completed in one to one and a half years of evening study. The certificates can stand alone or be used as an area of concentration in the College of Continuing Education's applied arts and sciences associate and bachelor's degree programs.

In addition full-time undergraduate students in non-printing programs at RIT are encouraged to investigate the ways these courses could complement their degree program.

Whether you are a full- or part-time student, graphic arts courses provide unique tracks that combine well with graphic design, liberal arts and communications, computer science, and photography.

For additional information and advising, contact Linda Tolan at 716-475-5955.

Desktop Design and Publication

This sequence of courses is designed for individuals new to the desktop environment as well as for those who have experimented with publication production using personal computers. The program provides students with a solid foundation in design and typographic principles. Advanced courses enable students to apply those principles using desktop tools and to expand their individual design abilities. Additional courses focus on the production, finishing, and distribution of the images created.

	Credit Hrs.
Layout and Typographic Principles, PPRT-225	3
Image Capture and Conversion, PPRT-372	3
Layout and Printing Design, PPRT-452	4
Principles of Copy Preparation, PPRT-213	3
Print Finishing and Distribution, PPRT-234	3
Desktop Systems, new course	3
Elective*	3-4
Certificate Total	**22-23**

•Must be chosen from PPRT courses: courses such as Color Separation Systems or Lithographic Process, or other courses from the Electronic Color Imaging Certificate Program are recommended. See advisor for other choices.

Electronic Color Imaging

This program acquaints students with both conventional and emerging digital imaging systems. The courses help prepare students for positions in the color printing market in occupations such as pre-press manager, color reproduction specialist, technical service or customer service representative, and other technical and managerial functions in the graphic arts industry.

	Credit Hrs.
Introduction to Printing, PPRT-200	3
Image Capture and Conversion, PPRT-372	3
Color Separations Systems, PPRT-472	4
Techniques of Image Assembly, PPRT-373	3
Lithographic Process, PPRT-234	3
Electronic Color Imaging and Electronic Color Controls, PPRT-572	3
Elective*	3
Certificate Total	**21**

•Must be chosen from PPRT courses: courses such as Desktop Prepress Systems, Lithographic Press Problems, or other courses from the Desktop Design and Publication certificate are recommended. See advisor for other choices.

Supervision in the Graphic Arts

The courses in this program are designed for those in supervisory positions in the graphic arts industry as well as for those who aspire to be. The courses provide students with an understanding of the nature and requirements of supervision in printing operations and comprehension of theory and the practical application of supervisory techniques. Students study supervision, training, printing production operating systems, financial controls, computers and software packages, and quality control in the graphic arts.

	Credit Hrs.
Supervision in the Graphic Arts, PPRM-380	4
Printing Operations Measurement and Improvement, PPRM-375	4
Expenses and Capital Projects, Budgeting and Control, PPRM-450	4
Standard Software Packages, PPRM-261	2
Management of Training in the Software Industry, PPRM-505	3
Quality Control in the Graphic Arts, PPRT-500	3
Certificate Total	**20**

This curriculum is currently under review. Contact department for most recent information on course requirements.

College of Liberal Arts

Liberal Education in the Humanities and Social Sciences

Dr. William J. Daniels, Dean

The College of Liberal Arts provides students with a comprehensive program of liberal education that develops their potential as intellectually aware and responsible human beings. It is the foundation for the student's entire educational experience. This program of liberal education is distinguishable from the student's professional education in that its purpose is not to nurture specifically professional knowledge or skills, but rather each student's capabilities as a thinking, creating, and responsible person.

The program of the College of Liberal Arts, in which all RIT students participate, aims to:
• Develop the student's ability to think rationally, read critically, and speak and write cogently and clearly;
• Develop the student's ability to analyze issues, question assumptions, investigate problems, and seek solutions;
• Develop the student's understanding of aesthetic values and their relevance;
• Expand the student's intellectual horizons by acquaintance with the western heritage;
• Develop the student's awareness of how the past inevitably affects the present and future;
• Promote the student's understanding of our society and how it interrelates with and is indebted to other cultures, thereby liberating the student from narrow provincialism;
• Acquaint the student with knowledge of the basic principles and dynamics of individual and group behavior in the many areas of human interaction;
• Develop the student's understanding of the nature of ethical values;
• Develop the student's awareness of the social, ecological, and ethical consequences of technology and foster a sense of responsibility to self and society;
• Develop the student's ability to bring together varied insights and methods of analysis for the purpose of better understanding complex human and social problems.

These goals are fostered throughout a student's education at RIT by the liberal arts curriculum, which offers each student the opportunity to acquire these abilities and understandings through courses in the humanities and social sciences. (See page 7 for specific requirements.) In addition to regular courses a student may engage in independent studies. These are planned by both student and instructor and provide an opportunity for the student to develop initiative and imagination in a flexible program of study.

The college and its faculty are active outside the classroom, sponsoring musical events and symposiums to provide a wide range of cultural and academic experiences for the entire RIT community.

Included in the college are undergraduate degree programs in criminal justice, social work, economics, professional and technical communication, and the technical and liberal studies option, which are described later in this bulletin. The close involvement of these programs with instruction in the liberal arts is an example of what the college endeavors to do throughout the curriculum; that is, to demonstrate the interrelation of all fields of learning.

The college also offers the master of science degree in school psychology.

Faculty
The faculty of the college is selected from candidates with advanced study in the social sciences and humanities. These men and women are dedicated teachers, who have chosen as their professional goals the provision of rich and meaningful learning experiences for students and continuing growth in their scholarly fields.

Part-time students and evening programs and courses
The College of Liberal Arts offers in the evenings many of the upper-division humanities and social science courses required in the baccalaureate program of part-time evening students. These courses are part of the liberal arts curriculum expected of all Institute students pursuing a bachelor's degree.

Courses are scheduled one or two nights a week, Monday through Thursday, or on Saturday mornings. Each course is four academic quarter credits, except the Senior Seminar, which is two credits.

Part-time students are welcome to register for liberal arts courses offered during day-time hours if their schedules permit.

Diploma or certificate courses will not normally be used toward completion of liberal arts requirements.

To register for liberal arts courses on a part-time basis it is not necessary to be enrolled in an RIT degree program. Part-time and evening students are strongly encouraged to contact either the Liberal Arts Academic Advising Office (475-6987) or Scheduling Office (475-5267) for assistance in selecting and registering for courses. Both offices are located on the second floor of the College of Liberal Arts.

Summer
The College of Liberal Arts offers a number of courses each summer in language and literature, science and humanities, and social science, as well as degree program courses in criminal justice, social work, economics, and communication.

Information concerning summer courses can be obtained by contacting the college scheduling officer or by requesting the Summer Bulletin from the College of Continuing Education or the Office of Admissions, Bausch & Lomb Center, P.O. Box 9887, Rochester, N.Y., 14623-0887.

College of Liberal Arts: Degree Programs

The College of Liberal Arts offers bachelor of science degree programs in the following areas: social work, criminal justice, economics, and professional and technical communication, as well as the technical and liberal studies option, an academic and advising program for students who are undecided about which RIT degree program to pursue. Each program is described in detail on the pages that follow.

The BS in Criminal Justice

Richard B. Lewis, Department Chairperson
Phone: 716-475-2432

The bachelor of science degree program in criminal justice offers students a broad, well-rounded education with a curriculum designed to prepare them for a wide range of careers in criminal justice, to provide continuing education for those professionals already employed in criminal justice, and to offer a strong academic foundation for graduate school.

RIT's approach to the study of criminal justice combines theoretical perspectives with practical experience. As students study in the areas of crime, criminal behavior, social control mechanisms, administration, planning, and management, the emphasis is on problem-solving techniques based on the rapidly growing body of research in the field, as well as students' own guided research.

The program is unique in its broad core curriculm, the scope of professional course offerings, and an intensive field experience, where students blend knowledge gained in required and elective courses with a career-oriented internship.

Career planning

Upon acceptance into the Criminal Justice Program, each student is assigned a faculty advisor who assists in formulating career goals and planning a field of study in accordance with those goals.

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.

During the junior and senior years, with faculty guidance, students select professional electives in a specific area of interest from courses offered within the program, within the college, or in any of RIT's other seven colleges. Criminal justice faculty offer concentrations in criminology, law enforcement, law corrections, and security. Other concentrations, planned according to individual career goals, may include courses in computer science, management, photography, liberal studies, and social work.

Career opportunities

Program alumni have entered a variety of careers in the criminal justice system directly following graduation or after completing graduate studies. Many graduates are engaged in law enforcement careers in agencies at all levels of government. A substantial number are employed by the Rochester Police Department, the Monroe County Sheriffs Department, and suburban departments throughout the area. At the state and federal level, graduates are pursuing careers in such agencies as the Federal Bureau of Investigation, Secret Service, Marshall's Service, Naval Intelligence Service, Customs, Border Patrol, Immigration and Naturalization Service, Centers for Disease Control, Department of the Interior, and National Park Service, among others. 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, and some have advanced to administrative positions. A significant number have completed law school and entered the legal profession as prosecutors, public defenders, in private practice, or in the state or the U.S. attorney generals' offices. Others serve the legal profession as investigators or paralegals.

Consistent with the liberal arts/social science nature of the program, 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 and rape crisis counselors. Some have completed advanced degrees in business, public policy, public administration, criminology, and criminal justice.

Pre-law study

The criminal justice curriculum prepares students for law school by combining a broad liberal arts background with intensive study in criminal justice. Students work closely with a faculty advisor in selecting appropriate professional and liberal arts electives. During their senior year, pre-law students spend 10 weeks, 30 hours per week, as interns working with attorneys in the office of the district attorney, public defender, or state attorney general; private law firms, or in any number of public or private organizations dealing with litigation. The Pre-law Association, comprised of interested RIT students, publishes student research papers each year in *Legal Research at RIT.*

Field experience

During the senior year, students have the opportunity to choose an internship from 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 quarter (10 weeks), 30 hours per week, students work under an agency field supervisor and, at the same time, attend a field seminar and a class in planning and change with 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 co-op as part of their undergraduate program. In general, they may apply for co-op employment after three quarters of full-time study in criminal justice at RIT. Cooperative education provides a working experience in a criminal justice-related field, but does not carry academic credit hours.

The faculty

The seven full-time faculty in the Criminal Justice Program hold advanced degrees, have had professional experience in criminal justice, have proven their teaching ability, and are committed to continuing professional growth in their areas of expertise. Their offices are conveniently located, and 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.

Professional elective options

The following professional electives illustrate those offered periodically within the program. A student selects professional elective courses with the advice of his or her faculty advisor.

One of the strengths of the program is that students may elect to take professional electives from other designated colleges in the Institute and are thus able to develop a concentration in a professional area related to their career goals.

Corrections

Constitutional Law
Legal Rights of Convicted Offenders
Correctional Administration
Social Control of Deviant Behavior
Counseling in the Criminal Justice System
Alternatives to Incarceration
Sentencing Process

Criminology
Organized Crime
Social Control of Deviant Behavior
White-Collar Crime
Victimless Crime
Computer Crime
Women and Crime

Law
Introduction to Para-Legal
Constitutional Law
Legal Rights of Convicted Offenders
Social Control of Deviant Behavior
Evidence
Court Administration
Comparative Criminal Law
Sentencing Process
Victimless Crime
Seminar in Law

Law Enforcement
Administrative Concepts of Law
  Enforcement
Organized Crime
Investigative Techniques
Constitutional Law
Civil Disobedience and Criminal Justice
White-Collar Crime
Evidence
Police Community Relations
Victimless Crime
Hostage Taking and Terrorism
Substance Abuse
Stress

Security
Organized Crime
Investigative Techniques
White-Collar Crime
Physical Security and Safety
Retail Security
Computer Crime
Security Management
Seminar in Security

Related professional areas
With the approval of the faculty advisor,
a student may select an additional pro-
fessional elective concentration from
courses offered within the College of
Liberal Arts or in any of the other
colleges of the Institute. Many students
develop special concentrations in
accounting, computer science, manage-
ment, or social work.

Yr.	Typical Course Schedule, BS IN CRIMINAL JUSTICE (Elective choices will vary)	FALL	WTR.	SPG.	SMR.
		190-192 Qtr. Credit Hrs			
1	0501-201 Criminal Justice System	4			
	0502-220 English Composition	4			
	* Math (e.g. Algebra for Management Sciences)	4			
	0501-203 Criminology		4		
	† Liberal Arts Core	4	8	4	
	0501-406 Computer Applications in Criminal Justice		4		
	0501-207 Corrections			4	
	0501-303 Law Enforcement in Society			4	
	* Contemporary Science			4	
	‡ Physical Education	0	0	0	
	Cooperative Education (Optional)				Co-op
2	0501-309 Juvenile Justice	4			
	* Contemporary Science	4			
	* Approved Elective (e.g. Liberal Arts: Social Science)	4			
	0501-204 Public Administration		4		
	0501-301 Concepts in Criminal Law		4		
	* Approved Elective (e.g. Computer Science)		4		
	' Math (e.g. Statistics for Social Sciences)		4		
	0501-304 Judicial Process			4	
	* Professional Elective (e.g. Investigative Techniques)			4	
	† Liberal Arts Core	4		4	
	"Open Elective (e.g. Comparative Criminal Law)			4	
	‡ Physical Education	0	0	0	
	Cooperative Education (Optional)				Co-op
3	0501-526 Seminar in Law Enforcement	4			
	* Professional Elective (e.g. Forensic Photographic Evidence) .	4			
	* Professional Elective (e.g. Hostage Taking & Terrorism)	4			
	† Liberal Arts Elective/Concentration	4	4	4	
	0501-411 Seminar in Corrections		4		
	* Professional Elective (e.g. Constitutional Law)		4		
	Open Elective (e.g. Social Control of Deviant Behavior)		4		
	0501-401 Scientific Methodology			4	
	" Professional Elective (e.g. Investigative Techniques)			4	
	* Professional Elective (e.g. Evidence)			4	
	Cooperative Education (Optional)				Co-op
4	0501-403 Field Experience (See C. J. Handbook)	4			
	0501-404 Field Seminar (See C.J. Handbook)	4			
	0501-514 Planning and Change in C. J. System	4			
	Free Elective (e.g. Management in Criminal Justice)	2/4			
	0520-501 Liberal Arts Senior Seminar	2			
	0501-528 Etiology of Crime		4		
	0501-541 Research Methods in Criminal Justice		4		
	† Liberal Arts Elective/Concentration		4	8	
	* Professional Elective (e.g. Seminar in Law)		4		
	Free Elective (e.g. Substance Abuse & Law)			2/4	
	Professional Elective (e.g. Computer-Related Crime or Business Law*)				4

" Offerings vary; discuss with your Faculty Advisor.
fSee page 7 tor Liberal Arts requirements.
tSee page 8 for policy on Physical Education.
Transfer credit for courses completed in the first two years of an associate degree program will be transferred into the RIT
curriculum on a course-by-course basis. An individual evaluation of each student's transcript will determine the balance of
the third- and fourth-year course requirements. RIT's criminal justice curriculum provides maximum flexibility in awarding
transfer credit lor previously completed freshman- and sophomore-level courses in which the grade was C or higher.

The BS in Social Work Program

Helen Wadsworth, Department Chairperson

RIT's Social Work Program, established in 1971, provides excellent educational and practical preparation for professional social work practice at one of the most technologically current educational institutions in the country, with a state-of-the-art computer network available to all students.

Accredited by the Council on Social Work Education, the baccalaureate social work program prepares students for entry into beginning-level social work practice in public and private settings offering assistance to individuals, families, groups, and the community.

The social work profession is dedicated to the improvement of the human condition. Thus, coursework is organized in five basic areas: understanding of human behavior and interaction within the social environment; knowledge of social programs, policy processes, and the profession; professional practice methodology and skills; professionally supervised internship in a social agency; and research and evaluation of practice.

RIT's social work program is known for an unusually wide selection of professional courses and a full-time intensive field instruction internship. Each social work student is assigned a faculty advisor to assist with academic planning and career guidance throughout the course of study.

We believe that social workers have a dual role in the process of social change: they directly serve the needs of individuals, families, groups, and communities, and they work on behalf of clients to effect change in policies, legislation, and society.

Personal growth

The social work curriculum encourages personal growth as an essential aspect of professional growth. In various courses students learn to increase their own self-awareness, to define their values, to understand and respect the values of others, and to develop the personal and professional strengths necessary for social work practice.

Yr.	Typical Course Schedule, BS DEGREE IN SOCIAL WORK	186 Qtr. Credit Hours		
		FALL	WTR.	SPG.
1	0516-212 Self-Awareness in the Helping Role	4		
	0516-210 The Professional Social Work Role		4	
	0516-302 History of Social Welfare			4
	* 05xx-xxx Liberal Arts Core	12	**8**	4
	0507-493 History of Social Discrimination			4
	'0502-220 Liberal Arts Core: English Composition		4	
	* One Liberal Arts Elective			4
	† Physical Education	0	0	0
2	0516-305 Structure & Function of Social Wefare	4		
	One Professional Elective			4
	0510-505 Cultural Diversity		4	
	Two Science Requirements	4	4	
	0516-354 Human Behavior and the Social Environment I	4		4
	0516-355 Human Behavior and the Social Environment II		4	
	0516-357 Mental Health and Mental Illness			4
	College Mathematics			4
	* Two Liberal Arts Electives	4	4	
	* One Liberal Arts Concentration Course			4
	† Physical Education	0	0	0
3	0516-405 The Family from a Social Work Perspective		4	
	0516-435 Computer Applications to SW Research			4
	0516-456 Group Theory in Social Work	4		
	0516-465 Assessing Community Needs			4
	0516-475 Interviewing and the Helping Relationship			4
	0516-595 Policy and Planning Processes		4	
	One Professional Elective	4		
	1016-301, 302, 303 Introduction to Statistical Methods	3	3	3
	1016-311, 312, 313 Statistical Methods Laboratory	1	1	1
	* Two Liberal Arts Concentration Courses	4	4	
4	0516-505 Assessment and Problem Solving	4		
	‡ 0516-506 Field Instruction I	5		
	0516-527 Field Seminar I	3		
	0516-535 Advanced Social Work Research	2		
	0516-550 Social Intervention		4	
	‡ 0516-551 Field Instruction II		5	
	0516-560 Field Seminar II		3	
	0516-540 Evaluation of Practice		2	
	0516-598 Professional Seminar			4
	Two Professional Electives			8
	* 0520-501 Liberal Arts Senior Seminar			2

'See page 7 for Liberal Arts requirements
fSee page 8 for policy on Physical Education
fFull-time placement in a social work agency

Curriculum

The social work curriculum aims to develop an understanding of society and people's needs. Students learn how the institutions of society contribute toward resolving problems and may, sometimes, aggravate them.

Students become well-grounded in human behavior and the social environment from psychological, sociological, and biological perspectives. This gives them an understanding, on which they can base their social work practice, of how people develop and interact with their environments.

Students take a sequence of courses that introduces them to the concepts of social work practice and teaches fundamental skills needed to work successfully with individuals, families, groups, and the community to solve problems and resolve conflict. Opportunities for "hands-on" practice are available through out the four-year curriculum. RIT's program has a strong focus on research skills, the appropriate use of computers in analyzing data from social work practice, and exploration of the effects of information technology on social problems.

Social work program and deafness: a unique opportunity

The National Technical Institute for the Deaf (NTID) at RIT provides a special opportunity for students and faculty in the social work program. Because of the close relationship with NTID, RIT's social work program offers an unsurpassed education in working with the deaf community, preparing deaf students for social work careers, increasing sensitization and responsiveness of future professionals, hearing and deaf, to the needs of disabled persons, and offering deaf and hearing students the opportunity to study the applications of social work to the needs of deaf persons.

Professional electives

Elective courses offer social work students knowledge about and preparation for work in the areas of: family violence; services for children, families, deaf individuals, and the elderly; alcoholism and substance abuse; mental health; and legal social work.

Career and placement focus

Like all programs at RIT, our focus is on careers. We prepare students to enter directly into meaningful and rewarding positions in governmental and voluntary social agencies.

Graduates of the social work program receive advanced standing at most graduate schools of social work in the country. This means they can complete a two-year MSW program in only one year.

Graduates have found their RIT field placement experiences to be extremely helpful in making career decisions and in obtaining jobs. In addition, the resources of RIT's Center for Cooperative Education and Placement are available to all of our students.

Transfer students

Transfer students are evaluated and given credit for previous education wherever it is most appropriate. Transfer students with two-year degrees in human services or related programs are given credit for their studies and can expect to complete the social work program in two years.

Field instruction

Field instruction is an important part of the program. During the senior year, students complete an internship in a social agency. Supervised by a professional social worker and supported with integrated academic courses, they learn to apply the knowledge and skills acquired in the classroom.

During two academic quarters, students spend 30 hours per week in a social agency or program. There is an option for field placements of four quarters that carry agency stipends.

RIT social work students have an opportunity to provide direct services to clients during their field placements. Some have become involved in family support counseling, advising pregnant adolescents, helping children with emotional problems, intervening on behalf of clients in Family Court and in the attorney general's office, and working with people who abuse alcohol and other substances.

As an alternative some students have preferred to work in the planning and funding of social programs, evaluating program effectiveness and measuring the quality of services, organizing communities to bring about change in local problems, educating the public on a broad social issue, or researching a carefully coordinated social work effort.

In field placement each student is taught by a social worker in the agency and is supervised by a faculty member. Each week students in field placement meet on campus to evaluate experiences and assess development of their professional skills.

Senior field placement stipends

Social work students beginning their senior field instruction have the opportunity to complete the required 20-week internship in a social agency or apply for a 12-month internship that carries with it an agency financial stipend. The availability of these positions depends on the number of participating agencies and the student's acceptance by the agency to which he or she applies. The Financial Aid Form must be filed prior to April 15th. This program is especially attractive for students with severely limited financial resources. Students must spend at least their junior year in RIT's Social Work Program to qualify for this stipend, and placements are on a competitive basis.

Bilingual opportunities

The social work curriculum offers students the flexibility of acquiring skills in a second language, if they choose. The most popular and easiest to acquire is sign language with deaf individuals, since students participate in the living laboratory of integrated education during the entire time they are at RIT. Spanish is increasingly valuable as a second language for social workers. Students can acquire proficiency in Spanish through an appropriate liberal arts concentration or electives.

The BS in Economics Program

Dr. Michael Vernarelli, Department Chairperson

The BS in economics emphasizes the quantitative analytical approach to dealing with economic problems in both the public and private sectors. This emphasis provides students with marketable skills and the intellectual foundation for career growth. The main feature that distinguishes RIT's BS in economics from traditional economics degrees is that our curriculum prepares students for the world of work by developing communication, computer, and management skills in addition to economic reasoning and quantitative abilities. Students in the program are involved in a wide variety of management and analytical positions both in co-op and after graduation.

Curriculum
Students take rigorous and challenging required courses specifically designed to develop the ability to apply economic analysis to real world problems. Required communication courses enhance the student's oral and written communication skills. Business courses include accounting, finance, and management science. Quantitative analytical skills are developed by a course sequence that includes computer science, mathematics, and statistics.

Professional electives allow students to pursue advanced study in their individual areas of interest. Along with finance, marketing, mathematics, statistics, or computer science are many other possibilities, limited only by the student's creativity in designing a personalized program of study.

Study environment
The economics faculty serve as mentors and are readily available to enhance students' personal and professional growth. Students have the opportunity to work as research assistants for the faculty, learning about research techniques using a hands-on approach and receiving a stipend for their work.

Yr.	Typical Course Schedule, BS DEGREE IN ECONOMICS	182 Qtr. Credit Hours			
		FALL	WTR.	SPG.	SMR.
1	GSSE-301, 302 Principles of Economics I, II	4	4		
	GECN-310 Managerial Economics			4	
	SMAM-225, 226 Algebra and Calculus for Management Science				
	OR				
	SMAM-251, 252 Calculus I, II	4	4		
	BBUA-301,302 Financial and Managerial Accounting		4	4	
	ICSA-200 Survey of Computer Science			4	
	* Liberal Arts (Core)	8	4	4	
	† Physical Education	0	0	0	
2	GECN-501 Monetary Analysis and Policy	4			
	GECN-410 Applied Econometrics I		4		
	GECN-411 Applied Econometrics II			4	C
	BBUQ-330 Introduction to Data Analysis	4			o
	‡ ICSA-210 Program Design and Validation		4		o
	‡ ICSA-208 Introduction to Programming	4			p
	‡ 6?^-480 Human Communication			4	
	* Liberal Arts (Core)	4	4	4	
	Science Requirement		4	4	
	† Physical Education	0	0	0	
3	GECN-505 Intermediate Microeconomic Theory	4			
	GECN-506 Intermediate Macroeconomic Theory		4		
	GECN-460 Mathematical Methods for Economics			4	
	BBUQ-334 Management Science	4			c
	BBUF-441 Corporate Finance		4		o
	‡ GSSP-448 Industrial Psychology				o
	OR				p
	‡ GSSS-443 Sociology of Work			4	
	Free Electives	4	4	4	
	"Liberal Arts (Concentration)	4	4	4	
4	GECN-510 International Trade and Finance	4			
	GECN-520 Industrial Organization		4		
	GECN-550 Seminar in Applied Economics			4	
	‡GLLC-444 Technical Writing	4			
	‡GPTC-310 Conference Techniques		4		
	Free Elective			4	
	* Liberal Arts (Electives & Senior Seminar)	6	4	4	

"See page *7 for Liberal Arts requirements.*
f*See page 8 tor policy on Physical Education.*
t*Or Professional Option*

Professional option
The Economics Program allows the student to substitute courses from one of three professional options in place of six required courses. The three options — mathematics, pre-law, and valuation economics — allow students with specific interests in economics graduate education or law school, or career aspirations in the financial industry, to pursue in-depth study at the undergraduate level.

Cooperative education
Students in the Economics Program have the option of participating in co-op at RIT and may be placed with financial and brokerage institutions, government offices, and large corporations. Co-op can be taken during any quarter after the sophomore year, including summer.

Opportunities for graduates
Graduates with a BS degree in economics are prepared for a wide variety of entry-level positions in management and quantitative analysis. Students are further prepared for graduate study in economics, business, or law.

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The BS Degree in Professional and Technical Communication

Dr. Diane Hope, Department Chairperson

The BS in professional and technical communication combines education in the theory and practice of spoken, written, and visual communication with extensive instruction in one of RTFs professional or technical programs. Students in this program develop practical communication skills grounded in sound theoretical knowledge, along with a working familiarity with the central concepts and processes of a particular professional/technical field.

Numerous surveys and studies highlight the importance of effective communication in the technical and specialized world of business and industry. Today employees use communication skills more than any others in their jobs, and use of these skills becomes more frequent and more important with increasingly responsible positions. As knowledge becomes more technical and specialized, there is a growing need to communicate this knowledge to wide and diverse audiences. As communication media make the world more interdependent, college graduates need to be not only skilled in communication, but also equipped with an understanding of communication principles and the changing contexts in which they are applied.

Graduates of the program 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 fields.

Curriculum
The following curriculum description displays the course distribution by academic area. The chart indicates the sequence for the required courses.

Yr.	Typical Course Schedule, BS IN PROFESSIONAL AND TECHNICAL COMMUNICATION	181 or 182 Qtr. Credit Hours			
		FALL	WTR.	SPG.	SMR
1	GPTC-200 Found, of Communication	4			
	GLLC-220 English Composition	4			
	Survey of Computer Science	4			
	Math: Algebra for Management Science	4			
	GPTC-210 Interpersonal Communication		4		
	* Liberal Arts: Core		4	12	
	GPTC-230 Written Argument		4		
	Math: Calculus for Management Science		4		
	GPTC-220 Public Speaking			4	
	† Physical Education	0	0	0	
2	GPTC-481 Persuasion	4			
	GPTC-300 Group Communication and Problem Solving	4			
	GPTC-315 Research Methods I	2			
	Communication Elective	4		4	C
	Professional Core	4	4	4	0
	Science: Human Biology I and Lab		4		0
	* Liberal Arts: Core		8		p
	GPTC-316 Research Methods II		2		
	Science: Human Biology II and Lab			4	
	GPTC-482 Mass Communications			4	
	† Physical Education	0	0	0	
3	GPTC-445 Theories of Communication	4			
	GLLC-444 Technical Writing	4		C	
	* Liberal Arts Concentration	4	4	O	
	Professional Core	4	4	0	
	GPTC-450 Visual Communication		4	p	
	Communication Writing Elective		4		
4	* Liberal Arts Elective	4	4	4	
	Communication Elective	4		8	
	* Liberal Arts Concentration	4			
	Professional Core	4	4		
	GPTC-532 Professional Writing		4		
	Math or Science or Statistics		4		
	Seminar Seminar		2		
	Senior Thesis in Communication			4	

'See page 7 for Liberal Arts requirements.
fSee page 8 for policy on physical education.

Required communication courses
(52 total credit hours)

Foundations of Communication
Interpersonal Communication
Public Presentations
Conference Techniques
Written Argument
Mass Communications
Persuasion
Theories of Communication
Visual Communication
Technical Writing
Professional Writing
Research Methods I and II
Senior Thesis in Communication

Other required courses
(52 total credit hours)

	Credit Hours
Professional Core	28
Science	8
Math	8
Computer Science	4
Statistics or Math or Science	4
Communication electives	24
Liberal arts	54

Communication electives
Students are required to take six communication electives, including at least one writing elective, from the following:

GPTG483 Small Group Communication
GPTC-324 Interviewing
GLLC-517 Newswriting
GLLC-516 Creative Writing—Poetry
GLLC-518 Creative Writing—Prose Fiction
GPTC-415 Organizational Communication
GPTC-420 Advanced Public Speaking
GPTC-425 Teleconferencing Communication Management
GLLC-445 History of English Language
GPTC-421 Public Relations
GLLC-519 Advanced Creative Writing
GPTC-452 Uses and Effects of Mass Media
GLLC-524 Communication and Documentary Film
GPTC-490 Persuasion and Social Change
GPTC-520 Intercultural Communication

GPTC-525 Special Topics in Communi
cation (e.g., Conflict Negotiation;
Listening; History of Public Address;
Propaganda)
GLLC-446 Advanced Technical
Writing
GPTC-550 Film and Society

The Professional Core
Students are required to take one of five
available professional core options as
part of their degree requirements. Each
option is composed of seven courses, for
a total of 28 credit hours. These credit
hours may be taken as a professional
core from the College of Business,
School of Computer Science and
Information Technology, School of
Photographic Arts and Sciences, or the
College of Business.

With approval from the academic
advisor and the program chairperson, an
additional option—the individually
designed professional core—is available
to students with special study and career
interests.

Cooperative Education
The program includes two quarters of
cooperative education, which give stu-
dents an opportunity to apply classroom
knowledge to a work situation. RIT's
considerable experience with coopera-
tive education indicates that it deepens
students' knowledge of their fields,
allows them to determine their suitability
for a particular position, and increases
chances for an advantageous placement
after graduation.

The Technical and Liberal Studies Option

Dr. Katherine Mayberry, Program
Chairperson

Students often are attracted to RIT
because of the opportunity to specialize
in a career-oriented or technical pro-
gram beginning with their first year of
college. Many freshmen and transfer
students have chosen a career area by
the time they have been accepted for
admission. Others, however, want an
opportunity to explore different fields
before making a decision. The technical
and liberal studies option (TLSO) gives
this group of students a chance to for-
mulate an educational and career plan
during their first year at RIT.

In addition to sampling introductory
and foundation courses in one or more
of RIT's departments, full-time TLSO
students enroll for liberal arts courses in
the humanities and social sciences and
in mathematics, science, and computer
science courses. They also take a one-
credit seminar, Academic Fields of
Study, in which they explore both their
own abilities and inclinations and the
array of programs offered at RIT.

As students identify a major suitable to
their backgrounds, abilities, and inter-
ests, they may also take introductory
courses in that area to ensure that the
major is appropriate for them. They may
take courses in any major area repre-
sented by RIT departments, although
possibilities for exploration in art, crafts,
and photography are somewhat limited.
Upon definitely identifying a major
(sometime during their first year), TLSO
students apply for a transfer to the new
department.

Students who select the Technical and
Liberal Studies Option must, of course,
meet the standards and requirements of
the RIT schools and colleges to which
they might eventually apply. Occasion-
ally, some additional time may be neces-
sary to complete degree requirements
because the TLSO student has spent
time in preliminary exploration.

Of the 12 courses that a student would
take during three quarters in TLSO,
however, at least nine would be required
in any RIT baccalaureate degree pro-
gram. Therefore, the maximum "loss of
time," no matter what the student's
program choice, will not be too severe.

Each student is assisted by a faculty
academic advisor. The dean of the
college also will work direcdy with any
student who has special difficulties in
selecting a career path and degree
program.

After one academic year (one to four
quarters), each student may reasonably
anticipate:
• A clearer basis for making a decision
regarding long-range career plans
• Credit for courses that would most
likely apply to RIT degree programs
or to programs at other colleges
• Assistance in matriculating in the
curriculum of the student's choice
at RIT, provided that relevant stan-
dards and requirements are met and
that space in the program is
available.
By special permission a student may
enroll for portions of this program on a
part-time basis.

College of Science

Dr. Mary Beth Krogh-Jespersen, Dean

Undergraduates in the College of Science receive an unusual 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, under the direction of our faculty members, reflect modern trends in the application of science and mathematics while preparing students for graduate study, as well as immediate employment in business, industry, and the allied health professions.

Our emphasis is on the practical aspects of science and mathematics as found in science and computer laboraories; we are career oriented. At the same time we recognize the value of the social sciences, English composition, literature, history, philosophy, and fine arts for the intellectual enrichment of our students. In addition to technical competence, many of the skills acquired through the study of these liberal arts subjects are required by employers for promotion and career advancement.

Faculty and research
The College of Science has an ideal size and philosophy to provide a quality education. We have nearly 90 faculty members in the sciences, health professions, and mathematics. All are committed to the education of undergraduate students; most hold the Ph.D. degree. They provide a variety of faculty expertise, so a student is likely to find a faculty member with similar interests to act as mentor and friend.

Our faculty members are dedicated teachers who also practice their professions outside of the classroom in research and other professional activities. Our undergraduates are encouraged to work with faculty members as they pursue their research. A number of joint student-faculty research projects have resulted in publication in professional literature.

Facilities and resources
The College of Science was built in 1968. In addition to an auditorium and nine classrooms, there are 22 teaching laboratories and 16 research laboratories that provide space for laboratory course work and student research projects. Some of the facilities within the building have specialized purposes. For example, we have a laser-optics laboratory, an animal care facility, a diagnostic imaging laboratory, a plasma etching laboratory,

Yr.	UNDECLARED SCIENCE OPTION	Qtr. Credit Hrs.		
		FALL	WTR.	SPG.
	* SBIB-201, 202,203 General Biology Lecture	3	3	3
	SBIB-205, 206,207 General Biology Lab	1	1	1
	SCHG-251,252 General Chemistry Lecture I, II	3	3	
	SCHG-255 General Chemistry I Lab	1		
1	* SCHA-261,262 Quantitative Analysis Lecture I, II		4	4
	SCHA-265, 266 Quantitative Analysis Lab. I, II		2	2
	SMAM-251, 252, 253 Calculus I, II, III	4	4	4
	* SPSP-311,312 University Physics Lecture 1, II		4	4
	SPSP-371, 372 University Physics Lab. I, II		1	1
	SSEG-210 Freshman Seminar for Undeclared Science	1		
	† Liberal Arts (Core)	4	4	4
	†† Physical Education Electives	0	0	0

'Any two of these in a given quarter
fSee page 7 for Liberal Arts requirements
tfSee page 8 for policy on Physical Education

three greenhouses, an electronics laboratory, a nuclear magnetic resonance laboratory, and an electronic microscope center. All of these facilities are used by undergraduate students.

State-of-the-art computer facilities are available in the college as well as in labs throughout the Institute. Such facilities are a valuable resource for College of Science programs that use the computer as a tool in the applications of mathematics, health-related work, and science.

Academic advising
Each College of Science student is assigned an academic advisor who provides counsel on course selection, advice about careers, and information about RIT services. It is not unusual for a science major to have several friends among the faculty, who help with academic, career, and personal questions.

Undeclared major
Many high school students do not know which major they prefer. We encourage such students to come to RIT if they have a strong interest in science and mathematics.

A student may apply to the college as an undeclared science major without designating a specific major. The undeclared science option allows a student to postpone definite commitment to a particular major in science or mathematics without any loss of time toward a degree. This option has been attractive to quite a few first-year students.

Above is a typical distribution of courses for the undeclared science option. The program covers a number of introductory college-level courses in science and mathematics and can be tailored to meet a student's interests. An academic advisor assists the student in selecting courses and identifying a major field of interest in which to enroll.

Before the end of the first year, the student should decide upon a specific major. Most students find the decision is easily made after only a quarter or two of course work.

Our graduates
The best way to evaluate college programs is to look at the success of the graduates. In recent surveys of our graduates, more than 90 percent responded that they are employed in a field related to their degree, and the same percentage expressed satisfaction with their work.

Employers report that our graduates have good preparation for employment in business and industry and, because of their work experience, immediately fit into their jobs with a high degree of initiative and purpose.

About one-fourth of our graduates enter graduate or professional school after graduation. We have found that they do exceedingly well. Many find that, because of their laboratory and co-op experience, they can move into their graduate research projects more easily than their classmates.

The cooperative plan
In our cooperative education plan (co-op), a student alternates quarters of paid work with quarters on campus in academic study for two or three years. Co-op employment experience in a student's field of study has many advantages.

Through co-op, students often gain insights that help them with classroom work. Co-op gives them a chance to find out what working in their field is really like, and acquiring practical experience that is valuable in getting a job or into graduate school is another benefit. Income from this work-study program enables students to obtain a high quality education at a cost often comparable to that of a public education.

Although co-op is not required in any of our programs, many students elect this five-year plan, which works as follows: RIT's school year is divided into four 11-week quarters: Fall, Winter, Spring, Summer. Students in the five-year co-op programs in biology, biotechnology, applied mathematics, applied statistics, computational mathematics, biomedical computing, and physics attend classes during the fall, winter, and spring of their first two years. During the last half of the second year, they work with the Office of Cooperative Education and Placement to obtain a co-op position. At the beginning of the third year, students begin alternating quarters of work and study, as shown in the charts on this page. Some students are on the A-block schedule and others on the B-block. Students in the five-year chemistry, biochemistry, and polymer chemistry co-op plans follow the same kind of schedule, except that their co-op experience could start as early as the summer of the first year.

The internship plan
Students in the medical technology, nuclear medicine technology, and diagnostic medical sonography (ultrasound) programs do not participate in co-op. Instead these students spend three years on campus in academic work and then gain invaluable clinical experience during the fourth year at a clinical training site.

Cooperative Schedule for Five-Year Program in Biology, Biotechnology, Mathematics, Statistics, and Biomedical Computing

Year		Fall	Winter	Spring	Summer
1 and 2		RIT	RIT	RIT	Vacation
3 and 4	A B	RIT Work	Work RIT	RIT Work	Work RIT
5	A B	RIT Work	Work RIT	RIT RIT	

Cooperative Schedule for Five-Year Chemistry, Polymer Chemistry, and Physics* Programs

Year		Fall	Winter	Spring	Summer
1		RIT	RIT	RIT	Vac/Work
2, 3, and 4	A B	RIT Work	Work/RIT* RIT	RIT Work	Work RIT
5*	A B	RIT Work	Work RIT	RIT RIT	– –

"Physics majors ordinarily are all on A-block, and 2nd-year students attend classes Winter Quarter.

The transfer plan
Students with associate degrees in a comparable program from other educational institutions normally can expect to transfer at the junior year level. Transfer credit is granted for studies that parallel Institute courses in the curriculum for which admission is sought.

Graduate degrees
The College of Science offers master of science degrees in chemistry and clinical chemistry. A master of science in materials science and engineering is offered jointly by the College of Science and the College of Engineering.

Premedical studies

A student interested in entering a professional school of medicine, dentistry, or veterinary science after completing a baccalaureate degree may enroll in any BS program in the College of Science and combine that program's course requirements with what we call the premedical core (see chart, opposite). The premedical core is a set of courses required for admission to most medical, dental, and veterinary schools in the United States. These courses should be completed by the end of the third year or before the student expects to take the MCAT, DAT, VAT, or other admission tests required for entrance to a professional school.

The way in which program requirements are combined with the premedical core courses varies according to the program in which a student is enrolled. Our biology and chemistry (biochemistry option) program requirements already include the premedical core courses. Biotechnology, chemistry, polymer chemistry, biomedical computing, medical technology, nuclear medicine technology, and diagnostic medical sonography programs contain some of the premedical core courses, and the remainder can be elected within the program with careful scheduling. The programs in the Mathematics and Physics departments do not contain many of the premedical core courses. A student in applied mathematics, computational mathematics, applied statistics, or physics will need to take course credits beyond the number required for a degree. This can be accomplished by taking courses during one or two summers. Advanced placement credit from high school may reduce the additional time needed. Again, careful scheduling and early planning will reduce the difficulties.

PREMEDICAL CORE		
Biology	1 year	With laboratory
Chemistry	2 years	General Chemistry, 1 year
		Organic Chemistry, 1 year
		(both years with laboratory)
Physics	1 year	With laboratory
English	1 year	

Note: In addition to these courses, which are required by virtually all medical schools, additional courses in mathematics, psychology/behavioral sciences, or biology may be required by specific schools. The admissions requirements of each medical school are published and may be obtained from the Premedical Advising Committee.

COMBINING YOUR PROGRAM'S REQUIREMENTS WITH THE PREMEDICAL CORE COURSES*	
If you major in:	**You will need to take the courses required for your major, plus:**
Applied Mathematics	
Applied Statistics	
Biology	None
Biomedical Computing	Elect one year of organic chemistry
Biotechnology	Elect one year of physics
Chemistry	Elect one year of biology
Chemistry (Biochemistry Option)	None
Computational Mathematics	
Diagnostic Medical Sonography	Elect one year of general chemistry and one year of organic chemistry
Medical Technology	One quarter organic chemistry lab
Nuclear Medicine Technology	Elect one year of organic chemistry
Physics	
Polymer Chemistry	Elect one year of biology

' Some rearrangement of the typical pattern of course work within a program may be necessary.
" Course credits beyond the usual 12 quarters needed to complete degree requirements are necessary. Call the College of Science, 716-475-7105, for more information.

Each student who is interested in Premedical Studies is assigned an academic advisor who helps the student select and schedule course work. In addition, our Premedical Advisory Committee provides counsel and guidance on how to apply to a professional school and coordinates the application process. Graduates of the college have been accepted and admitted to prestigious schools of medicine; dentistry; veterinary, osteopathic, and podiatric medicine; and optometry. However, all students considering Premedical Studies should remember that acceptance at a professional school is highly competitive and is entirely the decision of that school.

Premedical students are encouraged to participate in an exclusive co-op in clinical medicine. Under the sponsorship of a local hospital, students who have completed one year of study at RIT are trained as NYS certified nursing assistants and hired to provide medical care to patients.

We believe very strongly that all students in our program should commit themselves to developing the greatest competency possible in the discipline in which they are enrolled. It is important, therefore, that students interested in Premedical Studies realize that, while their career objectives may include a professional school after graduation, they should select a program to which they are prepared to make a sincere and major commitment as an undergraduate. This approach will increase their career options after graduation.

Biology Program

G. Thomas Frederick, Ph.D., Head

The Department of Biology offers programs leading to the AS and BS degrees in biology. Graduates receiving the BS degree find rewarding positions in occupations related to the life sciences, including biomedical research laboratories (e.g., human genetics, new vaccines and therapeutic drugs, diagnosis and treatment of cancer, transplantation), marketing divisions of large science companies, the pharmaceutical industry, marine biology, ecology and environmental management, and energy and food production. The program also prepares students for the pursuit of degrees in the medical professions and graduate degrees in a variety of biological disciplines.

Requirements of the BS degree in biology
The student must meet the minimum graduation requirements of the Institute as described on page 4 of this bulletin. In addition, the program requires the successful completion of 60 quarter credit hours in biology. A required core of courses comprises 45 quarter credit hours in Biology, General Biology, General Ecology, Botany, Introductory Microbiology, Genetics, Biology Seminar, Biological Writing, one course in zoology, and one course in physiology. The remaining 15 hours are selected from biology electives.

Additional requirements for the BS degree in biology include a minimum of six courses in chemistry, including three in general analytical and three in organic chemistry. A minimum of three courses in physics, one course in computer science, three courses in mathematics, including two calculus and one statistics course, are also required.

For more information on AS and BS degree requirements, contact the head of the Department of Biology.

Specialization areas
In conjunction with a faculty advisor, individual student programs can be established to meet personal goals and career objectives. Because these areas are designed around the common core curriculum, the student has the added advantage of being prepared for alternate career goals, should the situation arise. The following specialization areas are available:

Biological Research. This program, which includes a variety of courses such as toxicology, radiation biology, animal surgery, histology, electron microscopy, tissue culture, and an optional research project leads to employment in laboratories engaged in pure and applied biological research or in clinical and medical research.

Pre-professional. Students interested in careers in medicine, dentistry, veterinary science, optometry, and podiatry can satisfy the requirement for admission to professional schools by majoring in biology at RIT. Elective courses include comparative anatomy, surgical techniques, histology, toxicology, radiation biology, electron microscopy, biochemistry, cell biology, virology, and pathology.

Post-graduate. A student achieving the BS degree in biology at RIT will have the essential prerequisites for entry into most universities offering master's and Ph.D. degrees in biological sciences. Electives such as independent study and undergraduate research can further enhance preparation for graduate programs.

Microbiology. This is similar to the biological research program, but emphasizes microbiological aspects that lead to careers in clinical laboratories, in food and drug quality control, and in wastewater and sewage treatment facilities.

Environmental Science. This track prepares students for careers in ecological research and management in areas such as conservation, field biology, and environmental toxicology. Students may pursue terrestrial, freshwater, and marine science options.

Medical Technology. It is possible for a student to complete a BS degree program in biology in four years and complete internship and examination requirements for medical technology certification in the fifth year. The arrangement provides the student with a variety of options: a career as a medical technologist or research technician or entry into graduate or professional training.

Yr.	BIOLOGY, BS, TYPICAL COURSE SCHEDULE	180-183 **Qtr. Credit Hours**		
		FALL	WTR.	SPG.
1	SBIB-200 Biology Symposium	1		
	SBIB-201, 202,203 General Biology Lecture	3	3	3
	SBIB-205, 206, 207 General Biology Laboratory	1	1	1
	SCHG-215,216,217 General Analytical Chemistry Lecture	4	3	3
	SCHG-205, 206 Chemistry I, II Lab	1	1	
	SCHG-225, 226, 227 General Analytical Chemistry Laboratory	1	1	2
	SMAM-214,215 Introduction to Calculus		3	3
	ICSA-200 Survey of Computer Science	4		
	* Liberal Arts (Core)	4	4	4
	‡ Physical Education Electives	0	0	0
2	SBIB-340 General Ecology	4		
	SBIB-304 Botany	4		
	SCHO-231, 232,233 Organic Chemistry Lecture	3	3	3
	SCHO-235, 236, 237 Organic Chemistry Laboratory	1	1	1
	SMAM-309 Statistics			4
	Biology Electives		4/5	4/5
	* Liberal Arts (Core)	4	8	4
	‡ Physical Education Electives	0	0	0
		VARIABLE QUARTERS		
3 " 4 5	SBIB-350 Molecular Biology	4		
	SBIB-370 Biological Writing	2		
	SBIB-404 Introductory Microbiology	5		
	SBIB-421 Genetics	4		
	SBIB-550 Biology Seminar	2		
	SPSP-211,212,213 College Physics Lecture	9		
	SPSP-271, 272, 273 College Physics Laboratory	3		
	Zoology Elective	4		
	Physiology Elective	4		
	Biology Elective	4-6		
	* Liberal Arts (Concentration)	12		
	* Liberal Arts (Electives)	12		
	* Liberal Arts (Senior Seminar)	2		
	Institute-wide Electives	15		

" See page 7 for Liberal Arts requirements.
‡ See page 8 tor policy on Physical Education.
"Course scheduling varies

Biotechnology Program
(Applied Genetics)

G. Thomas Frederick, Ph.D., Head

The Department of Biology's program leading to the BS degree in biotechnology is one of only a few such programs in the United States. Students learn the modern techniques and applications of genetics, genetic engineering, monoclonal antibodies, industrial fermentation, molecular biology, plaint and animal cell and tissue culture, biochemistry, and cell biology.

Graduates of the program are prepared for employment as technologists and assistant scientists in industrial and academic research laboratories in the field of biotechnology. Organizations that employ biotechnologists include those involved in human gene therapy, pharmaceuticals, vaccines, genetic diseases, agriculture, and environmental management. The program also prepares students for entrance into advanced degree programs in biotechnology or related areas or for medical school.

Requirements for the BS degree in biotechnology

The student must meet the minimum graduation requirements of the Institute as described on page 4 of this bulletin. In addition, the program requires the successful completion of 69 quarter credit hours in biology (General Biology, Tissue Culture, Plant Cell and Tissue Culture, Cell Biology, Molecular Biology, Introductory Microbiology, Immunology, Hybridoma Techniques, Genetics, Plant Physiology, Microbial and Viral Genetics, Cell Physiology, Industrial Microbiology, Genetic Engineering, and Biological Writing).

Additional requirements include general and analytical chemistry, organic chemistry, two courses in biochemistry, analytical chemistry separations, two courses in calculus, one in statistics, and one in computer science.

For information on AS and BS degree requirements, contact the head of the Department of Biology.

Yr.	BIOTECHNOLOGY, BS, TYPICAL COURSE SCHEDULE	186Qtr. Credit Hrs		
		FALL	WTR.	SPG.
1	SBIB-200 Biology Symposium	1		
	SBIB-201, 202, 203 General Biology Lecture	3	3	3
	SBIB-205, 206, 207 General Biology Laboratory	1	1	1
	SCHG-215,216,217 General Analytical Chemistry Lecture	4	3	3
	SCHG-205, 206 Chemistry I, II Lab	1	1	
	SCHG-227 General Analytical Chemistry Laboratory			2
	SMAM-214, 215 Intro, to Calculus	3	3	
	SMAM-309 Statistics			4
	** Liberal Arts, (Core)	4	4	4
	‡ Physical Education Electives	0	0	0
2	SBIB-442 Hybridoma Techniques		2	
	SBIB-445 Tissue Culture			4
	SBIB-446 Plant Tissue and Cell Culture		4	
	SCHO-231, 232, 233 Organic Chemistry Lecture	3	3	3
	SCHO-235, 236, 237 Organic Chemistry Laboratory	1	1	1
	ICSA-200 Survey of Computer Science	4		
	SCHA-312 Analytical Chemistry-Separations Lec			3
	SCHA-319 Analytical Chemistry-Separations Lab			1
	" Liberal Arts (Core)	4	8	4
	‡ Physical Education Electives	0	0	0

Yr.		VARIABLE QUARTERS		
3* 4 5	SBIB-310 Plant Physiology	4		
	SBIB-311 Cell Biology	4		
	SBIB-350 Molecular Biology	4		
	SBIB-370 Biological Writing	2		
	SBIB-402 Immunology	3		
	SBIB-403 Cell Physiology	4		
	SBIB-404 Introductory Microbiology	5		
	SBIB-407 Microbial/Viral Genetics	4		
	SBIB-417 Industrial Microbiology	4		
	SBIB-421 Genetics	4		
	SBIB-450 Genetic Engineering	5		
	Biology Electives	3		
	Biochemistry Electives	6		
	** Liberal Arts (Concentration)	12		
	** Liberal Arts (Electives)	12		
	** Liberal Arts (Senior Seminar)	2		
	Institute-wide Electives	8		

*Course scheduling varies.
" See page 7 for Liberal Arts requirements.
‡ See page 8 for policy on Physical Education.

Chemistry Programs

Gerald A. Takacs, Ph.D., Head

The Department of Chemistry offers programs leading to the AS and BS degrees in chemistry, the BS degree in chemistry (biochemsitry option), the BS degree in polymer chemistry, and the MS degree in chemistry.

Chemistry

The BS chemistry degree, which has been approved by the Committee on Professional Training of the American Chemical Society, may be completed in four or five years depending on the amount of cooperative (co-op) experience that the student elects. Co-op may begin as early as the summer of the first year. The five-year course schedule shown assumes that the student will co-op a total of eight academic quarters. Students may elect to complete the BS degree requirements in a traditional (non-cooperative) four-year program.

The program prepares graduates 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 fraction of graduates continue their education for advanced degrees in chemistry or pursue careers in pharmacy, medicine, and dentistry.

The chemistry program allows for flexibility in the type and number of chemistry and Institute-wide elective courses taken by the student. For example, it is highly recommended that students take the undergraduate chemistry research courses as Institute-wide electives. The program also provides students with the option of planning an elective concentration in complementary fields such as photoscience, business, graphic arts, audio visual communications, biology, criminal justice, engineering, environmental science, packaging science, printing, computer science, physics, or mathematics.

Yr.	CHEMISTRY (ACS CERTIFIED), BS, TYPICAL COURSE SCHEDULE	186 Qtr. Credit Hrs		
		FALL	WTR.	SPG.
1	SCHC-200 Chemical Safety	1		
	SCHC-230 Intro, to Co-op Seminar	1		
	SCHC-251, 252 General Chemistry I, II	3	3	
	SCHC-255 General Chemistry 1 Lab	1		
	SCHA-261, 262 Quantitative Analysis I, II		4	4
	SCHA-265, 266 Quantitative Analysis Lab I, II		1	2
	SMAM-251, 252, 253 Calculus I, II, III	4	4	4
	ICSA-205 Computer Techniques	3		
	* Liberal Arts (Core)	4	4	**8**
	‡ Physical Education Electives	0	0	0

Yr.	Course	FALL WTR.		SPG. SMR.
2	SCHA-311 Instrumental Analysis	3		
	SCHA-318 Instrumental Analysis Lab	1		
	SCHA-312 Separations Techniques			3
	SCHA-319 Separations Techniques Lab			1
	SMAM-305 Calculus IV	4	C	
	SCHO-431 Organic Chemistry I		0	3
	SCHO-435 Preparative Organic Chemistry I Lab		0	2
	SPSP-311, 312 University Physics	4	p	4
	SPSP-375, 376 University Physics Lab	1		1
	* Liberal Arts (Core)	4		4
	‡ Physical Education Electives	0		0
3	SCHC-301 Elements of Chemical Research	**1**		
	SCHP-340 Intro, to Physical Chemistry	3		
	SMAM-306 Differential Equations	4		
	SPSP-313 University Physics			4
	SPSP-377 University Physics Lab		**C**	1
	SCHO-432, 433 Organic Chemistry II, III	3	0	3
	SCHO-436 Preparative Organic Chemistry II Lab	2	0	
	SCHO-437 Systematic ID of Organic Compounds III Lab		p	2
	SCHP-441 Physical Chemistry I (Thermodynamics)			3
	SCHP-445 Physical Chemistry I Lab			1
	GLLC-530 German I			4
	* Liberal Arts (Core)	4		
	‡ Physical Education Electives	0		
4	SCHP-442 Physical Chemistry II (Quantum)	3		
	SCHP-446 Physical Chemistry II Lab	1		
	SCHP-443 Physical Chemistry III (Kinetics)			3
	SCHP-447 Physical Chemistry III Lab		**C**	1
	SCHC-401 Chemical Literature	2	0	
	SMAM-331 Matrix Algebra	4	O	
	SCHI-762 Inorganic Chemistry I		p	3
	GLLC-531 German II	4		
	* Liberal Arts (Concentration/Elective)	4		8
	" Institute-wide Elective			3
5	SCHI-763, 764 Inorganic Chemistry II, III	3		3
	SCHA-711 Advanced Instrumental Analysis	3	**C**	
	SCHA-720 Advanced Instrumental Analysis Lab	2	**O**	
	Chemistry Electives	3	**O**	3
	* Liberal Arts (Concentration)		p	4
	* Liberal Arts (Senior Seminar)	2		
	** Institute-wide Electives	4		4

*See page 7 for Liberal Arts requirements.
‡ See page 8 for policy on Physical Education.
" SCHC-541, -542, -543, Chemistry Research may be used as Institute-wide electives and are highly recommended.

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Biochemistry option

The biochemistry option is an exciting variation of the BS chemistry program and may be completed in four or five years, depending on the amount of cooperative education. Co-op may begin as early as the summer of the first year. Students who enroll in the option often have an interest in combining the life and health sciences with a chemistry degree. Students pursuing this option take a year of general biology in addition to a typical chemistry curriculum during the first two or three years. During the upper-class years, students in the biochemistry option take a substantial core of biochemistry courses, physical chemistry, chemical literature, liberal arts, and elective courses in biology, biotechnology, and clinical sciences.

Employment opportunities for chemistry graduates with the bio-chemistry option exist in the chemical, pharamceutical, agricultural, forensic, and rapidly expanding biotechnological fields. Graduates also are well-prepared to enter advanced degree programs in biochemistry, medicine, dentistry, and veterinary medicine.

Yr.	CHEMISTRY BS (BIOCHEMISTRY OPTION)	182 Qtr. Credit Hrs		
	[1]	FALL	WTR.	SPG.
1	SCHC-200 Chemical Safety	1		
	SCHC-230 Intro, to Co-op Seminar	1		
	SCHC-251, 252 General Chemistry I, II	3	3	
	SCHC-255 General Chemistry I Lab	1		
	SCHA-261, 262 Quantitative Analysis I, II		4	4
	SCHA-265, 266 Quantitative Analysis Lab I, II		1	2
	SMAM-251, 252, 253 Calculus I, II, III	4	4	4
	SBIB-201, 202, 203 General Biology	3	3	3
	SBIB-205, 206, 207 General Biology Lab	1	1	1
	* Liberal Arts (Core)	4		4
	‡ Physical Education Electives	0	0	0
		FALL WTR.		**SPG. SMR.**
2	SCHA-311 Instrumental Analysis	3		
	SCHA-318 Instrumental Analysis Lab	1		
	SCHA-312 Separations Techniques		**C**	3
	SCHA-319 Separations Techniques Lab		**O**	1
	SMAM-305 Calculus IV	4	**O**	
	SCHO-431 Organic Chemistry 1		**p**	3
	SCHO-435 Preparative Organic Chemistry 1 Lab			2
	SPSP-311, 312 (or SPSP-211, 212) Physics	4(3)		4(3)
	SPSP-375, 376 (or SPSP-271, 272) Physics Lab	1		1
	* Liberal Arts (Core)	4		4
	‡ Physical Education Electives	**0**		0
3	SCHP-340 Intro, to Physical Chemistry	3		
	SCHC-301 Elements of Chemical Research	1		
	SMAM-306 Differential Equations	4		
	SPSP-313 (or SPSP-213) Physics			4(3)
	SPSP-377 (or SPSP-273) University Physics Lab		**C**	1
	SCHO-432, 433 Organic Chemistry II, III	3	**O**	3
	SCHO-436 Preparative Organic Chemistry II Lab	2	**O**	
	SCHO-437 Systematic ID of Organic Compounds III Lab		**p**	2
	SCHP-441 Physical Chemistry I (Thermodynamics)			3
	SCHP-445 Physical Chemistry I Lab			1
	* Liberal Arts (Core)	4		
	‡ Physical Education Electives	0		
4	SCHP-442 Physical Chemistry II (Quantum)	3		
	SCHP-446 Physical Chemistry II Lab	1		
	SCHP-443 Physical Chemistry III (Kinetics)			3
	SCHP-447 Physical Chemistry III Lab		**C**	1
	SCHC-401 Chemical Literature	2	**O**	
	SCHB-701 Biochemistry	3	**O**	
	SCHB-704 Biochemistry-Nucleic Acids		**p**	3
	* Liberal Arts (Core)	4		
	* Liberal Arts (Concentration)	4		4
	ICSA-205 Computer Techniques			3-4
5	SCHB-703 Biochemistry-Metabolism	3		
	SCHB-705 Biochemistry—Experimental Techniques		**C**	3
	" Science Electives	3-5	**O**	1-7
	Liberal Arts (Electives)	4	**O**	8
	GLAI-501 Senior Seminar	2	**p**	
	Liberal Arts (Concentration)	4		

" See page 7 for Liberal Arts requirements.
‡ See page 8 for policy on Physical Education.
" SCHB-541, 542,543, Biochemistry Research may be used as Science electives and are highly recommended.

Polymer chemistry

Polymer science is one of the increasingly important areas of modern science. The polymer chemistry program has been approved by the Committee on Professional Training of the American Chemical Society. The program is one of a handful in the nation and provides students with a solid background in the traditional areas of chemistry (general, analytical, organic, physical, and inorganic) supplemented with advanced courses and intensive laboratory experiences in polymer science. The polymer program may be completed in four or five years, depending on the amount of cooperative education, which may begin as early as the summer of the first year. It is highly recommended that students take the undergraduate chemistry research courses as Institute-wide electives in this program. Because two-thirds of all chemists work with polymers during their professional lives, this program provides the background important for success in many industrial research areas and also enables graduates to pursue further education in chemistry, polymer chemistry, or materials science and engineering.

Requirements for the BS degree

The student must meet the minimum graduation requirements of the Institute as described on page 4 and in addition must complete particular program requirements, or the equivalent, as determined and approved by the Department of Chemistry.

To meet the requirements leading to the BS degree approved by the Committee on Professional Training of the American Chemical Society, the student must take specifically designated courses in chemistry and related sciences and must complete a minimum of 186 quarter credit hours.

All students must meet the requirements for the Institute's writing policy, as specified by the Department of Chemistry.

Extended-day and part-time studies in chemistry

All BS degree options in chemistry and polymer chemistry are designed to accommodate part-time students, beyond the associate degree, during day or evening (extended day) hours. Academic advising is available throughout, and the American Chemical Society-approved chemistry degree is offered at extended-day hours. This option is especially designed for transfer students who work full time, but it is flexible enough to meet the needs of any part-time student.

Yr.	POLYMER CHEMISTRY, BS, TYPICAL COURSE SCHEDULE	184 Qtr. Credit Hrs		
		FALL	WTR.	SPG.
1	SCHC-200 Chemical Safety	1		
	SCHC-230 Intro. to Co-op Seminar	1		
	SCHC-251, 252 General Chemistry I, II	3	3	
	SCHC-255 General Chemistry I Lab	1		
	SCHA-261,262 Quantitative Analysis I, II		4	4
	SCHA-265, 266 Quantitative Analysis Lab I, II		1	2
	SMAM-251, 252, 253 Calculus I, II, III	4	4	4
	ICSA-205 Computer Techniques		3	
	* Liberal Arts (Core)	4	4	8
	‡ Physical Education Electives	0	0	0
		FALL WTR.		SPG. SMR.
2	SCHA-311 Instrumental Analysis	3		
	SCHA-318 Instrumental Analysis Lab	1		
	SCHA-312 Separations Techniques			3
	SCHA-319 Separations Techniques Lab		C	1
	SMAM-305 Calculus IV	4	O	
	SCHO-431 Organic Chemistry I		O	3
	SCHO-435 Preparative Organic Chemistry I Lab		P	2
	SPSP-311, 312 University Physics	4		4
	SPSP-375, 376 University Physics Lab	1		1
	* Liberal Arts (Core)	4		4
	‡ Physical Education Electives	0		0
		FALL		SPG.
3	SCHP-301 Intro. to Polymer Technology	2		
	SCHP-340 Intro. to Physical Chemistry	3		
	SMAM-306 Differential Equations	4		
	SPSP-313 University Physics			4
	SPSP-377 University Physics Lab		C	1
	SCHO-432,433 Organic Chemistry II, III	3	o	3
	SCHO-436 Preparative Organic Chemistry II Lab	2	0	
	SCHP-441 Physical Chemistry I (Thermodyamics)		p	3
	SCHP-445 Physical Chemistry I Lab			1
	* Liberal Arts (Core/Concentration)	4		4
	‡ Physical Education Electives	0		
		FALL		SPG.
4	SCHC-301 Elements of Chemical Research	1		
	SCHP-442 Physical Chemistry II (Quantum)	3		
	SCHP-446 Physical Chemistry II Lab	1		
	SCHP-443 Physical Chemistry III (Kinetics)		c	3
	SCHP-447 Physical Chemistry III Lab		o	1
	SCHC-401 Chemical Literature	2	0	
	SCHO-601 Organic Chemistry of Polymers	4	p	
	SCHP-605 Synthesis of High Polymers Lab	2		
	SCHI-762 Inorganic Chemistry L.			3
	SCHP-602 Physical Chemistry of Polymers			4
	* Liberal Arts (Concentration)	4		4
5	SCHP-603 Struc./Prop. Relationships-Polymers	4		
	SCHP-604 Characterization of High Polymers Lab		c	2
	Chemistry Electives	3	o	3
	* Liberal Arts (Electives)	4	o	8
	* Liberal Arts (Senior Seminar)	2	p	
	" Institute-wide Electives	3		3

' See page 7 for Liberal Arts requirements.
‡ See page 8 for policy on Physical Education.
" SCHC-541. 542, 543, Chemistry Research, may be used as Institute-wide electives and are highly recommended.

Mathematics and Statistics Programs

George T. Georgantas, Ph.D., Head

Over the past several years a growing demand has developed for mathematicians and statisticians with broad-based quantitative backgrounds and extensive computer skills. Indeed, mathematical and statistical theory is the basis for many fields of practical application, and employers need people whose education merges mathematics with another field of study: computer science, statistics, chemistry, physics, engineering, or business, to name a few.

The Department of Mathematics has established three BS degree programs in response to these long-term industry needs: applied mathematics, computational mathematics, and applied statistics. Each has been carefully designed to meet the needs of both students and their potential employers. Constant feedback from industry has enabled the department to continuously update its courses, programs, and equipment in order to make sure students are well-trained in current techniques, equipment, and applications. Students in the Mathematics Department utilize the symbolic computation software in many of their courses. Our innovative "smart classroom" and new symbolic computation lab lend support to all of our programs. Industrial needs and trends are carefully discussed with employers in order to update the curricula, and graduates find that their RIT backgrounds seem tailor-made for their professional careers.

Many exciting opportunities exist for mathematics majors. Students typically become involved in research, consulting, or using computers for statistical analyses or to analyze complex mathematically modeled physical problems.

Examples of co-op and permanent jobs typically obtained by Department of Mathematics majors include the following:
actuary
analyst for mathematical modeling
statistician
mathematical statistician
demographics analyst
missile reliability analyst
software designer
scientific programmer
systems analyst
cryptographic mathematician
manufacturing engineering consultant
biological systems analyst
computer modeling consultant
graphic modeling consultant
simulations programmer
reliability analyst
statistical forecaster
robotics software specialist
data base programmer
data analyst
telecommunications analyst
software engineer
marketing analyst
aerospace systems analyst

Students in all three programs enjoy small classes and a low student/faculty ratio and frequently get to know their teachers outside the classroom. Job opportunities for graduates are plentiful, and the department is proud of its outstanding record in placing students in both co-op and permanent jobs. Each of the three BS degree programs has a complementary master's degree program that can be completed in one additional year.

Applied Mathematics

The applied mathematics program focuses upon the study and solution of problems that can be mathematically analyzed. Industry has 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 minors are applied statistics, biology; business; economics; chemistry; electrical, industrial, or mechanical engineering; operations research; and imaging science.

Graduates typically are employed in scientific, engineering, and business environments, applying their mathematics background to the analysis and solution of real-world problems.

Applied mathematics students who minor in business can accelerate the MBA degree from RIT through careful choice of undergraduate courses. With one year of additional study, the BS and MBA can be granted simultaneously.

Yr.	APPLIED MATHEMATICS, BS, TYPICAL COURSE SCHEDULE	184 Qtr. Credit Hrs		
		FALL	WTR.	SPG.
1	SMAM-210,211 Freshman Seminar	1	1	
	SMAM-251, 252, 253 Calculus I, II, III	4	4	4
	SMAM-305 Calculus IV			4
	ICSP-241 Programming I - Algorithmic Structures	4		
	ICSP-242 Programming II - Data Structures		4	
	ICSA-220 FORTRAN or ICSA-207 C Language			4
	Science Electives	4	4	4
	* Liberal Arts (Core)	4	4	
	‡ Physical Education Electives	0	0	0
2	SMAM-306 Differential Equations I	4		
	SMAM-351 Probability and Statistics I	4		
	SMAM-352 Probability and Statistics II		4	
	SMAM-399 Co-op Seminar		0	
	SMAM-265 Foundations of Discrete Mathematics		4	
	SMAM-338 Series Solutions for Differential Equations **or**			4
	SMAM-353 Applied Statistics			4
	SMAM-331 Matrix Algebra			4
	* Liberal Arts (Core)	8	4	4
	Institute-wide Electives		4	4
	‡ Physical Education Electives	0	0	0

Yr.		FALL WTR.	SPG. SMR.
3	SMAM-437 Computer Methods in Applied Math	4	
	SMAM-432 Linear Algebra	4	
	SMAM-461 Mathematical Modeling		4
	Mathematics Elective	4	8
	* Liberal Arts (Core/Concentration)	4	4
4	SMAM-411, 412 Real Variables I, II	4	4
	Mathematics Electives	4	
	Applications Minor		4
	* Liberal Arts (Concentration/Electives)	4	8
5	SMAM-531, 532 Abstract Algebra I, II	4	4
	Applications Minor	4	4
	* Liberal Arts (Electives)	4	4
	* Liberal Arts (Senior Seminar)		2

" See page 7 for Liberal Arts requirements.
‡ See page 8 for policy on Physical Education.

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Computational Mathematics

Computational mathematics prepares students for a mathematical career that incorporates extensive computer science skills. In this program, much emphasis is given to use of the computer as a tool to solve mathematically modeled physical problems. Graduates of the program often choose positions as mathematical analysts, scientific programmers, software engineers, or systems analysts. Job opportunities in private industry and government literally abound in this field.

The BS in computational mathematics can be joined with the MS in computer science. An accelerated program of study allows students who choose this option to receive both the BS and MS degrees following one year of graduate study.

	COMPUTATIONAL MATHEMATICS, BS, TYPICAL COURSE SCHEDULE	191 Qtr. Credit Hrs		
		FALL	**WTR.**	**SPG.**
1	SMAM-210,211 Freshman Seminar	**1**	**1**	
	SMAM-251, 252, 253 Calculus I, II, III	4	4	4
	SMAM-305 Calculus IV			4
	ICSP-241 Programming I - Algorithmic Structures	4		
	ICSP-242 Programming II - Data Structures		4	
	ICSP-305 Assembly Language Programming			4
		4	4	4
	* Liberal Arts (Core)	4	4	
	‡ Physical Education Electives	0	0	0
2	SMAM-306 Differential Equations I	4		
	SMAM-351 Probability and Statistics I	4		
	SMAM-352 Probability and Statistics II		4	
	SMAM-265 Foundations of Discrete Mathematics		4	
	SMAM-399 Co-op Seminar		0	
	SMAM-331 Matrix Algebra			4
	ICSP-243 Programming III - Design and Implementation	4		
	ICSS-325 Data Organization and Management		4	
	ICSA-220 FORTRAN or ICSA-207 C Language			4
	Institute-wide Elective			4
	* Liberal Arts (Core)	4	4	4
	‡ Physical Education Electives	0	0	

		FALL WTR.		SPG. SMR.
3	SMAM-432 Linear Algebra	4		
	SMAM-467 Theory of Graphs and Networks	4		
	SMAM-461 Mathematical Modeling		C 0 0 P	4
	ICSS-315 Digital Computer Organization	4		4
	Mathematics Elective			4
	Computer Science Elective			4
	'Liberal Arts (Core)	4		4
4	SMAM-411 Real Variables I	4		
	SMAM-511, 512 Numerical Analysis I, II	4	C O 0 p	4
	Mathematics Electives			4
	Institute-wide Elective	3		
	* Liberal Arts (Concentration)	4		**8**
5	SMAM-531,532 Abstract Algebra I, II	4		4
	Mathematics Elective	4	**C 0 o**	4
	Computer Science Elective			4
	* Liberal Arts (Electives)	**8**	p	4
	* Liberal Arts (Senior Seminar)			2

See page 7 for Liberal Arts requirements.
‡ See page 8 for policy on Physical Education.

Applied Statistics

The Applied Statistics Program provides the student with a solid foundation in mathematical and statistical principles, experience in the application of statistics, thorough knowledge of computers and statistical software, and the skills to communicate the results of a statistical analysis. The demand for graduates with this type of preparation is precipitated from the recognition by business, industry, and government that a large number of problems can be effectively analyzed and solved using statistical methodology.

Graduates of the program collaborate with specialists in both scientific as well as non-technical areas to design, experiment, and interpret the results. Application areas include product designs, quality control, marketing, customer satisfcation, and actuarial sciences.

The BS in applied statistics may be combined with an MS in applied and mathematical statistics. An accelerated program of study allows the student who chooses this option to receive both the BS and MS degrees following one year of graduate study.

Transfer programs
Transfer programs are arranged on an individual basis.

Requirements for the BS degree
The student must meet the minimum requirements of the Institute as described on page 4. In addition he or she must complete the requirements contained in one of the particular programs listed here, or its equivalent, as determined and approved by the Department of Mathematics. In conjunction with a faculty advisor, individual student programs will be established to meet particular needs, interests, and goals.

Yr.	APPLIED STATISTICS, BS, TYPICAL COURSE SCHEDULE	188 Qtr. Credit Hrs		
		FALL	WTR.	SPG.
1	SMAM-210, 211 Freshman Seminar	1	1	
	SMAM-251, 252, 253 Calculus I, II, III	4	4	4
	SMAM-305 Calculus IV			4
	ICSP-241 Programming I - Algorithmic Structures	4		
	ICSP-242 Programming II - Data Structures		4	
	ICSA-220 FORTRAN or ICSA-207 C Language			4
	Science Electives	4	4	4
	* Liberal Arts (Core)	4	4	
	‡ Physical Education Electives			0
2	SMAM-306 Differential Equations	4		
	SMAM-351, 352 Probability and Statistics I, II	4	4	
	SMAM-265 Foundations of Discrete Mathematics		4	
	SMAM-399 Co-op Seminar		0	
	SMAM-353 Applied Statistics			4
	SMAM-331 Matrix Algebra			4
	SMAM-358 Statistical Quality Control			4
	Institute-wide Elective		4	
	* Liberal Arts (Core)	8	4	4
	‡ Physical Education Electives	0	0	0
		FALL WTR.		SPG. SMR.
3	SMAM-432 Linear Algebra	4		
	SMAM-354 Regression Analysis	4	C	
	SMAM-355 Design of Experiments		O	4
	Mathematics Elective		O	4
	Institute-wide Electives	4	P	4
	* Liberal Arts (Core/Concentration)	4		4
4	SMAM-454 Nonparametric Statistics	4	**C**	
	Mathematics Electives	4	O	8
	Institute-wide Elective		0	4
	* Liberal Arts (Concentration/Electives)	8	p	4
5	SMAM-451, 452 Mathematical Statistics I, **II**	4		4
	SMAM-555 Statistics Seminar	4	**C**	
	Mathematics Elective		0	4
	* Liberal Arts (Electives)	4	0	4
	* Liberal Arts (Senior Seminar)	2	p	

" See page 7 for Liberal Arts requirements.
‡ See page 8 for policy on Physical Education.

Physics Program

Arthur Z. Kovacs, Ph.D. Head

The Department of Physics offers programs leading to the AS and BS degrees in physics.

The BS degree in physics is a five-year program with cooperative work experience. Graduates with this degree find employment opportunities with industrial, academic, and governmental agencies, or continue their education in MS or Ph.D. programs in physics or physics-related areas, such as biophysics, geophysics, atmospheric science, imaging science, and engineering.

Requirements for the BS degree in physics

The student must meet the minimum requirements of the Institute as described on page 4. In addition he or she must complete the requirements contained in the program shown here, or its equivalent, as determined and approved by the Department of Physics. In conjunction with a faculty advisor, individual student programs will be established to meet particular needs, interests, and goals. A planned elective concentration in another field such as biology, chemistry, mathematics, computer science, business, or imaging science is possible.

For informatin on AS and BS degree requirements, contact the head of the Department of Physics.

Yr.	PHYSICS, BS, TYPICAL COURSE SCHEDULE	189-192 Qtr. Credit Hrs		
		FALL	**WTR.**	**SPG.**
1	SPSP-200 Physics Orientation	1		
	SPSP-311,312 University Physics I, II		4	4
	SPSP-371, 372 University Physics Lab I, II		1	1
	SMAM-251, 252, 253 Calculus I, II, III	4	4	4
	SCHG-211, 212 Chemical Principles I, II	3	3	
	SCHG-205, 206 Chemistry Lab I, II	1	1	
	SPSP-317 Computational Physics with FORTRAN Applications			4
		8	4	4
	‡ Physical Education Electives	0	0	0
2	SPSP-313 University Physics III	4		
	SPSP-373 University Physics Laboratory III	1		
	SPSP-314 Introduction to Modern Physics		4	
	SPSP-315 Introduction to Semiconductor Physics			4
	SPSP-321 Introduction to Laboratory Techniques		4	
	SPSP-374 Modern Physics Laboratory			1
	SPSP-350 Sophomore Physics Seminar			1
	SMAM-305 Calculus IV	4		
	SMAM-306, 307 Differential Equations 1, II		4	4
	* Liberal Arts (Core)	4	4	4
	‡ Physical Education Electives	0	0	0
	(Free Elective, optional)	(3-4)		(3-4)
3	SPSP-401,402 Intermediate Mechanics	4		4
	SPSP-415 Thermal Physics	4	C	
	SPSP-431 Electronic Measurements I		O	4
	SPSP-480, 481 Theoretical Physics I, II	4	O	4
	* Liberal Arts (Concentration)	4	P	4
4	SPSP-411,412 Electricity and Magnetism	4		4
	SPSP-421 Experimental Physics I		C	3
	SPSP-455 Optical Physics	4	O	
	SPSP-522 Introduction to Quantum Mechanics	4	O	
	Physics Elective (400-500 level)		P	4
	* Liberal Arts (Concentration)	4		
	* Liberal Arts (Elective)			4
5	SPSP-531 Solid State Physics	4		
	SPSP-550 Physics Seminar	1	C	
	Technical Elective		O	3
	Free Electives	8	O	4
	* Liberal Arts (Electives)	4	P	4
	* Liberal Arts (Senior Seminar)			2
	(Free Elective, optional)			(3-4)

" See *page 7 for Liberal Arts requirements.*
‡ *See page 8 for policy on Physical Education.*

Allied Health Science Programs

John M. Waud, Ph.D., Head

The Department of Allied Health Sciences includes programs of study in biomedical computing, medical technology, and two medical imaging technologies: diagnostic medical sonography (ultrasound) and nuclear medicine technology. Each is designed to prepare students for entry into careers in the health sciences. Graduates find employment opportunities in hospitals and clinics, in research facilities, in industry, and with many governmental agencies. Some continue their education in graduate and professional schools.

All of the BS programs offered by the Department of Allied Health Sciences can serve as pre-professional programs for schools of medicine, veterinary medicine, or dentistry.

Biomedical Computing Program

Nicolas A. Thireos, MS, Program Director

RIT's biomedical computing BS degree curriculum is one of only a few similar programs in the United States. It was developed by the College of Science and the School of Computer Science because of the increasing use of computers in biomedical research, education, and the health care industry. Students receive training in the basic sciences, medical sciences, and computer science with emphasis on clinical and laboratory applications. This array of courses provides graduates with the ability to communicate with medical personnel and trains them to develop computer applications for the solution of clinical problems, laboratory analyses, medical information systems, medical research, and education.

Students are strongly encouraged to obtain experiential biomedical computing education by participation in the cooperative education program (co-op). Co-op allows them to alternate quarters in school with quarters in paid employment during their last three years and also provides the opportunity to practice new skills in real-life situations and to test their chosen field before making a lifelong commitment. The experiences students acquire not only make their education more relevant, but also make them more valuable to prospective employers.

Students consult with faculty advisors in order to tailor their academic programs to individual career goals. Upper-level electives are used to prepare graduates for specialized employment opportunities within biomedical computing, for graduate school in the sciences or computer science, or for post-graduate professional school.

Requirements for the BS in biomedical computing

The student must meet the minimum requirements of the Institute as described on page 4 and in addition must complete the requirements contained in this program or its equivalent, as determined and approved by the Department of Allied Health Sciences.

Transfer students may be required to take additional course work, depending on the program they attended at their previous school. Specific requirements will be determined for each transfer student by the department.

For information on AS and BS degree requirements, contact the head of the Department of Allied Health Sciences.

Yr.	BIOMEDICAL COMPUTING, BS, TYPICAL COURSE SCHEDULE	185-189 Qtr. Credit Hrs		
		FALL	WTR.	SPG.
1	SBIB-201, 202, 203 General Biology	3	3	3
	SBIB-205, 206,207 General Biology Lab	1	1	1
	SCHG-215, 216, 217 General & Analytical Chem. Lec	4	3	3
	SCHG-205, 206 Chemistry I, II Lab	1	1	
	SCHG-227 General & Analytical Chem. Lab			2
	ICSA-200 Survey of Computer Science	4		
	SMAM-251, 252 Calculus I, II		4	4
	or			
	SMAM-214,215 Intro, to Calculus I, II		(3)	(3)
	SCLG-203 Freshman Seminar	1		
	* Liberal Arts (Core)	4	4	4
	‡ Physical Education Electives	0	0	0
2	ICSP-241 Programming I - Algorithmic Structures	4		
	ICSP-242 Programming II - Data Structures		4	
	SCLB-305 MUMPS Programming			4
	SCLG-301 Medical Terminology	3		
	ICSA-220 FORTRAN		4	4
	ICSP-305 Assembly Language Programming			4
	SCLB-201 Intro. Biomedical Computing Seminar	1		4
	SBIB-305, 306 Physiology & Anatomy I, II		5	5
		4		
	* Liberal Arts (Core)	4	4	4
	‡ Physical Education Electives	0	0	0
		FALL WTR.		SPG. SMR.
3	ICSP-243 Programming III - Design & Implementation	4		
	Computer Science Elective			4
	SCLM-432 Clinical Lab Instrumentation	4		
	SMAM-309 Elementary Statistics		CO-	4
	SPSP-311,312 University Physics I, II	4	OP	4
	SPSP-375,376 University Physics Laboratory I, II	1		1
	or			
	SPSP-211,212 College Physics I, II	(3)		(3)
	SPSP-271, 272 College Physics I, II Lab	(1)		(1)
	* Liberal Arts (Core/Concentration)	4		4
4	ICSS-315 Digital Computer Organization	4		
	ICSS-325 Data Organization & Management			4
	Chemistry Elective	3	CO-	3
	SPSP-331 Electricity & Electronics		OP	4
	* Liberal Arts (Concentration/Elective)	4		4
5	Program Electives	8	CO-	8
	'Liberal Arts (Electives)	4	OP	4
	* Liberal Arts (Senior Seminar)			2

NOTE: Although cooperative education (co-op) can be any quarter beginning with the third year, this "typical" course schedule includes it in winter quarter of the third, fourth, and fifth years.
'See page 7 for Liberal Arts requirements.
tSee page 8 for policy on Physical Education.

Medical Technology Program

James C. Aumer, MS, C(ASCP), Program Director

The medical technology program prepares students for employment in hospital laboratories; industrial, medical, or research laboratories; and pharmaceutical companies. As medical technologists they will perform analyses that aid in the diagnosis and treatment of disease. They must be able to carry out complex test determinations, operate sophisticated instrumentation, and detect and correct errors. The program leads to a bachelor of science degree and meets all requirements of the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS).

Students attend classes at RIT during the fall, winter, and spring quarters for three years. During the third year, they take a concentration of clinically oriented courses that prepare them for their hospital experience. In the fall quarter of their third year they apply to hospital schools of medical technology that are approved by the Committee on Allied Health Education and Accreditation (CAHEA). They will then spend their fourth academic year at the hospital that accepts them as an intern for clinical training in medical technology. While at the hospital, students receive additional course work as well as practical experience in each of the laboratory areas: hematology, microbiology, chemistry, and immunohematology.

The medical technology program is affiliated with Rochester General Hospital and St. Mary's Hospital in Rochester, Millard Fillmore Hospital in Buffalo, the Boston Veterans' Administration Medical Center, and the Albany Medical Center Hospital. Students may, however, seek admission to any approved hospital for their clinical experience.

Upon successful completion of the hospital experience, the bachelor of science degree is awarded. The student is then eligible to take a national registry examination for certification as a medical technologist.

Yr.	MEDICAL TECHNOLOGY, TYPICAL COURSE SCHEDULE	150-152 Qtr. Credit Hrs		
		FALL	WTR.	SPG.
1	SBIB-201, 202, 203 General Biology Lec	3	3	3
	SBIB-205,206,207 General Biology Lab	1	1	1
	SCHG-215,216,217 General & Analytical Chemistry Lec	4	3	3
	SCHG-205, 206 Chemistry I, II Lab	1	1	
	SCHG-227 General & Analytical Chemistry Lab			2
	SCLG-203 Allied Health Sciences Freshman Seminar	1		
	ICSA-200 Survey of Computer Science	4		
	SMAM-214,215 Intro. to Calculus I, II **or**		3	3
	SMAM-251, 252 Calculus I, II		(4)	(4)
	* Liberal Arts (Core)	4	4	4
	‡ Physical Education Electives	0	0	0
2	SCLM-210 Medical Technology Seminar	1		
	SBIB-305,306 Physiology & Anatomy		5	5
	SCHO-231,232,233 Organic Chemistry Lec	3	3	3
	SCHO-235, 236 Organic Chemistry Lab	1	1	
	SPSP-211,212,331 College Physics	3	3	3
	SPSP-271, 272, 273 College Physics Lab	1	1	1
	SBIG-315 Medical Genetics			2
	* Liberal Arts (Core)	8	4	4
	‡ Physical Education Electives	0	0	0
3	SCLM-559 Special Topics in Med. Tech	1	1	1
	SCLM-401 Hematology/Immunohematology			4
	SBIB-404 Microbiology	5		
	SCHB-334 Biochemistry	4		
	SCLM-432,433 Clinical Lab Instruments; Clinical Chemistry		4	4
	SMAM-309 Elementary Statistics			4
	SBIB-402 Immunology	3		
	SCLM-405 Diag. Bacteriology and Mycology		4	
	* Liberal Arts (Concentration)	4	4	4
			4	

BS degree: the fourth year taken at an approved hospital for training medical technologists.

'See page 7 for Liberal Arts requirements.
tSee page 8 for policy on Physical Education.

Requirements for the BS degree in medical technology
The student must meet the minimum requirements of the Institute as described on page 4 and in addition must complete the requirements contained in this program or its equivalent, as determined and approved by the Department of Allied Health Sciences. Transfer students will be required to complete a minimum of 45 quarter credit hours on campus and to complete all program requirements before beginning the clinical training experience. Specific requirements will be determined for each transfer student by the program director.

For information on AS and BS degree requirements, contact the head of the Department of Allied Health Sciences.

Medical Imaging Technologies

Nuclear Medicine Technology Program

Anna M. Wicks, BS, MBA, CNMT, Program Director
Cheryl Waldman, BS, CNMT, Clinical Coordinator

The program leading to the BS degree in nuclear medicine technology spans fours years, the first three of which are spent on campus. The fourth year consists of clinical education at one or more approved hospitals.

Clinical training
Students who complete all required courses of the first three years of the program with a minimum overall and principal field of study GPA of 2.0 are eligible to begin clinical training in August of their fourth year. The first three weeks of training are an intensive introduction to the theory and practice of nuclear medicine technology. Classes during this time are held on the RIT campus, and laboratory sessions take place at affiliated hospitals.

Most of the clinical education is provided in nuclear medicine departments of the program's hospital affiliates. Each student is assigned (subject to the hospital's approval) a particular combination of three hospitals and trains approximately three months in each. The teaching is done primarily by physicians and technologists on the hospital staffs. Student progress and performance are monitored by the RIT nuclear medicine technology coordinator, who makes periodic visits to the hospital departments.

The RIT nuclear medicine technology program has affiliations with the following upstate New York hospitals: Syracuse area—Community General Hospital; Rochester area—Strong Memorial Hospital, Genesee Hospital, Highland Hospital, Park-Ridge Hospital; Binghamton area—Our Lady of Lourdes Hospital, Wilson Memorial Hospital; Buffalo area—Sisters of Charity Hospital.

Requirements for the BS degree in nuclear medicine technology
The student must meet the minimum requirements of the Institute as described on page 4 and in addition must complete the requirements contained in this program or its equivalent, as determined and approved by the Department of Allied Health Sciences. In conjunction with a faculty advisor, individual student programs will be established to meet particular needs, interests, and goals. A planned elective

Yr.	NUCLEAR MEDICINE TECHNOLOGY, BS, TYPICAL COURSE SCHEDULE	196 Qtr. Credit Hrs		
		FALL	WTR.	SPG.
1	SBIB-201, 202, 203 General Biology Lec	3	3	3
	SBIB-205,206, 207 General Biology Lab	1	1	1
	SCHG-215, 216, 217 General & Analytical Chemistry Lec	4	3	3
	SCHG-205, 206 Chemistry I, II Lab	1	1	
	SCHG-227 General & Analytical Chemistry Lab			2
	SCLG-203 Allied Health Sciences Freshman Seminar	1		
	SMAM-214, 215 Intro, to Calculus I, II		3	3
	ICSA-200 Survey of Computer Science	4		
	* Liberal Arts (Core)	4	4	4
	‡ Physical Education Electives	0	0	0
2	SCLG-205 Intro, to Diagnostic Medical Imaging	2		
	SPSP-211,212, 213 College Physics Lec	3	3	3
	SPSP-271, 272, 273 College Physics Lab	1	1	1
	SCHG-202 Survey of Organic Chemistry Lec		3	
	SCHG-222 Survey of Organic Chemistry Lab		1	
	SCHG-203 Biochemistry I			4
	SBIB-305, 306 Physiology & Anatomy		5	5
	* Liberal Arts (Core)	8	4	4
	‡ Physical Education Electives	0	0	0
3	SCLLG-301 Medical Terminology			3
	SPSP-351, 352, 353 Radiation Physics	5	5	5
	SBIB-430 Radiation Biology		4	
	SMAM-309 Elementary Statistics	4		
	* Liberal Arts (Concentration)	4	4	4
	Program Electives	3	4	4
4†	SCLN-401 Introduction to Clinical Nuclear Medicine	4		
	SCLN-402 Nuclear Medicine Procedures - Central Nervous System	1		
	SCLN-502 N.M. Procedures - Skeletal System	1		
	SCLN-503 N.M. Procedures - Respiratory System	1		
	SCLN-510 N.M. Procedures - Urinary System	1		
	SCLN-511 N.M. Procedures - Endocrine System		2	
	SCLN-512 N.M. Procedures - Cardiovascular System		2	
	SCLN-513 N.M. Procedures - Digestive System		2	
	SCLN-514 N.M. Procedures - Special Studies			1
	SCLN-515 N.M. Procedures - Hematological and In Vitro Studies			1
	SCLN-516 Instrumentation and Computers in Nuclear Medicine		2	
	SCLN-517 Radiochemistry and Radiopharmacology		2	
	SCLN-518 Radionuclide Therapy		1	
	SCLN-519 Radiation Health Safety			2
	SCLN-520 Radioassay			4
	SCLN-521 Review in Nuclear Medicine			2
	SCLN-522 Clinical Nuclear Medicine I	7		
	SCLN-523 Clinical Nuclear Medicine II		7	
	SCLN-524 Clinical Nuclear Medicine III			7

• See page 7 tor Liberal Arts requirements.
‡ See page 8 lor policy on Physical Education.
† Clinical internships-Affiliated Hospitals

concentration in another field such as biology, chemistry, mathematics, computer science, business, or general medical imaging is possible.

For information on AS and BS degree requirements, contact the head of tbe Department of Allied Health Sciences.

Requirements for the certificate in nuclear medicine technology
The student must meet the Institute requirements and prerequisite course requirements. The certificate is available to associate and baccalaureate degree graduates and licensed or certified allied health practitioners with equivalent education and experience.

Accreditation
The nuclear medicine technology program is accredited through the American Medical Association sponsored Committee on Allied Health Education and Accreditation.

Yr.	NUCLEAR MEDICINE TECHNOLOGY, CERTIFICATE PROGRAM, Typical Course Schedule	64 Qtr. Credit Hrs.			
		SMR.	FALL	WTR.	SPG.
	SCLG-205 Intro, to Diagnostic Medical Imaging	2			
	SMAM-309 Elementary Statistics	4			
	SCLN-310 Radiation and the Human Body	2			
	SPSP-358 Nuclear Medicine Physics & Instrumentation	6			
	SCLN-401 Intro, to Nuclear Medicine		4		
	SCLN-402 Nuclear Medicine Procedures - Central Nervous System		1		
	SCLN-502 NM Procedures - Skeletal System		1		
	SCLN-503 NM Procedures - Respiratory System		1		
	SCLN-510 NM Procedures - Urinary System		1		
	SCLN-511 NM Procedures - Endocrine System			2	
	SCLN-512 NM Procedures - Cardiovascular System			2	
	SCLN-513 NM Procedures - Digestive System			2	
	SCLN-514 NM Procedures - Special Studies				1
	SCLN-515 NM Procedures - Hematological and in Vitro Studies				1
	SCLN-516 Instrumentation and Computers in Nuclear Medicine			2	
	SCLN-517 Radiochemistry & Radiopharmacology			2	
	SCLN-518 Radionuclide Therapy			1	
	SCLN-519 Radiation Health Safety				2
	SCLN-520 Radioassay				**4**
	SCLN-521 Review in Nuclear Medicine				2
	SCLN-522 Clinical Nuclear Medicine		7		
	SCLN-523 Clinical Nuclear Medicine II			7	
	SCLN-524 Clinical Nuclear Medicine III				7

Diagnostic Medical Sonography (Ultrasound) Program

Michael Foss, M.Ed., RDMS, RVT, Program Director
Lon E. **Bailey,** BS, RDMS, Clinical Coordinator

The program offers two options: a bachelor of science degree or a certificate. The program is designed to prepare sonography professionals who will become leaders in the field. All options prepare the candidate to sit for the American Registry of Diagnostic Medical Sonographers examination in abdominal and OB-gyn specialties. Each candidate is also introduced to vascular examination. Depending on previous education and experience, program graduates may find positions in administration, teaching, industry, or research, in addition to the more traditional clinical positions. Some graduates decide to work free lance or attend graduate school.

Requirements for the bachelor of science degree
The student must meet the minimum requirements of the Institute as described on page 4 and in addition must complete the curriculum requirements listed here or the equivalent, as determined and approved by the Department of Allied Health Sciences. The BS degree is typically a four-year effort unless the student has transfer credit from another institution. Associate degree holders may be able to complete a BS degree in two years; additional course work may be required. Contact the program director for further information on BS degree requirements.

Requirements for the certificate option
The student must meet the Institute requirements as well as the specific requirements listed here. The certificate option is a one-year course of study that includes lectures integrated with the clinical internship. Certain prerequisite courses must be completed before entering the certificate option. Contact the program director for further information on prerequisite course work. The certificate option is available to all registered allied health practitioners, as well as to those holding a bachelor's degree in a relevant discipline.

Clinical internship
The clinical internship provides hands-on experience in two or more medical facilities in upstate New York. All students begin the internship by attending an intensive three-week experience on the RIT campus. During this time, they learn basic pathology and how to perform complete sonographic examinations and recognize anatomy. They also become familiar with typical hospital department operations. Lectures and case reviews are a large component of the pre-clinical session. After completing the requirements, candidates are assigned to a medical facility for clinical experience. Each month, they return to campus for three days of lectures, presentations, projects, and testing.

Accreditation
The program is accredited by the Joint Review Committee on Education in Diagnostic Medical Sonography of the American Medical Association.

Yr.	DIAGNOSTIC MEDICAL SONOGRAPHY, BS, TYPICAL COURSE SCHEDULE	191 Qtr. Credit Hours		
		FALL	WTR.	SPG.
1	SBIB-201, 202, 203 General Biology Lec	3	3	3
	SBIB-205, 206, 207 General Biology Lab	1	1	1
	SCHG-215, 216, 217 General & Analytical Chem. Lec	4	3	3
	SCHG-205, 206, 227 General & Analytical Chem. Lab	1	1	2
	SCLG-203 Allied Health Sciences Freshman Seminar	1		
	ICSAW-200 Survey of Computer Science	4		
	SMAM-214, 215 Intro, to Calculus I, II		3	3
	* Liberal Arts (Core)	4	4	4
	‡ Physical Education Electives	0	0	0
2	SPSP-211,212, 213 College Physics Lec	3	3	3
	SPSP-271, 272, 273 College Physics Lab	1	1	1
	SCLG-205 Intro, to Diagnostic Medical Imaging	2		
	SCLG-301 Medical Terminology	3		
	SBIB-305, 306 Physiology & Anatomy		5	5
	SMAM-309 Elementary Statistics			4
	* Liberal Arts (Core)	4	8	4
	‡ Physical Education Electives	0	0	
3	SCLS-412 Ultrasonic Cross-Sectional Anatomy		4	
	SCLS-413 Ultrasound Instrumentation			4
	SCLG-415 Pathophysiology			4
	SBIG-315 Medical Genetics			
	SPSP-361 Ultrasonic Physics	5		
	Program Electives	4	8	4
	* Liberal Arts (Concentration)	4	4	4
4	SCLS-552 Intro, to Obstetrical Ultrasound	3		
	SCLS-553 Intro, to Gynecologic Ultrasound	3		
	SCLS-556 Abdominal Ultrasound I	3		
	SCLS-570 Clinical DMS I	7		
	SCLS-554 Advanced Obstetrical Ultrasound		4	
	SCLS-557 Abdominal Ultrasound II		3	
	SCLS-560 Seminar I		2	
	SCLS-571 Clinical DMS II		7	
	SCLS-558 Small Parts Ultrasound			3
	SCLS-414 General Vascular Examination			4
	SCLS-561 Seminar II			2
	SCLS-572 Clinical DMS III			7

*See page 7 for Liberal Arts requirements.
‡ See page 8 for policy on Physical Education.

Yr.	DIAGNOSTIC MEDICAL SONOGRAPHY, CERTIFICATE, TYPICAL COURSE SCHEDULE	64 Qtr. Credit Hrs		
		FALL	WTR.	SPG.
+	SCLG-205 Intro, to Diagnostic Medical Imaging	2		2
	SCLS-412 Ultrasonic Cross-Sectional Anatomy		4	
	SCLS-413 Ultrasound Instrumentation			4
	SCLG-415 Pathophysiology			4
1 INTERNSHIP	SCLS-552 Intro, to Obstetrical Ultrasound	3		
	SCLS-553 Intro, to Gynecologic Ultrasound	3		
	SCLS-556 Abdominal Ultrasound I	3		
	SCLS-570 Clinical DMS I	7		
	SCLS-554 Advanced Obstetrical Ultrasound		4	
	SCLS-557 Abdominal Ultrasound II		3	
	SCLS-560 Seminar I		2	
	SCLS-571 Clinical DMS II		7	
	SCLS-558 Small Parts Ultrasound			3
	SCLS-414 General Vascular Examination			4
	SCLS-561 Seminar II			2
	SCLS-572 Clinical DMS III			7

+ Must be completed before entering certificate option

National Technical Institute for the Deaf

Dr. James J. DeCaro, Dean

The National Technical Institute for the Deaf (NTID), one of RIT's eight colleges, provides deaf students with technological training that leads to meaningful employment in business, industry, government, and education. Created in 1965 by Congress and funded primarily by the U.S. Department of Education, NTID represents the world's first effort to educate large numbers of deaf students within a college campus planned principally for hearing students. NTID's location benefits both deaf and hearing students' academic, personal, social, and communication development

Nearly 1,100 deaf students from across the United States as well as from several U.S. territories and other countries study and reside at RIT.

NTID provides RIT's deaf students with technical and professional training in 35 programs offered through its three schools: School of Business Careers, School of Science and Engineering Careers, and School of Visual Communications. An NTID education prepares students for technical careers in areas such as accounting, applied art and computer graphics, applied computer technology, engineering technology, medical laboratory technology, medical record technology, and photo/media technologies.

Traditionally, 95 percent of NTID graduates find employment in their fields of study. •

NTID also provides extensive support services for deaf students studying in RIT's other seven colleges.

For hearing students, NTID also provides an associate degree in educational interpreting.

Admission requirements
To qualify for admission to RIT through NTID, students must meet certain standards agreed upon by RIT and the U.S. Department of Education. In determining if an applicant qualifies for admission under the sponsorship of NTID, RIT considers these standards:

*   **Special Help.** Students should have attended a school or class for deaf students and/or have needed special help because of being deaf.
*   **Hearing Loss.** Students must have a hearing loss that seriously limits their chances of success in college without special support services. It generally is agreed that an average hearing loss of 70 decibels (ANSI, 1969) or greater across the 500, 1,000, and 2,000 hertz (Hz) range (unaided) in the better ear is a major handicap to education.
*   **Educational Background.** Students' educational backgrounds should indicate the probability that they can succeed in a program of study at NTID or in one of the other colleges of RIT. Students should have at least an overall eighth-grade achievement level on standardized tests that include language, math, and reading. Examples of appropriate tests are the Stanford Achievement Test, Advanced Battery, or the California Achievement Test, Advanced Battery.

A decision on an application cannot be made without appropriate achievement test scores. The tests should be appropriate for deaf students. The Scholastic Aptitude Test (SAT) of the College Entrance Examination Board (CEEB) often is given to deaf students in public high schools. This test is not appropriate for most deaf students, however, because deafness strongly affects language and reading development. Therefore, the reading and language level of the CEEB test often results in meaningless scores for deaf students.

*   **Secondary schooling.** NTID's programs are designed for students who have finished a secondary educational program. Students can be considered for admission before completing a secondary program if their secondary school authorities feel that they will gain more from an NTID program than by remaining in secondary school. Formal authorization must be obtained from the secondary school. Age and personal/social maturity are given special consideration in such situations.
*   **Maturity.** To enter one of the academic programs of NTID or one of the other colleges of RIT, students must show that they are personally and socially mature. Personal references and performance in high school indicate maturity level.

Degrees offered through NTID
The academic programs offered through NTID lead to certificates, diplomas, associate in occupational studies degrees, and associate in applied science degrees from RIT.

Certificate: Certification at this level requires 45-60 credit hours of technical instruction. These programs allow students to acquire a minimum level of technical skill before entering the work force. In addition to technical courses, students are required to complete a specific number of credit hours, determined by the program of study, in general education and communication courses.

Diploma: Certification at this level requires 90-135 credit hours of technical and general instruction. Students attain a maximum level of technical competency for entry-level positions and minimum exposure in the general education field. In addition to 60-100 credit hours in technical courses, students must complete a specific number of credit hours, determined by the program of study, in general education and communication courses.

Associate in Occupational Studies Degree (AOS): Certification at this level requires 100-140 credit hours of instruction. These programs permit students, upon completion, to enter their careers directly. In addition to satisfactorily completing technical courses, students must complete 20 credit hours in general education courses and a specific number of credit hours, determined by the program of study, in communication courses.

Associate in Applied Science Degree (AAS): Certification at this level requires 115-118 credit hours of technical instruction. These programs permit students, upon completion, to enter their careers direcdy, or, in certain cases, to transfer to upper-division programs at a college of their choice. In addition to satisfactorily completing technical courses, students must complete 20 credit hours in liberal arts courses, nine credit hours in required general education courses, and approximately 20 credit hours in communication courses.

Deaf students enrolled in other RIT colleges
In addition to NTID's programs, qualified deaf students also may take classes in another RIT college or may enroll in one of the more than 250 professional programs offered through RIT's other

seven colleges: Applied Science and Technology, Business, Continuing Education, Engineering, Imaging Arts and Sciences, Liberal Arts, and Science. This process is called cross registration.

Each RIT college has an affiliated NTID support department that provides services for deaf students, including advising, interpreting, notetaking, and tutoring. For more information regarding support services, see page 166.

Students may choose to enroll in courses taught through the other seven colleges of RIT for several reasons. They may take selected courses at another RIT college as part of the elective requirements in their NTID programs; complete their programs of study at NTID, then continue their education at another RIT college; enter a program of another RIT college directly from high school; or transfer directly into a program in one of RIT's colleges from another postsecondary program.

Deaf students who wish to enroll in a program in another RIT college must meet its admission standards. Furthermore, deaf students supported by NTID also must meet NTID admission requirements listed on page 121 and complete both the NTID Supplemental Admission Application and the standard RIT admission form.

General education
Learning at NTID and the other colleges of RIT means more than gaining technical skills. NTID's Division of General Education Programs provides students with a range of courses and experiences that help them become independent thinkers, develop personal and social skills, and better understand themselves and their places in the world. General education courses also help students develop a better understanding of their personal values and how they influence attitudes and behaviors; increase their ability for self-direction, lifelong learning, and personal fulfillment; and enchance their skills in all modes of communication.

The Division of General Education Programs offers a variety of courses in the social sciences, humanities, and performing arts that provide a sound general education experience for students completing certificates, diplomas, and AOS degrees through NTID. The curriculum also provides preparatory courses for AAS and baccalaureate degree students completing their liberal arts requirements through RIT's College of Liberal Arts.

In addition, the division sponsors an array of educational programs in areas such as wellness, deaf culture, and cross-cultural interactions; freshman year experiences; and minority student programming.

Required courses
All deaf students enrolled in NTID's certificate, diploma, and associate degree programs are required to take three general education courses:

• **Freshman Seminar** helps students explore the academic and personal challenges of college life.

• **The Job Search Process** teaches students many skills they will need to find a job.

• **Contemporary Life Issues** *or* **Contemporary Social Issues** helps students broaden their understanding of themselves and current social issues.

Students pursuing an AOS degree are required to take one general education elective and **Human Experience Is An Individual Life; Human Experience II: The Individual and Society;** and **Human Experience** HI: **The Individual and Technology.** These courses explore individual development and how the individual and society influence each other.

Writing program
The Division of General Education Programs offers a developmental writing course sequence, **Written Communication I** and **II,** for students who meet the NTID English requirements for entry into College of Liberal Arts courses. The NTID courses provide additional experience with writing techniques needed for success in the College of Liberal Arts course **English Composition.** Eligible students must meet with NTID's writing coordinator before registering for these courses.

Liberal arts requirements
Deaf students enrolled in AAS or baccalaureate degree programs take required courses in language and literature, behavioral and social sciences, and science and humanities through the College of Liberal Arts. Students can choose between course sections taught by either NTID or by College of Liberal Arts faculty members.

Liberal arts courses taught by NTID faculty members are designed especially for deaf students. Instructors use simultaneous communication and provide students with additional study guides and materials so that interpreters and note-takers are not needed.

Liberal arts courses taught by College of Liberal Arts faculty members include both deaf and hearing students. Support services, including academic advising, interpreting, notetaking, and tutoring, are provided to deaf students.

Deaf students are advised to earn a passing grade in **English Composition** before taking any additional liberal arts courses. Students studying in colleges other than NTID should consult with their program departments about required liberal arts courses.

Placement in **English Composition** is based on the NTID Liberal Arts Placement Test (LAPT). Before registering for **English Composition,** students must first satisfactorily complete **Written Communication II.**

Students seeking an AAS degree also are required to take courses in behavioral science, social science, and science and humanities.

Liberal Arts courses taught by NTID faculty members include:

Language, Literature, and Communication
English Composition
Literature

Behavioral Science
Cultural Anthropology
General Sociology
Introduction to Psychology

Social Science
Ideology and the Political Process

Science and Humanities
History: Modern American
Fine Arts/Visual Arts

Communication skills
Communication skills are critical for success in college, on the job, and in the community. NTID faculty members recognize the need for efficient, effective communication and therefore have established course offerings covering a range of communication styles.

Deaf students are required to take up to 32 credit hours in communication courses, including American Sign Language, audiology, English, sign/simultaneous communication, and speech. Students may demonstrate English proficiency by achieving certain test scores or completing certain courses with passing grades. These courses are designed for students who demonstrate need for additional work in English in order to achieve their degree goals.

Pre-technical programs
Students who show talent and interest in certain technical programs, but do not have all the necessary skills to begin the program of study, are required to complete a pre-technical year. Pre-technical programs help students build basic skills in English, general education, mathematics, and science before beginning their technical courses. Programs that do not have pre-technical years build basic mathematics, science, and technical skills into their regular curricula.

Special topics courses
Students may explore topics of special interest in areas not offered through existing courses. One-five credit hours may be assigned for special topics courses.

Career exploration
Students who are not ready to select a program following the summer orientation program may participate in Career Exploration. Students who choose Career Exploration are allowed up to three quarters to

decide on a program; they must write a plan explaining what they will do each quarter.

The program includes personal counseling; decision-making classes; field trips; sampling of various programs; and interpretation of interest, aptitude, and achievement testing. Career Exploration students also take courses in communication, English, general education, and mathematics.

Transfer from another postsecondary school

Students enrolled in other postsecondary educational programs or colleges are encouraged to apply for admission to RIT through NTID if:

• they need support services such as interpreters or tutors to aid them in their college studies, and these services are not available at the schools in which they are or were enrolled

• they decide to change their program of study to one that is not offered at the college they currently attend, but is offered by NTID or another RIT college

• they have completed a postsecondary program and have decided they want or need additional training. Students may pursue advanced degrees by matriculating in any of RIT's other colleges.

For information about transfer credits, see page 150.

Costs of attending RIT through NTID

The total cost of attending RIT under NTID sponsorship includes tuition, room, board, and fees. Charges to NTID-sponsored students are updated each year. Fixed charges for 1992-93 are listed to the right.

Required laboratory fees, books, and supplies will have an impact on students' costs. NTID costs for laboratory fees vary according to students' fields of study. Per-quarter laboratory fees for the 1992-93 academic year (fall, winter, and spring quarters) range from $55-$160.

The cost of books and supplies is students' responsibility. These costs also vary depending on the program of study. Annual costs for books and supplies for the 1992-93 academic year range from $225-$2,200.

New students accepted to the Summer Vestibule Program will be charged according to the fee schedule to the right.

Students on co-op are not charged tuition or fees for that particualr quarter and are charged room and board and residence hall fees only if they live on campus while they work.

All students are required to carry accident and sickness insurance. Students may choose coverage through RIT at a cost of $168 for the 1992-93 year, or they may waive this coverage if they provide evidence of other coverage. Waiver cards will be sent to all accepted students during the summer and will be available at registration.

Facilities

A modern academic/residence building complex on the RIT campus is designed to meet the specific needs of deaf students. The Lyndon Baines Johnson Building, NTID's main academic facility, houses laboratories, offices, speech and hearing areas, classrooms, and a 500-seat theater with closed-circuit television. All classrooms are designed to reduce distractions —these rooms have no windows; colors are soft; seats are arranged in a semicircle to allow for good vision from all parts of the room; and projection equipment is located outside the classroom to reduce unnecessary noise.

Visual emergency warning systems are present in academic buildings as well as residence halls. Rooms in Mark Ellingson Hall, Peter N.Peterson Hall, and Alexander Graham Bell Hall also are equipped with strobe light signals.

Television, a basic part of the college's communication network, is used for both education and entertainment. NTID's television system has four viewing channels, and TV monitors are located throughout the Lyndon Baines Johnson Building. Two well-equipped studios produce class and self-instruction videotapes as well as captioning for use within the Institute and at other organizations.

Telecommunications

A relay service is available at the NTID Telecommunications Center in Mark Ellingson Hall, room 1024. Deaf students may use this service to place collect, international, and long-distance calls if using a calling card other than AT&T. This service has limited operation hours.

The Maine/New York State Relay Service can be used to make calls on campus and both local and long-distance calls within and outside of New York State. Long-distance calls may be placed only by using the following calling cards: AT&T, Rochester Telephone Corp., C.I.I.D., Universal, and all New York State calling cards. This service is available 24 hours every day.

Hearing aid shop

The NTID Hearing Aid Shop provides students with services related to hearing and amplification. Students may access the shop to schedule clinical appointments, obtain earmolds and other hearing aid supplies as well as hearing aid repairs, and receive information concering hearing loss and various aspects of amplification use. The shop is located in room 3130 in the Lyndon Baines Johnson Building and can be contacted by calling 716-475-6479 (voice/TDD).

FIXED CHARGES FOR NTID-SPONSORED STUDENTS	Summer Vestibule Program	Fall Quarter	All Other Quarters (per quarter)
Tuition	$640	$1,279	$1,279
Room	473	945	945
Board	362	817	817
Student Fees[1]		122	122
Orientation Fee[2]		40	
Orientation Room and Board[3]		25	
SVP Accident/Sickness Insurance	16		
Accident/Sickness Insurance		168	
Total	**$1,491**	**$3,396**	**$3,163**

[1]Student fees are required of all full-time students and include: Student Health ($35); Student Activities ($30); Athletic ($5); Student Alumni Union ($50); and NTID Activities ($2).

[2]Charge to cover cost of Fall Orientation Program for new students.

[3]Charge to cover cost of one-day orientation stay that precedes Fall Quarter registration for new students.

Academic counseling/support services

Many services are offered to all RIT students, but NTID offers deaf students additional counseling services. Career development counselors assist students in getting along better with others, adjusting to college life, gaining self-confidence, and choosing a program of study.

NTID also has communication, general education, mathematics, and physics learning centers that provide specialized academic support. For more information about academic counseling services, see page 168.

Personal/psychological counseling

NTID's Psychological Services is part of a continuum of personal and social counseling services available at RIT. As a primary resource for mental health crisis intervention, Psychological Services faculty members are available on a 24-hour basis. Crisis intervention services are provided during non-business hours and in collaboration with other campus service providers during business hours.

Psychological Services faculty members provide psychodiagnostic assessments for students and collaborate with teachers and other counselors in interpreting results of these assessments and implementing strategies for effective psychosocial functioning and academic performance. Direct counseling and psychotherapy are provided for students on a walk-in or referral basis. Some concerns that students may need help in resolving include adjustment to deafness, depression, anxiety, family conflicts, intimate relationships, and personal identity issues.

Psychological Services provides consultations on behalf of students and also shares expertise about mental health and deafness on campus, locally, and nationally. For more information, see page 168.

Cooperative work experience

A feature of most RIT academic programs, including those offered through NTID, is cooperative (co-op) work education that stresses "learning by doing." Most NTID programs require a co-op work experience, which introduces students to the world of work. Co-op experiences usually occur during the summer so that students' courses of study are uninterrupted during the school year. The number of co-ops required varies from program to program within NTID.

Placement

Employment of RIT's more than 3,000 deaf graduates is a high priority. To help ensure that graduates obtain program-related employment, the National Center on Employment of the Deaf (NCED) assigns to each new student an advisor experienced in employment assistance in the different academic concentrations. To help prepare students for obtaining cooperative work experiences and permanent employment, NCED has developed a required course, **The Job Search Process.**

NCED employment advisors are in contact daily by telephone with potential employers throughout the United States. Such services have contributed to the high employment rate of deaf RIT graduates. Last year, 92 percent of graduates entering the labor force found jobs. Eighty-one percent of these graduates are employed in business and industry; 13 percent in government; and six percent in education.

Research

NTID faculty members conduct research to help improve the education and communication skills of deaf students on campus. Students are invited to help in research efforts; this sometimes means taking tests and being part of research studies. Researchers sometimes contact graduates to see how well their education has prepared them for work and other aspects of their lives.

Joint Educational Specialist Program*

The University of Rochester and RIT jointly sponsor a graduate program designed to improve the quality of education and services available to deaf people. JESP graduates receive master's degrees and are qualified to teach at the elementary, secondary, and postsecondary levels. For more information, contact:

Rochester Institute of Technology
National Technical Institute for the Deaf
Joint Educational Specialist Program
Lyndon Baines Johnson Building
P.O. Box 9887
Rochester, NY 14623-0887
716-475-6451 (voice/TDD)

This program has been recommended for discontinuance. Formal processes for program elimination have begun and are expected to be completed by June 1993.

TECHNICAL AND PROFESSIONAL EDUCATION PROGRAMS OF NTID
(Leading to certificate, diploma, or associate degrees)

RELATED TECHNICAL AND PROFESSIONAL EDUCATION PROGRAMS AT THE OTHER COLLEGES OF RIT (Leading to associate, bachelor's, or master's degrees through cross registration into other RIT colleges; NTID provides interpreters, tutors, and notetakers for any student who requests them.)

NTID Programs	Other RIT Colleges	Other RIT Programs	
Business • Applied Accounting • Applied Computer Technology • Business Occupations • Business Technology • Office Technologies	College of Applied Science and Technology	• Computer Engineering Technology • Computer Science	
	College of Business	• Business Administration—Accounting • Business Administration—Finance • Business Administration—Information Systems • Business Administration—International Business • Business Administration—Management	• Business Administration—Marketing • Business Administration—Photographic Marketing Management
Applied Science/Allied Health • Medical Laboratory Technology • Medical Record Technology • Ophthalmic Optical Finishing Technology	College of Imaging Arts and Sciences	• Biomedical Photographic Communication	
	College of Science	• Applied Mathematics • Applied Statistics • Biology • Biomedical Computing • Biotechnology • Chemistry • Clinical Chemistry	• Computational Mathematics • Diagnostic Medical Sonography • Materials Science and Engineering • Medical Technology • Nuclear Medicine Technology • Physics • Polymer Chemistry
Engineering Technologies • Architectural Drafting • Architectural Technology • Civil Technology • Electromechanical Technology • Industrial Drafting • Industrial Drafting Technology • Manufacturing Processes Technology	College of Applied Science and Technology	• Civil Engineering Technology • Computer Engineering Technology • Electrical Engineering Technology • Energy Engineering Technology • Manufacturing Engineering Technology	• Mechanical Engineering Technology • Packaging Science • Telecommunications Technology
	College of Engineering	• Electrical Engineering —A.A.S. Transfer Program • Industrial Engineering • Mechanical Engineering • Microelectronic Engineering	
Visual Communications • Applied Art and Computer Graphics • Photo/Media Technologies • Printing Production Technology	College of Imaging Arts am Sciences	• Art Education • Biomedical Photographic Communication • Ceramics/Ceramic Sculpture • Computer Graphics Design • Film and Video • Fine Arts (Painting, Printmaking, Medical Ulus.) • Glass • Graphic Design • Imaging and Photographic Technology • Imaging Arts • Imaging Science • Industrial and Interior Design • Metalcrafts and Jewelry • Newspaper Production Management • Photographic Processing and Finishing Management	• Printing • Printing and Applied Computer Science • Printing Systems • Printing Technology • Professional Photographic Illustration • Weaving and Textile Design • Woodworking and Furniture Design
General Education (Programs available through cross registration into the College of Liberal Arts)	College of Liberal Arts	• Criminal Justice • Economics	• Professional and Technical Communication • School Psychology • Social Work

Educational Support Services Programs
• Educational Interpreting

1

School of Business Careers

Dr. Bruce O. Peterson, Acting Director

Business Occupations

Dr. William J. Rudnicki, Chairperson

Employment opportunities in business and industry increase daily. Business Occupations programs respond to industry's need for people skilled in operating office equipment, keeping financial records, performing clerical duties, and using computers.

Students may choose a certificate program in Business Occupations and an AOS program in Business Technology as well as diploma and AAS degree programs in Applied Accounting and Office Technologies.

Pre-technical program
None

Applied Accounting

This program offers a diploma and an AAS degree and provides graduates with a basic knowledge of office technologies and general and cost accounting systems. Job experience projects familiarize students with data-entry techniques, computer applications, and payroll procedures.

On-the-job responsibilities
Use computers to maintain and reconcile various financial records, verify business records, and perform other clerical and administrative duties.

Places of employment
Business, industry, government, and self-employment

Yr.	APPLIED ACCOUNTING: DIPLOMA	88-90 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NBTA-201, 202 General Accounting I, II		3	3	
	NBTP-101 Orientation to Business				
	NBTP-110 Business English			3	
	NBTP-111,112, 113 Beginning Typing I, II, III	2	2	2	
	NBTP-211, 212 Business Procedures I, II	3	3		C
	NTMM-120 Basic Mathematics	3			O
	NTMM-140,141, Fundamentals of College Mathematics I, II .		3	3	O
	NGGE-100 Freshman Seminar		2		P
	NGGE-101 Job Search Process	1			
	Communication	2		2	
		4	4	4	
	Physical Education		0	0	
2	NBTA-251, 252 Applied Accounting I	4			
	NBTD-210 Data Processing for Business Occupations		3		
	NBTP-221 Advanced Typing I	3			
	NBTP-284 Fundamentals of Management		3		
	NBTP-286 Fundamentals of Marketing			3	
	NGGE-102 Contemporary Life Issues			1	
	NGGE-147 Law and Society			2	
	Communication	4	2	2	
		4	4		
	English Elective			4	
	General Education (optional)		2	(2)	
	Physical Education	0			

Yr.	APPLIED ACCOUNTING: AAS DEGREE	130 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NBTA-201, 202 General Accounting I, II		3	3	
	NBTP-101 Orientation to Business	3			
	NBTP-110 Business English			3	
	NBTP-111, 112, 113 Beginning Typing 1, II, III	2	2	2	
	NBTP-211,212 Business Procedures I, II	3	3		C
	NTMM-120 Basic Mathematics	3			O
	NTMM-140,141 Fundamentals of College Mathematics I, II ..		3	3	O
	NGGE-100 Freshman Seminar		2		P
	NGGE-101 Job Search Process	1			
	Communication	2	2	2	
		4	4	4	
	Physical Education		0	0	
2	NBTA-251, 252, 253 Applied Accounting I, II, III	4	4	4	
	NBTD-210 Data Processing for Business Occupations		3		
	NBTP-221 Advanced Typing I		3		
	NBTP-284 Fundamentals of Management	3			
	NBTP-286 Fundamentals of Marketing			3	
	NTMM-142 Fundamentals of College Mathematics III	3			
	Communication	2	2	2	
		4	4		
	Liberal Arts			4	
	Physical Education	0			
3	NBTA-231, 232 Economics I, II		3	3	
	NBTA-254 Applied Accounting IV	4			C
	NBTA-260 Applied Accounting Techniques	2			O
	NGGE-147 Law and Society		2		O
	NGGE-202 Contemporary Social Issues			1	P
	General Education Elective		2	2	
	Liberal Arts	8	4	4	

Diploma Program

Positions for which graduates qualify
Accounts receivable/payable clerk, payroll clerk, general office clerk, file clerk, recordkeeping clerk, and data-entry clerk

Prerequisite
Successful completion of certificate in Business Occupations

Approximate time
Seven quarters, including one cooperative work experience

AAS Degree Program

Positions for which graduates qualify
Junior accounting technician, cost accounting clerk, accounts receivable/payable clerk, payroll clerk, general accounting clerk, and microcomputer accounting clerk

Prerequisite
Successful completion of diploma in Applied Accounting

Approximate time
Eleven quarters, including two cooperative work experiences

Business Occupations
Certificate Program

This certificate program combines basic business office skills with an introduction to data-entry concepts.

Places of employment
Business, industry, government, and schools

On-the-job responsibilities
Type business communications, operate electronic calculators, maintain files, keep basic payroll records, enter and retrieve data on computer terminals, and use electronic mail and basic word processing skills on a personal computer

Positions for which graduates qualify
General office clerk, file clerk, record-keeping clerk, data-entry clerk, and payroll records clerk

Approximate time
Six quarters, including one cooperative work experience

Business Technology
AOS Degree Program

This AOS degree program includes technical coursework in accounting, computers, payroll, general office skills, and word processing/information processing skills.

   This is a non-transfer occupational program with primary emphasis on preparation for immediate employment.

Places of employment
Business, industry, government, and schools

On-the-job responsibilities
Input, manipulate, and retrieve data; use interaction software, electronic mail, and information processing skills; and use computers to mainframe and reconcile various financial records

Positions for which graduates qualify
General office clerk, clerk/typist, accounts receivable/payable clerk, payroll records clerk, word processing technician, cost accounting clerk, and microcomputer accounting clerk

Prerequisite
Appropriate English language ability as defined by AOS guidelines

Approximate time
Eleven quarters, including two cooperative work experiences

Yr.	BUSINESS OCCUPATIONS: CERTIFICATE	70 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NBTP-101 Orientation to Business			3	
	NBTP-110 Business English		3		
	NBTP-111,112,113 Beginning Typing I, II, III	2	2	2	
	NBTP-211,212 Business Procedures I, II	3	3		C
	NTMM-120 Basic Mathematics	3			o
	NGGE-101 Job Search Process	1			o
	NGGE-100 Freshman Seminar		2		p
	Communication	2	2	2	
		4	4	4	
	General Education Elective			2	
	Physical Education			0	
2	NBTP-221 Advanced Typing I	3			
	NBTP-291 Applied Business Techniques		3		
	NGGE-102 Contemporary Life Issues		1		
	NGGE-147 Law and Society	2			
	Communication	2	2		
		4	4		
	General Education	2			
	Business Elective		3		

Yr.	BUSINESS TECHNOLOGY: AOS DEGREE	124 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NBTA-201, 202 General Accounting I, II		3	3	
	NBTP-101 Orientation to Business	3			
	NBTP-110 Business English			3	
	NBTP-111, 112,113 Beginning Typing I, II, III	2	2	2	C
	NBTP-211, 212 Business Procedures I, II	3	3		o
	NTMM-120 Basic Mathematics	3			o
	NGGE-100 Freshman Seminar		2		p
	NGGE-101 Job Search Process	1			
	Communication		2	4	
		4	4	4	
	Physical Education		0	0	
2	NBTA-251, 252, 253 Applied Accounting I, II, III	4	4	4	
	NBTP-221 Advanced Typing I	3			
	NBTP-284 Fundamentals of Management	3			
	NBTP-286 Fundamentals of Marketing			3	
	NBTP-301, 302 Word Processing I, II		4	4	c
	NCPN-144 Clear Thinking and Writing		4		o
	NCPN-189 Professional/Practical Writing			3	o
	NTMM-140,141 Fundamentals of College Mathematics I, II..	3	3		p
	NGGE-166 Human Experience I			4	
	Communication		2		
		4			
	Physical Education	0			
3	NBTA-260 Applied Accounting Techniques	2			
	NBTD-210 Data Processing for Business Occupations		3		
	NBTP-291 Applied Business Techniques	2			
	NGGE-102 Contemporary Life Issues		1		
	NGGE-147 Law and Society	2			
	NGGE-167,168 The Human Experience II, III	4	4		
	Communication	2	2		
	General Education Elective		2		

Office Technologies

This program offers a diploma and an AAS degree. It provides students with opportunities for developing keyboarding skills and experience in producing documents found in typical business offices. The program focuses on up-to-date word processing procedures using a variety of computer hardware and software.

On-the-job responsibilities
Input, manipulate, and retrieve data; use interactive software, electronic mail, and information processing skills such as word processing, records processing, and database; and perform other office duties.

Places of employment
Business, industry, government, and schools

Diploma Program

Positions for which graduates qualify
Clerk/typist, typist, correspondence typist, accounts receivable/payable clerk, general office clerk, file clerk, recordkeeping clerk, data-entry clerk, and payroll records clerk

Prerequisite
Successful completion of certificate in Business Occupations

Approximate time
Seven quarters, including one cooperative work experience

AAS Degree Program

Positions for which graduates qualify
Word processing technician, clerk/typist, typist, correspondence typist, accounts receivable/payable clerk, general office clerk, file clerk, recordkeeping clerk, data-entry clerk, and payroll records clerk

Prerequisite
Successful completion of diploma in Office Technologies

Approximate time
Eleven quarters, including two cooperative work experiences

Yr.	OFFICE TECHNOLOGIES: DIPLOMA	84-88 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NBTP-101 Orientation to Business	3			
	NBTP-110 Business English			3	
	NBTP-111, 112,113 Beginning Typing I, II, III	2	2	2	
	NBTP-211, 212 Business Procedures I, II	3	3		
	NTMM-120 Basic Mathematics	3			C
	NTMM-140 Fundamentals of College Mathematics I		3		o
	NGGE-100 Freshman Seminar		2		o
	NGGE-101 Job Search Process	1			p
	Communication		2	2	
		4	4	4	
	Physical Education		0	0	
2	NBTA-201, 202 General Accounting I, II		3	3	
	NBTD-210 Data Processing for Business Occupations		3		
	NBTP-221 Advanced Typing I	3			
	NBTP-230 Office Technologies Seminar			2	
	NBTP-284 Fundamentals of Management	3			
	NBTP-291 Applied Business Techniques			3	
	NBTP-301 Word Processing I		4		
	NBTP-286 Fundamentals of Marketing			3	
	OR				
	NGGE-147 Law and Society			(2)	
	NGGE-102 Contemporary Life Issues			1	
	Communication	2	2	2	
	English	4	4		
	General Education (optional)	(2)			
	Physical Education		0		

Yr.	OFFICE TECHNOLOGIES: AAS DEGREE	130 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NBTP-101 Orientation to Business	3			
	NBTP-110 Business English			3	
	NBTP-111,112,113 Beginning Typing I, II, III	2	2	2	
	NBTP-211, 212 Business Procedures I, II	3	3		
	NTMM-120 Basic Mathematics	3			C
	NTMM-140 Fundamentals of College Mathematics I		3		o
	NGGE-100 Freshman Seminar		2		o
	NGGE-101 Job Search Process	1			p
	Communication		2	2	
		4	4	4	
	Physical Education		0	0	
2	NBTA-201,202 General Accounting I, II		3	3	
	NBTD-210 Data Processing for Business Occupations		3		
	NBTP-221 Advanced Typing I	3			
	NBTP-230 Office Technologies Seminar			2	c
	NBTP-284 Fundamentals of Management	3			o
	NBTP-301, 302 Word Processing I, II		4	4	o
	Communication	2	2	2	p
		4	4		
	Liberal Arts			4	
	Physical Education		0		
3	NBTP-286 Fundamentals of Marketing			3	
	NBTP-291 Applied Business Techniques			2	
	NBTP-303, 304 Word Processing III, IV	4	4		
	NBTP-310 Desktop Publishing Concepts and Applications . . .		3		
	NGGE-202 Contemporary Social Issues			1	
	NGGE-147 Law and Society	2			
	General Education	2		2	
	Liberal Arts	4	8	4	

Computer Careers

Careers that involve work with computers increase daily. Computers are an important part of business, industry, and other parts of the economy. Computer careers involve operating computers or writing programs that direct computers to solve problems.

Students may choose from certificate, diploma, and/or AAS degree programs in Data Processing.

Applied Computer Technology

Aristotle Ogoke, Acting Chairperson

On-the-job responsibilities
Certificate and diploma: Work in the computer operations area controlling computers or in a variety of operations-related support areas.

AAS degree: Work as a mainframe operator, full computer operator, remote operator, or basic entry-level programmer trainee. Major concentration is in computer operations.

Places of employment
Banks, insurance companies, large stores, manufacturing companies, public utilities, government agencies, and other data processing centers

Prerequisite
Grade of C or better in all required technical courses

Certificate Program

Positions for which graduates qualify
Computer operations support positions such as data control, librarian, or peripheral equipment operator

Prerequisites
Successful completion of a sampling experience in the Applied Computer Technology area, either through the Summer Vestibule Program or a departmental sampling program

Students with Michigan Test scores lower than 55 or with low mathematics skills may have difficulty in this program

Approximate time
Five quarters, including one cooperative work experience

Diploma Program

Positions for which graduates qualify
Computer operator trainee and peripheral equipment operator

Prerequisites
Successful completion of a sampling experience in the Applied Computer Technology area, either through the Summer Vestibule Program or a departmental sampling program

Students with Michigan Test scores lower than 55 or with low mathematics skills may have difficulty in this program

Approximate time
Seven quarters, including one cooperative work experience

Yr.	APPLIED COMPUTER TECHNOLOGY: CERTIFICATE	61 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NBTD-157 Beginning Computer Operations	2			
	NBTD-158 Beginning Computer Operations Lab	1			
	NBTD-170 Utilities/JCL for Computers		2		
	NBTD-172 Utilities/JCL Lab		1		
	NBTD-213 Applications Software		3		
	NBTD-220 Computer Hardware I			3	
	NBTD-250 Multiprogramming/Spooling for Operations			2	C
	NBTD-251 Multiprogramming/Spooling Lab			1	O
	NBTP-101 Orientation to Business		3		O
	NTMM-140,141,142 Fundamentals of College Mathematics I, II, III	3	3	3	p
	NGGE-100 Freshman Seminar	2			
	NGGE-101 Job Search	1			
	Communication		2	2	
	English	4	4	4	
	Physical Education	0			
2	NBTD-101 Introduction to Business Programming	4			
	NBTD-222 Software & Operating Systems I	3			
	NGGE-102 Contemporary Life Issues	2			
	Business Elective	3			
	Communication	2			
	English	4			
	Physical Education	0			

Yr.	APPLIED COMPUTER TECHNOLOGY: DIPLOMA	96 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NBTD-157 Beginning Computer Operations	2			
	NBTD-158 Beginning Computer Operations Lab	1			
	NBTD-170 Utilities/JCL for Computers		2		
	NBTD-172 Utilities/JCL Lab		1		
	NBTD-213 Applications Software		3		
	NBTD-220 Computer Hardware I			3	
	NBTD-250 Multiprogramming/Spooling for Operations			2	C
	NBTD-251 Multiprogramming/Spooling Lab			1	O
	NBTP-101 Orientation to Business		3		O
	NTMM-140,141,142 Fundamentals of College Mathematics 1, II, III	3	3	3	p
	NGGE-100 Freshman Seminar	2			
	NGGE-101 Job Search	1			
	Communication	2	2	2	
		4	4	4	
	Physical Education	0	0	0	
2	NBTD-100 Logic and Problem Solving	3			
	NBTD-101 Introduction to Business Programming		4		
	NBTD-222 Software and Operating Systems I		3		
	NBTD-224 Networking I			3	
	NBTD-260 System Generation	2			
	NBTD-261 System Generation Lab	1			C
	NBTD-262 Advanced Operating Systems			2	O
	NBTD-263 Advanced Operating Systems Lab			1	O
	NTMM-150,151 Integrated Mathematics I, II	3		3	p
	NGGE-102 Contemporary Life Issues			2	
	Business Elective	3	3	3	
	Communication		2	2	
		4	4		
	Physical Education	0			

AAS Degree Program

Positions for which graduates qualify
Computer operator and low entry-level business programmer trainee

Prerequisites
Successful completion of a sampling experience in the Applied Computer Technology area, either through the Summer Vestibule Program or a departmental sampling program

Students with Michigan Test scores lower than 55 or with low mathematics skills may have difficulty meeting liberal arts requirements and third-year technical course requirements

Approximate time
Eleven quarters, including two cooperative work experiences

Yr.	APPLIED COMPUTER TECHNOLOGY: AAS DEGREE	133-136 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NBTD-157 Beginning Computer Operations	2			
	NBTD-158 Beginning Computer Operations Lab	1			
	NBTD-170 Utiiities/JCL for Computers		2		
	NBTD-172 Utilities/JCL Lab		1		
	NBTD-213 Applications Software		3		
	NBTD-220 Computer Hardware I			3	C
	NBTD-250 Multiprogramming/Spooling for Operations			2	O
	NBTD-251 Multiprogramming/Spooling Lab			1	O
	NBTP-101 Orientation to Business			3	p
	NTMM-140,141,142 Fundamentals of College Mathematics I, II, III	3	3	3	
	NGGE-100 Freshman Seminar	2			
	NGGE-101 Job Search	1			
	Communication	2	2	2	
		4	4	4	
	Physical Education	0	0		
2	NBTD-100 Logic and Problem Solving	**3**			
	NBTD-101 Introduction to Business Programming		4		
	NBTD-222 Software and Operating Systems I		3		
	NBTD-224 Networking I			3	
	NBTD-260 System Generation	2			
	NBTD-261 System Generation Lab	1			**C**
	NBTD-262 Advanced Operating Systems			2	**O**
	NBTD-263 Advanced Operating Systems Lab			1	**O**
	NTMM-150, 151 Integrated Mathematics I, II	3	3		p
	NTMM-163 Data Processing Mathematics			**3**	
	Business Elective	3			
	Communication	2	2	2	
		4	4		
	Liberal Arts			4	
	Physical Education		0	0	
3	NBTD-230 COBOL I or NBTD-232 RPG I	3			
	NBTD-231 COBOL II or NBTD-233 RPG II		3		
	NGGE-202 Contemporary Social Issues			2	
	Business Elective	3		3	
	Technical Elective	3	3	3*	
	Liberal Arts	4	8	4	

Optional

School of Science and Engineering Careers

Dr. Marie L. Raman, Assistant Dean/ Director

Applied Science/ Allied Health Careers

Frederic R. Hamil, Chairperson

Students interested in science and helping people can combine both interests in an applied science/allied health career. These careers prepare students for employment in medical or health service settings or in research.

Students may choose programs in Medical Laboratory Technology, Medical Record Technology, or Ophthalmic Optical Finishing Technology.

Medical Laboratory Technology

Beverly J. Price, MT (ASCP), Education Coordinator

This AAS degree program prepares students for careers as medical laboratory technicians.

Pre-technical program
More than 90 percent of students applying for Medical Laboratory Technology programs need to enroll in a pre-technical program, usually lasting three quarters. The program consists of biology, chemistry, communication, English, general education, mathematics, and physical education.

Yr.	MEDICAL LABORATORY TECHNOLOGY: AAS DEGREE	159 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
pr	NTSB-107, 108, 109 MLT Biology I, II, III	4	4	4	
	NTSC-115,116,117 MLT Chemistry I, II, III	4	4	4	
	NTMM-140,141,142 Fundamentals of College Mathematics I, II, III	3	3	3	
	NGGE-100 Freshman Seminar		2		
	Communication	2		2	
	English	4	4	4	
	Physical Education	0	0	0	
1	NTSL-101,102 Anatomy/Physiology and Disease I, II	4	4		
	NTSL-111 Basic Histology			6	
	NTSL-121 Urinalysis	2			
	NTSL-122,123 Hematology, Advanced Hematology	4	5		
	NTSL-131 Microbiology I			5	C
	NTSL-132 Immunology		3		o
	NTSL-133 Blood Bank Procedures			3	o
	NTSL-200 Pre Co-op Seminar		1		p
	NTMM-170 MLT Mathematics	3			
	NGGE-101 Job Search Process	1			
	Communication		2		
	English	4			
	English or Liberal Arts		4	4	
2	NTSL-105 Medical Parasitology			2	
	NTSL-115 Electrocardiography		2		
	NTSL-201, 202, 203 Clinical Chemistry I, II, III	6	5	5	
	NTSL-224 Laboratory Simulation			3	
	NTSL-232, 233 Microbiology I, II	6	5		
	NGGE-202 Contemporary Social Issues			1	
	Communication	2	2	2	
	Liberal Arts	4	4	4	

'Pre-Technical Requirements

AAS Degree Program

On-the-job responsibilities
Perform routine medical laboratory procedures in hematology, urinalysis, microbiology, histology, clinical chemistry, bloodbanking, serology, and parasitology.

Clinical experience
The program includes a 12-week clinical co-op experience during the summer quarter between the first and second years of the program and another affiliated experience during the winter and spring quarters of the second year. Students are responsibile for their own transportation to clinical experience sites.

To participate in the required clinical experience sessions, students are required to take a physical examination. This may be performed by a family physician or RIT's Student Health Center, where examinations can be performed for a small fee.

Places of employment
Clinical laboratories of hospitals, private clinics, physicians' offices, industrial clinical laboratories, municipal laboratories, and research clinical laboratoriesPositions for which graduates qualify
Medical laboratory technician, clinical chemistry assistant, microbiology assistant, and hematology assistant

Prerequisites
MLT Biology I, II, III
MLT Chemistry I, II, III
Algebra II/A, I I/B

Approximate time
Ten quarters, including pre-technical program and one cooperative clinical experience
Seven quarters, including one cooperative clinical experience, but without pre-technical program

Medical Record Technology*

Marilyn G. Fowler, R.R.A., Director

Students can earn an AAS degree in Medical Record Technology to prepare for careers in health information services.

The medical record technician is able to organize, analyze, and technically evaluate health records; compile and utilize administrative and health statistics; code symptoms, diseases, operations, and procedures to support reimbursement systems; maintain and use health record indexes and storage and retrieval systems; and abstract and retrieve health information for evaluating and planning health care and health-related programs. A medical record technician does not have direct patient contact.

Pre-technical program

More than 90 percent of students entering the Medical Record Technology Program need to enroll in a pre-technical program that normally is three quarters long.

Courses are determined by each student's skill level, but generally include Biology I, II, III; communication; English or liberal arts; general education; Health Care Organization and Structure; mathematics (Fundamentals of College Mathematics); physical education; typing; word processing; and applications software.

Accreditation

The Medical Record Technology Program is accredited by the American Medical Association Committee on Allied Health Education and Accreditation (CAHEA) in collaboration with the American Medical Record Association (AMRA). Graduates may take the accredited record technician (ART) certification examination and, when successful, will be granted certification as accredited record technicians. This certification demonstrates technical knowledge and skill in the profession. Certification may support graduates in employment, promotions, and salary increases. The fee for this examination is determined yearly by AMRA.

This program is being recommended for discontinuance. No new students will be admitted.

Yr.	MEDICAL RECORD TECHNOLOGY: AAS DEGREE	141 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
PT*	NBTP-111, 112,113 Beginning Typing 1, II, III	2	2	2	
	NTMM-140 Fundamentals of College Mathematics I	3			
	NTSR-106,107, 108 MRT Biology I, II, III	4	4	4	
	NTSR-145 Health Care Organization and Structure			4	
	NGGE-100 Freshman Seminar	2			
	Communication	2	2		
	English	4	4	4	
	Physical Education		0		
1	NTSR-111,112 Anatomy/Physiology I, II	4	4		
	NTSR-141,142,143 Medical Record Science I, II, III	5	5	5	
	NTSR-161,162, 163 Medical Terminology I, II, III	3	3	3	C
	NBTD-213 Applications Software			2	0
	NBTP-221 Advanced Typing I		3		0
	NBTP-301 Word Processing I			4	p
	Communication	2	2		
	Liberal Arts	4		4	
	Physical Education		0		
2	NTSR-244,245,246 Medical Record Science IV, V, VI	5	5	5	
	NTSR-251,252 Pathophysiology I, II		3	3	
	NTSR-264, 267 Medical Terminology IV, V	3		3	
	NGGE-101 Job Search Process	1			
	NGGE-202 Contemporary Social Issues		1		
	Communication	2	2		
	Liberal Arts	4	4	4	
	Physical Education		0		

'Pre-Technicai Requirements

AAS Degree Program

On-the-job responsibilities
Prepare medical records for patient care evaluation studies; collect statistical data, including coding of diseases, procedures, diagnaostic tests, and therapeutic measures; communicate with professionals within and external to the medical field; perform manual or automated storage and retrieval of medical records; prepare and maintain specialized registries; and keep records secure and confidential.

Cooperative work experience
The program includes a 10-week work experience during the Summer Quarter between the first and second years of the program and a clinical affiliation during the last quarter of the second year. In order to participate in the required work experience sessions, students must have a physical examination. This may be performed by a family physician or RIT's Student Health Center, where examinations can be performed for a small fee.

Students are not to be substituted for paid staff during these work experiences. They may not take the responsibility or the place of "qualified" staff. However, after demonstrating proficiency, students may be permitted to perform procedures with careful supervision. They may be employed in the clinical facility outside regular education hours provided the work is limited so it does not interfere with regular academic responsibilities. The work must be non-compulsory, paid, and subject to employee regulations. Students are responsible for their own transportation to work experience sites.

Places of employment
Acute, chronic, and mental health hospitals; specialized medical care, nursing, and rehabilitation facilities; ambulatory care; Veterans Adminstration; research facilities; insurance companies; peer review organizations; industry; automated health information centers; AMRA executive offices; medical record consulting firms; and medical record education facilities

Prerequisites
MRT Biology I, II, III
Fundamentals of College Mathematics
Health Care Organization and Structure
MRT Career Exploration

Approximate time
Ten quarters, including pre-technical program and one cooperative work experience

Seven quarters, including one cooperative work experience, but without pre-technical program

Ophthalmic Optical Finishing Technology

Douglas Wachter, Director

An ophthalmic optical finishing technologist makes eyeglasses prescribed by physicians and optometrists. Technologists refine lenses to prescription specifications as ordered by vision care specialists.

Students may choose from certificate, diploma, AOS, and AAS degree programs.

The Ophthalmic Optical Finishing Technology programs include an optical laboratory affiliation in Rochester during one of the academic quarters. A cooperative work experience is taken in students' home areas during the summer quarter between the first and second years in the program. Students are responsible for obtaining their own transportation to these practice sites.

Pre-technical program
More than 90 percent of those applying for the Ophthalmic Optical Finishing Technology programs need to enroll in a pre-technical program. The program generally is three quarters long and provides coursework in communication, English, mathematics, and physical education.

Accreditation
Ophthalmic Optical Finishing Technology programs are accredited by the Commission on Opticianry Accreditation. This accreditation recognizes the high standards of program quality provided to NTID students.

Certificate Program

On-the-job responsibilities
Follow vision care specialists' instructions as written on prescriptions, perform procedures requested by laboratory supervisors to prepare eyeglasses for use, and maintain laboratory and equipment according to industry (American National Standards Institute) standards.

Places of employment
Wholesale and retail optical laboratories and offices of ophthalmologists, optometrists, and dispensing opticians

Graduates qualify for positions requiring these skills
Vertometric evaluation, single vision layout, automatic edging, hand beveling, lens heat treatment

Prerequisites
Fundamentals of College Mathematics
Introduction to Optical Finishing
    Technology I, II, III
    Successful completion of a sampling experience in Ophthalmic Optical Finishing Technology, either through the Summer Vestibule Program or a departmental sampling program

Approximate time
Seven quarters, including pre-technical program and one cooperative work experience

Four quarters, including one cooperative work experience, but without pre-technical program

Yr.	OPHTHALMIC OPTICAL FINISHING TECHNOLOGY: CERTIFICATE	94 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
P f	NTMM-120 Basic Mathematics	3			
	NTMM-140,141 Fundamentals of College Mathematics I, II..		3	3	
	NTSF-105,106, 107 Introduction to OFT I, II, III	2	2	2	
	NTSP-168 OFT Physics			3	
	NGGE-100 Freshman Seminar	2			
	NGGE-101 Job Search Process			1	
	Communication	2	2	2	
		4	4	4	
	General Education		2		
	Physical Education	0	0	0	
1	NTSF-111, 112 OFT Mathematics I, II	3	3		
	NTSF-115,116 Prescription Analysis	3	3		
	NTSF-121, 122, 123 Optical Finishing Techniques I, II, III	5	5	6	C
	NTSF-161, 162,163 Optical Finishing Terminology I, II, III	3	3	3	O
	NTSF-399 Independent Study Surfacing	2			0
	NGGE-101 Job Search Process	1			p
	NGGE-102 Contemporary Life Issues			1	
	Communication	2		2	
	English	4	4		

'Pre-Technical Requirements

Diploma Program

On-the-job responsibilities
Follow vision care specialists' instructions as written on prescriptions, perform procedures requested by laboratory supervisors to prepare eyeglasses for use, and maintain laboratory and equipment according to industry (American National Standards Institute) standards.

Places of employment
Wholesale and retail optical laboratories and offices of ophthalmologists, optometrists, and dispensing opticians

Graduates qualify for positions requiring these skills
Vertometric evaluation, single vision/multifocal layout, lens blocking, automatic edging, hand beveling, lens heat treatment, rimless/notching/drilling, lens dying, final inspection, and evaluation

Prerequisites
Fundamentals of College Mathematics I, II
Introduction to Optical Finishing
   Technology, I, II, III
   Successful completion of a sampling experience in Ophthalmic Optical Finishing Technology, either through the Summer Vestibule Program or a departmental sampling program

Approximate time
Ten quarters, including pre-technical program and one cooperative work experience
   Seven quarters, including one cooperative work experience, but without pre-technical program

AOS Degree Program

On-the-job responsibilities
Follow vision care specialists' instructions as written on prescriptions, perform procedures requested by laboratory supervisors to prepare eyeglasses for use, and maintain laboratory equipment according to industry (American National Standards Institute) standards

Places of employment
Wholesale and retail optical laboratories and offices of ophthalmologists, optometrists, and dispensing opticians.

Graduates qualify for positions requiring these skills
Vertometric evaluation, single vision/multifocal layout, lens blocking, automatic edging, hand beveling, lens heat treatment, rimless/notching/drilling, lens dying, final inspection, and evaluation

Yr.	OPHTHALMIC OPTICAL FINISHING TECHNOLOGY: DIPLOMA	128 Qtr. Credit Hours
	Typical Course Sequence	FALL WTR.
	NTMM-120 Basic Mathematics	
	NTMM-140,141 Fundamentals of College Mathematics I, II.	
	NTSF-105, 106,107 Introduction to OFT I, II, III	
	NGGE-100 Freshman Seminar	
	Communication	
	English	
	General Education	
	Physical Education	
	NTSF-111, 112 OFT Mathematics I, II	
	NTSF-115,116 Prescription Analysis I, II	
	NTSF-117 Lens Design	
	NTSF-121,122, 123 Optical Finishing Techniques I, II, III	
	NTSF-161, 162,163 Optical Finishing Terminology I, II, III	
	NTSF-399 Independent Study Surfacing	
	NGGE-101 Job Search Process	
	Communication	
	English	
	NTSF-224 Optical Finishing Techniques IV	
	NTSF-225, 226 Lab Simulation I, II	
	NTSF-241 Management of Optical Stockroom Procedures..	
	NTSF-243 Optical Finishing Inspection/Correction	
	NTSF-251 Optical Finishing Technology Seminar	
	NTSP-168 Physics I	
	NGGE-102 Contemporary Life Issues	
	Communication	
	English	
	General Education	

"Pre-Technical Requirements

Yr.	OPHTHALMIC OPTICAL FINISHING TECHNOLOGY: AOS DEGREE	136 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
PT*	NTMM-120 Basic Mathematics	3			
	NTMM-140,141 Fundamentals of College Mathematics I, II..		3	3	
	NTSF-105, 106,107 Introduction to OFT I, II, III	2	2	2	
	NGGE-100 Freshman Seminar	2			
	Communication	2	2	2	
		4	4	4	
	General Education		2	2	
	Physical Education	0	0	0	
1	NTSF-111,112 OFT Mathematics I, II	3	3		
	NTSF-115,116 Prescription Analysis I, II	3	3		
	NTSF-117 Lens Design			3	
	NTSF-121,122, 123 Optical Finishing Techniques I, II, III	5	5	6	C O O p
	NTSF-161,162, 163 Optical Finishing Terminology I, II, III	3	3	3	
	NTSF-399 Independent Study Surfacing	2			
	NGGE-101 Job Search Process	1			
	Communication	2			
	English	4	4		
2	NTSF- 224 Optical Finishing Techniques IV	5			
	NTSF-225, 226 Lab Simulation I, II		5	5	
	NTSF-241 Management of Optical Stockroom Procedures…	4			
	NTSF-243 Optical Finishing Inspection/Correction			3	
	NTSF-251 Optical Finishing Technology Seminar		2		
	NTSP-168 OFT Physics			3	
	NGGE-102 Contemporary Life Issues			1	
	NGGE-166, 167, 168 Human Experience I, II, III	4	4	4	
	Communication	2	2		

'Pre-Technical Requirements

Prerequisites

Fundamentals of College Mathematics I, II
Introduction to Optical Finishing Tech-
  nology I, II, III
  Successful completion of a sampling
experience in Ophthalmic Optical Finish-
ing Technology, either through the Summer
Vestibule Program or a departmental
sampling program
  Completion of NTID English course
requirements, California Reading Test
score higher than 7.0, and Michigan Test
score higher than 55

Approximate time

Ten quarters, including pre-technical
program and one cooperative work
experience
  Seven quarters, including one
cooperative work experience, but without
pre-technical program

AAS Degree Program

On-the-job responsibilities
Follow vision care specialists' instructions
as written on prescriptions, perform pro-
cedures requested by laboratory super-
visors to prepare eyeglasses for use, and
maintain laboratory equipment according
to industry (American National Standards
Institute) standards

Places of employment
Wholesale and retail optical laboratories
and offices of ophthalmologists, optom-
etrists, and dispensing opticians.

**Graduates qualify for positions requiring
these skills**
Vertometric evaluation, single vision/
multifocal layout, lens blocking, automatic
edging, hand beveling, lens heat treat-
ment, rimless/notching/drilling, lens
dying, final inspection, and evaluation

Prerequisites
Fundamentals of College Mathematics I, II
Introduction to Optical Finishing Tech-
  nology I, II, III
  Successful completion of a sampling
experience in Ophthalmic Optical Finish-
ing Technology, either through the Summer
Vestibule Program or a departmental
sampling program
  Completion of NTID English course
requirements, California Reading Test
score higher than 7.0, and Michigan Test
score higher than 55

Approximate time
Ten quarters, including pre-technical
program and one cooperative work
experience
  Seven quarters, including one
cooperative work experience, but without
pre-technical program

Yr.	OPHTHALMIC OPTICAL FINISHING TECHNOLOGY: AAS DEGREE	136 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
PT*	NTMM-120 Basic Mathematics	3			
	NTMM-140,141 Fundamentals of College Mathamatics I, II..		3	3	
	NTSF-105,106,107 Introduction to OFT I, II, III	2	2	2	
	NGGE-100 Freshman Seminar	2			
	Communication	2	2	2	
		4	A	4	
	General Education		2	2	
	Physical Education	0	0	0	
1	NTSF-111, 112 OFT Mathematics I, II	3	3		
	NTSF-115,116 Prescription Analysis I, II	3	3		
	NTSF-117 Lens Design			3	
	NTSF-121, 122, 123 Optical Finishing Techniques 1, II, III	5	5	6	C O O P
	NTSF-161,162,163 Optical Finishing Terminology	3	3	3	
	NTSF-399 Individual Study Surfacing	2			
	NGGE-101 Job Search Process	1			
	Communication	2			
	English or Liberal Arts	4	4		
2	NTSF-224 Optical Finishing Techniques IV	5			
	NTSF-225, 226 Lab Simulation I, II		5	5	
	NTSF-241 Management of Stockroom Procedures	4			
	NTSF-243 Optical Finishing Inspection/Correction			3	
	NTSF-251 Optical Finishing Technology Seminar		2		
	NTSP-168 OFT Physics		3		
	NGGE-202 Contemporary Social Issues		1		
	Communication		2	2	
	Liberal Arts	4	4	4	

Pre-Technical Requirements

Technologies Careers

Students selecting Engineering Technologies careers may choose one of three areas. Construction Technologies careers involve participating in the design and construction of buildings, roads, and bridges. Electromechanical Technology careers involve working with engineers and researchers to provide technical support for the design, installation, and maintenance of machines using electrical, electronic, and mechanical devices. Industrial Technologies careers involve working with systems and special equipment used in industry throughout the country.

Students may choose programs in:

Construction Technologies
Architectural Drafting (Diploma)
Architectural Technology (AAS)
Civil Technology (AAS)

Electromechanical Technology (AAS)

Industrial Technologies
Industrial Drafting (Diploma)
Industrial Drafting Technology (AOS, AAS)
Manufacturing Processes Technology (Diploma)

Accreditation
The AAS programs in Architectural Technology, Civil Technology, Electromechanical Technology, and Industrial Drafting Technology are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc.

C.O.R.E. year experience
Most students are required to enroll in the C.O.R.E. (Career Orientation and Exploration) year sequence. This lasts three quarters and includes an in-depth sampling of program offerings within Engineering Technologies (Architectural Technology, Civil Technology, Electromechanical Technology, Industrial Drafting Technology, and Manufacturing Processes Technology) as well as coursework in communication, English, general education, and mathematics.

School of Science and Engineering Careers
C.O.R.E. Year Experience

Most students are required to enroll in the C.O.R.E. year sequence (Career Orientation and Exploration). This experience is three quarters in length and includes an in-depth sampling of program offerings within Engineering Technologies (Architectural Technology, Civil Technology, Electromechanical Technology, Industrial Drafting Technology, Manufacturing Processes Technology) as well as coursework in communications, English, general education, and mathematics.

Yr.	C.O.R.E. YEAR EXPERIENCE	42 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR
	NTMM-140,141,142 Fundamentals of College Mathematics I, II, III				
	NGGE-100 Freshman Seminar				
*	Career Exploration	t			
	Communication	**2**			
**	Core Elective	2			
†	English	4			
‡	General Education	3			

'Students choose at least three of the following career exploration courses: NETA-100 (Architectural Technology), NETC-100 (CMI Technology), NETI-100 (Industrial Drafting Technology), NETM-100 (Electromechanical Technology), NETT-100 (Manufacturing Processes/ Students must sample a program to be admitted to it.

"Students are strongly encouraged to complete one core elective both winter and spring quarters. They may select these from the following courses: Introduction to Computer-Assisted Drafting (CAD), Basic Tool Skills, Basic Graphic Skills, Basic Science Skills, and Basic Computer Skills.

fStudents may be required to register tor more than one English course per quarter depending on their entry-level skills.

tStudents are encouraged to start Physics after completing Fundamentals of College Mathematics III. Students may register for Technical Physics I instead of General Education.

Construction Technologies

James D. Jensen, Chairperson

Construction Technologies programs teach students the skills related to the design and construction of architectural (buildings) and civil (roads, bridges, etc.) projects. Students may choose a diploma program in Architectual Drafting or an AAS degree program in Architectual or Civil Technology.

Architectural Drafting
Diploma Program

On-the job-responsibilities
Draw detailed plans of buildings and other structures, working from architects' and designers' notes and sketches; do lettering; make models; and know construction methods and materials.

Places of employment
Architectural and engineering firms, building materials suppliers, construction companies, and government agencies

Position for which graduates qualify
Architectural drafter

Prerequisites
Fundamentals of College Mathematics
English level: Marginally qualified

Approximate time
Nine quarters, including C.O.R.E. year experience
   Six quarters without C.O.R.E. year experience

Architectural Technology
AAS Degree Program

On-the-job responsibilities
Work with architects and engineers to plan construction and remodeling of buildings and other structures, using preliminary drawings, design development drawings, working drawings, presentation graphics, model making, cost estimating, structural planning, and knowledge of construction methods and materials.

Places of employment
Architectural, engineering, and construction companies; government agencies; and corporate design offices

Positions for which graduates qualify
Architectural drafter, architectural technician, construction engineering drafter, and planning aide

Prerequisites
Fundamentals of College Mathematics
English level: Marginally qualified

Yr.	ARCHITECTURAL DRAFTING: DIPLOMA	91 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NETA-110 Construction Terminology	4			
	NETA-111,112,113 Construction Drafting I, II, III	2	2	2	
	NETA-201,202 Construction Methods I, II		3	3	
	NTMM-142 Fundamentals of College Mathematics III	3			
	NTMM-150,151 Integrated College Mathematics I, II		4	4	
	NTSP-201, 202 Physics I, II		3	3	
	NGGE-100 Freshman Seminar	2			
	'Communication	2	2	2	
		4	4		
	Physical Education	0	0	0	
2	NETA-211,212 Architectural Materials I, II	3	3		
	NETA-220 Principles of Structural Systems			4	
	NETA-221,222,223 Architectural Design Drafting I, II, III	4	4	4	
	NETA-224 Construction Computations		2		
	NETA-375 Architectural History			2	
	NETA-376 Building Estimating			2	
	NETA-377 Building Equipment	3			
	NETA-390 Architectural Technology Seminar		2		
	NETC-241 Mapping I			2	
	NTSP-203 Advanced Topics in Mechanics	3			
	NGGE-101 Job Search Process	1			
	NGGE-102 Contemporary Life Issues			1	
	General Education		2		

'Students who enter this program without the C.O.R.E. year experience win need to take additional English and communication courses.

Yr.	ARCHITECTURAL TECHNOLOGY: AAS DEGREE	137-139 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NETA-110 Construction Terminology	4			
	NETA-111,112,113 Construction Drafting I, II, III	2	2	2	
	NETA-201,202 Construction Methods I, II		3	3	
	NTMM-150, 151, 152 Integrated College Mathematics I, II, III	4	4	4	
	NTSP-201, 202 Physics I, II		3	3	
	NGGE-100 Freshman Seminar	2			
	"Communication	2	2	2	
		4	4		
	Physical Education	0	0	0	
2	NETA-211,212 Architectural Materials I, II	3	3		
	NETA-220 Principles of Structural Systems			4	
	NETA-221, 222, 223 Architectural Design Drafting I, II, III	4	4	4	C o o p
	NETA-390 Architectural Technology Seminar		3		
	NETC-241 Mapping 1			2	
	NTMM-210,211 Advanced Mathematics I, II	3	3		
	NTSP-203 Advanced Topics in Mechanics	3			
	NGGE-101 Job Search Process	1			
	Liberal Arts		4	4	
3	NETA-340 Planning Project	5			
	NETA-351,352 Architectural Project I, II		5	5	
	NETA-375 Architectural History			2	
	NETA-376 Building Estimating			2	
	NETA-377 Building Equipment	3			
	NETC-250 Statics	4			
	NETC-260 Strength of Materials		4		
	NGGE-202 Contemporary Social Issues		1		
	Liberal Arts	4	4	4	
	Technical Elective			1-3	

'Students who enter this program without the C.O.R.E. year experience will need to take additional English and communication courses.

Civil Technology
AAS Degree Program

On-thejob responsibilities
Use a variety of skills such as drafting, surveying, materials testing and measuring, construction, inspection, report writing, and knowledge of construction materials and methods

Places of employment
Government agencies; construction companies; engineering, surveying, and architectural firms; oil and steel industries; transportation agencies; and materials testing laboratories

Positions for which graduates qualify
Design assistant, materials laboratory technician, construction inspector, civil drafter, assistant surveyor, and structural drafter

Prerequisites
Fundamentals of College Mathematics
English level: Marginally qualified

Approximate time
Thirteen quarters, including C.O.R.E. year experience and one cooperative work experience
   Ten quarters, including one cooperative work experience, but without C.O.R.E. year experience

Electromechanical Technology

Robert A. Moore, Chairperson

A variety of career options are offered through the Electromechanical Technology Program. Graduates of this program work with systems and equipment used in many different industries throughout the country.

AAS Degree Program

On-the-job responsibilities
Construct and maintain equipment; apply knowledge of mechanical, electronic, and computer principles; service test equipment; and test complex electromechanical equipment.

Places of employment
Engineering and manufacturing industries, government agencies, and military laboratories

(Left column top, duplicate intro text:)

Approximate time
Thirteen quarters, including C.O.R.E. year experience and one cooperative work experience
   Ten quarters, incuding one cooperative work experience, but without C.O.R.E. year experience

Yr.	CIVIL TECHNOLOGY: AAS DEGREE	140-142 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NETA-110 Construction Terminology	4			
	NETA-111,112,113 Construction Drafting I, II, III	2	2	2	
	NETA-201, 202 Construction Methods I, II		3	3	
	NTMM-150,151,152 Integrated College Mathematics I, II, III	4	4	4	
	NTSP-201, 202 Physics I, II		3	3	
	NGGE-100 Freshman Seminar	2			
	'Communication	2	2	2	
		4	4		
	Physical Education	0	0	0	
2	NETC-211 Surveying and Mapping			6	
	NETC-250 Statics	4			
	NETC-260 Strength of Materials		4		
	NETC-283 Soil Mechanics		4		
	NETC-284 Engineering Materials			4	C
	NETC-285 Civil Technology Seminar	2			O
	NETC-290 Programming for Civil Technicians			3	O
	NETC-390 Construction Seminar		2		P
	NTMM-210, 211 Advanced Mathematics I, II	3	3		
	NTSP-203 Advanced Topics in Mechanics	3			
	NGGE-101 Job Search Process	1			
	Liberal Arts		4	4	
3	NETC-311 Surveying Projects	3			
	NETC-312 Mapping and Site Design	2			
	NETC-321, 322, 323 Structural Design Drafting I, II, III	4	4	4	
	NETC-340 Fundamentals of Fluid Mechanics	4			
	NETC-350 Highway Design and Construction		4		
	NETC-385 Principles of Environmental Technology			4	
	NGGE-202 Contemporary Social Issues		1		
	Liberal Arts	4	4	4	
	Technical Elective			1-3	

'Students who enter this program without the C.O.R.E. year experience will need to take additional English and communication courses.

Yr.	ELECTROMECHANICAL TECHNOLOGY: AAS DEGREE	143 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NETM-101 Basic Drafting I	2			
	NETM-210 Computer Techniques		4		
	NETM-211 Mechanical Components			4	
	NETM-213 DC Circuits			5	
	NETM-241 Tool Skills		2		
	NTMM-150,151, 152 Integrated College Mathematics I, II, III	4	4	4	
	NTSP-100, 135 Physics I, II	3	3		
	NGGE-100 Freshman Seminar	2			
	'Communication	2		2	
	* English	4	4		
2	NETM-171 Digital Systems			4	
	NETM-304 AC Circuits	5			
	NETM-317 Kinematics	4			
	NETM-321 Fluid Power		4		
	NETM-322 Electrical Power Systems			4	C
	NETM-368, 369 Electronics I, II		5	5	O
	NTMM-210, 211 Advanced Mathematics I, II	3	3		O
	NTMM-212 Concepts of Calculus			3	P
	NGGE-101 Job Search Process	1			
	"Communication		2		
	Liberal Arts	4	4	4	
	Physical Education	0	0	0	
3	NETM-209 Technical Graphics			2	
	NETM-234 Optical Systems	4			
	NETM-324 Transducers	4			
	NETM-325 Control Systems		4		
	NETM-327, 328 Microprocessor Control Systems I, II	2	2		
	NETM-370 Electronics III			4	
	NGGE-202 Contemporary Social Issues			1	
	Liberal Arts		4	4	
	Technical Elective		4	4	

'Students who enter this program without the C.O.R.E. year experience will need to take additional English and communica-

Positions for which graduates qualify
Research aide, engineering technician, quality control technician, service technician, engineering aide, automated equipment technician, and field service representative

Prerequisites
Fundamentals of College Mathematics
English level: Marginally qualified

Approximate time
Ten quarters, including cooperative work experience and assuming above prerequisites are satisfied at time of admission

Industrial Technologies

Programs in Industrial Technologies involve studies and applications of the systems and special equipment used in industry throughout the country. Students may choose from diploma programs in Industrial Drafting and Manufacturing Processes Technology or associate degree programs (AOS and AAS) in Industrial Drafting Technology.

Industrial Drafting
Diploma Program

On-the-job responsibilities
From sketches, drawings, and specifications prepared by others, prepare detailed production drawings (manually and using computer-aided drafting equipment) for manufactured products

Places of employment
Manufacturing industries, engineering firms, metal-working industries, drafting shops, government agencies, and engineering research firms

Positions for which graduates qualify
Mechanical, electrical, and electro-mechanical drafter; detailer; and CAD operator

Prerequisites
Fundamentals of College Mathematics
English level: Marginally qualified

Approximate time
Ten quarters, including C.O.R.E. year experience and one cooperative work experience

Seven quarters, including one cooperative work experience, but without C.O.R.E. year experience

Yr.	INDUSTRIAL DRAFTING TECHNOLOGY: AOS DEGREE	153 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NETI-131,132 Manufacturing Processes I, II		1	1	
	NETI-141, 142, 143 Basic Technical Drafting I, II, III	3	3	3	
	NTMM-150,151,152 Integrated College Mathematics I, II, III	4	4	4	C
	NTSP-100, 135 Technical Physics I, II		3	3	O
	NGGE-100 Freshman Seminar	2			O
	NGGE-101 Job Search Process	1			p
	Communication	2	2	2	
		4	4	4	
	Physical Education	0	0	0	
2	NETI-151,152 Materials and Processes I, II		3	3	
	NETI-230 General Tolerancing	2			
	NETI-231, 232 Geometric Tolerancing I, II		2	2	
	NETI-241, 242, 243 Technical Mechanical Drafting I, II, III …	3	3	3	C
	NETI-251, 252, 253 Technical Electrical Drafting, I, II, III	3	3	3	O
	NTMM-210,211 Advanced Mathematics I, II	3	3		O
	NTMM-212 Concepts of Calculus			3	p
	NGGE-166 Human Experience 1			4	
	Communication	2		4	
		4			
	Physical Education	0			
3	NETI-204, 205, 206 Technical Drafting IV, V, VI	3	3	5	
	NETI-213 Statics	5			
	NETI-214 Strength of Materials		5		
	NETI-215 Mechanisms	4			
	NETI-221, 222 Machine Design I, II		4	4	
	NGGE-102 Contemporary Life Issues			1	
	NGGE-167, 168 Human Experience II, III	4	4		
	General Education Elective			4	
	Technical Elective (with department approval)			4	

Yr.	INDUSTRIAL DRAFTING : DIPLOMA	108 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NETI-131,132 Manufacturing Processes I, II		1	1	
	NETI-141, 142, 143 Basic Technical Drafting I, II, III	3	3	3	
	NTMM-150, 151,152 Integrated College Mathematics I, II, ill	4	4	4	C
	NTSP-100,135 Technical Physics I, II		3	3	O
	NGGE-100 Freshman Seminar	2			O
	NGGE-101 Job Search Process	1			P
	Communication	2	2	2	
		4	4	4	
	Physical Education	0	0	0	
2	NETI-151,152 Materials and Processes I, II		3	3	
	NETI-230 General Tolerancing 1	2			
	NETI-231, 232 Geometric Tolerancing I, II		2	2	
	NETI-241, 242, 243 Technical Mechanical Drafting I, II, III .. .	3	3	3	
	NETI-251, 252, 253 Technical Electrical Drafting, I, II, III	3	3	3	
	NTMM-210, 211 Advanced Mathematics I, II	3	3		
	NTMM-212 Concepts of Calculus			3	
	NGGE-102 Contemporary Life Issues			1	
	Communication	2	2	2	
		4	4	4	
	Physical Education	0	0	0	

Industrial Drafting Technology
AOS Degree Program

On-the-job responsibilities
Handle normal drafting assignments using drafting standards and engineering terms; gather data and information for engineers; draw layouts of design concepts for new machines, products, and for drafters' use in drawing parts; and use computer-aided drafting equipment

Places of employment
Manufacturing industries, engineering firms, drafting shops, government agencies, metal-working industries, and engineering research firms

Positions for which graduates qualify
Mechanical, electrical, and electro-mechanical drafter; mechanical designer; CAD operator; and electromechanical designer

Industrial Drafting Technology

Prerequisites
Fundamentals of College Mathematics
English level: Marginally qualified

Approximate time
Fourteen quarters, including C.O.R.E. year experience and two cooperative work experiences
  Eleven quarters, including two cooperative work experiences, but without C.O.RE. year experience

Industrial Drafting Technology
AAS Degree Program

An AAS degree prepares students for the same responsibilities as an AOS degree except that the required liberal arts courses prepare students to continue toward a bachelor's degree if they so desire.

On-the-job responsibilities
Handle normal drafting assignments using drafting standards and engineering terms; gather data and information for engineers; draw layouts of design concepts for new machines, products, and for drafters' use in drawing parts; and use computer-aided drafting equipment.

Places of employment
Manufacturing industries, engineering firms, metal-working industries, drafting shops, government agencies, and engineering research firms

Positions for which graduates qualify
Mechanical, electrical, and electro-mechanical drafter; mechanical or electro-mechanical designer; CAD operator

Prerequisites
Fundamentals of College Mathematics
English level: Marginally qualified

Approximate time
Fourteen quarters, including C.O.R.E. year experience and two cooperative work experiences
  Eleven quarters, including two cooperative work experiences, but without C.O.RE. year experience

Yr.	INDUSTRIAL DRAFTING TECHNOLOGY: AAS DEGREE	153 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
	NETI-131,132 Manufacturing Processes I, II				
	NETI-141, 142, 143 Basic Technical Drafting I, II, III				
	NTMM-150, 151,152 Integrated College Mathematics I, II, III				C
	NTSP-100, 135 Technical Physics I, II				O
	NGGE-100 Freshman Seminar				o
	NGGE-101 Job Search Process				P
	Communication				
	English				
	Physical Education				
	NETI-151,152 Materials and Processes I, II				
	NETI-230 General Tolerancing				
	NETI-231, 232 Geometric Tolerancing I, II				
	NETI-241,242, 243 Technical Mechanical Tolerancing I, II, III.				c
	NETI-251, 252, 253 Technical Electrical Drafting I, II, III				0
	NTMM-210,211 Advanced Mathematics I, II				0
	NTMM-212 Concepts of Calculus				P
	Communication				
	English				
	Liberal Arts				
	Physical Education				
	NETI-204, 205,206 Technical Drafting IV, V, VI				
	NETI-213 Statics				
	NETI-214 Strength of Materials				
	NETI-215 Mechanisms				
	NETI-221,222 Machine Design I, II				
	NGGE-202 Contemporary Social Issues				
	Communication				
	Liberal Arts				
	Technical Elective (with departmental approval)				

Yr.	MANUFACTURING PROCESSES TECHNOLOGY: DIPLOMA	99 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR
	NETT-131, 132, 133 Manufacturing Processes I, II, III				
	NETT-139, 140 Blueprint Reading I, II				
	NETT-154 Precision Measurement				
	NTMM-140,141,142 Fundamentals of College Mathematics I, II, III				C
					O
	NGGE-100 Freshman Seminar				O
	NGGE-101 Job Search Process				P
	Communication				
	English				
	Physical Education				
	NETN-150 Introduction to Numerical Control				
	NETT-101,102 Basic Drafting I, II				
	NETT-134,135, 136 Manufacturing Processes IV, V, VI				
	NETT-151 Industrial Materials				
	NETT-152 Manufacturing Analysis				
	NTMM-150, 151,152 Integrated College Mathematics I, II, III				
	NGGE-102 Contemporary Life Issues				
	Communication				
	English				
	Physical Education				

Manufacturing Processes Technology
Diploma Program

On-the-job responsibilities
Set up and operate machine tools such as lathes, drill presses, and milling machines; shape metal into machine parts using conventional and nonconventional processes; follow blueprints; and use special instruments to measure and check work.

Places of employment
Manufacturing industries, engineering firms, metal-working industries, and engineering research firms

Positions for which graduates qualify
Entry-level and apprenticeship programs: tool and die maker, instrument maker, mold maker, pattern maker, model maker, machinist, CNC operator

Prerequisites
Complete Summer Vestibule Program sampling or equivalent Career Exploration course; demonstrate required English skills (Michigan Test score higher than 50 and California Reading Test score higher than 7.0); and be prepared for Fundamentals of College Mathematics I

Approximate time
Six quarters, including one cooperative work experience, but without the C.O.R.E. year experience
   Ten quarters, including C.O.R.E. year experience and two cooperative work experiences

Manufacturing Processes Technology
AOS Degree Program

On-the-job responsibilities
Set up and operate machine tools such as lathes, drill presses, and milling machines; set up and operate computer numerical-controlled machine tools; shape material into machine parts using conventional and nonconventional processes; follow blueprints; and use special measure tools and procedures to check work

Places of emoployment
Manufacturing industries, metal working industries, engineering firms, and engineering research firms

Positions for which graduates qualify
Entry-level and apprenticeship programs: tool and die maker, instrument maker, mold maker, pattern maker, model maker, machinist, CNC operator, and CNC programmer trainee

Prerequisites
Complete Summer Vestibule Program sampling or equivalent Career Exploration course; demonstrate required English skills (Michigan Test score higher than 50 and California Reading Test score higher than 7.0); and be prepared for Fundmaentals of College Mathematics I

Approximate time
Nine quarters, including two cooperative work experiences, but without the C.O.RE. year experience
   Fourteen quarters, including C.O. R. E. year experience and two cooperative work experiences

Yr.	MANUFACTURING PROCESSES TECHNOLOGY: AOS DEGREE	145 Otr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NETT-131,132 Manufacturing Processes I, II, II	4	4	4	C O O p
	NETT-139,140 Blueprint Reading I, II	2	2		
	NETT-154 Precision Measurement			2	
	NTMM-140,141,142 Fundamentals of College Mathematics I, II, III	3	3	3	
	NGGE-100 Freshman Seminar	2			
	NGGE-101 Job Search Process		1		
	Communication	2	2	2	
		4	4	4	
	Physical Education	0	0	0	
2	NETN-150 Introduction to Numerical Control			2	c O O p
	NETT-101, 102 Basic Drafting 1, II	2		2	
	NETT-134, 135,136 Manufacturing Processes IV, V, VI	4	4	4	
	NETT-151 Industrial Materials		3		
	NETT-152 Manufacturing Analysis			3	
	NTMM-150,151,152 Integrated College Mathematics I, II, III.	4	4	4	
	NGGE-102 Contemporary Life Issues		1		
	Communication	2	2	2	
		4	4		
	Physical Education	0	0	0	
3	NETN-151,152,153 Numerical Control I, II, III	4	4	4	
	NETT-153 Welding I		2		
	NETT-237 Advanced Machining and Processes	**4**			
	NETT-256 Advanced Precision Measurement				
	NETT-260 Senior Seminar		3	**1**	
	NGGE-166,167,168 Human Experience I, II, III	4	4	4	
	General Education Elective			3	
	'Technical Elective	3	3	3	

'Technical electives with department approval; suggested areas include mathematics, physics, drafting, and Welding II.

School of Visual Communications

Dr. Thomas G. Raco, Assistant Dean/ Director

Applied Art Careers

Dr. John W. Cox, Chairperson

The art field has two major career areas: applied and fine art. Applied artists create art to be used by other individuals or companies for which they work. Fine artists create art to express themselves.

Pre-technical program
Some students who want to enter Applied Art programs require a pre-technical program that usually lasts one quarter. Students can meet pre-technical program requirements and take core courses at the same time

First-year core program
Core courses provide basic art experience to prepare students for entry into a program. With the core experience as a basis, students may choose continued studies in either NTID's Applied Art and Computer Graphics Department or the College of Imaging Arts and Sciences.

Work experience
All NTID Applied Art and Computer Graphics students gain experience with the real world of applied art during a cooperative work experience, which is part of their third-year coursework.

Yr.	APPLIED ART AND COMPUTER GRAPHICS: DIPLOMA	123 Qtr. Credit Hours			
	Typical Course Sequence	**FALL**	**WTR.**	**SPG.**	**SMR.**
1	NDAR-111, 112, 113 Basic Design I, II, III	2	2	2	
	NDAR-121,122,123, Basic Drawing I, II, III	3	3	3	
	"NDAR-141,142,143 Career Seminar I, II, III	1	1	1	
	NDAR-151, 152 Computer Graphic Systems I, II		2	2	
	NDAR-161, 162, 163 Media and Processes I, II, III	2	2	2	
	† Applied Art Elective	2			
	Communication	2		2	
	English	4	4	4	
	Physical Education	0	0		
2	NDAR-231,232,233 Introduction to Typography I, II, III	2	2	2	
	NDAR-241, 242, 243 Art Survey I, II, III	2	2	2	
	NDAR-261, 262, 263 Traditional/Electronic Layout I, II, III	3	3	3	C
	NDAR-271, 272, 273 Production Methods I, II, III	2	2	2	O
	NDAR-280 Computer Illustration Methods			2	O
	Communication	2		2	p
	English	4	4		
	Physical Education		0		
3	NDAR-311, 312 Graphic Applications I, II	5	5		
	* NDAR-321, 322, 323 Employment Seminar I, II, III	3	3	3	
	NDAR-330 Graphic Applications/Portfolio Review			5	
	† Applied Art Elective	4	2	2	
	Communication		2	2	

'Career Seminar I, II, ill and Employment Seminar I, II, III are substitutes for Freshman Seminar, Job Search Process, and Contemporary Life issues.
fSee next page for Applied Art technical electives; 10 or more elective credits are required.

Yr.	APPLIED ART AND COMPUTER GRAPHICS: AAS DEGREE	143 Qtr. Credit Hours			
	Typical Course Sequence	**FALL**	**WTR.**	**SPG.**	**SMR.**
1	NDAR-111,112,113 Basic Design I, II, III	2	2	2	
	NDAR-121, 122, 123 Basic Drawing I, II, III	3	3	3	
	"NDAR-141,142, 143 Career Seminar I, II, III*	1	1	1	
	NDAR-151,152 Computer Graphic Systems I, II		2	2	
	NDAR-161,162, 163 Media and Processes I, II, III	2	2	2	
	† Applied Art Elective			2	
	Communication	2	2		
	English	4	4	4	
	Physical Education	0	0		
2	NDAR-231, 232, 233 Introduction to Typography I, II, III	2	2	2	
	NDAR-241, 242, 243 Art Survey I, II, III	2	2	2	
	NDAR-261, 262, 263 Traditional/Electronic Layout I, II, III…. .	3	3	3	C
	NDAR-271, 272, 273 Production Methods I, II, III	2	2	2	O
	NDAR-280 Computer Illustration Methods	2			O
	Applied Art Elective		2	2	P
	Communication	2		2	
	English	4	4		
	Liberal Arts			4	
3	NDAR-311, 312 Graphic Applications I, II	5	5		
	NDAR-321, 322, 323 Employment Seminar I, II, III*	3	3	3	
	NDAR-330 Graphic Applications/Portfolio Review			5	
	Applied Art Elective	2	2		
	Communication	2		2	
	Liberal Arts	4	8	4	
	Physical Education	0			

"Career Seminar I, II, II and Employment Seminar I, II, III are substitutes for Freshman Seminar, Job Search Process, and Contemporary Life Issues.
fSee next page for Applied Art technical electives; 10 or more elective credits are required.

Applied Art and Computer Graphics
Diploma and AAS Degree Programs

NTID Applied Art and Computer Graphics programs prepare students for technical careers in the art field. Students may choose from diploma or AAS degree programs.

On-the job responsibilities
Use traditional and computer-based methods to produce drawings, layouts, and mechanical art for advertising, sales promotion, public relations, and display purposes; prepare visual materials for brochures, pamphlets, slide programs, instructional media, magazine and newspaper advertisements, and posters; prepare artwork for printing; use computer hardware and software, typesetting equipment, photostat cameras, and other applied art studio equipment.

Places of employment
Advertising agencies; art studios; computer graphics studios; large department stores; manufacturing, printing, and publishing firms; educational institutions; and government agencies

Positions for which graduates qualify
Mechanical artist, computer graphics artist, production artist, and layout artist

Prerequisites
Successful completion of a sampling experience in art, either through the Summer Vestibule Program or the Career Exploration course offered through the department
   Demonstrated skill in the following areas: communication/language, free-hand drawing, mathematics, measurement, personal/social skills, program/career information, technical media, two-dimensional design, and work habits. Each competency (skill) has certain activities associated with it. Skill is assessed according to a checklist of specific requirements provided by the department.

Approximate time
Nine quarters

Photo/Media Technologies Careers

Jean-Guy Naud, Chairperson

People in photo/media technologies careers usually fit into one of two categories: those who take photographs and those who perform support functions in a photographic or media production facility. These two areas represent large segments of the industries that use photography, television, and computers sis means of communication. They involve jobs such as developing film, making prints and display transparencies, assisting in video production, making special-effect slides, and preparing presentation graphics.
   Students may choose from diploma and AAS degree programs in Custom Laboratory Services or Media Production.

Pre-technical program
The Photo/Media Technologies Department does not have a pre-technical program. Instead, it offers a common core of courses, lasting two quarters, that enables students to develop basic photographic and media skills. During the second quarter, a special course, Orientation to Photo/Media Careers, is taught. At the completion of that course, students select one of the two options offered by the department: Custom Laboratory Services or Media Production.

Custom Laboratory Services

On-the-job responsibilities
Work in the darkroom developing film by hand and with machines, make color and black-and-white prints, enlarge photographs, and perform custom copy services

Places of employment
Custom or commercial color labs and in-house industrial photographic labs

Prerequisite
Completion of Cores I and II with a "C" average in technical courses

Diploma Program

Students concentrate on custom color printing and processing.

Positions for which graduates qualify
Paper processor operator, custom color printer, custom copy camera operator, roller transport processor operator, dip and dunk processor operator, and custom color technician

Approximate time

Six quarters, including Cores I and II

AAS Degree Program

Students concentrate on advanced custom color printing techniques.

Positions for which graduates qualify
All diploma positions, plus custom color print inspector/evaluator and advanced custom color printer technician

Approximate time
Ten quarters, including Cores I and II and one cooperative work experience

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Yr.

PHOTO/MEDIA—CUSTOM LABORATORY SERVICES OPTION: DIPLOMA   88 Qtr. Credit Hours

Typical Course Sequence	FALL	WTR.	SPG.	SMR
NVPP-101 Introduction to Photo Printing				
NVPP-102 Black-and-White Printing				
NVPP-111 Introduction to Film Processing				
NVPP-112 Film Processing				
NVPP-121 Introduction to Cameras				
NVPP-122 Introduction to Copy Work				
NVPP-132 Orientation to Photo/Media Careers				
NVPP-200 Basic Color Printing				
NVPP-210 Mechanized Processing				
NVPP-220 Print Finishing				
NGGE-100 Freshman Seminar				
Communication				
English				
Physical Education				

NVPP-201, 202,203 Custom Lab Services I, II, III				
NVPP-211,212, 213 Integrated Custom Lab I, II, III				
NVPP-221 Advanced Black-and-White Printing				
NVPP-222 Introduction to Slide Duplicating				
NVPP-223 Introduction to Color Copy Work				
NGGE-101 Job Search Process				
NGGE-102 Contemporary Life Issues				
Communication				
English				
General Education or other elective				

Yr.

PHOTO/MEDIA—CUSTOM LABORATORY SERVICES OPTION: AAS DEGREE   126 Qtr. Credit Hours

Typical Course Sequence	FALL	WTR.	SPG.	SMR.
NVPP-101 Introduction to Photo Printing				
NVPP-102 Black-and-White Printing				
NVPP-111 Introduction to Film Processing				
NVPP-112 Film Processing				
NVPP-121 Introduction to Cameras				
NVPP-122 Introduction to Copy Work				
NVPP-132 Orientation to Photo/Media Careers				
NVPP-200 Basic Color Printing				
NVPP-210 Mechanized Processing				
NVPP-220 Print Finishing				
NGGE-100 Freshman Seminar				
Communication				
English				
Physical Education				

NVPP-201,202,203 Custom Lab Services I, II, III				
NVPP-211, 212,213 Integrated Custom Lab I, II, II				
NVPP-221 Advanced Black-and-White Printing			C	
NVPP-222 Introduction to Slide Duplicating			O	
NVPP-223 Introduction to Color Copy Work			o	
NGGE-101 Job Search Process			p	
Communication				
English				
Liberal Arts				

NVPP-301,302, 303 Advanced Custom Lab Services I, II, III.			4	
NVPP-314,315,316 Integrated Custom Lab IV, V, VI			2	
NGGE-202 Contemporary Social Issues			1	
General Education or other elective			2	
Liberal Arts				

Media Production Option

On-the-job responsibilities
Make slides, photographic prints, over-head transparencies, videotapes, special-effects slides, and presentation graphics.

Places of employment
Industrial training or media departments, audiovisual production houses, and school or university media centers

Prerequisite
Completion of Cores I and II with a "C" average in technical courses

Diploma Program

Students concentrate on developing basic skills in photography, slide production, darkroom techniques, videotape production, and presentation graphics using computers.

Positions for which graduates qualify
Copy technician, special-effects slide camera operator, media photography technician, media production technician, and television production technician

Approximate time
Six quarters, including Cores I and II

AAS Degree Program

Students concentrate on all diploma skills, plus advanced skills in special-effects slide production, television production, and advanced presentation graphics using computers.

Positions for which graduates qualify
All diploma positions, but at a higher entrance level

Approximate time
Ten quarters, including Cores I and II and one cooperative work experience

Yr.	PHOTO/MEDIA—MEDIA PRODUCTION OPTION: DIPLOMA	85 Qtr. Credit Hours			
	Typical Course Sequence	**FALL**	**WTR.**	**SPG.**	**SMR.**
1	NVPP-101 Introduction to Photo Printing	4			
	NVPP-102 Black-and-White Printing		2		
	NVPP-111 Introduction to Film Processing	2			
	NVPP-112 Film Processing		2		
	NVPP-121 Introduction to Cameras	2			
	NVPP-122 Introduction to Copy Work		2		
	NVPP-132 Orientation to Photo/Media Careers		2		
	NVPP-241 Presentation Graphics I			3	
	NVPP-261 Media Photo I			3	
	NVPP-290 AV Equipment Applications			2	
	NGGE-100 Freshman Seminar	2			
	Communication	2	2	2	
		4	4	4	
	Physical Education	0	0		
2	NVPP-242, 251 Presentation Graphics II, III	3	3		
	NVPP-262 Media Photo II	3			
	NVPP-271 Videography I		3		
	NVPP-281, 282, 283 Slide Production I, II, III	3	3	3	
	NVPP-296 Media Program Workshop I			6	
	NGGE-101 Job Search Process	1			
	NGGE-102 Contemporary Life Issues			1	
	Communication	2	2	2	
		4	4		

Yr	PHOTO/MEDIA—MEDIA PRODUCTION OPTION: AAS DEGREE	131-135 Qtr. Credit Hours			
	Typical Course Sequence	**FALL**	**WTR.**	**SPG.**	**SMR.**
1	NVPP-101 Introduction to Photo Printing	4			
	NVPP-102 Black-and-White Printing		2		
	NVPP-111 Introduction to Film Processing	2			
	NVPP-112 Film Processing		2		
	NVPP-121 Introduction to Cameras	2			
	NVPP-122 Introduction to Copy Work		2		
	NVPP-132 Orientation to Photo/Media Careers		2		
	NVPP-241 Presentation Graphics I			3	
	NVPP-261 Media Photo I			3	
	NVPP-290 AV Equipment Applications			2	
	NGGE-100 Freshman Seminar	2			
		2	2	2	
		4	4	4	
	Physical Education	0	0	0	
2	NVPP-242, 251 Presentation Graphics II, III	3	3		
	NVPP-262 Media Photo II	3			
	NVPP-271 Videography I		3		
	NVPP-281, 282, 283 Slide Production I, II, III	3	3	3	C
	NVPP-296 Media Program Workshop 1			6	o
	NGGE-101 Job Search Process	1			o
	Communication	2	2	2	p
		4	4		
	Liberal Arts			4	
3	NVPP-343, 352 Presentation Graphics IV, V	3	3		
	NVPP-372, 373 Videography II, III	3	3		
	NVPP-384, 385 Slide Production IV, V	3	3		
	NVPP-396 Media Production Workshop II			6	
	NVPP-397 Media Seminar			2-6	
	NGGE-202 Contemporary Social Issues			1	
	Liberal Arts	8	4	4	

Printing Production Technology Careers

Kenneth Hoffmann, Chairperson

Printing is the process of using ink to transfer images to paper or other materials, including such forms as books, magazines, newspapers, labels, and posters. Printing is one of the world's largest industries, with a growing demand for skilled people to operate the many complex machines. Students are taught hands-on skills incorporating modern printing technology and machinery with the opportunity to specialize in two or more career fields in printing.

Printing Production Technology

Certificate, Diploma, AOS, and AAS Degree Programs

Students may choose from certificate, diploma, AOS, and AAS degree programs. The programs offer individualized training in four areas of offset lithography: electronic composition and paste-up, camera, film assembly and platemaking, and press and finishing.

On-the-job responsibilities
Operate computer typesetting equipment, prepare mechanical art, make film originals, operate process cameras, operate photo processing equipment, assemble films, make plates, and operate offset presses and bindery finishing machines.

Places of employment
In-plant print shops; commercial printing plants; newspaper, book, and magazine printers; and U.S. government printing facilities

Positions for which graduates qualify
Camera operator, paste-up artist, typesetter, desktop publishing operator, keyboard operator, phototypesetter operator, black-and-white stripper, spot color film assembler, process color film assembler, platemaker, duplicator operator, small press operator, and bindery/finishing worker

Yr.	PRINTING PRODUCTION TECHNOLOGY: CERTIFICATE	64-67 Qtr. Credit Hours			
	Typical Course Sequence	**FALL**	**WTR.**	**SPG.**	**SMR.**
1	NVCR-141 Page Creation Methods*	5			
	NVCR-142 Fundamentals of Reproduction Photography*....			5	
	NVCR-143 Basic Film Assembly/Platemaking*		5		
	NTMM-120 Basic Mathematics (depending on need)	(3)			
	NGGE-100 Freshman Seminar	2			
	Communication	2	2	2	
	Elective			2	
		4	4	4	
	General Education		2	2	
	Physical Education	0	0	0	
2	NVCR-144 Basic Litho Duplicator Operations*	5			
	NVCR-170 Production Printing I		2		
	NGGE-101 Job Search Process	1			
	NGGE-102 Contemporary Life Issues		1		
	Communication	2	2		
	English	4	4		
	General Education	2			

'These are Level I required courses and are not sequential. Each may be taken during any of the first four quarters.

Yr.	PRINTING PRODUCTION TECHNOLOGY: DIPLOMA	86-91 Qtr. Credit Hours			
	Typical Course Sequence	**FALL**	**WTR.**	**SPG.**	**SMR.**
1	NBTP-114 Keyboarding (depending on need)		(2)		
	NVCR-141 Page Creation Methods*	5			
	NVCR-142 Fundamentals of Reproduction Photography*....			5	
	NVCR-143 Basic Film Assembly/Platemaking*		5		
	NTMM-120 Basic Mathematics (depending on need)	(3)			
	NGGE-100 Freshman Seminar	2			
	Communication	2	2	2	
	English	4	4	4	
	Physical Education	0	0	0	
2	NVCR Level II Printing		5		
	NVCR Level III Printing			5	
	NVCR-144 Basic Litho Duplicator Operations*	5			C
	NVCR-170, 269 Production Printing Lab I, II		2	2	O
	NGGE-101 Job Search Process	1			o
	Communication	2	2		p
	English	4	4		
3	NVCR Level II Printing	5			
	NVCR Level III Printing		5		
	NVCR-270 Production Printing Lab III	2			
	NGGE-102 Contemporary Life Issues	1			
	Communication		2		

'These are Level I required courses and are not sequential. Each may be taken during any of the first four quarters.

Prerequisite
Successful completion of a sampling experience in Printing Production Technology, either through the Summer Vestibule Program or a departmental sampling program

Approximate time
Six quarters for certificate
  Nine quarters for diploma, including one cooperative work experience
  Ten quarters for AOS or AAS degree, including one cooperative work experience

Yr.	PRINTING PRODUCTION TECHNOLOGY: AAS DEGREE	108-113 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NBTP-114 Keyboarding (depending on need)	5		(2)	
	"NVCR-141 Page Creation Methods				
	* NVCR-142 Fundamentals of Reproduction Photography			5	
	•NVCR-143 Basic Film Assembly Platemaking		5		
	NTMM-120 Basic Mathematics (depending on need)		(3)		
	NGGE-100 Freshman Seminar	2			
	Communication	2	2	2	
		4	4	4	
	Physical Education	0	0	0	
2	NVCR Level II Printing		5		
	NVCR Level III Printing			5	
	* NVCR-144 Basic Litho Duplicator Operations				C
	NVCR-170, 269 Production Printing I, II		2	2	O
	NGGE-101 Job Search Process	1			0
	Communication	2	2	2	P
	English	4	4		
	Liberal Arts			4	
3	NVCR Level II Printing	5			
	NVCR Level III Printing		5		
	NVCR-270, 271 Production Printing III, IV	2	2		
	NGGE-202 Contemporary Social Issues			1	
	Liberal Arts	4	4	8	
	† Printing Electives	3	3	3	

•These are Level I required courses and are not sequential. Each may be taken during any of the first four quarters.
tElectives may be taken during any quarter if all prerequisites have been met.

Yr.	PRINTING PRODUCTION TECHNOLOGY: AOS DEGREE	100 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NBTP-144 Keyboarding (depending on need)	5		(2)	
	" NVCR-141 Page Creation Methods				
	"NVCR-142 Fundamentals of Reproduction Photography			5	
	* NVCR-143 Basic Film Assembly Platemaking		5		
	NTMM-120 Basic Mathematics (depending on need)		(3)		
	NGGE-100 Freshman Seminar	2			
	Communication	2		2	
	English	4	4	4	
	General Education		2		
	Physical Education	0	0	0	
2	NVCR-Level II Printing		5		
	NVCR-Level III Printing			5	
	'NVCR-144 Basic Litho Duplicator Operations	5			C
	NVCR-170, 269 Production Printing I, II		2	2	O
	NGGE-101 Job Search Process	1			O
	NGGE-166 Human Experience I			4	P
	English	4	4		
	Communication	2	2	2	
3	NVCR-Level II Printing	5			
	NVCR-Level III Printing		5		
	NVCR-270, 271 Production Printing III, IV	2	2		
	NGGE-167, 168 Human Experience II, III	4	4		
	NGGE-102 Contemporary Life Issues		1		
	Communication			2	
	† Printing Elective	2		10	

'These are Level I required courses and are not sequential. Each may be taken during any of the first four quarters.
tElectives may be taken during any quarter if all prerequisites have been met.

Pre-Baccalaureate Studies
Criminal Justice, Engineering and Science, and Social Work

Dr. Laurie Brewer, Chairperson, Criminal Justice
Dr. Rosemary Saur, Chairperson, Engineering and Science
Dean Santos, Staff Chairperson, Social Work

Pre-Baccalaureate Studies are available as a bridge to students accepted by NTID and interested in enrolling in another RIT college, but not yet ready to enter into a baccalaureate-level program. Students spend one year in these studies preparing for matriculation. Reasons for entering Pre-Baccalaureate Studies include the need to further develop either mathematics or English skills, indecision as to program of study, or lack of space in the chosen baccalaureate program.

While in a Pre-Baccalaureate Studies program, students receive academic advising as well as personal and career counseling. The academic program is flexible and is set up individually for each student. Courses are chosen to address as closely as possible the strengths and needs of individual students. Regular NTID technical and developmental courses taught by support department faculty members are supplemented by courses in the colleges of Science, Engineering, and Liberal Arts, including the social work and criminal justice courses indicated. This strategy enables students to develop needed skills while at the same time progressing in their chosen fields of study.

Students receive no degree in pre-baccalaureate studies. Rather, at an appropriate time, they are advised to apply to the program of their choice and are assisted in doing so.

Entry requirements
Students entering NTID during the Summer Vestibule Program must complete the prescribed sampling experience in science, engineering, or social work. Students may be accepted directly into Pre-Baccalaureate Studies if so recommended by the Career Outreach and Admissions Department or upon approval of the NTID Department of Liberal Arts or Department of Science and Engineering Support. Students already matriculated in an NTID program may change to Pre-Baccalaureate Studies upon the recommendation of their current department and with the approval of a support department advisor and chairperson.

Yr.	PRE-BACCALAUREATE STUDIES IN CRIMINAL JUSTICE	41-50 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NGEE-100 Freshman	2			
	NGEE-218, 219 Written Communication I, II	4	4		
	NTMM-140,141 Fundamentals of College Mathematics I, II..	3	3		
	Communication		2	2	
	Criminal Justice System			4	
	English Composition			4	
	General Education Elective	2-4	4-8	4-6	
	Mathematics			3-4	
	Physical Education	0			

Yr.	PRE-BACCALAUREATE STUDIES IN ENGINEERING	48 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NAPS-100 Freshman Seminar	2			
	NAPS-105 Learning Strategies		3		
	' NAPS-200 Reading and Thinking in Science and Technology.			3	
	tNGGE-218, 219 Written Communication I, II	4	4		
	Calculus I, II, III	4	4	4	
	Chemistry	4			
	Communication	2	2		
	English Composition			4	
	Physical Education	0	0	0	
	University Physics I, II		3	3	
	University Physics Lab I, II		1	1	

* Chemistry SCHG-209 maybe included in students' schedule if they are deferred from Reading and Thinking in Science and Technology during the spring quarter.
fStudents judged as proficient—those having a Michigan Test score higher than 80 and a 10th grade California Achievement Test score—start the English Composition series assigned by the NTID Liberal Arts Placement Test (LAPT). Students judged as provisionally qualified take at least one quarter of NTID English.

Yr.	PRE-BACCALAUREATE STUDIES IN SCIENCE	42 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NAPS-100 Freshman Seminar	2			
	NAPS-105 Learning Strategies		3		
	NAPS-220 Reading and Thinking in Science and Technology.			3	
	NTMM-150, 151,152 Integrated Mathematics I, II, III	3	3	3	
	* NGGE-218, 219 Written Communication I, II	4	4		
	† College Algebra and Trigonometry	(4)			
	Introduction to Calculus I, II		(4)	(4)	
	OR				
	Calculus I, II, III	(4)	(4)	(4)	
	General Chemistry	3	3	3	
	OR				
	General Biology	(3)	(3)	(3)	
	AND				
	General Biology Lab	(1)	(1)	(1)	
	OR				
	Physics Orientation	(2)			
	University Physics I, II		(3)	(3)	
	AND				
	University Physics Lab I, II		(1)	(1)	
	Communication	2	2		
	English Composition			4	
	Physical Education	0	0	0	

'Students judged as proficient—those having a Michigan Test score higher than 80 and a 10th-grade California Achievement Test score—start the English Composition series assigned by the NTID Liberal Arts Placement Test (LAPT). Students judged as provisionally qualified take at least one quarter of NTID English.
fCredits shown in parentheses () are substitutes for those above without parentheses.

Prerequisites
Students interested in baccalaureate-level programs must have the appropriate high school background for their area of interest. They should consult appropriate sections of the catalog for individual program requirements. High school courses should be of a level comparable to New York State Regents or college preparatory. Ideally, grades should be at the "B" level or better.

Approximate time
Students generally take three-four quarters to matriculate into an associate or baccalaureate-level program of study.

Educational Interpreting

Gary E. Mowl, Chairperson

AAS Degree Program

On-the-job responsibilities
Work in educational and similar settings where deaf people can use interpreting and other support services such as tutoring and notetaking.

Places of employment
Elementary, secondary, and postsecondary educational institutions; community service organizations; vocational rehabilitation agencies; business/industry; and government agencies

Special entrance requirements
High school diploma or equivalent and intermediate sign language competence
   A pre-AAS program may be required of students depending on skill level in sign language at application. Pre-AAS courses include Introduction to Sign Language, Sign Language I and II, and Introduction to the Deaf Community. The Pre-AAS program is offered in the summer for six weeks before the fall quarter of entrance.
   This is a two-year program for a typical entering freshman who has basic sign language competency.

Approximate time
Six quarters, may be taken over a three-year period

Yr.	PRE-BACCALAUREATE STUDIES IN SOCIAL WORK	51 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	GSWS-210 Professional Social Work Role	4			
	GSWS-212 Self-Awareness in the Helping Role		4		
	NTMM-140,141,142 Fundamentals of College Mathematics I, II, III	3	3	3	
	NGGE-100 Freshman Seminar	2			
	NGGE-218, 219 Written Communication I, II	4	4		
	Communication	2	2		
	English Composition	4	4	4	
	General Education	2-3			
	General Education Bridging Course	3		3	
	Introduction to Psychology			4	
	Physical Education	0	0	0	

Yr.	EDUCATIONAL INTERPRETING: AAS DEGREE	100 Qtr. Credit Hours			
	Typical Course Sequence	FALL	WTR.	SPG.	SMR.
1	NITT-110,120 American Sign Language (ASL) I, II	3	3		
	NITT-112,122 Aspects and Issues of Deafness I, II	3	3		
	NITT-114 Intercultural Communication	3			
	NITT-123 Processing Skills		3		
	NITT-124 Introduction to Interpreting		3		
	NITT-131 Fingerspelling and Numbers			3	
	NITT-133 Interpreting I			3	
	NITT-134 Practical and Ethical Applications			3	
	NITT-135 Voice Interpreting I			3	
	English Composition	4			
	Liberal Arts: Literature	4			
	Mathematics		4		
				4	
	Physical Education	0	0	0	
2	NITT-127 Principles and Practices of Tutoring and Notetaking		3		
	NITT-214 Professional Interpreter	3			
	NITT-215, 225 Voice Interpreting II, III	3	3		
	NITT-216, 226 Transliteration I, II	3	3		
	NITT-217 Oral Transliteration	3			
	NITT-222 Mainstreaming: Programs and Alternatives		3		
	NITT-232 Support Service Professional			3	
	NITT-311,321 Practicum I, II		5	5	
	NITT-313, 323 Seminar I, II		1	1	
	Liberal Arts: Humanities			4	
	Liberal Arts: Social Science	4		4	

Application Procedures and Admissions Services

Admission to RIT is competitive, but our admissions process is a personal one. We are interested in learning about your interests, abilities, and goals in order to provide the best information and guidance we can as you select the college that is right for you.

Students applying for freshman admission for the Fall Quarter (September) may apply though an Early Decision Plan or Regular Decision Plan. The Early Decision Plan is designed for those who consider RIT their first choice and wish to receive an early commitment regarding admission. Early Decision requires that candidates file their applications and supporting documents by December 1 in order to receive admission notification by December 15.

Regular Decision applicants who have provided all required application materials by March 1 will be reviewed, and notification letters will be mailed four to six weeks after the application is complete.

All applications for transfer admission, and all freshman applications for Winter, Spring, or Summer Quarter entry, are reviewed as they are received, and notification letters are mailed four to six weeks after the application is complete.

Specific instructions for completing the application process are contained in our application packet. Be sure to read the instructions carefully before applying.

Factors considered in the admissions decision include, but are not limited to, past high school and/or college performance (particularly in required academic subjects), admission test scores, competitiveness of high school or previous college, and post-educational experiences (work, military, etc.). Recommendations from those familiar with your academic performance and interviews with admissions counselors are often influential.

If you are accepted for admission, a $200 nonrefundable deposit reserves a place in your class and is credited to your first-quarter tuition at RIT. The due date for this deposit is indicated with your offer of admission.

Applying to NTID
All applications for admission to RIT's National Technical Institute for the Deaf are reviewed, and admissions notification is sent out four to six weeks after all application materials have been provided to NTID's Department of Career Outreach and Admissions.

Students applying to RIT through NTID must complete both the standard RIT and the NTID Supplemental Application forms, available from NTID's Department of Career Outreach and Admissions. If deaf students want to enroll directly in one of RIT's other seven colleges, they still must complete both applications. In addition to meeting NTID requirements, students also must fulfill requirements for admission to the selected college.

NTID students should submit their applications in the fall of the year before they wish to attend. The date of application is the date the Application for Undergraduate Admission has been received by NTID's Department of Career Outreach and Admissions. The NTID admission year is October 1-June 30. NTID requires a $100 deposit from accepted candidates.

How to apply
In order to complete the application procedure, you need to submit the following:
1. a fully completed application for admission (students applying to RIT through NTID must complete both the RIT standard application and NTID Supplemental Application form
2. a nonrefundable $35 application fee
3. an official high-school transcript for all freshmen and for transfers with fewer than 60 semester hours
4. official Scholastic Aptitude Test (SAT) or American College Test (ACT) results for all freshman applicants and all transfer applicants with fewer than 15 completed semester credit hours. (Deaf applicants should submit results from appropriate tests.)
5. official transcripts of all completed course work and a listing of any course in progress (and not on the transcript) or work to be completed before enrolling at RIT

Early admission
Students occasionally complete the prescribed number and adequate distribution of high school units in three years, with the exception of fourth-year English and/or history. In such instances they may seek admission to RIT under the Early Admissions Program. If admitted, they must fulfill high school senior-year requirements and first-year RIT requirements concurrently. Upon completion of the first year of study at RIT, they graduate from high school.

Transfer credit
Because approximately 35 percent of RIT students are transfers, we have a strong commitment to providing services for them. Students who have completed studies at another accredited college before coming to RIT will be awarded transfer credit for all prior course work that is judged to be applicable to their RIT program. Usually a grade of C or better is required for a course to transfer.

Deaf students may transfer into an NTID program, or they may qualify for transfer directly into a program in another RIT college, with NTID sponsorship. Deaf students accepted to the Summer Vestibule Program will have their transfer credit 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) or college-level examination placement (CLEP) New York State proficiency examinations or RIT-prepared examinations.

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.

Deaf students applying to RIT may take regularly scheduled tours offered at NTID (10 A.M. Monday-Friday, and 2 P.M. Monday and Thursday) and arrange personal interviews. Both of these are optional and are not required for admission.

Admissions services
RIT takes pride in the diversity of its student body—diversity that is actively promoted by the Office of Admissions in its recruitment of female, commuter, minority, part-time, adult, handicapped, and international students and veterans. In addition to admissions counseling, we also direct students to various Institute resources and support services that can help with questions about employment and job placement.

We encourage all students—whether high-school age or adults exploring a second career—to seek our assistance while clarifying or reexamining personal and career goals.

Freshman Admission Guidelines

College	Academic Program	High School Preparation Required
Applied Science & Technology	School of Computer Science and Information Technology: Computer Science, Information Technology	Elementary Algebra, Geometry, Intermediate Algebra, and Trigonometry required. Physics or Chemistry required for Computer Science Program. Technology courses desirable.
	School of Engineering Technology: Computer, Electrical, Mechanical, Civil and Manufacturing Engineering Technology programs; Telecommunications Technology, Undeclared Option[1]	Elementary Algebra, Geometry, Intermediate Algebra, Trigonometry, and Physics or Chemistry
	School of Food, Hotel & Travel Management: Dietetics/Nutrition Management, Food Management, Hotel/Resort Management, Travel Management, Food Marketing & Distribution, Undeclared Option[1]	College preparatory program including Elementary Algebra, Intermediate Algebra, and one year of Science. Chemistry required, for Dietetics Program.
	Packaging Science: Management, Technical, and Printing Options	Elementary Algebra, Intermediate Algebra, and one year Science required. Technical option also requires Geometry and Trigonometry.
Business	Accounting, Finance, Information Systems, International Business, Management, Marketing, Photographic Marketing Management, Undeclared Option[1]	College preparatory program including Elementary Algebra, Intermediate Algebra, and one year of Science. Courses emphasizing writing skills also desirable.
Engineering	Computer, Electrical, Industrial, Mechanical, Mechanical/Aerospace, and Microelectronic Engineering programs; Undeclared Engineering Program[1]	Elementary Algebra, Geometry, Intermediate Algebra, Trigonometry, Physics, and Chemistry required. Calculus desirable.
Imaging Arts & Sciences	School of Art & Design: Graphic Design, Industrial Design, Interior Design, Painting, Printmaking, Painting-Illustration, Printmaking-Illustration, Medical Illustration School for American Craftsmen: Ceramics/Ceramic Sculpture, Glass, Metalcraft/Jewelry, Weaving/Textile Design, Woodworking/Furniture Design	Balanced academic program with courses in English, Social Studies, Mathematics, and Science in addition to studio art experience. Mechanical Drawing is also desirable for Industrial or Interior Design applicants. Medical Illustration Program requires two years of Science (Biology preferred). A portfolio of original art work Is required for all programs.
	Center for Imaging Science: Imaging Science	Elementary Algebra, Geometry, Intermediate Algebra, Trigonometry, Chemistry, and Physics
	School of Photographic Arts & Sciences: Advertising Photography, Fine Art Photography, Photojournalism, Film/Video	College preparatory program including two years of Mathematics (one year for Fine Art Photography) and one year of Science
	Biomedical Photographic Communications, Imaging and Photographic Technology	Two years of Mathematics and one year of Science. Biology required for Biomedical Photographic Communications.
	School of Printing Management & Sciences: Printing, Newspaper Operations Management	Elementary Algebra, Intermediate Algebra, Trigonometry, and one year Science (Physics or Chemistry preferred)
	Printing and Applied Computer Science	Elementary Algebra, Geometry, Intermediate Algebra, Trigonometry; Chemistry or Physics
	Printing Systems	Elementary Algebra, Geometry, Intermediate Algebra, Trigonometry, Physics, and Chemistry
Liberal Arts	Criminal Justice, Economics, Professional and Technical Communication, Social Work, Technical and Liberal Studies[2]	College preparatory program including two years Mathematics and one year Science required. Strong performance in English and social studies courses also expected.
NTID	Various Associate Degree, Diploma & Certificate programs for Hearing-Impaired Students	Refer to RIT Undergraduate Bulletin for requirements
Professional Studies (CCE)	Environmental Management, Technology Marketing & Distribution[4]	Three years of Mathematics, including Trigonometry, and Chemistry or Physics
Science	Applied Mathematics, Applied Statistics, Computational Mathematics	Elementary Algebra, Geometry, Intermediate Algebra, and Trigonometry; Biology or Chemistry or Physics
	Biology, Biotechnology	Elementary Algebra, Geometry, Intermediate Algebra, Trigonometry, Biology, and Chemistry
	Chemistry, Biochemistry Option, Polymer Chemistry	Elementary Algebra, Geometry, Intermediate Algebra, Trigonometry, and Chemistry
	Physics	Elementary Algebra, Geometry, Intermediate Algebra, Trigonometry; Chemistry or Physics
	Biomedical Computing, Diagnostic Medical Sonography (Ultrasound), Medical Technology, Nuclear Medicine Technology, Physician Assistant[4]	Elementary Algebra, Geometry, Intermediate Algebra, Trigonometry, and Biology required for all programs. Chemistry or Physics recommended for Biomedical Computing, Nuclear Medicine Technology, and Ultrasound programs. Chemistry required for Physician Assistant Program.
	Undeclared Science Option[1], Pre-Dentistry, Pre-Medicine, Pre-Veterinary[3]	Elementary Algebra, Geometry, Intermediate Algebra, Trigonometry, Biology, Chemistry, and Physics are recommended.

[1] A one-year program for students wishing to explore alternatives before selecting a specific degree program within this RIT college.

[2] A one-year program for students undecided on a major who wish to explore program options in one or more of RIT's colleges. Students receive special advising and complete a one-credit seminar covering the full range of academic programs offered at RIT.

[3] Students interested in pre-medicine, pre-dentistry, or pre-veterinary may select any major in the College of Science. An advisor will help you select the appropriate course work and counsel you on applying to professional schools.

*RIT is currently seeking state approval to offer this new program.

Transfer Admission Guidelines

College at RIT	Program at RIT	Coop[1]	Entry Term	Appropriate Associate Degree Program	Transfer Recommendations with No Degree
Applied Science & Technology	**School of Computer Science and Information Technology:** Computer Science	1	Fall preferred	Computer Science	Courses in computer science, calculus, calculus-based physics, and liberal arts
	Information Technology	1	Any quarter	Computer Applications, Computer Science	Courses in programming, computer applications, calculus, lab sciences, liberal arts
	School of Engineering Technology: Civil Engineering Technology	1	Fall preferred	Civil, Construction, Environmental, Architectural, Transportation, or Surveying Technology; Engineering Science: or equivalent	Courses in mathematics, science, and engineering technology
	Computer Engineering Technology	1	Fall preferred	Computer Technology, Electrical or Electronic Technology, or Computer Science	Courses in computer science, math, science, or liberal arts
	Electrical Engineering Technology	1	Fall preferred	Electrical Technology, Electronic Technology, Engineering Science, or equivalent	Courses in mathematics, science, and engineering technology
	Manufacturing Engineering Technology	1	Fall preferred	Manufacturing Technology, Mechanical Technology, Drafting & Design Technology, Robotics Technology, Electromechanical Technology, Engineering Science, or equivalent	Courses in mathematics, science, and engineering technology
	Mechanical Engineering Technology	1	Fall preferred	Mechanical Technology, Design & Drafting Technology, Air Conditioning Technology, Electromechanical Technology, Engineering Science, or equivalent	Courses in mathematics, science, and engineering technology
	Telecommunications Technology	1	Fall preferred	Telecommunications Technology, Electrical Technology, Electronic Technology, Engineering Science, or equivalent	Courses in mathematics, science, and engineering technology
	School of Food, Hotel & Travel Management: Food Management Hotel/Resort Management Travel Management Dietetics/Nutrition Management Food Marketing & Distribution	t	Any quarter	Agriculture & Technology, Foodservice Management, Hotel/Resort Management, Travel Management, Dietetics or Nutrition. Business Management and Liberal Arts will also transfer into each of the five programs.	Courses in business, math, science, and liberal arts. A strong background in chemistry, anatomy, and physiology is required in the Dietetics Program.
	Packaging Science: Management Option Technical Option Printing Option	1	Any quarter	Business Administration, Marketing, Management, Graphic Arts, Engineering Science, Liberal Arts with a math/science option, and others within the broad areas of management and technology	Courses in business, math, science, liberal arts, statistics, or computer science
Business	Accounting	1	Any quarter	Accounting or AS degree in Business Administration	Courses in economics, accounting, liberal arts, math, and science
	Finance International Business Management Marketing	1	Any quarter	AS degree in Business Administration or Liberal Arts, which is an excellent opportunity for two-year liberal arts graduates to enter a career-focused field	Courses in economics, liberal arts, math, and science
	Information Systems	t	Any quarter	Data Processing/Management Information Systems, or AS in Business Administration	Courses in liberal arts, math, science, economics, and computer science
	Photographic Marketing Management	1	Any quarter	AS degree in Business Administration or Liberal Arts	Courses in liberal arts, math, science, and economics

Co-op: 1 -required; 2-optionai; 3-Internship, Practicum required; 4-no specific requirement
'Portfolio of original artwork (on 35mm slides) is required. Additional requirements for Medical Illustration.
'Students interested in pre-medicine, pre-dentistry or pre-veterinary may elect any major in the College of Science. An advisor will assist in selecting appropriate course work.

College at RIT	Program at RIT	Co-op[1]	Entry Term	Appropriate Associate Degree Program	Transfer Recommendations with No Degree
Engineering	Computer Engineering Electrical Engineering Industrial Engineering Mechanical Engineering Mechanical/Aerospace Option Microelectronic Engineering	1	Fall preferred	AS degree in Engineering Science (plus computer science electives for computer engineering applicants)	Pre-engineering courses such as calculus, calculus-based physics, chemistry, and liberal arts. Computer science courses for computer engineering applicants.
	Transfer Adjustment: Electrical Engineering only		Summer only	AAS degree in Electrical Technology with one year of engineering calculus	
	School of Art & Design Graphic Design Industrial Design Interior Design Medical Illustration Paining, Painting-Illustration Printmakirig, Printmaking-Illustration	2 2 2 2 2 2	Fall only	Studio Art, Commercial Art or specifically related design programs. A portfolio of original artwork is required to determine admissions, studio art credit, and year level in the program.	Courses in studio art, art history, and liberal arts. Portfolio of original artwork is required to determine admission, studio art credit, and year level within the program.
	Transfer Adjustment: All Art & Design programs		Summer only	Transfer adjustment leading to third-year status in graphic, interior, and industrial design	Transfer adjustment leading to second-year status in all programs, leading to third-year status in design programs
	School for American Craftsmen: Ceramics/Ceramic Sculpture, Glass, Metalcrafts/Jewelry, Weaving/Textile Design, Woodworking/Furniture	2	Fall only	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.	Courses in art history, studio art and liberal arts. Portfolio of original artwork is required to determine admission, studio art credit, and year level within the program.
	Center for Imaging Science: Imaging Science	2	Fall preferred	No common program	Courses in calculus or higher math, college chemistry, calculus-based physics, and liberal arts
	Transfer Adjustment:		Summer only	Engineering Science, Optics, or Liberal Arts with math/science option. Summer course at RIT (PIMG-220) is required.	
Imaging Arts & Sciences	**School of Photographic Arts & Sciences:** Biomedical Photographic Communication	3	Fall preferred	No common program	Courses in biology, photography and liberal arts. Portfolio required for photo credit.
	Film and Video	2	Fall preferred	No common program	Courses in liberal arts, science, design, drawing, and film or video. Portfolio required for film and video credit.
	Imaging and Photographic Technology	1	Fall preferred	No common program	Courses in college physics, math, photography and liberal arts. Portfolio required for photo credit.
	Photo Systems Management	3	Fall preferred	AS in Business Administration or Management, or AAS Photography	Courses in business, economics and liberal arts.
	Advertising Photography, Fine Art Photography, Photojournalism	4	Fall prefened	Applied Photography. Portfolio required for photo credit.	Courses in liberal arts, photography, design and art history. Portfolio required for photo
	Transfer adjustment: Available in all photography programs		Summer only	Transfer adjustment leading to second- or third-year status in most programs	
	School of Printing Management & Sciences: Newspaper Operations Management Printing	1 1	No summer entry	Transfer from associate degree programs considered on an individual basis	Courses in liberal arts, college math, physics and chemistry, business management, and graphic arts
	Printing & Applied Computer Science	1	No summer entry	Computer Science or transfer from other associate degree programs considered on an individual basis	Courses in chemistry, physics, calculus, computer science, and liberal arts
	Printing Systems	1	No summer entry	Engineering Science or transfer from other associate degree programs considered on an individual basis	Courses in chemistry, physics, calculus, engineering and liberal arts
Arts	Criminal Justice	2 or 3	Any quarter	Criminal Justice, Human Services or Liberal Arts	Courses in criminal justice or related areas, liberal arts, math, and science
	Economics	2	Any quarter	AS degree in business administration or Liberal Arts	Courses in business, liberal arts, math science and computer science
	Professional S Technical Communication	1	Any quarter	Liberal arts with emphasis in communication and a technical field such as business, photography, or computer science	Courses in liberal arts, math, science and computer science
	Social Work	3	Any quarter	Human Services or Liberal Arts with Human Services minor	Courses in liberal arts, math, and science
Professional Studies (CCE)	Environmental Management	1	Any quarter	Biology, Chemistry, or Environmental Sciences; Business or Public Administration: Liberal Arts with math, science, or environmental options	Math through Calculus I, micro and macro economics, introductory courses in biology, chemistry, and physics
	Biology	2	Fall preferred	Biology or Liberal Arts with biology option	Courses in liberal arts, sciences or math
	Biomedical Computing	2	Fall preferred	Computer Science, Liberal Arts with biology option, or General Science	Courses in liberal arts, sciences, math, and computer science
	Biotechnology	2	Fall preferred	Biotechnology or Liberal Arts with biology	Courses in liberal arts, sciences, and math
	Chemistry, Biochemistry Option, Polymer Chemistry	2	Any quarter	Liberal Arts with chemistry option; Chemical Technology, Laboratory Technology	Courses in liberal arts, chemistry, math, and physics
Science'	Applied Mathematics Computational Mathematics Applied Statistics	2	Any quarter	Liberal Arts with math/science option, Computer Science, Engineering Science, Sciences	Courses in math, computer science, and liberal arts
	Physics	2	Fall preferred	Liberal Arts with math/science option	Courses in liberal arts, physics, and math
	Medical Technology	3	Fall preferred	Medical Laboratory Technology; Liberal Arts with biology option	Courses in liberal arts, sciences, and math
	Nuclear Medicine Technology	3	Fall preferred	Liberal Arts with science option; Allied Health; Radiologic Technology	Courses in liberal arts, sciences, and math
	Diagnostic Medical Sonography (Ultrasound)	3	Fall preferred	Liberal Arts with science option; Allied Health areas	Courses in liberal arts, sciences, and math

'Co-op: 1 -required; 2-optional; 3-Internship. Practicum required; 4-no specific requirement.
'Portfolio of original artwork (on 35mm slides) is required. Additional requirements for Medical Illustration.
'Students interested in pre-medicine, pre-dentistry or pre-veterinary may elect any major in the College of Science. An advisor will assist in selecting appropriate course work.

To obtain answers to questions about RIT programs and procedures, contact the Admissions Office. Counselors are available to help students with questions and concerns. An appointment for an admissions interview and campus tour may be scheduled by writing RIT Admissions, Bausch & Lomb Center, P.O. Box 9887, Rochester, N.Y., 14623-0887, or calling 716-475-6631 (Monday-Friday, 8:30 a.m. -4:30 p.m.).

Deaf students who wish to enter NTID or another RIT college may write to NTID Career Outreach and Admissions, Lyndon Baines Johnson Building, P.O. Box 9887, Rochester, N.Y., 14623-0877, or call 716-475-6700 (voice) or 475-6173 (TDD).

RIT's Office of Part-time Enrollment Services (OPES)
This office provides a central information and counseling service for students interested in enrolling in part-time undergraduate studies offered through the Institute's various schools and colleges. We encourage you to contact this office if you need assistance in selecting an academic program, exploring financial aid opportunities, registering for classes, or receiving information about any aspect of part-time study at RIT.

OPES 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., Friday. We invite you to call 716-475-2229 for enrollment information or visit our offices on the first floor of the Bausch & Lomb Center on campus.

Expenses and Financial Aid

Procedures and Costs: Matriculated Day College Students

Payment procedure
Charges for tuition, fees, room, and board are computed on a quarterly basis. Quarterly bills are mailed approximately four weeks before the beginning of the quarter. Payment sent by mail should be made by check, payable to Rochester Institute of Technology. Due dates for the 1992-93 school year are as follows:

Fall Quarter	August 26, 1992
Winter Quarter	November 18, 1992
Spring Quarter	February 24,1993
Summer Quarter	May 26, 1993

Students who have not participated in the early registration process for the quarter must first attend Open Registration to register for their courses. Payment of the quarterly charges (tuition, fees, room, and board) is due at the time of registration. Students may pay the quarerly charges in a single payment at registration or by the partial payment plan. Partial payments are due twice per quarter: 50 percent (plus a $25 processing fee) at registration and the remainder by the end of the fourth week of classes. (Students should not wait for a billing statement to remit partial payment balances.)

Students whose college costs are paid by the G.I. Benefit Plan or their employer are required to submit the properly authorized deferment form. Quarterly bills will be mailed to the student's permanent address.

A late payment fee of $50 will be charged to all student accounts that become past due. This includes, but is not limited to, the deferred payment plan and company deferred payment plan.

Financial standing
Tuition and fees paid to the Institute cover approximately 60-70 percent of the actual cost of a student's education. The rest of the cost is borne by the Institute through income on its endowment and from the gifts of alumni and other friends.

Students, former students, and graduates are in good financial standing when their account is paid in full in the Bursar's Office. Thosewhose account is not paid in full will not receive transcripts, diplomas, or other forms of recognition or recommendation from the Institute.

THE INSTITUTE RESERVES THE RIGHT TO CHANGE ITS PRICES AND POLICIES GOVERNING THEM WITHOUT PRIOR NOTICE.

Other fees
In addition to the fees specified on the next page, certain groups of students may incur other fees, as follows:
• New student room & board fee $25 (charged to new students living in the residence halls)
• Orientation fee $40 (one-time charge for new students)
• *Quarterly* photo facilities fee $84 (charged to all full-time photo students; $42 per quarter charged to all part-time photo students)
• Late registration fee $50 (charged to any student who fails to register, and make the necessary financial commitment, by the designated quarterly open registration day and time)

Student sickness insurance plan
A charge of $152 is assessed Fall Quarter to all full-time RIT students who have no other medical insurance and have not signed the waiver option. Full-time undergraduate NTID students are charged $192.

FEE SCHEDULE 1992-93
(MATRICULATED DAY COLLEGE STUDENTS EXCEPT NTID)

	Per Quarter	Per 3 Qtr. Yr
Tuition		
Full-time Undergraduate (12-18 Credit Hrs.)	$4,175	$12,525
Part-time Undergraduate (Less than 12 Credit Hrs.)	298/Cr. Hr.	
Student Activities Fee (Mandatory Charge)		
Full-time Undergraduate	30	90
Part-time Undergraduate	11	33
Student Health Fee (Mandatory Charge)		
Full-time Undergraduate	35	105
Residence Hall Room Charges		
Double Occupancy	945	2,835
Single Occupancy	1,086	3,258
Board/Meal Plans		
20 Meals per Week	840	2,530
Any 14 Meals Plus	817	2,451
Any 10 Meals Plus	742	2,226
(Commuter meal plans are also available)		

Additional budgeting information, books and supplies
These costs vary widely with the program followed and, to some extent, the electives chosen. In programs with minimal expenses (e.g., sciences, business), books and supplies will average $500; in the arts and crafts, this may be in the neighborhood of $800; and in photographic illustration or professional photography, a realistic allowance is $2,500 in addition to cameras (but in photographic sciences and photo finishing, expenses are minimal).

Typical expenses
We can tell you what tuition, room, board, and fees will cost, but estimates of personal expenses are up to the individual. When estimating what you'll spend for a year of college, remember to count travel expenses, clothes, meals not counted in your board plan, and spending money. A typical full-time student would have the following academic year expenses:

Tuition......................................$12,525
Fees...195
Room..2,835
Board..2,451
Books...500
Personal & Transportation..........875
                        Total $19,381

As indicated in the preceding paragraphs, expenses will vary according to individual circumstances.

Twelve-month payment plan
For the 1992-93 academic year, RIT will offer a 12-month payment plan. This combines the elements of a prepayment and deferred payment plan. For further information, contact the Bursar's Office at 716-475-6059.

Policies to remember
• Matriculated Day College students are charged the day rate or ALL courses taken, including Evening Division and courses taken while on co-op.
• Students on co-op will not be charged tuition for those quarters unless they are also enrolled in classes.
• Non-matriculated students are charged for the type of course taken (evening rate for Evening Division courses; day rate for Day courses; graduate rate for Graduate courses).
• Students taking courses during Summer Quarter should refer to the Summer Quarter Bulletin for policies and procedures.

Vocational Rehabilitation
1. Deaf students receiving Vocational Rehabilitation (VR) support for fees and supplies must file authorization with RIT's VR billing supervisor 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 the VR billing supervisor 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.
2. Students must pay all charges not paid by VR before the quarterly due date.
3. VR counselors should specify each charge that they are covering on their authorization forms.
4. Clarification of VR authorization and/or billing procedures should be addressed to:
Rochester Institute of Technology
NTID/VR Supervisor
Bursar's Office
George Eastman Building
P.O. Box 9887
Rochester, N.Y. 14623-0887

Refund policies
It is the student's responsibility, not the instructor's, to insure that all paperwork and refunds are properly processed.
The acceptable reasons for withdrawal with *full refund* during the quarter 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 quarter are available. If such a student later finds that he or she is subject to academic suspension, or has failed prerequisites, the student will be given a full refund upon withdrawal.
3. If part-time students drop a course during the Official Drop Period (first six days of classes in any quarter), they may contact the Bursar's Office for a full refund for the course dropped. No refund is given for courses dropped after the Drop Period.

The acceptable reasons for withdrawal with a *partial refund* during the quarter are:
A student must officially withdraw from all courses or take a leave of absence from the Institute in order to be eligible for a partial tuition refund.
A partial refund will be made during a quarter 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 reasons at the request of the Institute during a quarter.
3. Transfer by employer, making class attendance impossible.
4. Withdrawal for academic or personal reasons at the request of the student, approved by the student's advisor or department representative, the Institute coordinator of academic advising, and the bursar.

These partial refunds will be made according to the following withdrawal schedule and percentage of tuition reduction:
During official add/drop period (first six days of classes)—100 percent tuition reduction
From the end of the official add/drop period through the end of the second week of classes—70 percent tuition reduction
During the third week of classes—60 percent tuition reduction
During the fourth week of classes—50 percent tuition reduction
Fifth and subsequent weeks—no tuition reduction
NOTE: NON-ATTENDANCE 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 Period, he or she may contact the Bursar's Office for a refund based on the difference between the full-time tuition payments and the total per-credit charge for the part-time load.

No refund will be made for classes dropped after the Official Drop Period unless the student is officially withdrawing from the Institute.

Advance deposits and fees are not refundable.

For further information regarding refund policies and specific withdrawal dates, contact the Bursar's Office.

Appeals process

An official appeals process exists for those who feel that individual circumstances warrant exceptions from published policy. The initial inquiry in this process should be made to Richard B. Schonblum, bursar. Unresolved matters will be referred for further action to William J. Welch, controller.

Room and board*

To complete a withdrawal from RIT, a resident student or a non-resident student on a meal plan must check out with Housing and/or Food Service. Refunds, when granted, are from the date of official check-out.

Partial refund schedule:

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. During the first four weeks —75 percent of unused room charge
2. After the first four weeks—50 percent of unused room charge
3. After the last two weeks— no refund

*Room and board policies art established by Residence Life and Food Service.

Procedures and Costs
Evening Division Students

Payment procedures

Charges at RIT are computed on a quarterly basis. Quarterly bills are mailed approximately four weeks before the beginning of each quarter. Payments sent by mail should be made by check, payable to Rochester Institute of Technology. Due dates for the 1992-93 school year are as follows:

Fall Quarter	August 26,1992
Winter Quarter	November 18, 1992
Spring Quarter	February 24,1993
Summer Quarter	May 26,1993

Students who have not participated in the early registration process for the quarter must pay their quarterly charges at the time they register. They may pay the quarterly charges in a single payment at the time of registration or by the partial payment plan. Partial payments are due twice per quarter: 50 percent (plus a $25 partial payment processing fee) at the time of registration and the remaining 50 percent by the end of the fourth week of classes. (Students should not wait for a billing statement to remit partial payment balances). A $50 late fee will be assessed for failure to pay the remaining 50 percent by the due date.

FEE SCHEDULE
(Matriculated Evening Division students)
Tuition—Undergraduate

Upper level	$197/Credit Hour
(Courses in 400, 500, 600 series)	
Lower level	$180/Credit Hour
(Courses in 100, 200, 300 series)	
Graduate	$380/Credit Hour

Other fees

Some courses require additional charges to cover laboratory, studio, or supply fees. (Consult the registrar's quarterly schedule for those courses with additional fees.)

Late registration fee

A late registration fee of $50 is charged to any student who fails to register (and make the necessary financial commitment) by the designated quarterly open registration day and time.

Policies to remember

1. Matriculated students are assessed the tuition rate associated with their program, regardless of the courses taken.
2. Non-matriculated students are assessed tuition consistent with the program (s) in which their course (s) are offered.
3. Students taking courses during Summer Quarter should refer to the Summer Quarter Bulletin for policies and procedures.

Refund policies

The student must arrange to drop or withdraw from courses in person at their college with a letter addressed to the college, otherwise, he or she will not receive a tuition refund. This will not be official until the student receives his or her copy of the change in the Class Schedule form. The postmarked date of the letter to the college or the date on which the change in Class Schedule form is properly completed, is the date used to determine the refund. It is the student's responsibility (not the instructor's) to assure that the paperwork and refund are properly processed. The official drop period is the first six class days of the specific quarter. Please note that official withdrawal from courses is required even if the student is not eligible for a tuition refund. The final grade is determined by the official withdrawal.

NOTE: NON-ATTENDANCE DOES NOT CONSTITUTE AN OFFICIAL WITHDRAWAL.

Should the student find it necessary to drop or withdraw from a course, a net refund will be calculated in accordance with the quarterly payment received, the tuition charged as outlined in the following schedule, any current quarter fees and any balance remaining from the previous quarter. A partial payment is refundable only if:

1. The student drops the applicable courses during the official add/drop period.
2. The student registers for a sequential course and later finds that he or she has failed the prerequisite course in the previous quarter. (Students generally register for the following quarter before the grades for the previous quarter are available.)
3. The course is cancelled or filled. NOTE: Tuition charges for courses dropped (with no grade assigned) during the official drop period (first 6 days of classes during the specified quarter) will be credited in full.

Refunds for courses dropped with any grade assigned will be handled according to the following schedule:
During official add/drop period
(first 6 days of classes) —
    100% tuition refund
From the end of the official add/drop period through the end of the second week of classes —
    70% tuition reduction
During the third week of classes
    60% tuition reduction
During the fourth week of classes
    50% tuition reduction
Fifth and subsequent weeks —
    no tuition reduction

Refunds will be made by RIT check and mailed approximately three weeks from the date on which the student reports the drop or withdrawal to his or her college.

Advance deposits and Institute fees are nonrefundable.

Financial Aid

We feel strongly that no qualified student should refuse to consider RIT because of cost. With this in mind, RIT offers a full range of traditional financial aid programs and a number of innovative financing plans as well.

In 1991, approximately 70 percent of our undergraduate students received financial aid awards from RIT. These students qualified for over $45 million in financial assistance from federal, state and institutional sources. Many families also took advantage of RIT's 12-month, interest-free payment plan and a four-year prepayment plan that guarantees participants no increase in tuition (the RIT tuition Prepayment Plan).

Your financial need
Eligibility for need-based financial aid at RIT begins with two basic requirements: enrollment in a degree program at least half time (six or more credits per quarter) and the ability to demonstrate financial need.

Financial need is the difference between the cost of an education and the amount that a student and his or her family can afford to pay toward meeting that cost. Financial aid programs are designed to supplement their contributions. Attending college with assistance does not limit the student to a less expensive school that might not offer a program reflecting his or her educational interests.

A student's financial need is determined by analysis of a Financial Aid Form (FAF) available through a high school guidance office, any college financial aid office, or the College Scholarship Service. The student's family will be asked to fill out this form, disclosing income, assets, indebtedness, family size (including other children in college), and special circumstances that affect the financial situation. The completed form is analyzed by an independent, non-profit agency that assists colleges and universities in determining financial need.

The process of applying for aid should begin during the month of January in the the year the student wishes to enroll. In order to receive full consideration, it is vitally important that the Financial Aid Form is filed by March 15 each year. Applications received after March 15 receive secondary consideration because funds are limited. Therefore, students should file the form as soon after January 1 as possible. For transfer students, RIT requires a financial aid transcript from each college attended.

Types of aid
At RIT there are five general categories of financial aid: scholarships, grants, entitlements, loans, and employment. An applicant for financial aid is considered for each of these categories.

• Scholarships are generally awarded on the basis of academic record, financial need, and personal recommendations. RIT awards many such scholarships each year. Other typical scholarship sources are competitions, corporations, private donors, foundations, fraternal organizations, unions, and local and state governments. Repayment is not necessary.

RIT offers half-tuition and quarter-tuition academic scholarships through annual Outstanding Freshman Scholarship (OFS) and Outstanding Transfer Scholarship (OTS) programs. Winners are chosen on the basis of their previous academic record, recommendations, extra-curricular activities, and score on a scholarship exam taken at RIT. Please contact the Admissions office for more details on either program.

• Grants are gifts of financial assistance that are awarded on the basis of demonstrated need. RIT awards institutional grants that vary from $100-$8,000 for the academic year. RIT also awards grants under the federally funded Supplemental Education Opportunity (SEOG) program.

• Entitlements are a special type of grant. They are funded by state and federal governments. Eligibility for entitlements can be based on financial need or on special characteristics of a recipient. Entitlements based on need include the federal government's Pell program and various state grant programs (for example, the New York State Tuition Assistance Program). Examples of entidements based on special student qualifications are the G.I. Bill and vocational rehabilitation benefits. Entidements need not be repaid.

• Loans are a lien on future earnings. The money you receive on loan is a formal financial obligation that must be repaid. You need to be aware of the interest charges, the method of payment after graduation, and the effect that loans will have on your ability to meet all of your later financial obligations. Student loans are not repaid until after graduation or termination of study.

Many students will utilize the Stafford Student Loan Program (formerly GSL) in meeting their costs. RIT also awards Perkins (National Direct) Student Loans and Income Contingent Loans (ICL). These are federal programs administered by colleges to eligible students as part of financial aid awards.

Parents are also eligible to participate in several educational loan programs designed to enhance funds available for college expenses. Parent Loans for Undergraduate Students (PLUS) for up to $4,000 per year are available to supplement other aid programs in meeting educational costs. While this parent loan is not based on need, the amount borrowed in any year cannot exceed educational costs taking into account other financial aid received.

Through special arrangements with CoreStates First Pennsylvania Bank, RIT has developed some special loan programs to assist families in meeting educational expenses. The loan plans are available to both parents and students, using variable or fixed rates of interest. Information is available from the Office of Financial Aid.

- Employment opportunities are also available to assist RIT students in meeting college expenses. Whether or not students seek financial aid, they may choose to defray some of their expenses through student employment while attending college.
As part of a financial aid award at RIT, students may be offered employment in the College Work Study program. Over 3,000 students were employed on campus in 1991. The Student Employment Office also helped a number of students secure part-time employment off campus.

Full-time salaried employment through RIT's cooperative education program can also contribute to meeting college expenses. While co-op salaries vary depending upon academic program, a typical co-op student will earn $3,000 to $8,000 per year during his or her junior and senior years at RIT. Students are encouraged to contact the Cooperative Education Office for additional salary data.

NTID Grant-in-Aid
Federal Grant-in-Aid funds, awarded on the basis of financial need, are the primary source of financial aid for deaf students who do not have adequate financial resources from the sum of their parental and personal contributions and assistance from outside agencies to cover educational costs. To be awarded financial aid, individuals must be admitted as full-time matriculated students.

Students must re-apply for aid each year by completing the Financial Aid Form (FAF). Every effort is made to continue financial assistance to students each year, provided they remain in good academic standing and maintain satisfactory progress, file the required application by the recommended deadline, and demonstrate continued financial need.

First-year and transfer students may expect notification of financial aid awards during April or May; returning upperclass students may expect award notification during june or July..

Students are encouraged to apply for financial aid. Students and their families should not try to decide by themselves if they qualify; that decision should be left to the Student Financial Aid Office and other agencies to which students have applied. Denial of aid from one or more sources does not necessarily mean that students will be denied aid by all sources. Students are urged to pursue all available sources of financial aid.

Payment plans
The RIT Monthly Payment Plan combines the elements of a deferred payment plan and a prepayment plan to allow students and their families to finance educational costs over a 12-month period with no interest or finance charges. Participating families make their first payment by June 1 preceding the academic year in which it would be utilized. Fixed costs include: tuition, fees, residence hall charges and RIT meal plans. Dormitory residents will contract for a 20- or 15- meal plan. Rental charges incurred for RIT apartments or with private landlords cannot be financed through the Plan. The Advance Tuition Deposit required of all new undergraduates and the Advance Housing Deposit, if applicable, will be credited against annual charges. Approved financial aid may also be deducted from student charges to reduce the amount financed through the Plan.

Additional information as well as applications for the RIT program may be obtained from the Bursar's Office. Monthly payment programs are also available through a number of commercial banks and agencies, and inquiries regarding these programs should be directed to the Financial Aid Office.

RIT, through special arrangements with CoreStates First Pennsylvania Bank, also offers a Tuition Prepayment Plan for two, three, or four years tuition costs. Families who borrow under the Prepayment Plan are guaranteed no tuition increases for the years covered by the loan. There are no application fees or associated costs with this plan, and borrowers may take up to 10 years to repay the loan. Information is available from the Office of Financial Aid or the Bursar's Office.

NTID-sponsored students may contact the NTID/VR Billing Department at (716) 475-2080 or 475-5489 (voice) or 475-2960 (TDD) for more information about payment options.

Eligibility Requirements for State and Federal Aid Programs

New York State Tuition Assistance Program (TAP)
In order to receive a Tuition Assistance Program grant, an individual must be admitted as a full-time matriculated student, meet New York State residency and income requirements, must pursue the program of study in which he or she is enrolled, and must make satisfactory progress toward completion of his or her program of study. The two tables on page 161 list the approved standards of satisfactory progress for the associate degree and baccalaureate degree, respectively.

In addition to accruing degree credits and minimum grade point average as specified below, TAP recipients are required to:

Complete 6 credits per quarter to receive TAP payments 2-4

Complete 9 credits per quarter to receive TAP payments 5-7

Complete 12 credits per quarter to receive TAP payments 8-12.

Completion of a course indicates meeting course requirements and receiving a letter grade of A,B,C,D or F.

Waiver of academic progress standards for TAP

Students who have been denied Tuition Assistance Program benefits due to failure to maintain satisfactory standards of academic progress may *request* a one-term waiver of those standards. State regulations require that these waivers be granted only under extraordinary circumstances. Accordingly, waivers are normally granted for the reasons listed below. Students failing to meet satisfactory progress standards will be given the opportunity to contact an institutional representative 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. One waiver also may be granted at the graduate level. Those wishing to apply for waivers must do so during the quarter in which notification of TAP denial was sent.

Reasons for which a waiver may be granted include the following:

A. Verifiable physical/mental illness of the student or member of the student's immediate family during the quarter in which academic standards were not met.

B. Death of a member of the student's family during the quarter in which standards were not met.

C. For financial reasons, the student assumed an employment burden sufficient to cause unsatisfactory progress. Normally, the student must demonstrate that his or her work schedule has subsequently been reduced to allow sufficient time, in the judgment of the institutional representative, for academic pursuits.

D. Change of academic/career goals: Students who fail to meet academic progress standards and subsequently change majors or students whose failure to meet progress standards was caused by changing a major may be considered for a waiver. Normally this will be the student who has attained a satisfactory grade point average but has lost degree credit hours due to changing majors. The student's entire academic record will be considered with regards to probability for success in the new academic major.

E. Divorce/separation within the student's immediate family creating a demonstrable financial/emotional disruption sufficient to affect progress.

F. Students may submit waiver applications for circumstances that the student feels were extenuating. Applicants must explain why circumstances were extenuating and beyond their control.

Standards of satisfactory academic progress for the purpose of determining eligibility of Federal (Title IV) Financial Aid

Federal regulations require financial aid recipients to maintain minimum standards of satisfactory academic progress for receipt of federally sponsored aid. All students receiving federal assistance must maintain matriculated status in a degree program. Regulations require a maximum time frame for degree completion, a quantitative measurement (credits earned toward a degree), and a qualitative measurement (cumulative grade point average).

Full-time students who have never attended another college are allowed a maximum of six academic years (18 full-time academic quarters) to attain the bachelor's degree. Those pursuing associate degrees are allowed three academic years (9 academic quarters) for degree completion.

Academic progress is reviewed at the end of Spring Quarter each year and includes a review of cumulative grade point average and degree credits completed. Minimum cumulative grade point average standards are as follows:

Completion of:
First Quarter —
  Minimum Cumulative
  GPA = 1.0
Second Quarter —
  Minimum Cumulative
  GPA = 1.2
Third Quarter —
  Minimum Cumulative
  GPA = 1.4
Fourth Quarter —
  Minimum Cumulative
  GPA = 1.6
Fifth Quarter —
  Minimum Cumulative
  GPA = 1.8
Quarters 6-18 —
  Minimum Cumulative
  GPA = 2.0

Aid recipients are expected to complete 30 degree credits every three academic quarters as detailed below:

Completion of:
1st Academic Year
  (3 Academic Qtrs.) —
  30 degree credits required
2nd Academic Year
  (6 Academic Qtrs.) —
  60 degree credits required
3rd Academic Year
  (9 Academic Qtrs.) —
  90 degree credits required
4th Academic Year
  (12 Academic Qtrs.) —
  120 degree credits required
5th Academic Year
  (15 Academic Qtrs.) —
  150 degree credits required
6th Academic Year
  (18 Academic Qtrs.) —
  180 degree credits required

Additional Eligibility Requirements

Transfer students

Cumulative grade point average requirements are the same as for non-transfer students (i.e., students must obtain a 2.0 GPA at the end of two academic years [six academic quarters]). Transfer students also are expected to accumulate 30 degree credits for each three-quarter academic year. However, the maximum number of quarters allowed for full-time students to accumulate remaining degree credits may be reduced. For every 10 credits, or fraction thereof, granted as transfer credit by RIT, the maximum number of quarters to accumulate remaining degree credits is reduced by one. A student transferring from another college and granted 30 transfer credits would have 15 rather than 18 quarters to accumulate remaining degree credits; the same student transferring to an associate degree program would be allowed six rather than nine quarters to complete the degree.

Part-time students
Students registering for 6 to 11.5 credits per quarter and receiving federal financial assistance must meet the same grade point average requirements as full-time students (i.e., attainment of a 2.0 GPA after six academic quarters). The established time frame for part-time students is 12 academic years (36 half-time quarters) for completion of bachelor's degree requirements. Associate degree candidates are allowed six academic years (18 half-time quarters) for degree completion. At the end of each three-quarter academic year, 15 credits must be accumulated toward the degree. Quarters in which a student is registered for less than six credit hours will be counted on a pro-rated basis toward the maximum time frame.

All students
Students should be aware that eligibility to receive certain forms of federal assistance may expire in less than the equivalent of six academic years.

For students first receiving the Pell Grant after July 1,1987, there is a maximum of five academic years of eligibility. In addition to annual limits, both the Perkins (National Direct) Loan and

Stafford (Guaranteed Student) Loan also have cumulative undergraduate limits of 19,000 (Perkins) and $17,250 (Stafford/GSL).

These standards apply to federally sponsored assistance programs: Stafford/GSL, Supplemental Loans for Students, Parent Loan for Undergraduate Students (PLUS), Pell Grant, Supplemental Educational Opportunity Grant (SEOG), Perkins Loans (NDSL), Income Contingent Loans, and College Work-Study. Requirements for the New York Tuition Assistance Program (TAP), other state scholarships, and Institute-sponsored programs may vary somewhat from these standards.

Notification and appeal
Students whose academic progress is not in compliance with federal requirements will be notified of the deficiency and advised of the appeal process. Copies of the policy are available upon request.

Student responsibilities
Recipients of financial aid from the Institute are responsible for reporting any significant changes in their financial situation during the year to the director of Financial Aid, who will review and may revise the applicant's financial aid accordingly. Financial aid recipients are also expected to assist in financing their education.

You should begin the process of applying for aid during the month of January. In order to receive full consideration, it is recommended that your FAF be received at the College Scholarship Service by March 15 prior to the fall quarter of your entrance. Applications received after March 15 are considered as long as funds remain available. We suggest you file your FAF as soon after January 1 as possible.

Any student who intentionally defrauds or attempts to defraud the Institute of tuition, fees, or other charges, or who gives false information in order to obtain financial aid, is subject to legal liability, prosecution, and Institute disciplinary action.

Standard of Satisfactory Progress for the Purpose of Determining Eligibility for New York State Student Aid

Baccalaureate Degree - Quarter System

Before being certified for this payment	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15 th
a student must have accrued at least this many credits	0	3	9	20	32	44	56	68	80	92	104	116	132	148	164
with at least this grade point average	0	.50	.75	1.00	1.20	1.30	1.40	1.50	1.60	1.65	1.70	1.75	1.80	1.85	1.90

*Only students in the HEOP program at RIT are eligible for more than 12 quarters of undergraduate awards

Standard of Satisfactory Progress for the Purpose of Determining Eligibility for New York State Student Aid

Associate Degree - Quarter System

Before being certified for this payment	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
a student must have accrued at least this many credits	0	3	9	20	32	44	56	68	80
with at least this grade point average	0	.50	.75	1.00	1.20	1.30	1.40	1.60	1.80

Undergraduate Financial Aid at a Glance

Scholarship/Grant	Eligibility	Amounts	Where to Apply
Regents Award for Children of Deceased Police Officers, Firefighters, Corrections Officers	Residents of New York State who are children of certain deceased policemen, firefighters, corrections officers	$450 per year	N.Y.S. Higher Education Services Corp., 99 Washington Ave., Albany, N.Y. 12255
Tuition Assistance Program (New York State)	New York State residents who show ability to pursue full-time programs and meet state income requirements	$350 to $4,025	N.Y.S. Higher Education Services Corp., 99 Washington Ave., Albany, N.Y. 12255
Regents Award for Children of Deceased and Disabled Veterans (New York State)	New York State residents who are children of certain deceased and disabled veterans, and are enrolled full time	$450 per year	N.Y.S. Higher Education Services Corp., 99 Washington Ave., Albany, N.Y. 12255
Pell Grant (Federal)	Undergraduate students who are pursuing their first bachelor's degree, in financial need, attending postsecondary institutions on at least a half-time basis.	$250 to $2,400 per year	File Financial Aid Form (FAF) requesting submission to Pell Grant or file separate Pell Grant application
Supplemental Educational Opportunity Grants (Federal)*	Students of academic promise who are accepted for college study, are in exceptional financial need, and are pursuing their first bachelor's degree	$100 to $4,000 per year for full-time students	Through RIT by use of the Financial Aid Form. File FAF between Jan. 1 and Mar. 15 each year*
War Orphans Educational Assistance (Federal)	Children of certain deceased or disabled veterans	Up to $220 per month	Veterans Administration
ROTC	Students enrolling in ROTC and who are academically qualified	Tuition, fees, books, and monthly stipend	RIT Department of Military Science
Veterans Benefits	Veterans	Amounts per month vary upon full-time/part-time status and number of dependents	RIT Veterans Affairs Office
RIT Scholarships and Grants	Financial need and satisfactory academic progress	Amounts vary	File Financial Aid Form between Jan. 1 and Mar. 15 of each year*
Higher Education Opportunity Program (HEOP)	Economically and academically disadvantaged residents of New York State	Amounts vary	Director of HEOP at RIT
SSI/SSD (Federal)	Determined by student's income, resources, and degree of disability	Amounts vary	Social Security Administration
NTID Grant-in-Aid	College students who meet federally established need requirements due to insufficient support from outside sources	Minimum award is $100; maximum award varies	File the Financial Aid Form (FAF) between Jan. 1 and Mar. 15 each year.
Private Scholarships	Varies	Amounts vary	High school guidance offices and public libraries department
Other State Grants	Varies	Amounts vary	Consult your state's education department

Loans	Eligibility	Amounts	Where to Apply
Guaranteed Student Loan (GSL)	Must be at least a half-time matriculated student	Undergraduates—up to $2,635 for freshmen and sophomores and $4,000 for upperclassmen. Cumulative maximum of $17,250.	Through RIT by use of the Financial Aid Form
Supplemental Loan for Students	All students except dependent undergraduates. Must be enrolled at least half-time or matriculated.	$4,000 per year maximum	Local lenders (it is recommended that the student apply for Guaranteed Student Loan first)
Parental Loan for Undergraduate Students (PLUS)	Parent with a dependent who is a full-time student	$4,000 per year for each dependent who is a full-time student	Local lenders
Perkins Loan (formerly National Direct Student Loan [NDSL]).	College students who meet financial need requirements established by Federal Government	Up to $4,500 for first two years of undergraduate study. Maximum of $9,000 for four and five years of undergraduate study.	Through RIT by use of the Financial Aid Form. File FAF between Jan. 1 and Mar. 15 each year. *

Employment	Eligibility	Amounts	Where to Apply
College Work-Study Program (Federal)	College students in full- and part-time degree programs who meet financial need requirements established by Federal Government	Varies, depending on hours and wage rate. Wages range from $4.25 to $4.85.	Through RIT by use of the Financial Aid Form. File FAF
Other on-campus part-time work (RIT Employment Program)	Considerable variation in kinds of positions, hours and wages. No financial need requirement.	Same as for College Work-Study Program	Consult other RIT publications and RIT Student Employment Office

* Note: For first priority consideration, the FAF must be received in Princeton, New Jersey, by March 15 each year. Applications received after this date will receive consideration as long as funds remain available.

Academic Policies and Student Conduct

RIT's educational mission is "to prepare men and women for living and working in a democratic and technological society"[1] by offering curricula that meet those needs, within an educational community that strives to be free from coercive, exploitive behavior by its members. Moreover, it sets high standards that challenge students to develop values that will enhance their lives professionally and enable them to contribute constructively to society.

Confidentiality of 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 the 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 non-public information from student records will be released to anyone without the student's written authorization. The determina-tion of those who have a "legitimate need to know" (e.g., academic advisors, government officials with lawful subpoenas) 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, 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 non-disclosure 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 US Department of Health and Human Services concerning the alleged failure of RIT to comply with the requirements for this Act and the implementation of HHS regulations.

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), social security number, and dates of attend-ance to assure proper identification of the record requested. There is a $4.00 charge for each copy. Transcripts are usually prepared and available within 48 hours after the request is received. During exam and grading weeks, it may take longer to prepare the complete transcript.

Under no circumstances will a partial transcript be issued, nor will a transcript be issued to a student who is indebted to RIT. Transcripts issued directly to a student will be overstamped "This official transcript issued directly to the student." Transcripts from colleges other than RIT that have been received in support of admission applications and/or transfer credit evaluation, and will not be re-issued by RIT. Students with credentials from non-United States institutions may need to make special arrangements for re-release of such documents.

The grading system

RIT uses a single letter grading system. All grades are determined and issued by the faculty, in accordance with the RIT Educational 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
B	Good
C	Satisfactory
D	Minimum Passing
E	Conditional Failure *
F	Failure
I	Incomplete *
R	Registered ##
S	Satisfactory ##
W	Withdrawn
X	Credit by Exam
Z	Audit

* E and 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 chapter VII, Educational Policies and Procedures Manual, available in the Office of Student Affairs or on reserve at Wallace Library.

Course registration

To be officially registered at RIT, a student must be academically eligible, properly enrolled in a course, and have made financial commitment. The Office of the Registrar operates the systems in which courses are scheduled, students registered, and academic records maintained. Students are given several opportunities to register for courses each academic term: Early Registration (including touchtone telephone registration, FAX, mail-in, and walk-in), Open Registration, and late registration or "Drop/Add" (which extends for the first six weekdays of each term). Matriculated students who fail to register before the first day of classes may be assessed a $50.00 late fee. Specific dates and procedures for registration are found in the quarterly "Schedule of Courses."

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 who have already satisfied course prerequisites). Most courses are also restricted in class size. Students are strongly encouraged to seek out academic advice and plan their academic careers carefully.

1 Rochester Institute of Technology, "1980 Master Plan" (March 1980)

Failure to make appropriate financial commitment, satisfy New York State Health Immunization requirements, or fulfill course pre-requisites can result in the loss of courses for which a student has registered.

Auditing courses

Courses which are taken on an audit basis will not count toward a student's residency requirement, 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 Drop/Add period.

Withdrawal from courses

A student may withdraw from a course up to the end of the eighth week of the quarter. 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 eighth week. For policies pertaining to withdrawal from the Institute and tuition refund, see page 156.

Dean's list eligibility

Matriculated students who earn at least 12 credit hours in an academic term, have a quarterly grade point average of 3.40, have not been placed on probation due to a low cumulative grade point average, and who do not have any grades of I, D, E, 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 upon coursework over a three-quarter period. Criteria for part-time students are essentially the same as those for full-time students. However, at least 18 credit hours must be earned during the three quarter period, and each student must have accumulated at least 24 credit hours in his/her RIT career.

Academic probation and suspension

All matriculated 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 college deans at the end of each quarter, and, once the action is made, it may be changed or revoked only by a dean. The RIT educational policy governing probation and suspension is quite specific (RIT Educational Policies and Procedures, section VIII). Three grade point averages (GPAs) are calculated and used in probation/suspension decisions:

Program Quarterly GPA = grade average of all courses taken in a term that are applicable to a student's degree requirements,

Principle Field of Study Cumulative GPA = grade average of all courses a student has taken within her/her specialized field (usually from the student's home college),

Institute cumulative GPA = grade average of all coursework taken as either an undergraduate or graduate student at RIT.

Academic probation

A student may be placed on probation if either his/her Program Quarterly GPA or Cumulative Principle Field of Study GPA (based upon at least 20 credit hours earned) falls below 2.0 (a C average). To be removed from probation, *both* averages must improve to at least a 2.0.

Academic suspension

A student may be suspended from the Institute if any of the following occurs:

1) A student on probation fails to be removed from that status within two quarters following the initial probation, or

2) While on probation the student's Institute Cumulative GPA falls below 2.0, or

3) After being removed from probation, a student's Institute Cumulative GPA falls below 2.0 and the student is unable to raise that average to at least a 2.0 within one quarter, or

4) A student's Quarterly Program GPA falls below 1.0, or

5) After a student is allowed to return to his/her original program from suspension and then goes on probation.

Suspended students generally must wait at least a year before re-applying for admission into an RIT degree program. While suspended, a student may not enroll in any RIT coursework unless the suspension is waived by an academic dean, and then may be required to take courses only on a non-matriculated basis.

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 in advance of missing class. Attendance at class meetings on Saturdays, or at times other than those regularly scheduled may be required. RIT reserves the right to alter any of its courses at any time.

Student retention

Based on a summary of the most recent cohort survival statistics, RIT's student graduation rate is 54 percent for students entering at the first-year level and graduating from a four- or five-year program.

Excluding part-time and non-degree students in the College of Continuing Education and NTID, 84 percent of first-year, full-time day students register for their second year; and 84 percent of third-year students continue through graduation (fourth or fifth year depending upon the program).

RIT is currently developing a comprehensive study of the progress of students, which would include factors to predict retention for all student populations such as those on cooperative education work blocks and the large number of part-time and non-degree students.

The statistics reported herein have been computed in a manner consistent with data reported to the State Education Department through the Institute's Office of Institutional Research.

Standards for Student Conduct

1. Students are expected to assume responsibility for their own conduct and to have concern for the behavior of others. Such responsibility includes efforts to encourage positive behavior and to prevent or correct behavior by others that is detrimental.

2. RIT places high priority on self-regulation by its members and intends that campus life will provide opportunities for students to exercise individual responsibility.

3. RIT acknowledges the diversity of backgrounds, lifestyles, and personal moral values of those who comprise the RIT community, and respects the right of individuals to hold values that differ from those expressed by RIT. However, in their activities and duties as students, Institute policies and standards are expected to be observed.

4. RIT has legitimate concern for personal behavior, beyond the impact that behavior has on the rights and freedoms of others. When an individual's pattern of behavior is self-destructive; interferes with the achievements of one's educational objectives; or adversely affects the quality of life on campus, RIT may intervene to correct or prevent such behavior.

5. RIT values and safeguards the personal privacy of its members. Invasion of an individual's residence or records, without appropriate authorization, is stricdy prohibited.

6. For individuals living in campus housing, campus life standards hold special significance. The residence hall/apartment environment is highly inter-personal, and the behavior of every individual usually influences the quality of residence life for others. Therefore, standards and policies for residence life are stated explicitly and are communicated to students through a variety of publications.

7. The conduct of students at events held off-campus, which are sponsored by RIT organizations, must adhere to the same standards and policies as events held on campus; and infractions are subject to RIT action.

Summary of Conduct Policies

In keeping with the above basic principles, RIT has developed conduct policies that are important to promote the desired campus life and further RIT's educational mission. The following broad areas highlight the content of these policies, which are contained in more detail within the residence halls "Terms of Occupancy," the "Family Educational Rights and Privacy Act" of 1974, and the RIT manual for "Educational Policies and Procedures," September 1991.

Human rights and dignity
All members of the RIT community are expected to practice high regard for the human dignity of others. RIT remains committed to principles of equal and open access for all without regard for race, color, religion, national origin, age, sex, sexual preference or military veteran status. RIT prohibits actions or expressions which cause violence, create a clear and present danger of violence, or which represent a malicious attempt to demean, degrade, or harass members of the RIT community.

Alcohol and drug use
RIT policies on drug and alcohol use conform to the laws of the State of New York, and where students are found in violation, both New York State laws and RIT policy will be enforced. Students who evidence problems with alcohol or drugs will be offered, and if necessary, be re-quired to avail themselves of counseling or other appropriate treatment.

Study environment
RIT policies, particularly those pertaining to Residence Life, seek to provide envi-ronments conducive to study.

Religious holidays
RIT recognizes that the academic cal-ender cannot fairly accommodate the wide variety of religious holidays and events that are observed by RIT students. The RIT faculty is encouraged to make every effort to accommodate the reli-gious convictions of their students. However, is it the student's responsibility to coordinate those needs with his/her instructors in order to meet the atten-dance requirements of the course.

Safety of person and property
Safety is of critical importance through-out the campus, particularly within the residence halls. RIT policies call for immediate actions in response to willful violations of safety, such as causing false fire alarms. Further, RIT policies call for periodic inspections of individual and group living areas by authorized person-nel, and hold students accountable for damages to both RIT and private property.

Access to and use of RIT computing facilities
Computer abuse is expensive and can have far-reaching negative conse-quences; i.e., disrupting the educational process through intentional deletion of another's course assignment; dampening the creative process through theft of intellectual property; violating an indi-vidual's privacy; or infringing on copy-right. Virtually every member of the RIT community has access, and is often required, to make use of the wide variety of computing facilities throughout the campus. All persons are expected to adhere to the RIT "Code of Conduct for Computer Use," as detailed in the RIT manual of "Educational Policies and Procedures" and available at the com-puting centers. Those who abuse the privilege of using RIT's computing resources may lose computing privileges, be suspended or permanently dismissed, or be subject to criminal prosecution.

RIT judicial process
RIT has established well-defined pro-cesses for handling student misconduct cases, while protecting the civil and academic rights of all members of the Institute community. Judicial and appeals processes are administered through the Office of the Vice President for Student Affairs, and complete des-criptions of these processes are available from that office. Sanctions imposed upon those found guilty may range from admonition to probation to restitution to disciplinary suspension from the Institute. Students suspended from RIT may not enroll in any coursework until such time as that dismissal is waived by the Assistant Vice President for Student Affairs (Judicial Affairs).

Academic Services

Cooperative Education and Placement

The Office of Cooperative Education and Placement supports the Institute's commitment to preparing students for the "making of a living and the living of a life." The co-operative education program was started at RIT in 1912. Since that time, the program has grown into one of the largest in the world.

Last year, over 1,300 employing organizations across the country participated in the program, hiring more than 2,500 RIT students involved in mandatory and optional co-op programs. Co-op gives the student and the employer an opportunity to look each other over. It gives the student the opportunity to try out personal and professional abilities in a real-world work environment and to enhance classroom learning. Many students relocate in order to take advantage of the best co-op opportunities.

In the Office of Cooperative Education and Placement, each student has a program coordinator who will provide assistance with career counseling and the job search from the beginning of the co-op process right through career entry upon graduation. The office also provides a variety of job search seminars, career and employer research materials, job listings for co-op and full-time positions, an on-campus interview program and a reference service for graduating students. Services of the office remain available to alumni for a lifetime.

The Co-op and Placement staff spends considerable time developing opportunities with employers nationwide, as well as monitoring and fostering current relationships. These linkages with business and industry enhance RIT's ability to provide education which will meet the needs of the job market and aid students and graduates to pursue successful careers.

Wallace Library

Information comes in many forms other than printed pages bound between two covers. When a student wants to research a topic at RIT's Wallace Library, he or she will not only find a variety of print and non-print forms such as books, compact disks, microfilm, microfiche and magazines in which to locate information, but also a unique on-line computer catalog. Individual terminals allow for access of authors, title and subjects of over 300,000 records. Access is also available remotely from office, home, or lab.

In addition the library offers computerized searching of information from commercial data bases specializing in a broad spectrum of subject areas, as well as an electronic reference service available by calling 610WMLREF on the VAX mail network. Inter-library Loan assists in providing access to virtually all publicly available material.

To help in the use of all these resources, reference librarians are on duty during the week and on weekends. Located throughout the four floors are more than 1,000 study stations including individual carrels and group study rooms.

During the year student work in art and photography is exhibited in display gallery areas. Outstanding student work is also permanently displayed within the building as a result of Purchase Prizes awarded annually. Several lounge areas are located throughout the facility.

The library contains a special collection of materials on deafness to serve NTID and to support research in deafness.

A special Collections area houses the archives, rare books, faculty writings and RIT theses.

For library hours, call 475-2046 (voice); for Reference Desk, call 610WMLREF (RITVAX) or 475-2564 (voice) and 475-2563 (TDD); for Circulation Desk, call 475-2563 (voice) and 475-2962 (TDD).

Information Systems and Computing

Information Systems and Computing (ISC) provides computing services on VAX/VMS and ULTRIX (UNIX) systems and various microcomputers to students regardless of their majors. Students in selected courses can use an IBM VM/CMS system. These services are provided at no cost to students. Many RIT colleges also have computing facilities available to students in their programs.

Students use computers for course assignments, developing computer literacy, writing reports, analyzing statistics, manipulating numbers and data using electronic spreadsheet software, producing graphs, and performing many other functions. Students also can send electronic messages to professors and other students at RIT, and throughout the world via the Internet and BITNET networks.

A VAX/VMS computer account is available to each registered student whether or not specific computer use is required in the student's program. The account remains active as the long as the student is registered and in good standing. ISC publishes the *Computer Use Code of Conduct* which provides guidelines on the use of computers at RIT.

Computer accounts and the files stored in those accounts are the property of RIT. ISC and departments that student accounts are associated with have the right to review and delete accounts and files. Normally, accounts are deleted only if the student leaves RIT. ISC will take action against people who abuse the privilege of using RIT's computers.

The Ross Microcomputer lab and the VAX/VMS systems are used to support the Institute computer literacy program, which is available to many students. The Booth Microcomputer Lab with Apple Macintoshes, and ImageWriter and LaserWriter printers, is available to students in the College of Liberal Arts Freshman Writing Program and the School of Art and Design foundation courses. Other students may use the Booth Lab if is is not scheduled for those programs.

IBM PCs are available in the Gannett Microcomputer Lab.

Central computer systems can be accessed via telephone or terminals in the User Computing Centers (UCC) located in the James E. Gleason Building (9), Max Lowenthal Building (12), Microelectronics/Computer Engineering Building (17), Lewis P. Ross Building (10), and Grace Watson Hall (25).

UCC and Microcomputer Lab employees assist students using the computer systems. Professional software specialists in the Academic Computing and User services department also are available for consultation or presentation of free seminars. Documentation is available in the UCCs and labs, and can be purchased from ISC Academic Computing and User Services or Campus Connections' Text-book department, the monthly *ISC News,* and on-line HELP and NEWS also provide information on using ISC systems.

Questions and comments regarding ISC services and policies can be made to Academic Computing and User Services staff in the Lewis P. Ross Memorial Building (10), room A291, or by calling 716-475-6929 (-7123 TDD). VAX/VMS computer accounts can be obtained from that office. Questions regarding use of computing facilities provided by RIT colleges should be made to the specific college.

Instructional Media Services

Instructional Media Services provides television and audio-visual support services to faculty, students, and staff. These services include a campus-wide cable television network, satellite tele-conferencing, and delivering media to classrooms. IMS also provides a Media Resource Center, which houses the RIT media collections and an extensive art slide library. Many faculty members place materials on reserve in the MRC for students to study, such as videotapes, films, and audio tapes.

IMS staff members assist faculty and students in finding and preparing media for classroom presentations, club meetings, or personal use. The color laser copier is a popular tool used by many photographers and artists at RIT. Others find the photo and graphic design services of IMS helpful in preparing for presentations and lectures. Audio-visual and television equipment such as slide projectors, videoplayers, overhead projectors, telephone conferencing equipment is available for instruction and other campus events from IMS.

RIT instruction extends beyond the campus classrooms. Courses are delivered to distant sites by a variety of techniques, including offerings on local cable and broadcast television, video-tapes computer and audio-conferencing, and use of an interactive electronic writing system called telewriter.

Workshops and lectures that originate at RIT are delivered by satellite to audiences throughout the United States, Mexico, and Canada. IMS supports these efforts with equipment and production of materials.

IMS offices and the Media Resource Center are located on the lower level of Wallace Library. More than 60 students work in IMS assisting with video production, photography, graphic design, and office routine. Individuals are invited to drop in and explore these resources. The offices are open from 7:30 a.m. to 9:30 p.m., Monday through Thursday; 7:30 a.m. to 5 p.m. Friday and Saturday.

Learning Development Center

The Learning Development Center, an academic support unit at RIT, offers students, faculty, staff, and the community a variety of services. The College Skills Program offers courses in reading, writing, math and study skills as well as a math and writing lab open on a drop-in basis. The English Language Center offers full- and part-time English language study for international students with courses in pronunciation, conversation, reading, writing, grammar, and vocabulary. The College Restoration Program assists students who are on probation or suspension while The College Anticipation Program is for students who need additional preparation before matriculating into a college program. For more information about these programs, see the program descriptions beginning on this page.

NTID Student Support Services

NTID has communication, general education, mathematics, and physics learning centers that provide specialized academic support for deaf students.

Communication learning centers include the Self-Instruction Lab, where students can practice skills they have learned in listening, speaking, and sign/simultaneous communication; Telecommunications Lab, where students can practice their telephone skills; English Learning Center (ELC), which has reading and writing labs that allow students to practice their skills independently. The ELC includes the Computer-Assisted Language Learning Lab, which helps students improve reading and writing skills using interactive computer software.

The General Education Learning Center (GELC) supports deaf students in their general education and liberal arts core courses. Skilled peer tutors, working closely with faculty members, provide students with feedback related to their reading and writing assignments. Reference books and computers also are available for assistance with assignments. The GELC sponsors evening enrichment programs in language arts, study skills, and social and political awareness.

The Mathematics Learning Center provides tutoring assistance to students enrolled in mathematics classes.

The Physics Learning Center (PLC) offers a variety of physics courses in a classroom setting. A laboratory experience is part of each course. Tutors supplement classroom and laboratory experiences. Students enrolled in applied science, engineering, and other NTID technical programs as well as deaf students studying in one of RIT's other colleges use PLC services. PLC courses assist students who plan to enroll in courses offered through the colleges of Science and Engineering.

College Skills Program

The College Skills Program is the LDC unit devoted to providing academic assistance for students enrolled at RIT. It offers workshops, classes, and labs for instruction in reading, writing, mathematics, and study skills.

The College Skills Program has services for all levels of students, from freshmen to graduates. In addition to basic skill development, it offers courses that teach students how to improve study techniques and how to assess and make the most of their individual learning abilities.

Reading and Writing Department: Courses offered include Efficient Reading, Analytical Reading and Writing, Writing Skills, Vocabulary, and Persuasive Presentations. The Writing Lab provides individualized instruction to improve students' abilities to complete college writing assignments. Individual or small group instruction in reading is available by appointment.

Mathematics Department: An individualized math course offering diagnostic testing and carefully prepared review materials is offered. The Math Lab offers free tutoring in most math courses as well as "math-related" areas such as biology, chemistry, physics, computer science, statistics, and accounting. A workshop, "How to Study Math," is also offered. Review courses for the GRE and GMAT exams are offered in both the math and verbal areas.

Study Skills Department: The focus of this department is on the development of good study skills to promote academic success. Diagnostic evaluation, individual instruction and mentoring and "tailor-made" courses for various RIT groups are available. A series of mini-workshops, the "Lunch 'n Learning Series," is offered each quarter. Topics covered include time management, listening & notetaking, text reading, test taking & preparation, test anxiety reduction, and memory improvement.

College Skills Program services are free to RIT students with the exception of the GRE and GMAT Review Courses. For more information concerning these services, contact the Learning Development Center at 716-475-6682.

The English Language Center: English to Speakers of Other Languages

The English Language Center offers both full- and part-time study of English to non-native speakers. Class offerings include: conversation, grammar, writing, vocabulary, reading, presentation skills, business communication, and TOEFL preparation.

Full-time program
The intensive English Language Program consists of 20 hours of class instruction and 5 hours of language lab per week at beginning, intermediate, and advanced levels. This intensive study program meets the immigration requirements for the Certificate of Eligibility 1-20. There is a fee for this program.

Before a course of study can be selected, students are tested to determine their levels of English proficiency and to diagnose their specific language needs.

Part-time program and individualized instruction
In addition to the full-time program, students may register for one or more ESOL courses. Arrangements also may be made for individualized language instruction. Pronunciation and conversation, as well as grammar, writing, reading, and vocabulary may be studied in this manner. There is a fee for instruction, but students enrolled for 12 academic credits at RIT receive a reduced rate.

For more information about the English Language Center's program offerings, visit the English Language Center (2321 Eastman) or call 475-6684.

Foreign language instruction
The English Language Center offers a program in which international students teach their native languages. The international student meets with a trained language instructor who assists in curriculum development and provides language teaching methodology. The international student then instructs in his or her native tongue. Language, culture and customs can all be part of this program. For more information about learning a new language or teaching your native language, call the English Language Center at 475-6684 or pick up an application at the office (2321 Eastman).

Translation services
Translation Services provides quick and efficient translation of documents, reports, letters, and manuals for RIT students, faculty, and staff as well as businesses in the Rochester area. For a fee, documents of all types, general to technical, can be translated. For more information, contact the English Language Center at 475-6684.

College Restoration Program

The College Restoration Program is a full-time specialized program of instruction, with matriculated status, for students who have experienced academic difficulty and suspension from a college.

A course of action can be recommended only after the reason for academic difficulty has been established. If it is determined after an interview and diagnostic and achievement tests have been administered that CRP can be helpful, a very structured program, including one or two content courses, LDC instruction, and counseling, is arranged.

The student meets regularly with an LDC faculty mentor to clarify directions and goals, to discuss relationships between the skills courses and to review progress.

The entire program is designed to strengthen the student's self-confidence. Successful completion of this program could qualify students for readmission to the college or department of their choice or for entrance into another educational program.

Although the College Restoration Program does not guarantee a participant readmission to his or her former college or status as a transfer student at another school, the center does provide recommendations and resumes of student achievement in the program to colleges upon request of the student.

For more information contact the Learning Development Center at 716-475-6682.

College Anticipation Program

The College Anticipation Program is designed for the college-bound high school graduate who desires further skill development before matriculating in a full college program.

Applicants are interviewed and diagnostic and achievement tests are administered. Once the educational diagnosis has been analyzed, and it has been determined that the College Anticipation Program is appropriate for the student, an individualized program is designed.

The program runs for one RIT academic quarter and generally includes a content course, LDC instruction and academic counseling. The work is based on a system of established deadlines and immediate evaluation of progress.

Participation in the program cannot guarantee that a student will be admitted to the college or university of his or her choice, however, professional resumes of student achievement in the program are sent to colleges upon request of the student.

During the summer the center runs a special five-week College Anticipation Program for high school graduates entering college the next fall. Students in the Summer program take a credit course from the RIT College of Liberal Arts and a block of LDC reading, writing, math and study skills courses. The LDC instructors incorporate the Liberal Arts course reading, writing and study assignments in the "learning-how-to-lear n" courses.

For more information contact the Learning Development Center at 716-475-6682.

Counseling Center

The Counseling Center, located in the Hale-Andrews Student Life Center, offers a variety of services to RIT students. These services include:

- Personal/Psychological Counseling
- Career Counseling
- Career Walk-In Center
- Career Resource Center
- DISCOVER (a computerized guidance system)
- IMPACT: Alcohol/Drug Assessment, Referral and Educational Services
- Developmental Programs and Groups
- Testing
- REACT: Rape Education and Counseling Team
- Consultation

Counseling Center hours
Counseling Center hours are 8 a.m. to 5 p.m., Monday, Tuesday, Thursday; 8 a.m. to 8 p.m., Wednesday; and 8:30 a.m. to 4:30 p.m., Friday. Services are confidential and free. For more information about services, please call 475-2261.

Personal/psychological counseling
Individual and group counseling are available for students who could benefit from meeting with a counselor to explore, for example, more effective ways of dealing with conflict and stress, managing feelings and emotions, developing satisfying relationships, communicating with others, or coping with personal crises.

Career counseling

Counselors can assist students in making thorough appraisals of their interests, abilities, and personality traits so that they can use this information in developing educational and vocational plans. Tests of aptitude, interest, and personality may be used in this assessment process.

Career Walk-In Center

Walk-in assistance is available to students with informational needs related to occupations, colleges, graduate schools, and selection of RIT courses/majors. Appropriate referrals may be made to other Counseling Center services, campus departments or off-campus resources. Call 475-2261 for hours of operation.

Career Resource Center

Located in the reception area of the Counseling Center is a Career Resource Center which contains occupational information on a variety of careers, vocational and educational reference books, and college catalogs on microfiche.

DISCOVER

DISCOVER is a career guidance system that uses a computer to help users learn more about:

- the career planning and decision-making process
- themselves, especially their interests, abilities, and work-related values
- careers that may be appropriate based on interests, abilities, and/or values
- the world of work, including descriptions of over 40 occupations
- graduate and professional school opportunities

Developmental programs and groups

The Counseling Center staff offers groups each quarter that assist students in their development. These groups offer a supportive environment in which to explore a variety of issues that typically affect the lives of students—such as forming relationships, handling loss, managing stress, clarifying values, and choosing careers.

In addition, Counseling Center staff members will present special programs to student groups and organizations. Presentations include communication skills, team building, leadership development, and goal setting. Individuals should contact the Counseling Center at least three weeks in advance of program date.

Testing

The Counseling Center administers a number of psychological tests and interest inventories as part of the counseling process for some individuals. In addition, the Counseling Center administers a number of national tests. Advance credit exams (CLEP) are also given.

Rape Education and Counseling Team (REACT)

REACT, jointly administered by the Counseling Center and the Department of Campus Safety, provides assistance to members of the RIT community who are victims of sexual assault (e.g., rape, attempted rape, sexual abuse, physical or verbal harassment, etc.). It is a confidential service staffed by specially trained volunteer counselors drawn from RIT's faculty and staff.

IMPACT

Alcohol & Drug Education & Prevention program: Individual assessment and referral services are available for persons having concerns about their (or others') use or abuse of alcohol or other drugs. Educational workshops are also available. Student groups and organizations should contact the IMPACT office at 475-7081 three weeks in advance of scheduling the program.

Consultation

Staff members of the Counseling Center will provide consultation services to interested student groups and organizations in a number of areas within their scope and expertise.

NTID Psychological Services

NTID Psychological Services provides confidential mental health counseling and assessment to all deaf students requesting assistance. Psychological Services faculty members work closely with RIT Student Health Services, the RIT Counseling Center, RIT's Office of Residence Life, and other related campus units.

Some concerns that students may need help in resolving include adjustment to deafness, depression, anxiety, family conflicts, intimate relationships, and sexual and personal identity matters. Workshops, discussion groups, and group counseling experiences on topics such as stress management, dating/relationships, and assertiveness training also are offered to assist students' mental health growth and development.

Psychological testing and assessment are available to students whose personal/social problems affect their academic performance. Consultation often is done with faculty and staff members so that students are assisted in planning remedial programs that emphasize their academic as well as personal needs.

A 24-hour emergency crisis intervention service for students experiencing mental or emotional trauma is provided in conjunction with Campus Safety and NTID Interpreting Services.

Special Services

Higher Education Opportunity Program

The Higher Education Opportunity Program is a New York State- and Institute-funded service that qualifies students for additional financial and academic support for up to five full years, not including periods during which students may be enrolled in cooperative education. This supplemental assistance is available for students who need extra time to complete their academic requirements. While both New York State and the Institute provide financial support, HEOP students must also qualify for the New York State Tuition Assistance Program (TAP) and Federal Pell Grant program and be personally responsible for loan and college work study contributions. The HEOP program is dedicated to each individual student's academic success and personal growth.

To qualify, a student must meet strict academic and financial guidelines set by the New York State Education Department prior to attending college. Any student who has taken college courses following high school graduation, matriculated or not, is ineligible. Students must have graduated from high school or the equivalent, and they must be New York State residents. Transfer students are eligible if they are coming from a like program at another institution in the State: HEOP, EOP, SEEK, or College Discovery. Transfers must apply to and be accepted by both the HEOP office and the Admissions office for entrance. Space in the program is limited.

Services for all students include personal, academic, financial, and career counseling. Tutoring is available in all subjects, and the HEOP staff act as campus resources and advocates. Students accepted as freshmen must attend a six-week summer program prior to fall entrance. They live on campus and attend a selection of skills-building classes carefully designed to facilitate their entry into standard RIT courses.

Throughout its 19 years on the RIT campus, HEOP has been applauded for its high graduation rate. Inquiries in regard to the program should be directed to (716) 475-2221.

Office of Special Services

Pursuing a college education is a major challenge. The goal of the Office of Special Services is to provide the necessary academic and personal support that will enable students who qualify to fully realize their potential and to successfully complete their college career.

The Office of Special Services is a federally funded program that has been hosted at RIT for 15 years. Presendy, there are four components that make up the office. Each has a distinct purpose while remaining integrally linked with the others.

The Academic component has developed a full complement of services including tutoring, math mentoring, advisement and skills development, which assist students with academic concerns, enable them to understand and refine their learning process, and to use academic resources more effectively. The academic staff help students develop success strategies and experience positive responses to academic endeavors.

The Counseling component works to bring students into the program and provides the appropriate personal support that enables them to direct their energies into positive pursuits. Understanding that each student brings a unique set of circumstances to the learning environment, a counselor assists the student in understanding all that is available to him or her and how to access the assistance each may need. A counselor also is available to work with students on areas of general concern.

The Programming component provides complementary experiences that enhance the student's academic and personal perspectives by drawing on RIT and other community resources. When used effectively, this component can provide the student with new opportunities for personal and professional growth.

The Disabled Student component deals with a broad range of issues faced by students with disabilities. The staff provides services related to academic and physical accessibility, and works to raise the awareness of the RIT community.

The ultimate purpose of the Office of Special Services is to help students meet their unique challenges and become a part of the larger community. We work to make systems work. We often serve as a bridge between the learning community that we create and RIT. The success we pursue is the development of the student as a whole person, able to negotiate the environment using his or her resources.

For further information, contact the office at (716) 475-2832 or 2833. It is located in the RITreat in the Student Alumni Union. Eligibility for the program is determined by financial aid, physical or learning disability and first generation college status. Any full-time, undergraduate student who is a United States citizen and meets one of the eligibility requirements may become a member of Special Services.

International Student Affairs

The Office of International Student Affairs is the resource center for all hearing and deaf international students on visas and for those members of the campus community seeking cross-cultural learning. The office provides assistance with immigration regulations and travel documents, helps international students adjust to the academic and cultural expectations in the U.S. and provides cross-cultural programming for international students and the campus at large. The staff works closely with RITISA (RIT International Student Association), several other international student clubs, and International House, which is a special interest house in the residence halls for both international and American undergraduates. Off-campus hospitality is coordinated with community organizations that extend friendship to international students. The office is located on the mezzanine level of the Student Alumni Union. The phone numbers are 475-6943 (voice/TDD) and 475-6876 (voice). The coordinator for deaf international students can be contacted at (716) 475-5540 (TDD).

International student emergency
loan fund
This fund is administered by the International Student Affairs office and its purpose is to provide emergency assistance to international students on visas. The loans may not exceed $200 and must be repaid within two months. Students must have a good record of payment with the Bursar's office and no unpaid previous loans from the fund to be eligible for a loan. This loan and the International Student Scholarship fund are supervised by the International Student Scholarship Committee. Further

information regarding loans or scholarships can be obtained from the International Student Affairs office.

Veteran's Affairs

Active service persons, reservists, members of the National Guard, veterans and their dependents begin their educational programs in RIT's Office of Veteran's Affairs (OVA). We know the transition from the military to a successful civilian career is dependent upon proper preparation, and education is the key to this transition process.

Veterans attending college usually have the added responsibility of a family, the added financial pressures of maintaining a home and often work at a full-time job. Because of these demands, veterans attending college need several types of assistance. Our OVA staff members are veterans, too—veterans helping veterans is an important aspect of our services.

The OVA staff is comprised of a director, program secretary, peer counselors, and VA work-study students, who are available to handle inquiries and assist veterans with VA-related and college-related information. The OVA is located on the first floor of the Bausch & Lomb Center and is easily accessible for both day and evening students. The office is open from 8 a.m. to 8 p.m., Monday through Thursday, and until 4:30 p.m. on Friday. Students may visit the office or telephone 716-475-6642 to speak with an OVA counselor.

Active-duty service men and women can apply through their commanding officers or the nearest Post Education Service Officer for active-duty benefits such as ACES tuition assistance or New G.I. Bill. The amount to be paid to these servicemembers is equal to the monthly amount for single veterans, not to exceed the cost of tuition. Reservists eligible for the New Montgomery G.I. Bill for Reserves, ACES, student loan repayment program, and/or other educational incentives are encouraged to apply through their commands for a Notice of Basic Eligibility, DOD Form 2384. When received by the Office of Veteran's Affairs, the Notice of Basic Eligibility will be forwarded to the Veterans Administration to insure prompt payment. Payment for reservists is f140.00 per month for full-time attendance for each month completed as a full-time student. Benefits at less than full-time are determined relative to the number of credit hours taken. Questions regarding Reserve G.I. Bill benefits, loan repayment, or other programs that Reservists and members of the National Guard may be entitled to can be directed to Veteran's Affairs or to the service-member's command.

Vocational Rehabilitation, offered to service-connected disabled veterans, is a priority program for the RIT Office of Veteran's Affairs. These veterans are eligible for tuition, fees, books, supplies, and other costs directly related to attending the program approved by the Veterans Administration. As these payments are made directly to the Institute of choice, these students have little more to be concerned about than attending and successfully completing program objectives. Additional monies are sent to those veterans each month to help offset the cost of living while attending school. Vocational Rehabilitation, the monthly supplement, and disability benefits make RIT an attractive choice for the disabled veteran.

Veterans eligible for Veterans Educational Assistance Program (VEAP), Chapter 32, will find RIT ready to process their paperwork. All they need to do is bring a certified copy of the DD214 to the Office of Veteran's Affairs, where the benefit paperwork can be initiated. These benefits, payable by the Veterans Administration, are prorated relative to the contribution made by the service-member. As the government matches these funds two-to-one, it is not uncommon to find veterans under VEAP attending RIT expecting the maximum amount.

Chapter 30, commonly referred to as the New G.I. Bill, is a significantly different benefit than the aforementioned. While servicemembers have contributed out of their monthly pay, they must have completed the initial term subsequent to separation in order to be eligible for the full amount of their G.I. Bill. This monthly amount is paid directly to the veteran and is self-certified once the enrollment has been reported by the Institution. All payments being made directly to the veteran enable the veteran to maintain his or her student account with minimum difficulty.

All of our veterans and dependent veteran programs are eligible for ongoing counseling assistance and tutorial aid as well as evaluation of appropriate credits upon transfer to RIT. Veterans often find that with the military evaluation, they can start an educational progam of their choice with credits applied directly to their program because of military experience or previous college courses. Veterans are encouraged to talk with counselors about military evaluation prior to acceptance at RIT.

Veterans are important to the RIT community. They bring unique experiences and expertise to the campus. Consequently, the Office of Veteran's Affairs is very interested in helping veterans become successful students at RIT. Veterans who are planning on attending college should consider the

difference that a campus Veteran's Affairs Office can make. Students coming from schools unable to assist a veteran population's needs find RIT a model place to begin and continue their education.

Complementary Education

Viewed as a valuable dimension of the student's education at RIT, Complementary Education formally recognizes and encourages important experiences outside the class room that complete and enhance the traditional academic activities of the Institute. Its essential aim is to further the personal development of students. It will supplement their curricula in four broad content areas: personal and social development, learning skills development, civic competence, and leisure and avocational skills.

Complementary Education is multifaceted. The Complementary Education Grants Program makes funds available to students, faculty, and staff who want to develop unique kinds of experiences. These projects are cooperatively planned and facilitated by students and faculty.

Some specific programs that make up the Complementary Education concept include the Community Services Program, which provides students with opportunities to volunteer in campus-organized community projects as well as in non-profit agencies in Rochester; the Personal Leadership Program, which emphasizes an in-depth look at individual leadership strengths; the Freshmen Seminar Program, which joins with specific academic departments to develop and facilitate required courses that assist new students in their adjustment to college life through their focus on awareness and appreciation of diversity, the development of communication skills, an increased knowledge of academic and student life services, an opportunity for increased knowledge of self, and academic and career options; the Outdoor Experiential Education Program, which offers an intriguing way to enhance communication skills, decision-making skills, problem-solving skills and group interaction skills using the RED BARN as a class room. Housed in the Red Barn is a series of experiential activities that challenge a group's ability to solve problems, expand awareness, and enjoy the energy of productive interaction. The activities combine intellectual problem-solving with various levels of physical involvement and the thrill of adventure. OEE makes Red Barn experiences available to various RIT groups, to individuals interested in taking a Red Barn team-building course

for PE credit, and PE Rock Climbing courses that take place off-campus.

Students have the chance to expand their learning environment to include the outdoors. OEE offers Leadership Training Courses, which emphasize in-depth training of technical skills and group leadership skills. Participants have an opportunity to examine their own skills, share with and learn from others, and develop the self-confidence to lead others. These programs also serve to increase the interaction of hearing and hearing-impaired students.

Campus Life

What happens in the classroom is one part of a college education. But what happens outside the classroom can be just as important.

The Division of Student Affairs at RIT coordinates many services provided to students during their years at college.

The division includes Physical Education, Intercollegiate Athletics, Residence Life, Student Health Services, Student Activities, International Student Affairs, Student Alumni Union, Religious Activities and the Chaplaincy, Counseling Center, Higher Education Opportunity Program (HEOP), Orientation and Special Programs, Upward Bound, Special Services, Judicial Affairs and Horton Child Care Center.

Life on campus is a living, as well as a learning, experience. Students, with the counseling of trained resident staff, have their own governing organizations and develop social programs. A wide variety of athletic, social and professional activities are available for all students.

Student Housing

The Residence Halls
RIT recognizes the significance of the on-campus living experience and its effect on the student's academic and social development. The Department of Residence Life therefore, in keeping with the educational mission of the Institute, has as its overall purpose the general well-being and growth of our students. To ensure this goal, the atmosphere, conditions, and services within the Residence Halls provide for much more than just a place to sleep. The antiquated term "dorm" is no longer an accurate description. The RIT Residence Halls offer a living experience.

The many activities, programs, and services are provided to residents by professional and para-professional staff

members. Events are planned and regularly conducted on each floor and, on a larger scale, in each quad area. Social and developmental activities are specifically designed to help students meet one another, make friends, and become familiar with campus resources and generally to ease their transition to college life. Programs are continually offered throughout the year on a variety of topics, including study skills, communication abilities, personal safety, and avoiding drug abuse. Many other topics are also covered, each designed to better prepare students to grow and mature as complete individuals.

Serving approximately 3,500 students, the Residence Halls offer many living options to meet the diverse needs, interests, backgrounds, and maturity of the individual. Students may choose living arrangements according to their own lifestyles, including floor assignments by same gender, co-educational, wellness, non-smoking, quiet study, over 21 years of age, upper class, deaf, and mainstreamed (hearing and deaf students living on the same floor). Also available are living options in Greek fraternities and sororities and Special Interest Houses such as Art House, Community Service Clubhouse, Computer Science House, Engineering House, International House, Photo House, and Unity House. Special membership in Greek or Special Interest Houses is required, and dues may be charged.

A variety of room types is also available to the Residence Hall population. Entering students are assigned to double rooms, but limited-availability options for upper class students include single rooms, Double Deluxes (two students to two rooms) and Triluxes (four students to three rooms). On occasion, entering freshmen may initially be housed three to a room. This is a temporary arrangement and as space becomes available, students are quickly reassigned to double-occupant rooms.

Before arriving at RIT, all students must sign and return the Room and Board Request and Assignment Form included in the housing information mailing. First-year students are required to live in Residence Halls, unless they live with their families within a 30-mile radius of RIT, while second and third-year students are required to live either in Residence Halls or RIT apartment housing. As a practice, students generally reside a minimum of two years in Residence Halls. Campus apartments are available to upper-class students through an annual housing selection process. RIT's residency requirement is for the full academic year (Fall, Winter, and Spring Quarters). If a student should become enrolled in a co-op program as part of educational study, he/she is

charged only for the period of actual occupancy. Additionally, all Residence Hall students must participate in a Board (meal) plan. Charges for meal plans are included in the Student Expenses section of this bulletin.

Within the Residence Halls, all rooms and corridors are carpeted and each room is provided with beds, desks, chairs, and dressers according to the number of students assigned to that room. Room window coverings and closet space are also provided. Each corridor in the Halls has its own bathroom equipped with showers, and floors have a community lounge area with a television. In the Ellingson, Peterson, and Bell residential area, suites are available in which three bedrooms are connected by a common bathroom. Coin-operated laundry facilities are available in all Residence Halls.

Apartment housing
RIT's Apartment Life program is one of the nation's largest university-operated apartment systems, with approximately 2,800 students residing in nearly 1,000 individual townhouse and apartment units. Apartment housing is available to all upperclass students in the four Institute-owned and operated apartment complexes.

While single students comprise the majority of apartment residents, a mixture of graduate and undergraduate students, single and married students and faculty/staff can be found in each apartment complex. Contracts run September through August, but residents are permitted to leave for co-op employment and summer without penalty. All apartments are equipped with refrigerator and stove but are otherwise unfurnished. Furniture, however, may be leased from local rental companies. All Institute apartments are located less than a mile from the center of campus and are serviced by RIT's shuttle bus system. A brochure describing the four complexes—Colony Manor, Perkins Green, Riverknoll, and Racquet Club—is available from the Office of Apartment Life, Kate Gleason Hall, P.O. Box 9887, Rochester, NY, 14623; 716-475-6920.

The Housing Connection
A service of the Department of Apartment Life, The Housing Connection is designed to meet the general housing needs of the RIT community. The center provides free referrals for students looking for Institute or off-campus housing accommodations in the Rochester area. In addition, the center offers the only on-campus clearinghouse for apartment residents in need of additional roommates, providing a continual updated listing of available roommates and their specific interests.

Located on the first floor of Kate Gleason Hall (room 1060), The Housing Connection provides free maps, information pamphlets, and telephones for users of this service. A trained staff member will assist you in your research for housing or roommates. For more information, stop in or call 475-2575.

New Student Orientation

Each year, RIT provides freshman and transfer students with summer and fall orientation programs designed to help them make the adjustment to life in a new environment. These programs are developed for both students and parents and address the academic, social, emotional and intellectual issues involved in beginning college or changing from one college to another.

Four Summer Orientation programs are offered, one specifically for transfers in June, two for hearing freshmen in mid-July, and one for deaf freshmen through August. Summer programs concentrate on registration for classes, academic information, support services provided by the Institute, housing information and the opportunity to meet other new students. The fall program continues the academic information process and concentrates on promoting student interaction and community development. While the summer programs are not required, students are strongly urged to attend both the summer and fall programs to derive the greatest benefit. For most deaf students, the summer orientation program is required.

All students are encouraged to stay in the RIT residence halls during the summer programs. This live-in experience is designed to allow all students to sample on-campus living regardless of their long-range housing plans.

Parents' orientation is offered only during the summer programs. There is a small parent orientation fee to support the program.

All new, full-time, day, matriculated students are assessed a program fee to cover program development costs.

The Office of Orientation and Special Programs is located on the A-level of the Student Alumni Union and is open 8:30 a.m.-4:30 p.m., Monday through Friday. The phone number for Orientation is 716-475-2508.

NTID Summer Vestibule Program

The Summer Vestibule Program (SVP), an orientation program for new deaf students, assists and prepares them for complex tasks of career awareness, decision making, adjustment to college life, and assessment of academic skills and competencies. During SVP, students learn about the programs offered at NTID and the other colleges of RIT while faculty and staff members learn about students' skills, abilities, and motivation. Through this process, students gain information that assists their selection of an appropriate program.

Acceptance into S\T does not automatically guarantee admission to the program the student selects during SVP. The final decision on acceptance into a program of study for the Fall Quarter is the responsibility of each academic department. Admission to a program of study depends on passing SVP, having adequate skills to begin the program, and availability of space in the program.

During SVP, students participate in various activities, including program sampling, career planning, math and communication evaluation/assessment, and general education seminars. Recreational and leisure activities, including intramural sports, dances, picnics, swimming, and captioned movies, also are a part of SVP.

While most deaf students do attend SVP, there are some who are not required to attend based on clear career goals, previous college experience, and/or past academic performance. An admissions committee reviews each student's credentials to determine if SVP is appropriate.

Student Clubs and Organizations

Student Government

The Student Government is the representative body for students. It works with RIT administration, faculty and staff to communicate the needs and desires of the student body and to communicate the decisions of the administration to the students. It pulls together the student body to formulate and express student opinion and the Student Hearing Board, which provides for the self-discipline of the the student body.

All full-time and part-time undergraduate and graduate students are members of the Student Government when they pay the Student Activities Fee. All other students may become members of the Student Government if they wish to participate in student-sponsored activities by paying the Student Activities Fee.

NTID Student Congress

The NTID Student Congress (NSC) is an organization of and for deaf students. NSC 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 new leadership skills; and encourages student activities on campus and integration by providing deaf students with opportunities to interact with hearing students socially, academically, athletically, and culturally. NSC is divided into six areas: academic, athletic, cultural, legal and organizational, public relations, and social affairs.

Off-Campus Student Association

OCSA is the representative student government for all RIT students who do not reside in a residence hall. The Off-Campus Student Association, formed in 1978, is composed of off-campus students who live with their parents, in the four RIT-operated apartment complexes, or in off-campus apartments. Through the council, a standing Housing Committee has been set up to deal with the varied housing problems that RIT students may face. The council is the voice of the off-campus students to the administration.

OCSA also has many student committees that work on programming for the off-campus student and provide needed services such as lockers, a satellite office and off-campus survival booklets. The OCSA lounge, located in the RITreat, Student Alumni Union, is a place for the off-campus student to relax. OCSA also publishes a newsletter that contains beneficial off-campus news.

If you are interested in getting involved, stop in at the OCSA office or call 475-6680 for more information.

The College Activities Board

The College Activities Board, which is composed of students, staff advisors, and a student activities staff representative, is responsible for providing a balanced program of activities that reflect and enhance the special social, cultural, recreational and educational needs of the campus community. If you are interested in getting involved, stop by the office, SAU, or call x2509.

The Black Awareness Coordinating Committee

The Black Awareness Coordinating Committee is organized to foster an awareness of the role of black men and women in the total society and to create a greater understanding among black students at RIT. Each year the committee sponsors various social and cultured programs designed to achieve these objectives.

Student professional associations

A number of national technical associations have student affiliate chapters on campus. Frequently sponsored by parent chapters in Rochester, these societies play an important part in Institute life by bringing together students who have common interests in special subjects. The associations serve a professional and social purpose.

Student publications

RIT students produce some of the most professional collegiate publications in the country.

Reporter is published by students weekly, except during examinations and holidays, and serves as the student news magazine. *Techmila,* the student year-book, contains a student-edited pictorial and written description of student life at the Institute during the year. *Reporter* and *Techmila* have consistently won state and national awards.

A weekly calendar listing campus activities, "The CalendaRIT," is distributed to on-campus students, deans, directors, and department heads.

These publications draw their talented staffs—artists, photographers, writers, managers, and printers—from the entire student body.

Publications produced by deaf students include *Rolling Bricks,* a literary/art magazine; *Eagle's Eye,* a newspaper published several times each quarter; and *NTIDLife,* the college's yearbook.

Student Alumni Union

The Student Alumni Union, a primary focal point at the main entrance to the academic plaza, is designed specifically to service events sponsored by and for the entire campus community—students, faculty, and administrative groups, alumni and guests. A staff is available to assist and advise the various individuals and groups in planning and coordinating their activities. In addition, a complete information service is located in the main foyer.

The three-level facility, the center of curricular activities, features the 507-seat Ingle Auditorium; a complete game-room for bowling, billiards, foosball, and electronic games; a unisex hair-styling and tanning salon; a candy and tobacco counter; two separate dining areas comprised of the main cafeteria and the RITskeller; meeting rooms, and lounges. Offices housed in the Union also include Special Services, Student Affairs, Orientation, Complementary Education, the Black Awareness Coordinating Committee, the Office of Minority Student Affairs, Food Services, College Activities Board, Student Activities, Student Government, WITR radio station, RITV, *Techmila, Reporter,* Off-Campus Student Association, and other student organization offices.

The RITreat

The RITreat is more than just a lounge. Through the efforts of the Student Life Advisory Board and several other student groups and individuals, the RITreat is a dedicated student area. The following resources can be found in the RITreat:

* Clubs and organizations space
* Computers/typewriters/word processors
* Stamp machine
* Department of Special Services
* Office of Minority Student Affairs
* Student conference room
* Student Government office
* Mailfolders for SG clubs and organizations
* Off-Campus Student Association
* Study tables/lounge area
* TV lounge

Social Events

Major social events on the activities calendar include Fall Weekend, Winter Weekend, Parents Weekend, and Spring Weekend.

Other dances, parties, speakers, and events are sponsored by other organizations such as the College Activities Board, the Residence Hall Association, NTID Student Congress, the Greek Council, the Black Awareness Coordinating Committee, the Off-Campus Student Association, and various special interest clubs. Students can also get involved with departmental and professional associations such as Alpha Chi Sigma, Delta Lambda Epsilon, Delta Sigma Pi, and Sigma Pi Sigma. Greek council consists of members of three national sororities and 13 national fraternities that offer social activities and promote high scholastic and social standards among members.

RIT Creative Arts Program

RIT Singers

An Institute-sponsored vocal ensemble, the RIT Singers is composed of about 40 members and open to students, faculty, and staff. No auditions are necessary; new members are welcome during the first three weeks of each quarter. The ensemble performs classical and popular music and gives several concerts yearly as well as joint concerts with the orchestra and jazz ensemble. For more information, call 475-6087.

RIT Thursday Afternoon Consort

This ensemble of men's and women's voices performs a range of musical literature. Particular attention is given to building individual vocal skills. Opportunities for solo work and small ensemble singing are emphasized. For further information, call 475-6087.

RIT Men's Octet

Selected through auditions, this is an ensemble of eight singers. Rehearsals for both on- and off-campus appearances are adjusted to fit ensemble members' schedules. For more information, call 475-6087.

RIT Philharmonia

The RIT Philharmonia is open to all RIT students, faculty, and staff. No auditions necessary. Rehearsals are 7-9 p.m., Mondays, in Ingle Auditorium. For more information, call 475-2014.

RIT 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 for religious services on campus as well as for special events. For more information, call Student Activities, 475-6650.

RIT Jazz Ensemble

Instrumentalists with a background in jazz and jazz rock will want to check out the Jazz Ensemble. The group performs monthly on-campus concerts in the RITskeller. For more information, call Student Activities, 475-6650.

Sing/Sign Choir

Members are a blend of hearing and deaf students, faculty, staff, and community members. Songs are sung by a chorus of 25-30 members and signed by another group of 10-15. For more information, call 475-6797 (voice/TDD).

NTID Combo

Each quarter more than 60 deaf students enroll in the world-model NTID music program. Four to six of these students are selected to perform with the internationally renowned NTID Combo. For more information, call 475-6797 (voice/TDD).

RIT Tiger Band

A combination of RIT and NTID students, faculty, staff, alumni, and community members form the RIT Tiger Band and perform music for sports events, award ceremonies, dedications, and student activities. For more information, call 475-6797 (voice/ TDD).

RIT Tiger Band Auxiliary Squads

Members are recruited from the RIT student body to perform flag, rifle, and drum routines with the RIT Tiger Band. For more information, call 475-6797 (voice/TDD).

RIT Timestompers
This popular ensemble is geared to give its members the widest possible experience in Dixieland, jazz, and dance band styles. For more information, call 475-6797 (voice/TDD).

RIT Flute Loops and Polished Brass
These ensembles offer additional performing opportunities at events such as receptions, dinner parties, and ceremonies. For more information, call 475-6797 (voice/TDD).

Sunshine Too
Sunshine Too is NTID's acclaimed professional touring theater company. Each year a new company with different material is available for performances in public schools, schools for deaf students, and colleges. The performers are three deaf and three hearing actors; all performances are done in sign language and voice. For more information, call 475-6251 (voice/TDD).

RIT Dance Company
The company provides an opportunity for deaf and hearing students to work together in modem dance and ballet classes. Each year students and faculty create new pieces and present them in concert. For more information, call 475-6250 (voice/TDD).

NTID Theater
   Main Stage—Three plays are produced each year. They feature deaf and hearing actors and are performed in both sign language and voice. .
   Lab Theater—This includes experimental, new, or unusual productions. New directors and student writers also use the space for developing their skills. For information, call 475-6250 (voice/TDD).

NTID Performing Arts Course Offerings
For information regarding acting, mime, technical theater, lighting, music instruction, or dance classes, call NTID's Department of Performing Arts, 475-6250 (voice/TDD).

Literary Series
A joint activity of the Institute Creative Arts Committee, College of Liberal Arts, and various other campus organizations, the Literary Series brings both well-known and developing writers to RIT. Students who wish to participate should call 475-2475.

Visiting Artists & Critics Series
This series is sponsored by the College of Imaging Arts and Sciences, the Creative Arts Program, and the Complementary Education Office. Many of the country's leadings artists and critics are included in the program, which deals with the issues of technology in art today. For more information, call 475-2646.

Department of Campus Ministries

Although it has no formal religious affiliation, Rochester Institute of Technology has recognized the importance of religion in educating the whole person. The Department of Campus Ministries, within the Division of Student Affairs, strives to respond to the religious aspect of life on the RIT campus. Campus Ministries welcomes and encourages the various religious traditions to work together to serve the needs of students, faculty, and staff with their religious, ethical, and personal concerns.

The KilianJ. and Caroline F. Schmitt Interfaith Center
RIT's Interfaith Center, a gift of KilianJ. and Caroline F. Schmitt and other generous donors, is located on the east side of the Student Alumni Union. It is the focal point for the diverse religious traditions within the Institute community.
   Administered by the Department of Campus Ministries, the center also provides campus ministers with offices for counseling and additional aspects of their ministry.

Institute Campus Ministers
Various religious traditions have assigned campus ministers to the Institute to serve the needs of students, faculty, and staff in their particular faiths. The ministers are available at the Interfaith Center for religious services, personal counseling, and a variety of program activities.
   For more information, call the coordinator of the Interfaith Center at 475-2135 (voice/TDD).

Physical Education

Physical education courses are offered during all academic quarters, including summer. More than 60 courses are available during the year. Not all courses are offered every quarter. Registration for Physical Education classes will coincide with the dates and times for the academic departments. A nominal fee is charged in some courses requiring specialized instruction and/or facilities.

The following classes are offered as selections in the Physical Education Department. The Institute's physical education requirements are described on page 8 of this bulletin.

Cardiovascular and strength activities
Aerobic Dance, Army Conditioning Drills, Conditioningjogging, Karate, Kung Fu, ROTC, Swimming for Fitness, Weight Training, Yoga and Tai Chi, Red Barn Ropes

Recreation and sports activities
Aquathenics, Archery, Badminton, Ballroom Dance, Basketball Officiating, Billiards, Bowling, Canoeing, Cross Country Skiing, Dance Performance I & II, Night Club Dancing, Diving, English Horseback, Fencing, Fishing, Frisbee, Golf, Hunting, Ice Skating, Juggling, Modern Dance, Outdoor Experiential Education, Racquetball, Scuba Diving, Self-Defense/Women, Skiing (downhill) , Swimming, Tennis, Water Polo, Western Horseback, Rock Climbing, Skeet and Trap

Team activities
Basketball, Ice Hockey, Lacrosse, Soccer, Softball, Volleyball

Life support and safety programs
CPR & First Aid, Lifeguarding, Water Safety Instruction, Health/Mind-Body Connection

Intramural Activities

An extensive program of intramural activities is offered at RIT. Under the direction of the Department of Physical Education, Recreation and Intramurals, activities include co-rec, men's and women's teams in basketball, volleyball, Softball, ice hockey, flag football, soccer, innertube water polo, bowling, tennis and golf.

Recreation

RIT offers some of the finest recreational facilities available in colleges today. Indoor facilities feature four gymnasiums, ice rink, swimming pool, elevated indoor running track, physical fitness and weight training center, recreational equipment room, wrestling room and game room (bowling, video games, billiards). Outdoor facilities include 6 tennis courts, an all-weather track, and numerous athletic fields. The equipment issue room provides quality equipment for recreation, physical education instruction, and intramural needs and interests. Services offered include: general information center, issuance of guest passes, and equipment loan-outs.

The Recreation Department also provides a series of health education and exercise programs throughout the year.

Intercollegiate Athletics

For eight decades, intercollegiate athletics has developed a tradition of excellence at RIT. The Institute's heritage in competitive athletics is a rich one. It has grown to become highly successful and widely recognized on the regional and national levels.

In the past decade, RIT has won more than 50 percent of its contests. Some of the men's team accomplishments have come in soccer (nine NCAA appearances and runnerup honors in 1988), cross country (five Eastern College Athletic Conference crowns), hockey (two national championships and three ECAC titles), and lacrosse (four Empire Athletic Association crowns in the last six years).

Women's teams have also excelled. Volleyball boasts four straight EAA crowns and two NCAA playoff appearances. Women's tennis is 99-26 since 1980, and women's hockey won its first ECAC title in 1989.

Each year more than 350 athletes take part in 18 varsity sports offered at the Institute. Fall competition features men's cross country, women's volleyball, women's and men's soccer, and women's tennis. Winter sports include men's and women's basketball, swimming, hockey, indoor track, and wrestling. Spring competition includes baseball, men's and women's track, lacrosse, Softball, and men's tennis.

A National Collegiate Athletic Association (NCAA) Division III member institution, RIT competes against schools in the Northeast with similiar academic and intercollegiate athletic philosophies. Known as the Tigers, RIT teams are also members of the Eastern College Athletic Conference, Empire Athletic Association (EAA), and New York State Women's Collegiate Athletic Association (NYSWCAA).

Since 1970, RIT has been a member of the EAA, which also includes Alfred University, Clarkson University, Hartwick College, Hobart and William Smith Colleges, Ithaca College, Rensselaer Polytechnic Institute, and St. Lawrence University.

EAA men's and women's soccer champions receive automatic berths in the post-season NCAAs, and the conference is consistently well-represented in numerous national championships.

Support Services for Deaf Students in Physical Education and Athletics
NTID's Physical Education and Athletics Support Team provides support services for deaf students on intercollegiate teams and those involved in physical education classes and intramural activities. It also provides direct instruction in physical education courses and ongoing in-service instruction, both formal and informal, to physical education teachers and athletic coaches regarding deafness and deaf/hearing interaction.

Student Health Service

Student Health Service provides primary medical care on an outpatient basis. The staff includes physicians, nurse practitioners, registered nurses, an interpreter for the deaf and a health educator. Allergy, psychiatric and gynecological services are available by appointment. Health Education programs are provided also.

The Student Health Service is part of the Hale-Andrews Student Life Center. Students are seen on a walk-in basis, Monday through Thursday, 8:30 a.m.-8:30 p.m.; Friday, 8:30 a.m.-4:30 p.m., with limited services only from 4:30—8:30 p.m. and on Saturdays from 10:00 a.m.-2:00 p.m.

Only emergencies are seen during the last half hour of each shift. Hours are subject to change and will be posted.

The Institute REQUIRES students to maintain health insurance coverage as long as enrolled at RIT. Students may obtain coverage either through RIT or their personal coverage.

The quarterly student health fee is mandatory for all full-time undergraduate students. All other students may pay either the quarterly fee or a fee for service. Some laboratory work ordered through Student Health Service is not covered by this fee; there is a nominal charge for this service. Prescription medicines may be obtained from local pharmacies. The health fee does not include prescription medications.

Questions about Student Health Service or health insurance should be directed to the office at 475-2255.

RIT Ambulance
RIT Ambulance is a New York State certified volunteer ambulance service that operates in and around the campus. The organization is an auxiliary of the Student Health Service. Its primary territory includes the main campus; Riverknoll, Perkins Green, Colony

Manor, and Racquet Club apartment complexes; and the Radisson Inn.

For *emergency* assistance and/or transport, the RIT Ambulance can be dispatched through Campus Saefty at 475-3333 (voice) and 475-6654 (TDD).

Health records
Medical records are confidential. Information will not be released without the student's written consent. Exceptions to this rule are made only when required by the public health laws of New York State.

Campus Stores

RIT operates two campus stores on the main campus. The main store, Campus Connections, is located on the west side of the Student Alumni Union. It consists of two selling floors and is divided into 11 departments, including:

1st Floor	Clothing and accessories
	General reading and reference books
	Gifts and RIT Insignia Shop
	Stationery
	Print, poster and framing shop
	Supplies—school, office, art, engineering
	Home accessories
2nd Floor	Photography and electronics
	Products for the hearing impaired
	Computers—hardware, software, accessories, computer furniture
	Course books—textbooks, study guides, etc.
	Sporting apparel and equipment, tickets for RIT hockey games

Store hours are Monday through Thursday, 8:30 a.m. to 8:30 p.m.; Friday, 8:30 a.m. to 4:30 p.m.; Saturday, 11 a.m. to 4 p.m.

Campus Connections accepts cash, checks, and charge cards (VISA, MasterCard) for payment. Certain students may have arrangements with a government agency to pay for some of their books and supplies; this is handled at our service counter on the first floor.

The Candy Counter in the lobby of the Student Alumni Union is where candy, tobacco products, notions, sundries, magazines, daily newspapers, snack items, and tickets for most campus events are sold. Film for processing can also be dropped off there.

For current information about store hours and special sales, call Campus Connections Info Line at 475-6033.

Campus Safety

The Campus Safety Department is open 24 hours a day and is located in Grace Watson Hall.

The following services are provided:
- **Escort Service**
  Campus Safety strongly encourages students to use the Escort Service. The Escort Service is available to anyone, 7 days a week. Simply call the Campus Safety Department at (475) 2853/6654 (TDD), or use one of the blue-light courtesy call boxes located through-out the campus.
- **Lost and Found and Operation ID**
  All campus lost and found property is stored by the Campus Safety Department. Each year Campus Safety disposes of a great deal of unclaimed property because it is not identifiable and the owners do not claim it. Students are encouraged to take advantage of the Operation ID program, which helps in the recovery of lost property by marking valuables and by registering them with Campus Safety.
- **Emergency Notification**
  There may be times when emergency notifications are needed to be made. If this should occur, contact the Campus Safety Department (716) 475-2853/6654 (TDD). Campus Safety will locate the student and relay your message.

- **Campus Courtesy Call Boxes**
  Campus courtesy call boxes identified by a blue light are located throughout the campus. These call boxes provide a direct line to Campus Safety 24 hours a day. The location of the call is automatically recorded at the Campus Safety Communications Center, making it possible for the hearing impaired individuals to also use the call boxes. The call boxes may be used to request an escort, assist a motorist, report any suspicious persons or activities or request access to a locked building or room.
- **Vehicle Registration**
  All vehicles operated on the RIT campus must be registered with Campus Safety and stickers must be properly displayed on the vehicle. New York State motor vehicle and traffic laws are in effect on the RIT campus. Institute fines are imposed for operators in violation of parking and traffic regulations.
- **Medical/Handicap Parking Permits**
  Campus Safety honors handicap and medical parking permits from every state. Temporary medical parking permits may be issued to persons in need of them.
- **Public Safety**
  Campus Safety conducts programs in fire safety practices and evacuation techniques (which are reinforced through fire drills that are held in accordance with New York State Education Laws), safety in the work place and Environmental Health.
- **Presentation Programs**
  Throughout the year, Campus Safety hosts a variety of prevention programs on topics including Fire Safety (video and slide presentations) , Crime Prevention (video presentation), Personal Safety, Alcohol Awareness/DWI ("Is It Worth the Risk?") and Date/ Acquaintance Rape. The Personal Safety Program is required for all new students living in the residence halls, presentations

- **Rape Education and Counseling Team (REACT)**
  RIT's Rape Education and Counseling Team (REACT) provides counseling and educational services to the RIT community. The counselors are full-time professional staff, some of whom are skilled in sign language. REACT also provides a confidential hotline for people who need to contact a counselor. The hotline number is 258-3399 (Voice/ TDD). Educational programming is available to everyone in the community by calling the educational program coordinator at 475-6989.

RIT provides a wide variety of security services and prevention programs to everyone in the campus community. Although each individual is ultimately responsible for his/her own personal safety, learning and practicing some basic precautions could enhance one's well being.

Endowed Professorships

College of Business

J. Warren McClure 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: Dr. Eugene H. Fram

Frank D. Bertch Center for Business Ethics
Established: 1990
Donor: Mr. And Mrs. Herbert Ingersoll
Purpose: Study and research of business ethics
Held by: Dr. Walter F. McCanna

Benjamin Forman Chair in International Business
Established: 1986
Donor: Maurice Forman
Purpose: Perpetuate Mr. Forman's interest in international business
Held by: Dr. Riad Ajami

College of Engineering

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 served as a trustee of RIT from 1930 until 1964, and to strengthen RIT in the field in which he received his education
Held by: Dr. Richard B. Hetnarski, P.E.

College of Imaging Arts and Sciences

Charlotte Fredericks Mowris Professorship in Contemporary Crafts
Established: 1976
Donor: Mrs. Charles F. Mowris
Purpose: To perpetuate interest in the School for American Craftsmen through the work of faculty and students as talented craftsmen
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 as a former president of the American Institute of Graphic Arts and to perpetuate his interest in the field
Held by:

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: Dr. Roy S. Berns

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: Professor James E. Rice

Paul and Louise Miller Distinguished Professorship in Newspaper Operations Management
Established: 1979
Donor: Frank E. Gannett Newspaper Foundation
Purpose: To honor the former chairman of the board of the Gannett Company and to perpetuate his interest in good management practices in the newpaper industry
Held by: Professor John M. Jakopin

Roger K. Fawcett Distinguished Professorship in Publications Color Management
Established: 1991
Donor: World Color Press, and Fawcett family 8c industry colleagues
Purpose: The endowed chair, the only one of its kind in the nation, has been established to address color quality and productivity in both the magazine and newspaper publishing industries, as well as promotion of RIT color research activities

Frederick and Anna B. Wiedman Professorship in Medical Imaging
Established: 1985
Donor: Frederick Wiedman Jr.
Purpose: To establish a permanent memorial to Frederick and Anna B. Wiedman, lifelong residents of Rochester and long time friends of RIT
Held by: Dr. Arthur E. Burgess

College of Liberal Arts

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: Dr. Paul Grebinger

Arthur J. Gosnell Professorship in Economics
Established: 1987
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: Dr. Thomas D. Hopkins

Ezra A. Hale Professorship in Applied Ethics
Established: 1989
Donors: William B. and Patricia F. Hale and Lawyers Co-operative 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 sports man-like conduct, fair play, and honesty.
Held by: Dr. Wade L Robison

William A. Kern Professorship in Communications
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: Dr. Bruce A. Austin

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Reno Antonietti, BS, MLS— Associate Vice President, Academic Services and Computing

Office of the Assistant Provost

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College of Applied Science and Technology
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College of Applied Science and Technology

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Francis M. Domoy, BS, MA, Ph.D—Director, School of Food, Hotel, and Travel Management; Professor
Daniel Goodwin, BS, MS, Ph.D.—Chair, Department of Packaging Science; Professor
William Stratton, BA, MA, MS, Ph.D.— Director, School of Computer Science and Information Technology

SCHOOL OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY

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Rodger Baker, BM, BS, MS, University of Rochester — Undergraduate Program Chair; Associate Professor
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Lawrence Coon, AB, University of Rochester; MA, Oakland University; Ph.D., Ohio State University—Associate Professor
Henry Etlinger, BS, University of Rochester; MS, Syracuse University—Associate Professor
James Heliotis, Ph.D., University of Rochester—Associate Professor
Fereydoun Kazemian, BS, Queen Mary College; MS, Pittsburgh State University; Ph.D., Kansas State University— Associate Professor
Andrew Kitchen, Ph.D., University of Rochester—Professor
Michael J. Lutz, BS, St. John Fisher College; MS, SUNYat Buffalo-Professor
Wiley R. McKinzie, BA, University of Wichita; MS, SUNY Buffalo-Professor
Stanislaw Radziszowski, Ph.D., University of Warsaw—Associate Professor
Kenneth Reek, B. Tech., MS, Rochester Institute of Technology—Associate Professor
Margaret Reek, B. Tech., MS, Rochester Institute of Technology — Associate Professor
Nan Schaller, BS, University of North Carolina; MS, Union College—Associate Professor
Walter A **Wolf,** BA, Wesleyan University; MA, Ph.D., Brandeis University—Associate Professor

DEPARTMENT OF INFORMATION TECHNOLOGY

Peter Lutz, Ph.D., SUNYat Buffalo-Chairperson; Professor
Kevin Donaghy, BA, Holy Cross; MS, Rochester Institute of Technology; MA Ph.D., University of Toronto—Assistant Professor
Gordon Goodman, BS, SUNY Binghamton; MS, Rochester Institute of Technology—Assistant Professor
James Hammerton, MA, Cambridge University, MBA, New York University—Assistant Professor
Daryl Johnson, BS, St. John Fisher College; MS, Rochester Institute of Technology—Instructor
Guy Johnson, BS, Pennsylvania State; MS, Syracuse University—Professor
Stephen Kurtz, BA, University of Miami; MS, Rochester Institute of Technology—Assistant Professor
Jeffrey Lasky, BBA, University of New York; MBA, City University of New York; MS, University of Minnesota—Associate Professor
Edith Lawson, MS, Rochester Institute of Technology—Assistant Director for Part-time Studies; Assistant Professor
Rayno Niemi, BS, MS, Ph.D., Rensselaer Polytechnic Institute—Professor
Elizabeth Paciorek, BS, SUNY Buffalo; MS, University of Rochester—Assistant Professor
Ronald Perry, B.Tech., MS, Rochester Institute of Technology—Assistant Professor
Evelyn Rozanski, BS, SUNYat Brockport; MS, Syracuse University—Coordinator, Graduate Programs; Professor
William Stratton, BA, Ohio State, MA, Hunter College; MS, Ph.D., SUNYat Buffalo—Director; Associate Professor
Timothy Wells, BS, Eastern Washington State University; MBA, California State, Bakersfield—Assistant Professor
Michael A. **Yacci,** BS, Ithaca College; MS, Rochester Institute of Technology; Ph.D., Syracuse University—Assistant Professor

Adjunct Faculty

Robert Berl, MS, Rochester Institute of Technology
Robert Gayvert, MS, Rochester Institute of Technology
Albert Gregorio, MS, SUNY Buffalo
J. Doug Hanson, MS, Rochester Institute of Technology
Trudy Howies, MS, Rochester Institute of Technology
Bruce C. Lyon, BS, Rochester Institute of Technology
David L. Moribito, MS, Rochester Institute of Technology
Lois Rixner, MS, Rochester Institute of Technology
Fred Roberts, MS, Rochester Institute of Technology
Daniel Sorrentino, MS, Rochester Institute of Technology
David Tilley, MS, Rochester Institute of Technology
Donald Wilder, MS, University of Rochester

SCHOOL OF ENGINEERING TECHNOLOGY

A'isha Ajayi, BA, University of Vermont; MS, Syracuse University—Assistant Professor
Ronald F. Amberger, BME, Rensselaer Polytechnic Institute; M. Eng., Pennsylvania State University; PE—Professor
W. David Baker, BS, Monmouth College; MS, Rochester Institute of Technology—Director, School of Engineering Technology; Professor
Walter J. Bankes, BS, Kent State University; MS, University of Arizona—Associate Professor
Charles L. DeRoller, BS, ME, Rochester Institute of Technology—Associate Professor
Mario Diquillio, BS, Massachusetts Institute of Technology; MS, Canisius College; MS, Rochester Institute of Technology; P.E.—Associate Professor
Thomas J. Dingman, BSEE, MS (ET), Rochester Institute of Technology—Professor
G. Todd Dunn, BS, Dartmouth College; MSCE, University of California; P.E.—Assistant Professor
Robert H. Easton, BS, U.S. Military Academy; MSCE, Iowa State University; P.E.—Chairman, Civil Engineering Technology; Professor
James D. Forman, BS, Rochester Institute of Technology; MS, Alfred University—Russell C. McCarthy Professor
William G. Frizelle, BS, MS, University of Rochester, P.E.—Associate Professor
Louis B. Gennaro, BS, U.S. Military Academy; MS, Northeastern University—Associate Professor
Richard A. Hultin, BSME, MSME, Northeastern University; P.E.—Associate Professor
Mark J. Indelicato, BEEE, Manhattan College; MS, Polytechnic University—Assistant Professor
William P. Johnson, BA, Kings College; BSEE, MSEE, Syracuse University—Assistant Professor
David G. Krispinsky, BE, MSE, Youngstown State University—Associate Professor
William C. Larsen, BS, MSCE, Dartmouth; P.E.—Associate Professor
Robert E. Lee, BSME, MSEE, Ph.D., University of Rochester—Professor
Ti-Lin Liu, MS, Tsinghua University—Assistant Professor
Carl A **Lundgren.** BS, Rensselaer Polytechnic Institute; MBA, University of Rochester—Associate Professor
Robert E. **McGrath Jr.,** BCE, Rensselaer Polytechnic Institute; MSCE, Syracuse Univeristy; P.E — Professor
Robert A Merrill, BS, Clarkson College; MS, Northeastern; P.E.—Professor
Mark Piterman, MCE, Odessa Marine Engineers Institute—Associate Professor
Venkitaswamy Raju, BS, MS, Madras University; MBA, Missouri State University; ME, Rochester Institute of Technology; Ph.D., Gujarat University—Chairman, Manufacturing Engineering Technology; Associate Professor

S. Manian Ramkumar, BE, PSG, College of Technology-Bharathiar; ME, Rochester Institute of Technology—Assistant Professor
James A. Reynolds, BS, Rochester Institute of Technology; MSEE, Illinois—Professor
Carol A. Richardson, BSEE, University of Wyoming; MSEE, Union—Professor
John D. Sherrick, BEE, Clarkson; MSEE, Worcester Polytechnic; P.E.—Associate Professor
Martin J. Siebach, BS, Rochester Institute of Technology; MSEE, Illinois; P.E.—Associate Professor
John A Stratton, BS, Rochester Institute of Technology; MS, Rensselaer Polytechnic Institute; P.E.—Associate Dean; Professor
Charles L. Swain, BSEE, Pennsylvania State University; MS, Elmira College; MSEE, Pennsylvania State University—Associate Professor
Thomas Young, BA, Hunter College; MS,! •Jew York University; MSEE, Rochester Institute of Technology—Chairman, Electrical Engineering Technology; Professor
George H. Zion, BT, MS, Rochester Institute of Technology—Assistant Professor

Adjunct Faculty

John S. Abbott, BS, California Institute of Technology; Ph.D., Massachusetts Institute of Technology
Gaspare Accordo, BPS, MA, SUNYat Buffalo
Nader Anvari, BS, Triton College; MS, Illinois Institute of Technology
Dominic T. Bozzelli, BS, University of Notre Dame; MS, Rochester Institute of Technology; MS, SUNY Brockport
Herbert L. Bresnick, BS, Northeastern University; MS, Rochester Institute of Technology
Paul H. Chalupa, BS, ME, MBA, Rochester Institute of Technology
Richard C. Cliver, BSEE, Rochester Institute of Technology
Clyde M. Crevling, BS, Rochester Institute of Technology
Gary J. DeAngelis, BS, MS, University of Lowell
James J. Hurney, BSEE, Carnegie Institute of Technology; MS, MBA, Rochester Institute of Technology
Robert H. Jones, BSEE, University of Rochester; MS, Rochester Institute of Technology; P.E.
Robert N. Klafehn, BS, MS, SUNY Buffalo
Vincent Leonard, BS, New York Institute of Technology; MA, New York University
John Link, BSEE, Rochester Institute of Technology
James Mallory, BT, MS, Rochester Institute of Technology
Sue Mao, BS, MS, Shanghai Jiao Tong University
Richard S. McElwain, AAS, Rochester Institute of Technology
Robert Mills, BS, University of Buffalo; MS, Rochester Institute of Technology
James Murphy, BS, Rochester Institute of Technology
David Nadeau, BS, Cornell University; MS, Rochester Institute of Technology
Robert (VConnell, BS, Rochester Institute of Technology

Joseph T. Olesik, BSEE, MEEE, Clarkson College; MSEE, Massachusetts Institute of Technology
James Prowak, BSEE, MSEE, Rochester Institute of Technology
Alan D. Robinson, BSEE, MSEE, University of Michigan
Dennis Rossman, BSEE, University of Arizona
John Todd Schueckler, BS, Rochester Institute of Technology; MS, Rensselaer Polytechnic Institute
Larry Straight, BT, SUNY College of Technology; MSAS, SUNY Binghamton
Bradley B. Upson, BT, Rochester Institute of Technology
Alan Zoyhofski, BT, MS, Rochester Institute of Technology

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Barbra A. Cerio, R.D., BS, MS, SUNY Buffalo—Assistant Professor
David H. Crumb, BS, Florida State University; MBA, Michigan State University—Assistant Professor
Francis M. Domoy, BS, MA, SUNYat Buffalo; Ph.D., Michigan State University—Director, School of Food, Hotel and Travel Management; Professor
James W.Jacobs Jr., BA, Purdue University; MS, Troy State University—Assistant Professor
Elizabeth A. Kmiecinski, RD, BS, Ohio State University; MS, University of Kentucky—Assistant Professor
Richard F. Marecki, BA, MA, Ph.D., SUNY Buffalo—Chairman, Graduate Studies; Professor
James A. Myers, BS, Rochester Institute of Technology—Assistant Professor
Phillip Quinney, BS, MBA, Brigham Young University—Professor
Warren G. Sackler, BA, Michigan State University; MA, New York University—Associate Professor
Edward A Steffens, BS, MBA, Rochester Institute of Technology—Assistant Professor
Edward B. Stockham, AB, Ph.D., University of Pennsylvania—Associate Professor
Carol B. Whidock, RD, BS, MS, Pennsylvania State University; Ph.D., University of Massachusetts—Associate Professor

PACKAGING SCIENCE

A. Ray Chapman, BS, Michigan State University; MBA, Rochester Institute of Technology—Associate Professor
Daniel L. Goodwin, BS, MS, Ph.D., Michigan State University—Chair; Professor
Deanna M.Jacobs, BA, SUNY Pittsburgh; MA, SUNYGeneseo; MS, Rochester Institute of Technology—Assistant Professor
David L. Olsson. BS, MS, Ph.D., Michigan State University—Professor
Karen L. Proctor, BS, Michigan State University; MBA, Rochester Institute of Technology—Associate Professor
Fritz J. Yambrach, BS, Michigan State University; BS, MBA, Utah State University—Associate Professor

RESERVE OFFICER TRAINING CORPS

Army ROTC
LTC John M. Laage, BA, MS, Florida Institute of Technology—Professor of Military Science
Major Jerry D. Zayas, BS, MS, Rochester Institute of Technology—Assistant Professor of Military Science
Captain Antonio L. Morales, BS, SUNY Buffalo—Assistant Professor of Military Science
Captain Thomas J. Stapleton, BS, Canisius College—Assistant Professor of Military Science
Master Sergeant Mark A. Bucksath, Chief Instructor
Sergeant First Class Robert J. Sheltra, Senior Army Instructor
Staff Sergeant Oscar H. Thompson, AAS Administration Sergeant
Staff Sergeant Darren M. Floyd, Supply Sergeant

Air Force ROTC
Lt Col. Thomas E. Tschorke, BS, State University of New York; MS, University of Southern California—Professor
Captain Jonathan D. Wiener, BS, Rutgers University; BS, Auburn University; MS, Central Michigan University—Assistant Professor
Captain Orlando V. Griego, BA, San Jose State University; MS, Golden Gate University—Assistant Professor
Staff Sergeant Steven Pennypacker, Chief, Detachment Information Management
Sergeant Danielle Skidmore, Chief, Detachment Personnel

College of Business

Richard N. Rosett, BA, Columbia University; MA, Ph.D., Yale University—Dean
Gary J. Bonvillian, BS, MS, Rochester Institute of Technology—Associate Dean
William A. Nowlin, BS, SUNY Empire State College; MPA, SUNY Brockport; Ph.D., SUNY Buffalo—Associate Dean for Academic Affairs
Joann E. Middleton, BS, MS, SUNY at Brockport—Assistant Dean for Student Affairs
Mary B. Hope, BA, Lawrence University; MS, Rochester Institute of Technology—Director, Graduate Business Programs
Stanley M. Widrick, BS, Clarkson College; MBA, SUNY Buffalo; Ph.D., Syracuse University—Director, Executive MBA Program

ACCOUNTING PROGRAM

Kathy Barker, BS, SUNY Empire State College; MS, Rochester Institute of Technology—Lecturer
Kenneth D. Gartrell, BA, MS, Ph.D., Kent State University; C.P.A., Ohio—Assistant Professor
Francis E. Kearns, BD, Harvard University; AB, Cornell University; MBA, Ph.D., SUNYBuffalo—Assistant Professor
Bruce L. Oliver, BBA MBA, University of Cincinnati; Ph.D., University of Washington—Professor
Jose A. Rullan, BS, Western Carolina University; MS, Rochester Institute of Technology; C.PA, New York—Assistant Professor

Daniel D. Tessoni, BBA, St. John Fisher; MS, Clarkson College of Technology; Ph.D., Syracuse University; C.PA, New York—Assistant Professor
Robert J. Warth, BS, Rochester Institute ofTechnology; MBA, University of Rochester; C.PA, New York—Assistant Professor

FINANCE PROGRAM

James C. Galloway, BA University of Rochester; MBA, University of Pennsylvania; DBA, University of Virginia—Assistant Professor
Steven C. Gold, BA BS, Rutgers; MA Ph.D., SUNY-Binghamton—Associate Professor
John A Helmuth II, BA, MA Old Dominion University; Ph.D., University of South Carolina—Associate Professor
Jeffrey P. Lessard, BA BS, University of New Hampshire; MBA Plymouth State College; MA, Ph.D., University of Arkansas—Associate Professor
Kyle Logan Mattson, D.BA, University of Kentucky, M.B.A., Utah State University, M.PA, Syracuse University —Assistant Professor
AshokJ. Robin, Ph.D., M B A, SUNY Buffalo—Assistant Professor
Walter J. Woerheide, BS, Brown University; MBA, Ph.D., Washington University—Professor

INFORMATION SYSTEMS PROGRAM

Terry L. Dennis, BS, Clarkson College; MS, Ph.D., Purdue University—Professor
Delvin Grant, BS, New York Institute ofTechnology; MBA, Ph.D., SUNY Binghamton—Assistant Professor
Daniel A Joseph, BS, Niagara University; MBA SUNY Buffalo; MA SUNYat Albany; Ph.D., SUNYat Buffalo—Associate Professor

INTERNATIONAL PROGRAM

Riad A Ajami, BS, Western Michigan University; MBA, Pordand State University; Ph.D., Pennsylvania State University—Professor
Ramesh Gehani, BS, MS, Indian Institute ofTechnology; MBA, International Management Institute; Ph.D., Tokyo Institute of Technology—Assistant Professor
A Elian Mergen, BS, Middle East Technical University, Turkey; MS, Union College; Ph.D., Union College—Associate Professor
AshokJ. Robin, Ph.D., M.BA, SUNY Buffalo—Assistant Professor
Stanley M. Widrick, BS, Clarkson College; MBA, SUNY Buffalo; Ph.D., Syracuse University—Associate Professor

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Robert J. Barbato, BA LeMoyne College; Ph.D., Michigan State University—Associate Professor
Peter R. Barcher, BA MA Ph.D., Syracuse University—Lecturer
Janet C. Barnard, BS, Nazareth College; Ed.D., University of Rochester—Associate Professor
Paul Bernstein, Ph.D., University of Pennsylvania; Ed.M., Temple University—Professor
Andrew J. DuBrin, AB, Hunter College; MS, Purdue University; Ph.D., Michigan State University—Professor

Ramesh Gehani, BS, MS, Indian Institute of Technology; MBA, International Manaement Institute; Ph.D., Tokyo Institute of Technology—Assistant Professor
Walter E. McCanna, BS, Marquette University; Ph.D., University of Wisconsin—Professor
Donald O. Wilson, BS, Oklahoma State University; MS, MPA Ph.D., in progress, University of Southern California—Assistant Professor

MARKETING PROGRAM

Eugene H. Fram, BS, ML, University of Pittsburgh; Ed.D., SUNY Buffalo—Professor
Dean C. **Siewers,** BS, Marietta College; MBA, Duke University; Ph.D., University of North Carolina—Assistant Professor
Patricia Sorce, BA, Kent State University; MS, Ph.D., University of Massachusetts—Associate Professor
Philip R Tyler, BS, Rochester Institute of Technology; MBA DBA Michigan State University—Associate Professor
Stanley M. Widrick, BS, Clarkson College; MBA, SUNY Buffalo; Ph.D., Syracuse University—Associate Professor
Julian E. Yudelson, BS, University of Pennsylvania; MBA, Emory University; Ph.D., Northwestern University—Associate Professor

QUALITY ASSURANCE PROGRAM

Kathleen Bentley, Ph.D. in progress, Syracuse University, M.BA SUNY Albany—Assistant Professor
Bernard J. Isselhardt, BA MS, Southern Illinois University; Ph.D., University of Iowa—Assistant Professor
George A Johnson, BS, University of Rochester; MBA, DBA, Indiana University—Professor
A Erhan Mergen, BS, Middle East Technical University, Turkey; MS, Ph.D.,Union College—Associate Professor
Thomas F. Pray, BS, MS, Clarkson College; Ph.D., Rensselaer Polytechnic Institute—Professor
William J. Stevenson, BIE, MBA, Ph.D., Syracuse University—Associate Professor
Thomas A Williams, BS, Clarkson University; MS, Ph.D., Rensselaer Polytechnic—Professor

SPECIAL APPOINTMENTS

Edward C. **Mclrvine,** BS, University of Minnesota; Ph.D., Cornell University—Professor
M. Richard Rose, BS, Slippery Rock; MS, Westminster College; Ph.D., University of Pittsburgh—Professor

College of Continuing Education

Lawrence W. Belle, BA MA Case-Western Reserve, Ph.D., University of Rochester—Dean; Professor
Lynda Rummel, BS, Oregon State; MA, SUNYGeneseo; Ph.D., Buffalo—Associate Dean; Director, Academic Division; Professor
Christine Hammer, BS, MS, SUNY Brockport—Assistant to the Dean
Alice McCrave—Coordinator, Information Services
Bobette Warner, AAS, Rochester Institute of Technology—Manager, Academic Services

Bette Anne Winston, BS, SUNY Buffalo, MS, Rochester Institute of Technology—Manager, Academic Advising
Joanne Mahan—Administrative Assistant to the Dean

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Eric L. Bellmann, BS, SUNY Buffalo, MFA, Rochester Institute of Technology—Chairperson, Fine & Applied Arts/Crafts; Assistant Professor
Elizabeth A **Conley,** BA, Nazareth College—Chairperson, Communications; Lecturer
Ronald J. Hilton, BS, SUNYGeneseo; MA, University of Arkansas; Ph.D., Syracuse University—Chairperson, Liberal Arts; Paul A. Miller Distinguished Professor; Professor
Daniel C. Smialek, BS, MS, Rochester Institute of Technology—Chairperson, Business & Management Studies; Assistant Professor
Kalman N. **Vizy,** BES, Cleveland State University; MS, John Carroll University; Ph.D., Walden Institute for Advanced Studies; PE, New York State—Chairperson, Applied Technology and Administration Programs; Assistant Director, Academic Division

SCHOOL OF PROFESSIONAL STUDIES

Henry F. **Cooke,** BEE, MS, Ohio State—Chairperson, Technology Marketing & Distribution; Professor Emeritus
John Morelli, BS, Syracuse University; MS; SUNY College of Environmental Science and Forestry—Chairperson, Environmental Management; Assistant Professor

CAREER AND HUMAN RESOURCE DEVELOPMENT

Stanley Bissell, BA, Ohio Wesleyan University; MA, University of Aukland; MS, SUNYGeneseo—Assistant Professor
Gladys Abraham, BS, SUNY Albany; MS, SUNY Brockport
Isaac Jordan Sr., Master of Divinity, MS, SUNY Buffalo; BS, Bethune-Cookman College

TALENT CONNECTION & OFFICE TECHNOLOGIES PROGRAM

James Papero, BS, Ed.M., University of Rochester—Director

TRAINING & PROFESSIONAL DEVELOPMENT

Raymond Santirocco, BS, PH.D., University of Rochester—Executive Director
Eileen Benedict, AAS, Garfield Business Institute—Program Assistant to Executive Director
Mary Lou Carlson—Program Director, The Athenaeum
Carolyn Turner, BS, Western Liberty—Staff Assistant, The Athenaeum

TECHNICAL & EDUCATION CENTER OF THE GRAPHIC ARTS

Val Johnson, BS, Rochester Institute of Technology; Ed.M., University of Rochester—Senior Program Director
Mark DuPre, BA, College of the Holy Cross; MFA Columbia University—Senior Program Director
David Tontarski, BFA Rochester Institute of Technology—Senior Program Director
Lisa Ford, BS, Rochester Institute of Technology—Program Director
John Compton, MS, Rochester Institute of Technology—Director, Lab for Quality and Productivity in the Graphic Arts; Professor
Brenda Reimherr—Program Assistant
Valeria Hill—Program Assistant
Lea Vitello—Program Assistant
David Sell—Design Assistant
Nancy Synesael—Secretary to Director

Research & Program Development

Robert Sandholzer, BA Syracuse University—Director
Ching Yih Chen, MS, Rochester Institute of Technology—Senior Technologist
David Cohn, BS, Rochester Institute of Technology—Senior Technologist
Chester Darnels, AAS, BS, MS, Rochester Institute of Technology—Senior Technologist
Daniel Clark—Manager, Web & Sheetfed
Jim Clarke, AAS, Rochester Institute of Technology—Sheetfed Technician
Rubin Soto—Pressman
James Manning, AAS, BS, Rochester Institute of Technology—Prepress Technologist I
Barbara Giordano, BS, Rochester Institute of Technology—Operations Manager
John Perrotto, AAS, Rochester Institute of Technology—Web Offset Technologist
Kristine Greenizen, BFA, SUNY Potsdam—Image Assembly Technologist
William Garno, BS, Rochester Institute of Technology—Web Press Technologist
James Monteleone, BS, Rochester Institute of Technology—Pressman

PROFESSIONAL DEVELOPMENT PROGRAMS & SPECIAL PROJECTS

Barbara Cutrona, AAS, Erie Community College; BS, MS, Rochester Institute of Technology—Director
Judd ProzeUer, BS, MBA, Rochester Institute of Technology; M.Ed., Nazareth College—Training Specialist

Kitren VanStrander, BA SUNY Potsdam; MS, Rochester Institute of Technology—Training Specialist
Richard Thomas, AAS, Rochester Institute of Technology—Senior Program Director
Marianne Yarzinsky, BS, Empire State; MS, Rochester Institute of Technology—Program Director
Barbara Felten, BS, Rochester Institute of Technology—Program Director
Lynn Prytula, AAS Monroe Community College—Program Director
Cheryl Liberty, BA, Ohio University—Program Director
Diane Reed, AA Rochester Institute ofTechnology—Program Director
Angie Spano—Program Assistant
Nancy McEntee, BS, Southern Illinois University—Program Assistant

Nancy Siebert—Design Assistant

IBM Site

Kenneth Reissig, AAS, Vermont Technical College; BS, University of Vermont—Senior Program Director
Mohammed Serdah, BS, SUNY Buffalo—Program Director

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Helen Barry, BS, SUNY—Senior Graphic Designer
Charlotte McCabe, BA, Bucknell University; MS, Boston University—Senior Communications Coordinator

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Roy Pierce, Grad Certificate, Cornell University; MS, SUNY Brockport; AAS, BS, Regents College—Director
Betsy Saxe, AAS, BS, Rochester Institute ofTechnology—Budget Coordinator
Tammy Gathers—Financial Assistant
Linda Kanaley—Financial Assistant
Mary Carol Maloney—Registration Assistant
Terry Salerno—Coordinator, Program Support
Nancy Wixom—Program Assistant
Maria Fosher—Program Support Assistant

College of Engineering

Paul E. **Petersen,** BS, MS, Ph.D.—Dean; Professor
Richard Reeve, BS, MS, Ph.D.—Associate Dean, Professor
Edward G. Schilling, BA, MBA, MS, Ph.D.—Executive Director, Center for Quality and Applied Statistics
Jasper E. Shealy, BS, MS, Ph.D.—Department Head, Industrial & Manufacturing Engineering; Professor
Charles W. Haines, AB, MS, Ph.D.—Department Head, Mechanical Engineering; Professor
Raman M. Unnikrishnan, BSEE, MSEE, Ph.D.—Department Head, Electrical Engineering; Professor
Roy S. Czernikowski, BEE, ME, Ph.D.—Department Head, Computer Engineering; Professor
Lynn F. Fuller, BS, MS, Ph.D.—Department Head, Microelectronic Engineering; Professor
Margaret M. Urckfitz, BS—Assistant to the Dean
Susan A. **Hickey**—Administrative Assistant to the Dean

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Tong-han Chang, BS, Jiao Tong University, Shanghai; Ph.D., Chinese Academy of Science, Peking—Professor
Kenneth W. Hsu, BS, National Taiwan Normal University; MSEE, Ph.D., Marquette University; PE—Associate Professor
Ronald G. Matteson, Ph.D., Syracuse University—Associate Professor
V. C. V. Pratapa Reddy, BE.M. Tech., Osmania University, India; Ph.D., Indian Institute of Technology, Madras—Associate Professor

ELECTRICAL ENGINEERING DEPARTMENT

Joseph DeLorenzo, BS, Alabama; MS, Polytechnic Institute of Brooklyn; Ph.D., Boston University—Associate Professor
Soheil A. Dianat, BSEE, Aria-Mehr University, Iran; MSEE, Ph.D., George Washington University—Associate Professor
Roger E. **Heintz,** BSEE, Michigan Technological University; MSEE, Ph.D., Syracuse—Professor
Mark A. Hopkins, BS, Southern Illinois University; MS, Ph.D., Virginia Polytechnic Institute and State University—Assistant Professor
Swaminathan Madhu. MA, University of Madras; MSEE, Tennessee; Ph.D., Washington—Professor
Athimoottil V. **Mathew,** BEE, Jadavpur University, India; M. Tech., Indian Institute of Technology; Ph.D. Queens University, Canada—Professor
Steven McLaughlin, BS, Northwestern University; MS, Princeton University; Ph.D., University of Michigan—Visiting Assistant Professor
Norman A. Miller, BSc, EE, London University, England—Lecturer

P. R. Mukund, BS, MS, Ph.D., University of Tennessee—Assistant Professor
James E. Palmer, BS, University of Western Ontario; MSEE, University of Pennsylvania; Ph.D., Case Institute of Technology—Professor
David Perlman, BS, MS, Cornell—Associate Professor
Mysore R. Raghuveer, BSEE, Mysore University, India; ME, Indian Institute of Science, Bangalore, India; Ph.D., University of Connecticut—Associate Professor
Sannasi Ramanan, BS, BE, M.Tech, Ph.D., IIT, India—Assistant Professor
V. C. V. Pratapa Reddy, BE, M.Tech., Osmania University, India; Ph.D., Indian Institute of Technology, Madras—Associate Professor
Harvey Rhody, BSEE, University of Wisconsin; MSEE, University of Cincinnati; Ph.D., Syracuse University—Professor
Edward R. Salem, BSEE, Pennsylvania State; MSEE, Catholic University of America; Ph.D., Buffalo—Professor
Robert Spina, BS, Western Michigan University; MS, Rochester Institute of Technology—Assistant Professor
David A. **Sumberg,** BA, Utica College of Syracuse University; MS, Ph.D., Michigan State University—Associate Professor

Fung-I Tseng, BSEE, Taiwan University; MSEE Chiao-Tung University, Taiwan; Ph.D., Syracuse—Professor
I. **Renan Turkman,** Diplome D'lngenieur (MSEE); Docteur-Ingenieur, Institut Nationale des Sciences Appliques, Toulouse, France—Associate Professor
Jayanti Venkataraman. BS, MS, Bangalore University; Ph.D., fndian Institute of Science, Bangalore, India—Associate Professor

INDUSTRIAL AND MANUFACTURING ENGINEERING DEPARTMENT

S. **Cem Karacal,** BS, Middle East Technical University, Turkey; MS, Ph.D., Oklahoma State University—Visiting Assistant Professor
Madhu R. Nair, BS, Rochester Institute of Technology; MS, Lehigh University—Visiting Instructor
Nabil Nasr, BS, He) [wan University, Egypt; MS, Rutgers University; M. Eng., Pennsylvania State University; Ph.D., Rutgers University—Assistant Professor
Sudhakar R. Paidy, BS, Osmania University, India; MSIE, Ph.D., Kansas State University—Professor
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Brian K. Thorn, MS, Georgia Tech.—Assistant Professor

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Nir **Berzak,** BS, M.Sc., Technion Israel Institute of Technology; Ph.D., Columbia University—Associate Professor
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Robert A. Ellson, BME, City College of New York; MSME, Ph.D., University of Rochester, P.E.—Professor
Jon Freckleton, BSME, University of Rochester; P.E.—Assistant Professor
Hany A. Ghoneim, B.Sc., M.Sc., Cairo University, Egypt; Ph.D., Rutgers—Associate Professor
Amitabha Ghosh, B.Tech, M.Tech., Indian Institute of Technology, India; Ph.D., Mississippi State University—Associate Professor
Surendra K. Gupta, B.Tech., Indian Institute of Technology, India; MS, University of Notre Dame—Associate Professor
Robert J. Hefner, BS, MS, Ph.D., Georgia Institute of Technology—Associate Professor
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Satish Kandlikar, BE, Marathwada University, India; M.Tech., Ph.D. Indian Institute of Technology—Professor
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Frank Sciremammano, Jr., BS, MS, Ph.D., University of Rochester—Associate Professor
Robert L. Snyder, BS, Rochester Institute of Technology; Ph.D., Iowa State; P.E.—Professor
Hermann J. Stadtfeld, BS, Technical College in Offenburg, Germany; MS, Ph.D., University of Technology of North-Rhine, Westphalia, Aachen, Germany—Visiting Professor
Joseph S. Torok, BS, University of Akron; MS, Ph.D., Ohio State University—Associate Professor
Panchapakesan Venkataraman, B.Tech., fndian Institute of Technology; MSME, Rice University—Assistant Professor
Wayne W. Walter, BE, State University of New York Maritime College, Bronx; MS, Clarkson College; Ph.D., Rensselaer Polytechnic Institute; P.E.—Professor

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Michael A. Jackson, BS, MS, SUNY Buffalo—Assistant Professor
Santosh K. Kurinec, BS, MS, Ph.D., University of Delhi, India—Associate Professor
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Robert E. Pearson—BSEE, Rochester Institute of Technology—Assistant Professor
Bruce W. Smith, BS, MS, Rochester Institute of Technology—Visiting Assistant Professor
I. Renan Turkman, Diplome d'fngenieur (MSEE); Docteur-Ingenieur, Institut Nationale des Sciences Appliques, Toulouse, France—Associate Professor

CENTER FOR QUALITY AND APPLIED STATISTICS

Donald D. Baker, BA, Trinity College; M.Ed., MBA, Ed.D., University of Rochester—Professor
Anne M. Barker, BA, Nazareth College; MS, Rochester Institute of Technology—Assistant Professor
Thomas B. Barker, BS, MS, Rochester Institute of Technology—Associate Professor
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Joseph G. Voelkel, BS, Rensselaer Polytechnic Institute; MS, North-western University; Ph.D, University of Wisconsin-Madison—Associate Professor
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Thomas K. Witt, BS, Kansas State University; MS, Rochester Institute of Technology—Acting Manager, Mason E. Wescott Statistics Laboratory
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Margaret O. Lucas, BS Hampton University; MA, Virginia Commonwealth University; Ph.D., Pennsylvania State University—Dean
Carole A Sack, BA, University of Michigan; Ph.D., Michigan State University—Associate Dean
Susan Chan, BS, Rochester Institute of Technology—Academic Coordinator
Diane Clark, BA LaSalle University—Student Relations Coordinator
Susan Clark—Academic Coordinator
Katherine Gorman—Administrative Assistant
Marie Hanes—Academic Coordinator
Dawn House, BS, Rochester Institute of Technology—Academic Coordinator
Rose Marie Sepos, BS, Rochester Institute of Technology—Assistant Dean for Administration

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Roy S. Berns, BS, MS, University of California; Ph.D., Rensselaer Polytechnic Institute—Hunter Professor
Arthur E. Burgess, BS, Royal Military College of Canada; Ph.D., University of British Columbia—Professor
Edward Dougherty, BS, Fairleigh Dickinson University; MS, Stevens Institute of Techology; Ph.D., Rutgers University—Associate Professor
Roger L. Easton, Jr., BS, Haverford College; MS, University of Maryland; Ph.D., University of Arizona—Assistant Professor
Mark D. Fairchild, BS, MS, Rochester Institute of Technology; Ph.D., University of Rochester—Assistant Professor
Richard Hailstone, BS, Northern Illinois University; MS, Indiana University—Associate Professor
Joseph Hornak, BS, Utica College; MS, Purdue University; Ph.D., University of Notre Dame—Associate Professor
Dana Marsh, BS, California State University; ME, Rochester Institute of Technology; Ph.D., University of California/Riverside—Associate Professor
Pantazis Mouroulis, B.Sc., University of Athens; Ph.D., University of Reading—Assistant Professor
Zoran Ninkov, BS, University of Western Australia; M.Sc., Monash University; Ph.D., University of British Columbia—Assistant Professor
Jeff Pelz, BFA MS, Rochester Institute of Technology—Instructor
Navalgund Rao, BS, MS, BHU India; Ph.D., University of Minnesota—Assistant Professor

Harvey Rhody, BSEE, Wisconsin; MSEE, Cincinnati; Ph.D., Syracuse University—Professor
John Schott, BS, Canisius College; MS, Ph.D., Syracuse University—Professor
Rodney Shaw, BS, Leeds University; Ph.D., Cambridge University—Professor
Mehdi Vaez-Iravani, Ph.D., University College of London—Assistant Professor

Adjunct Faculty

Joseph Altman, BS, Massachusetts Institute ofTechnology
Robert Clark, BS, Massachusetts Institute ofTechnology; Ph.D., University of Maryland
Robert Daly, Ph.D., University of Arizona
Merle Hirsh, Ph.D., Johns Hopkins University
Robert Rolleston, Ph.D., University of Rochester
Carl Salvaggio, BS, MS, Rochester Institute ofTechnology
Paul Wilson, BA, MA, University of Cincinnati; Ph.D., University of Illinois

SCHOOL OF ART AND DESIGN

Joanne Szabla, BFA Madonna College; MA, Catholic University of America; Ph.D., Walden University—Acting Director; Professor
Steve Loar, BS, Murray State University; MA, Northern Illinois University—Acting Associate Director; Associate Professor
Judy Battaglia, BFA MFA Rochester Institute ofTechnology—Lecturer
Mary Ann Begland, BS, Ohio State University; MFA Kent State University—Associate Professor
Pamela P. Blum, BA, University of Pennsylvania; MFA Massachusetts College of Art—Visiting Assistant Professor
Kener E. Bond, Jr., B.Ed., SUNY-Buffalo; MFA Rochester Institute of Technology—Professor
Philip W. Bornarth, BAE, MAE, Art Institute of Chicago—Professor; Special Assistant to the Dean for Graduate Affairs
Nancy A Chwiecko, BA, St. Lawrence University; MFA, Rochester Institute ofTechnology—Visiting Assistant Professor
Nancy A Ciolek, BFA Indiana State University; MFA Indiana State University—Associate Professor
Douglas Cleminshaw, BSME, Case Institute ofTechnology—Associate Professor
Bob Cole, BA, MS, University of Maryland—Professor
David Dickinson,Chelsea School of Art, London, England; SKHS, Oslo, Norway; MFA, Rochester Institute of Technology—Professor
Robert L. Dorsey, BFA Rochester Institute ofTechnology; MFA, Syracuse University—Visiting Assistant Professor
Glenn Enderby, B. Tech., MBA, MFA Rochester Institute of Technology—Lecturer
Ronald Feinen—Lecturer
Elizabeth A Fomin, BS, Syracuse University—Lecturer
Peter Giopulos, BFA, Syracuse University; M.Ed., Ph.D. Pennsylvania State University—Professor

Robert Heischman, BFA Miami University; UCFA Ruskin School of Art—Professor
Frederick Hellenberg, BFA University of Buffalo—Lecturer
Glen Hintz, BA, Lafayette College; MS, The Medical College of Georgia—Acting Chair, Fine Arts; Assistant Professor
Barbara Hodik, BS Ed., Benedictine College; MA, New York University; Ph.D., Pennsylvania State—Professor
Robert M. Kahute, BFA Syracuse University; MFA, Rochester Institute of Technology—Professor
Robert P. Keough, BFA, Rochester Institute ofTechnology; MFA Rochester Institute ofTechnology—Professor
Robert Kerr, BFA, University of Illinois; MFA, Rochester Institute of Technology—Professor
Heinz Klinkon, BFA MFA, Rochester Institute ofTechnology—Assistant Professor
Charles F. Lewis, B. Arch., Pratt Institute of Technology—Assistant Professor
Thomas Lightfoot, BA BFA, University of Connecticut; MFA Institute Allende, San Miguel de Allende, Gto., Mexico; MA Ed. Art, Ed.D. Art, Columbia University, Teachers College—Assistant Professor
Frederick Lipp, BAE, School of the Art Institute of Chicago; MFA Rochester Institute of Technology—Professor
Douglas Manchee, BA, MA, San Francisco State University—Lecturer
Craig J. McArt, BID, Syracuse University; MFA, Rochester Institute of Technology—Professor
Edward C. Miller, BFA, SUNYat Buffalo; MFA, Illinois State-Professor
Robert C. Morgan, BA, University of Redlands; Ed.M., Northeastern University; MFA, University of Massachusetts; Ph.D., New York University—Professor
GabrieUe Peters, BFA SUNYat Geneseo; MA University of Toronto, Canada—Lecturer
R. Roger Remington, BFA Rochester Institute ofTechnology; MS, University of Wisconsin—Professor
Karen Sardisco, BS, SUNY College at Buffalo; MFA, Rochester Institute of Technology—Lecturer
Luvon Sheppard, BFA MST, Rochester Institute ofTechnology—Professor
Joyce Shikowitz, BFA, Rhode Island School of Design; MFA Indiana University—Associate Professor
James H. Sias, BFA, MA, Michigan State University—Professor
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James E. Thomas, BS, Philadelphia College of Art; MFA Pennsylvania State University—Professor
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Kathryn Vajda, BFA, Cleveland Institute of Art; MFA, Indiana University—Lecturer
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James Ver Hague, BS, Massachusetts Institute ofTechnology; MS, Rensselaer Polytechnic Institute; BA MFA SUNYat Buffalo—Chair, Graphic Design; Professor
Robert Wabnitz, Diploma, Rochester Institute ofTechnology; Certificate, University of Rochester—Professor
Joseph A Watson, BFA University of Georgia; MFA Yale University—Professor
Bruce Wenger, BS, Western Michigan University; MFA Ohio University—Lecturer
Lawrence Williams, BFA, Kansas City Art Institute; MFA University of Illinois—Professor
Norman Williams, BFA MS, Syracuse University—Professor; Chairman of Foundation Studies

SCHOOL FOR AMERICAN CRAFTS

Joanne Szabla, BFA Madonna College; MA, Catholic University of America; Ph.D., Walden University—Acting Director; Professor
Steve Loar, BS, Murray State University; MA Northern Illinois University—Acting Associate Director; Associate Professor
Donald G. Bujnowski, BS, SUNYat Buffalo; MA, University of Minnesota—Chair, Crafts
Wendell Castle, BFA MFA University of Kansas—Professor; Artist-in-Residence, Chair in Contemporary Crafts
Richard A Hirsch, BS, SUNYat New Paltz; MFA, Rochester Institute of Technology—Associate Professor
William A. Keyser, Jr., BS, Carnegie-Mellon Institute ofTechnology; MFA, Rochester Institute ofTechnology—Professor
Max L. Lenderman,BS, MS, Indiana State; MFA University of Kansas—Professor
Albert Paley, BFA MFA, Tyler School of Art, Temple University—Professor; Artist-in-Residence, The Charlotte Fredericks Mowris Professor in Contemporary Craft
Robert D. Schmitz, BS, East Carolina University; MS, Alfred University; MFA Wisconsin—Professor
Douglas E. Sigler, BFA MFA Rochester Institute ofTechnology—Professor
Mark Stanitz, BFA, MA Kent State University—Assistant Professor
Richard Tannen, BS, Cornell University; Certificate of Mastery in Woodworking and Furniture Design, Boston University—Assistant Professor
Michael Taylor, BS, Middle Tennessee State University; MA MFA, East Tennessee State University—Professor
Leonard A Ureo, BFA MFA SUNYat New Paltz—Associate Professor

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William W. DuBots, BFA, M B A - Associate Director, Associate Professor
Glenn Miller, BS—Chair, Imaging and Photographic Technology; Associate Professor
Ken White, AB, MFA—Chair, Fine Art Photography; Associate Professor
Michael R. Peres, BS, BA—Chair, Biomedical Photographic Communications; Assistant Professor
James Reilly, BA, MA—Director, Image Permanence Institute; Associate Professor
James E. **Rice,** BS—Chair, Photographic Processing and Finishing Management; McGhee Professor
Howard Lester, BA, MFA—Chair, Film/Video; Associate Professor
Nancy Stuart, BA, MS—Chair, Applied Photography; Assistant Professor

Faculty

Patricia Ambrogi, MFA, Visual Studies Workshop—Assistant Professor
Jan Ballard, BA, BFA, University of Iowa; MFA, Art Institute of Chicago—Visiting Assistant Professor
Carl Battaglia, BA, Boston College; MFA, Syracuse University—Associate Professor
Owen Buder, BFA, Rochester Institute of Technology—Associate Professor
Adrianne Carageorge, BA, Florida State; MFA, Ohio University—Assistant Professor
Guenther Cartwright, BA, University of Oregon; MFA, Buffalo—Associate Professor
Kerry Coppin, BFA, Rochester Institute of Technology; MFA, Rhode Island School of Design—Assistant Professor
Andrew Davidhazy, BFA, MFA, Rochester Institute of Technology—Professor
Denis Defibaugh, BS, Rochester Institute of Technology—Assistant Professor
Steve Diehl, BS, University of Miami, Rochester Institute of Technology—Associate Professor
William W. DuBois, BFA, Ohio University; M.Ed., Bowling Green State University—Associate Professor
Lothar K. Engelmann, Ph.D., University of Frankfurt—Professor
Loret Falkner, MFA, Indiana University—Assistant Professor
William S. Fischer, BS, Rochester Institute of Technology—Instructor
Mark Haven, AB, Lebanon Valley College—Assistant Professor
Bradley T. **Hindson,** BA, Rutgers University; MFA, Ohio University—Associate Professor
Jack Holm, BS, Texas A&M University—Instructor
Dave Joseph, BS, Cornell University; MFA, Rochester Institute of Technology—Visiting Instructor
John E. Karpen, BS, MFA, Rochester Institute of Technology—Professor
Robert Kayser, BS, City College of New York; MS, Rochester Insutute of Technology—Associate Professor
Weston D. Kemp, MFA, Rochester

Institute of Technology—Professor
Russell C. **Kraus,** BA, William Paterson; Ed.D., University of Massachusetts-Amherst—Professor
Bruce "Pacho" Lane, BA, University of Texas; MA, University of Michigan—Assistant Professor
Dan Larkin, BFA, Rochester Institute of Technology—Visiting Instructor
Martha Leinroth, AB, Wellesley College; MFA, Rhode Island School of Design—Assistant Professor
Howard Lester, BA, MFA, University of California-Los Angeles—Associate Professor
Howard LeVant, BS, Institute of Design, Illinois Institute of Technology; MS, Rochester Institute of Technology—Associate Professor
J. Tomas Lopez, BS, Fordham; MMA, University of South Carolina; MFA, University of South Florida—Assistant Professor
Stephanie Maxwell, BA, University of California, Los Angeles; MFA, San Francisco Art Institute—Assistant Professor
Glenn Miller, BS, Rochester Institute of Technology—Associate Professor
Kaleen Moriarty, BS, Rochester Institute of Technology—Visiting Instructor
J. Wesley Morningstar, BS, Rochester Institute of Technology—Instructor
Douglas Nishimura, BS, MA, McMaster University—Research Associate/Instructor
Elaine O'Neil, BFA, Philadelphia College of Arts; MS, Illinois Institute of Technology/Institute of Design—Professor
Willie Ostennan, BFA, Ohio University, MFA, University of Oregon—Assistant Professor
Michael R. Peres, BS, Rochester Institute of Technology; BA, Bradley University—Assistant Professor
DougRea, BS, Union College; MFA Rochester Institute of Technology—Associate Professor
James Reilly, BA, Franklin and Marshall; MA, SUNYBuffaloDirector, Image Permanence Institute—Associate Professor
John Retallack, BFA, Rochester Institute of Technology—Assistant Professor
James E. Rice, BS, Cornell University—James E. McGhee Professor
David J. Robertson, BFA, Pratt Institute; MA, Columbia University Teachers College—Professor
Elliott Rubenstein, BA, MS, St. John's University; MFA, SUNYat Buffalo—Associate Professor
Malcolm Spaull, BS, St. Lawrence University; MFA, Rochester Institute of Technology—Associate Professor
Nancy Stuart, BA, MS, Rochester Institute of Technology—Assistant Professor
Sabine Susstrunk, BS, Swiss Federal Institute of Technology—Visiting Instructor
Erik Timmerman, BS, University of Wisconsin; MFA, Southern California—Associate Professor
Allen Vogel, Philadelphia College of Art—Assistant Professor
Raphael Wang, BA, Columbia College; MFA, Art Institute of Chicago—Visiting Assistant Professor
Jeff Weiss, BS, University of Michigan—Associate Professor
Ken White, BA, Princeton University; MA, MFA University of New Mexico—Associate Professor
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Thomas Zigon, BS, MS, Rochester Institute of Technology—Instructor

Adjunct Faculty

Cat Ashworth, BFA, Arizona State University
Judith Berry
William Klein, MSEE, Purdue University
Arnold Lungershausen, MA, Ohio University
Keith McManus
Ronald Richardson, BA, Colgate University; MFA, Rochester Institute of Technology
Grant Romer, BFA, Pratt Institute; MFA, Rochester Institute of Technology—Conservator, Photographic Collection, International Museum of Photography, George Eastman House
Michael Starenko, BA, Kalamazoo College; MA, University of Chicago

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William H. Birkett, BS, MBA, CMA—Associate Director; Associate Professor
Barbara Birkett, BA, MBA—Graduate Coordinator, Graphic Arts Systems; Associate Professor
Frank Cost, BS—Undergraduate Coordinator, Printing and Applied Computer Science Printing Systems; Associate Professor
Marie Freckleton, BFA, MST—Graduate Coordinator, Graphic Arts Publishing; Associate Professor
John M. Jakopin, BS—Undergraduate Coordinator, Newspaper Operations Management; Professor
Joseph L. Noga, BS, MS—Graduate Coordinator, Printing Technology; Professor
Linda Tolan, BS, MS—Coordinator of Marketing and Recruitment

Faculty

Barbara Birkett, BA, Aquinas College; MBA, University of Michigan; MBA Rochester Institute of Technology—Associate Professor
William H. Birkett, BS, University of Illinois; MBA, University of Michigan, CMA—Associate Professor
Robert Y. **Chung,** BA, Eastern Washington State University; MS, Rochester Institute of Technology—Associate Professor
Frank J. Cost, BS, Eisenhower College—Associate Professor
Hugh R. Fox, AB, Dartmouth; JD, Rutgers Law School—Associate Professor
Clifton T. Frazier, BS, West Virginia Institute of Technology; M.Ed., University of Rochester—Associate Professor
Marie Freckleton, BFA, MST, Rochester Institute of Technology—Associate Professor
Robert G. Hacker, BS, Illinois State; MS, South Dakota State; Ph.D., Iowa—Professor
Samuel B. Hoff, BA, MA, California State University—Assistant Professor
John M. Jakopin, BS, California Polytechnic State University—Professor

Herbert H. Johnson, BS, Rochester Institute of Technology—Associate Professor
Barry Lee, BS, Rochester Institute of Technology—Visiting Assistant Professor
Len Leger, BS, SUNYat Potsdam; MS, University of Rochester—Visiting Assistant Professor
Joseph L. Noga, BS, Central Connecticut State University; MS, University of Bridgeport—Professor
Archibald D. Pro van, BS, Rochester Institute of Technology; M.Ed., University of Rochester—Professor
Werner Rebsamen, Diploma, Academy of Fine Arts, Zurich—Professor
Frank J. Romano, BA, City University of New York—Professor
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Emery E. Schneider, BS, Southern Illinois University; M.Ed., University of Rochester—Associate Professor
Miles Southworth, BS, University of Michigan; M.Ed., University of Rochester—Professor

Academic Technical Associates

David L. Dembroski—Technical Associate
John Eldridge—Technical Associate
Daniel Gramlich—Technical Associate
John Marciniak—Coordinator, Technical Services
Eric Neumann—Technical Associate

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Glenn Kist, AB, MA Ph.D.—Associate Dean, Professor
Janet Farnum, BA MA Ph.D.—Assistant Dean; Associate Professor
Paul Ferber, BA MPh., Ph.D.—Division Chairperson, Social Science; Associate Professor
Joseph Nassar, BA MA Ph.D.,—Division Chairperson, Language, Literature and Communications; Associate Professor
Edward Schell, B. Mus. Ed., MM,—Division Chairperson, Humanities; Assistant Professor
Murli Sinha, AB, MA Ph.D.,—Division Chairperson, Behavioral Science; Professor
Virginia Costenbader, BA MS, Ph.D.—Program Chairperson, School Psychology; Assistant Professor
Richard B. Lewis, BA MA—Program Chairperson, Criminal Justice; Assistant Professor
Katherine Mayberry, BA, Ph.D.—Program Chairperson, Technical and Liberal Studies Option; Associate Professor
David R. Neumann, BA, MA, Ph.D.—Program Chairperson, Professional and Technical Communication; Assistant Professor
Michael J. Vernarelli, AB, MA Ph.D.—Program Chairperson, Economics; Associate Professor
Helen Wadsworth, BS, MSW—Program Chairperson, Social Work; Assistant Professor
Thomas D. Hopkins, BA, MA, Ph.D.—Arthur J. Gosnell Professor in Economics
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BEHAVIORAL SCIENCE DIVISION

Department of Psychology

John W. Adams, BA, Pennsylvania State University; MA, Ph.D., U.C.LA—Associate Professor, Psychology
Brian P. Barry, BA, St. John Fisher; MSSc, Ph.D., Syracuse—Associate Professor, Psychology
Kathleen C. Chen, BA Rangoon University, Burma; MA Bryn Mawr College; Ph.D., Pennsylvania State—Professor, Psychology
Virginia K. Costenbader, BA, Dickinson College; MS, Ph.D., Syracuse University—Assistant Professor, Psychology
Janet E. Farnum, BA, SUNYat Brockport; Ph.D., University of Rochester—Associate Professor, Psychology
Joseph E. Fitzpatrick, BA MT, Ed.M., SUNYat Buffalo—Professor, Psychology
Roger W. Harnish, BA, University of Rochester; MS, Ph.D., Oklahoma State University—Associate Professor, Psychology
Morton Isaacs, BA, Chicago; BS, MA Columbia; Ph.D., Yeshiva University—Professor, Psychology

Margery S. Reading-Brown, BA, Western College; M.Ed., Springfield College; MA SUNYat Pittsburgh; Ph.D., SUNYat Albany—Assistant Professor, Psychology

Department of Social Work

Alufiel Grier, BA University of California at Sacramento; MSW, Hunter College, Ed.D., Fairleigh Dickinson University—Associate Professor, Social Work
Richard Morales, BA, Michigan State University; MA, SUNYat Brockport; MSW, Ph.D., Syracuse University—Associate Professor, Social Work
Marshall L Smith, AB, MSW, University of Michigan; Ph.D., SUNYat Buffalo—Associate Professor, Social Work
Helen Wadsworth, BS, Gordon College; MSW, Syracuse University—Assistant Professor, Social Work

Department of Sociology and Anthropology

Kijana Crawford-Adeleye, BA, Tougaloo College; MSW, Atlanta University—Associate Professor, Sociology
Paul F. Grebinger, BS, Columbia University; Ph.D., University of Arizona—Professor, Anthropology
Joanne M. Jacobs, BA, University of Rochester; MA SUNYat Buffalo-Associate Professor, Sociology
Boris Mikolji, BA University of Graz; MA Ph.D., Western Reserve—Professor, Sociology
Murli M. Sinha, AB, Bihar University, India; MA Patna University, India; MA, City College of City University of New York; Ph.D., Cornell University—Professor, Sociology

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Douglas R Coffey, Diploma, Cleveland Institute of Art; BFA Denver; MA, Western Reserve—Professor, Fine Arts
Charles D. Collins, AB, Rutgers University; MA Ph.D., University of Iowa—Professor, Fine Arts
Tina Lent, BA, MA, University of California at Los Angeles—Assistant Professor, Fine Arts
Edward Schell, B.Mus. Ed., Westminster College; MM, Westminster Choir College—Assistant Professor, Fine Arts
Charles W. Warren, AB, State University of Iowa; MA, Ph.D., Ohio State University—Professor, Fine Arts
Houston Wetherald, BA, Brown University; MA Oberlin—Professor, Fine Arts

Department of History

Frank Annunziata, AB, Manhattan College; MA, City College of the City University of New York; Ph.D., Ohio State University—Professor, History
Richard Chu, BA Taiwan University; MA, University of California at Berkeley; Ph.D., Columbia—Professor, History
Norman R. Coombs, BS, MS, Ph.D., Wisconsin—Professor, History
Thomas Cornell, BA, Southwestern at Memphis; MS, Georgia Institute of Technology; Ph.D., Johns Hopkins University—Assistant Professor, History

Nabil M. Kaylani, BA American University of Beirut; MA, Ph.D., Clark University—Professor, History
Glenn J. Kist, AB, MA, Xavier; Ph.D., Loyola University, Chicago—Professor, History
Richard D. Lunt, BA, Oberlin; MA Ph.D., New Mexico—Professor, History
Salvatore Mondello, BA MA Ph.D., New York University—Professor, History
Pellegrino Nazzaro, BA P. Giannone; Ph.D., University of Naples—Professor, History
Kenneth R Nelson, AB, University of Connecticut; MA, Georgetown University; Ph.D., University of Virginia—Professor, History

Department of Philosophy

James L Campbell, AB, Mount St. Mary's College; MA Marquette University; Ph.D., University of Notre Dame—Professor, Philosophy
Timothy H. Engstrom, BA, MA Ph.D., University of Edinburgh, Scotland—Assistant Professor, Philosophy
Dane R. Gordon, BA, MA, University of Cambridge; BD, University of London; MA, University of Rochester—Professor, Philosophy
John Morreall, BA St. John Fisher College; MA, Ph.D., University of Toronto—Professor, Philosophy
John T. Sanders, BA, Purdue University; MA Ph.D., Boston University—Professor, Philosophy
David B. Suits, BA Purdue University; MA, Ph.D., University of Waterloo—Associate Professor, Philosophy

Department of Science, Technology and Society

Jaye C. Melcher, BA, University of Vermont; Ph.D., University of Kansas—Assistant Professor, Science, Technolobgy and Society
Paul A. Miller, BS, West Virginia; MA, Ph.D., Michigan State—Professor, Science, Technology & Society
Robert J. Paradowski, BS, Spring Hill College; MA Brandeis University; Ph.D., University of Wisconsin—Associate Professor, Science, Technology & Society
Richard Shearman, BA Western State College of Colorado; MS, Eastern New Mexico University—Assistant Professor, Science, Technology and Society
John A. White, BA Ph.D., Cambridge University—Professor, Science, Technology & Society
Fred L. Wilson, BA, Murray State University; Ph.D., University of Kansas—Professor, Science, Technology & Society

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Department of Communication

Bruce A Austin, BA, Rider College; MS, Illinois State University; Ph.D., Temple University—Professor, Communications
Diane Hope, BS, SUNYat Brockport; MA, Ph.D., SUNYat Buffalo-Professor, Communications

Keith Bernard Jenkins, BA University of Arkansas; MA Ph.D., Florida State University—Visiting Assistant Professor, Communications
David R. Neumann, BA Ithaca College; MA Ph.D., Bowling Green State University—Assistant Professor, Communications
Rudolph Pugliese, BA SUNYat Oneonta; MA, SUNYat Brockport; Ph.D., Temple University—Assistant Professor, Communications
Patrick M. Scanlon, BA, SUNYat Albany; Ph.D., University of Rochester—Assistant Professor, Communications

Department of Language and Literature

Sam Abrams, AB, Brooklyn College; MA, University of Illinois—Associate Professor, Literature
Paul Jude Beauvais, BS, Boston State College; MA, Louisiana State University; Ph.D. Michigan State University—Associate Professor, Language
Arnold J. Berman, BA Hofstra University; MA, Ph.D., New York University; MSW, Syracuse University—Professor, Literature
Sarah Collins, AB, Centre College; MA, Ph.D., Indiana University—Professor, Literature
Anne Coon, BA MA, Ph.D., SUNYat Buffalo—Associate Professor, Language
William DeRitter, BA, St. Lawrence; MA, University of Rochester—Associate Professor, Literature
Katherine Mayberry, BA Smith College; MA Ph.D., University of Rochester—Associate Professor, Literature
Stanley D. McKenzie, BS, Massachusetts Institute of Technology; MA Ph.D.,University of Rochester—Professor, Literature
David Murdoch, BA Shurtleff College; MA Redlands University; Ph.D., Occidental College-Professor, Literature
Joseph M. Nassar, BA MA, University of Toledo; Ph.D., SUNYat Binghamton—Associate Professor, Literature
Thomas J. O'Brien, BS, University of Rochester; MA Columbia University—Professor, Literature
Mark L Price, BA MA, Miami University—Associate Professor, Literature
Sandra E. Saari, AB, Carleton College; MA, Ph.D., Occidental College—Professor, Literature
Caroline Snyder, BA MA, Radcliffe; Ph.D., Harvard—Professor, Literature
Sister Mary Sullivan, BA Nazareth College; MA Ph.D., University of Notre Dame—Professor, Literature
Elaine C. **Thiesmeyer,** AB, Connecticut College; MA, Cornell University—Associate Professor, Literature
Wilma Wierenga, AB, Calvin College; MA, Middlebury College, Johannes Gutenberg University—Instructor, Language
Janet Zandy, BA, Montclair State College; MA, University of Rochester Lecturer, Language

Adjunct Faculty

Nancy M. Bailey, BA William Smith College; MA University of Illinois
Andrew W. **Boone,** BA Stonehill College; MA Middlebury College
Richard Case, BA St. Lawrence University; MA, Syracuse University
Susan Donovan, BA, Cornell College; MS, Nazareth College
Catherine Doyle, BA, University of Colorado; MS, SUNYat Brockport
Rhona Genzel, BA, City College of New York
Peter Haggerty, BA Wesleyan University; MA Rutgers University
Lenore Lasser, BS, CUNY at City College; MA, CUNY at Hunter College
Larry LoMaglio, BA, St. John Fisher; MA, University of Rochester; Ed.M., SUNYat Buffalo
Barbara MacCameron, BS, Syracuse University; MA University of Colorado
Michael A McMahon, AB, Rhode Island College; MS, University of Rhode Island
Janet K. Patlow, BA, Wells College; MS, SUNYat Brockport; MA, University of Rochester
Sora R Sachs, BA, SUNYat Buffalo; MA, University of Rochester
Mehar Safvi, MA, SUNYat Buffalo
Katherine Schumacher, BA, Indiana University; MA Cornell University

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John O. Ballard, BA, MPA, Indiana University—Associate Professor, Criminal Justice
Paul Brule, BA, Wittenberg University; MS, Xavier University Graduate School—Assistant Professor, Criminal Justice
Elizabeth B. Croft, BA MA, University of Rochester; MA Ph.D., SUNYat Albany—Associate Professor, Criminal Justice
John M. Klofas, BA, College of the Holy Cross; MA Ph.D., SUNYat Albany—Professor, Criminal Justice
Richard B. Lewis, BA, SUNYat Albany; MS, Southern Illinois—Assistant Professor, Criminal Justice
John A Murley, BA University of Dallas; MA Ph.D., Claremont Graduate School and University Center—Associate Professor, Criminal Justice
John M. Violanti, BA MS, Ph.D., SUNYat Buffalo—Visiting Assistant Professor, Criminal Justice

Department of Economics

Robert Biermann, BA University of Northern Iowa—Instructor, Economics
Constantino Dumangane Sr.,BA, MPA Syracuse University; Ph.D., SUNYat Buffalo—Associate Professor, Economics
Thomas D. Hopkins, BA Oberlin College; MA Ph.D., Yale University —Professor, Economics
John Humphries, BS, SUNYat Oswego; MS, Ph.D., Syracuse University—Professor, Economics
Hoyoung Lee, BA Seoul National University, Korea; MA Ph.D., Maryland—Professor, Economics

Bradley S. **Loomis,** AB, University of Miami; MS, Cornell University—Instructor, Economics
Jeanette C. **Mitchell,** BA, Westminster College—Lecturer, Economics
Mary Monashefsky, BA, LeMoyne College; MA Syracuse University—Visiting Assistant Professor
Michael J. Vernarelli, AB, University of Michigan; MA, Ph.D., SUNYat Binghamton—Professor, Economics

Department of Political Science

Louis J. Andolino, BS, Rochester Institute ofTechnology; MA Kent State UNiversity—Associate Professor, Political Science
Robert J. Brown, BS, SUNYat Potsdam; Ph.D., Syracuse—Associate Professor, Political Science
William J. Daniels, BA, Upper Iowa University; MA, Ph.D., University of Iowa—Professor, Political Science
Louis R Eltscher HI, BA, Houghton; MA, American University—Associate Professor, Political Science
Paul H. Ferber, BA, American University; M.Ph., Ph.D., George Washington University—Associate Professor, Political Science
James S. **Fleming,** AB, Wake Forest University; MA, Ph.D., University of Arizona—Professor, Political Science
James L. Troisi, AB, Lycoming College; MA Ph.D., Syracuse University—Associate Professor, Political Science

College of Science

Mary-Beth Krogh-Jespersen, BA Northeastern University; MS, Ph.D., New York University; MBA, Pace University—Dean, Professor
Robert A Clark, BS, Massachusetts Institute ofTechnology; Ph.D., University of Maryland—Associate Dean; Director, Center for Materials Science and Engineering; Professor
Pasquale T. Saeva, BA Niagara University; MA, Bowling Green State University; MS, Rochester Institute of Technology—Associate Dean; Professor
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Marie Meyers—Administrative Assistant
Eileen D. Marron, BS, SL Bonaventure University; MA Colgate University—Student and Community Affairs Coordinator
McKeon Taffy, BS, Westminster College; MS, Nazareth College—Computing Specialist
G. Thomas Frederick, BS, MS, Ph.D., Ohio State University—Department Head, Biology; Professor
Gerald A Takacs, BS, University of Alberta; Ph.D., University of Wisconsin—Department Head, Chemistry; Professor
John M. Waud, BS, Lehigh University; MS, University of Pennsylvania; Ph.D., Lehigh University—Department Head, Allied Health Sciences; Associate Professor
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Peter A. Cardegna, BA, Loyola College; Ph.D., Clemson University—Program Director, Materials Science and Engineering; Associate Professor
Robert Melnick, Operations Manager

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Richard L Doolittle, BA, University of Bridgeport; MS, Ph.D., University of Rochester—Associate Professor
Jean A. Douthwright, BA, Skidmore College; MS, Pennsylvania State University; MS, Ph.D., University of Rochester—Associate Professor
Irene M. Evans, AB, University of Rochester; MS, Wesleyan University; Ph.D., University of Rochester—Associate Professor
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Douglas P. Merrill, BS, Ph.D., SUNY College of Environmental Science and Forestry, Syracuse University—Professor
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Carole A Sack, BA, University of Michigan; Ph.D., Michigan State University—Professor
Franz K. Seischab, BS, Cornell University; MS, SUC at Geneseo; Ph.D., SUNY College of Environmental Science and Forestry, Syracuse University—Professor
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Thomas Gennett, BA, State University College of New York at Potsdam; Ph.D., University of Vermont—Assistant Professor
Robert E. Gilman, AB, Dartmouth; MS, Ph.D., University of Michigan—Professor
Joseph P. Hornak. BS, Utica College; MS, Purdue University; Ph.D., University of Notre Dame—Associate Professor
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Earl Krakower, BS, McGill University; MS, Ph.D., University of British Columbia—Professor
Andreas Langner, BS, Ph.D., SUNY Buffalo—Assistant Professor

Terence C. Morrill, BS, Syracuse University; MS, San Jose State College; Ph.D., University of Colorado—Professor
John P. Neenan, BS, Wayne State University; Ph.D., University of California, Santa Barbara—Associate Professor
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Laura Ellen Tubbs, BS, Hood College; Ph.D., University of Rochester—Associate Professor
Kay G. Turner, BS, Bucknell University; Ph.D., Ohio State University—Professor
Vladimir Vukonovic, BS, University of Belgrade; Ph.D., University of Munster—Distinguished Professor Emeritus

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Maurino P. Bautista, BS, Ateneo de Manila University; MS, Ph.D., Purdue University—Associate Professor
Marcia P. Birken, AB, Mt. Holyoke College; MS, New York University—Associate Professor
Patricia A Clark, SB, SM, Massachusetts Institute of Technology; Ph.D., University of Rochester—Professor
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David L. Farnsworth, BS, Union College; MA Ph.D., University of Texas—Professor
Kenneth H. Farrell, BA, Southern Connecticut State University; MS, Ph.D., Syracuse University—Assistant Professor
Sally E. Fischbeck, BA University of Rochester; MS, Rochester Institute of Technology—Assistant Professor
George T. Georgantas, AB, University of Rochester; AM, Washington University; Ph.D., SUNYat Buffalo-Professor
James A. Glasenapp, BS, University of Houston; MA SUNYat Buffalo-Professor
Marvin H. Gruber, BS, Brooklyn College; MA Johns Hopkins University; MS, Rochester Institute of Technology; MA Ph.D., University of Rochester—Professor
Laxmi N. **Gupta,** BS, MS, Agra University, India; MS, Rochester Institute ofTechnology; Ph.D., SUNY at Buffalo—Professor
Charles W. Haines, AB, Earlham College; MS, Ph.D., Rensselaer Polytechnic Institute—Professor
James J. Halavin, BS, Clarkson University; MA Ph.D., SUNYat Buffalo—Associate Professor
David S. **Hart,** BS, Syracuse University; MA, University of Rochester—Assistant Professor
Rebecca E. Hill, BS, Frostburg State College; MA, West Virginia University; MS, Rochester Institute of Technology—Professor
Edwin T. **Hoefer,** BA Elmhurst College; AM, Washington University; Ph.D., SUNYat Buffalo—Professor
Jack W. Hollingsworth, BS, BA University of Kansas; MS, Ph.D., University of Wisconsin—Professor

Seshavadhani Kumar, BS, MS, University of Madras; Ph.D., University of Delaware—Assistant Professor

Wanda S. Loiasiewicz, MS, Ph.D., University of Cracow, Poland—Assistant Professor

Sophia A Maggelakis, BS, MS, Ph.D., Old Dominion University—Assistant Professor

James E. Marengo, BA, MS, California State University; Ph.D., Colorado State University—Assistant Professor

David J. Mathiason, BA St. Olaf College; MS, Syracuse University; MS, Ph.D.,University of Rochester—Associate Professor

Douglas S. **Meadows,** BS, Stanford University; MS, New York University; Ph.D., Stanford University—Associate Professor

Edward A Newbure, BS, MS, Purdue University; Ph.D., University of Illinois—Professor

Richard J. Orr, BS.John Carroll University; MS, Case Institute of Technology; MS, SUNYat Buffalo-Professor

John D. Paliouras, BS, Alfred University; MA, Ph.D., University of Illinois—Professor

James C. Runyon, BEE, Cornell University; MSEE, University of Rochester—Professor

Pasquale T. Saeva, BA Niagara University; MS, Bowling Green State University; MS, Rochester Institute of Technology—Professor

Harry M. Schey, BS, Northwestern University; AM, Harvard University; Ph.D., University of Illinois—Professor

Jack Tishkoff, BS, MS, MA, University of Rochester—Professor

Thomas C. Upson, BS, Tufts University; MS, Rensselaer Polytechnic Institute—Professor

Theodore W. Wilcox, BS, University of Michigan; MS, Ph.D., University of Washington—Professor

Paul R. Wilson, BA, MA University of Cincinnati; Ph.D., University of Illinois—Professor

James A Wiseman, BA, Ph.D., Boston University—Associate Professor

Elmer L. Young, BA, Amherst College; MS, Ph.D., Ohio State University—Associate Professor

DEPARTMENT OF PHYSICS

John D. Andersen, BS, SUNYat Buffalo; MA Ph.D., University of Rochester—Assistant Professor

Hrishikesh Baneijee. BS, Presidency College; MS, University College of Science; Ph.D., Institute of Nuclear Physics, Calcutta—Professor

Peter A Cardegna, BS, Loyola College; Ph.D., Clemson University—Associate Professor

Tracy A Davis, BA, BS, Wofford College; Ph.D., Clemson University—Associate Professor

Fred Kingsley Elder Jr., BS, University of North Carolina; MS, Ph.D., Yale University—Professor Emeritus

Alan B. Entenberg, AB, Washington University; Ph.D., University of Rochester—Associate Professor

Charles A Hewett, BS, MS, Missouri School of Mines; Ph.D., University of Missouri—Professor

Ronald E. Jodoin, BS, Worchester Polytechnic Institute; Ph.D., University of Rochester—Professor

James R. Kern, BS, Indiana University of Pennsylvania; Ph.D., Clemson University—Associate Professor

Michael Kotlarchyk, BS, MS, Ph.D., Massachusetts Institute of Technology—Associate Professor

Arthur Z. Kovacs, AB, Wabash College; Ph.D., Duke University-Professor

Vern W. Lindberg, BS, University of Alberta; MS, Ph.D., Case Western Reserve University—Associate Professor

Varadaraja V. Raman, BS, St. Xavier; MS, Calcutta University; Ph.D., University of Paris—Professor

Earl H. Sexton, BS, Tufts University; MS, Massachusetts Institute of Technology; MST, Cornell University; Ph.D., SUNYat Albany—Professor

John S. Shaw, BS, MS, Indiana University; Ph.D., SUNYat Albany-Professor

Jerome Wagner, BS, Case Institute of Technology; MS, Ph.D., University of Wisconsin—Associate Professor

Anne G. **Young,** BA Bryn Mawr; MS, Ph.D., Cornell University—Associate Professor

DEPARTMENT OF ALLIED HEALTH SCIENCES

John M. Waud, BS, Lehigh University; MS, University of Pennsylvania; Ph.D., Lehigh University—Associate Professor

Biomedical Computing

Nicolas Thireos, BA, Wabash College; MS, Utah State University—Program Director; Associate Professor

Helen Loizou, BS, University of Surrey, UK—Clinical Coordinator

Clinical Chemistry

John M. Waud, BS, Lehigh University; MS, University of Pennsylvania; Ph.D., Lehigh University—Program Director, Associate Professor

James C. Aumer, BS, MS, Michigan Technological University—Associate Professor

Clinical Faculty

Richard M. Bayer, Ph.D., Rutgers University—Rochester General Hospital, Rochester

Michael R. Bogovich, BS, MS, Rochester Institute of Technology—Calibration Engineer, Clinical Products Division, Eastman Kodak Company

Nathan Hamblin, Rochester General Hospital, Rochester

Howard N. Harrison, BS, University of California; MS, Ph.D., Cornell University—Rochester General Hospital, Rochester

Fred D. Lasky, BS, Ithaca College; Ph.D., SUNYat Buffalo—Senior Clinical Chemist, Clinical Products Division, Eastman Kodak Company

Medical Technology

James C. Aumer, BS, MS, Michigan Technological University; (ASCP)—Program Director; Associate Professor

Helen Loizou, BS, University of Surrey, UK—Clinical Coordinator

Clinical Faculty

Jean M Maatta, MS, MT (ASCP), Program Director, School of Medical Technology, Albany Medical Center, Albany

Susan Cramer, MS, MT(ASCP)—Education Coordinator, School of Medical Technology, Millard Fillmore Hospital, Buffalo

Edward J. Hanchay, MT (ASCP)—Program Director, School of Medical Technology; Boston Veterans Administration Medical Center, Boston

John Hayes, MD, Director, School of Medical Technology, Boston Veterans Administration Medical Center, Boston

Robert W. Hertzog, MD— Director, School of Medical Technology, Millard Fillmore Hospital, Buffalo

Virginia Kotlarz, MT(ASCP)—Program Director, School of Medical Technology, Daemen College, Buffalo

P. **K. Carpenter,** MD—Director, School of Medical Technology, St. Mary's Hospital, Rochester

Nancy Mitchell, MS, MT (ASCP)—Associate Program Director, School of Medical Technology, Rochester General Hospital, Rochester

Arlene Nikiel, MS, MT(ASCP) SM—School of Medical Technology, St. Mary's Hospital, Rochester

Joseph Rizzo, MS, MT(ASCP)—Program Director, School of Medical Technology, Rochester General Hospital, Rochester

Jeffrey Ross, MD, Director, School of Medical Technology, Albany Medical Center, Albany

Zygmunt M. Tomkiewicz, MD—Director, School of Medical Technology, Rochester General Hospital, Rochester

Joanne Trovato, MT (ASCP), Assistant Education Coordinator, School of Medical Technology, Boston Veterans Administration Medical Center, Boston

Nuclear Medicine Technology

Anna M. Wicks, BA, SUNY College of New York at Potsdam; BS, CNMT MBA, Rochester Institute of Technology — Program Director; Assistant Professor

Robert O'Mara, MD—Medical Director

Cheryl A. Waldman, BS, CNMT, Rochester Institute of Technology—Clinical Coordinator

Clinical Faculty

Gil Adams, BS, CNMT—Chief Technologist, Department of Nuclear Medicine, Sisters of Charity Hospital, Buffalo

Cindy Cress, CNMT—Chief Technologist, Department of Nuclear Medicine, Community General Hospital, Syracuse

Linda Decker, BS, CNMT—Chief Technologist, Department of Nuclear Medicine, University of Rochester Medical Center, Rochester

William Goldman, MD—Director, Department of Nuclear Medicine, Community General Hospital, Syracuse

Debra Goodman, BS, CNMT, Chief Technologist, Department of Nuclear Medicine, The Genesee Hospital, Rochester

Bennett Greenspan, BMD— Assistant Professor of Radiology; Staff Nuclear Medicine Physician, University of Rochester Medical Center, Rochester

Francis Kelley, MD—Chief of Radiology, Department of Nuclear Medicine, Highland Hospital, Rochester

Robert Knack, MD—Director, Department of Nuclear Medicine, Our Lady of Lourdes Hospital, Binghamton

Silviu Landman, MD—Medical Director of Nuclear Medicine, United Health Services, Inc., Johnson City

Robert O'Mara, MD—Professor of Radiology; Chairman, Division of Radiology, University of Rochester Medical Center, Rochester

Gretchen Rehberg, BS, MBA, CNMT —Chief Technologist, Department of Nuclear Medicine, Rochester General Hospital, Rochester

Joseph Saladzius, BS, CNMT—Chief Technologist, Department of Nuclear Medicine, Park Ridge Hospital, Rochester

W. Winslow Schrank, MD—Chief Radiologist, Department of Diagnostic Imaging, Park Ridge Hospital, Rochester

Barbara Sullivan, RN—Instructor for Staff Development, St. Mary's Hospital, Rochester

Marsha Sundman, CNMT—Chief Technologist, Department of Nuclear Medicine, Highland Hospital, Rochester

Mark Tomko, BS, CNMT, Chief Technologist, Department of Nuclear Medicine, Our Lady of Lourdes Hospital, Binghamton

Herman Wallinga, MD—Director, Division of Nuclear Medicine, Genesee Hospital, Rochester

Paul Weiss, MD—Director, Division of Nuclear Imaging, Department of Diagnostic Radiology/Nuclear Imaging, Rochester General Hospital, Rochester

George Wilson, MD—Assistant Professor of Radiology; Chief, Division of Nuclear Medicine, University of Rochester Medical Center, Rochester

Brian Wetzel, CNMT—Technical Director, Diagnostic Imaging Department, United HeSth Services, Inc., Wilson Site, Johnson City

Diagnostic Medical Sonography

Michael C. **Foss,** BA M.Ed., RDMS, RVT, University of South **Florida**—Program Director; Assistant Professor

Lon E. **Bailey.** BA, Roberts Wesleyan College; BS, RDMS, Rochester Institute of Technology—Clinical Coordinator

Peter Gleason, MD—Medical Director

Clinical Faculty

Jean Allen, RDMS—Sonographer, Bellevue Hospital, Schenectady
Gary Andrade, RDMS—Chief Sonographer, Diagnostic Ultrasound, Community General Hospital, Syracuse
Darushe Anissi, MD—Medical Director, Ultrasound Laboratory, Rochester General Hospital, Rochester
Birgit B. Armstrong, RDMS—Sonographer, Private Practice, Rochester
Farhad Azimi, MD—Medical Director, Diagnostic Ultrasound, St. Joseph's Hospital, Syracuse
Joanne Baum, RDMS, Chief Sonographer, Crouse Irving Hospital, Syracuse
Robert Benazzi, MD—Medical Director, Diagnostic Ultrasound, St. Mary's Hospital, Rochester
Marsha C. **Brody,** RDMS—Chief Sonographer, Children's Hospital, Buffalo
Lawrence Cadkin, MD—Medical Director, Diagnostic Ultrasound, United Health Services, Binghamton
Barbara CosteUo, BA RDMS— Chief Sonographer, Rochester General Hospital, Rochester
Thomas Frede, MD—Bellevue Hospital, Schenectady
Jeffrey Gibson, RDMS, Sonographer, Rochester General Hospital, Rochester
John Hurley, MD—Medical Director, Diagnostic Ultrasound, Highland Hospital, Rochester
Kathleen T. **Hryhorenko,** RT, RDMS—Chief Sonographer, Diagnostic Ultrasound, St. Mary's Hospital, Rochester
Lori Judd, BS, RDMS—Chief Sonographer, Diagnostic Radiology, Strong Memorial Hospital, Rochester
Kevin Kirch, RDMS—Chief Sonographer, Diagnostic Ultrasound, St. Joseph's Hospital, Syracuse
Silviu Landman, MD—Medical Director, Diagnostic Imaging Laboratories, United Health Services, Johnson City
Phil Matteson, RDMS—Chief Sonographer, Buffalo General Hospital, Buffalo
Mike McLaughlin, RT—Chief Sonographer, Geneva General Hospital, Geneva
Deborah Mendel, RT—Chief Sonographer, Diagnostic Ultrasound, Sisters of Charity Hospital, Buffalo
Richard Moccia, MD—Director, Diagnostic Ultrasound, Geneva General Hospital, Geneva
Richard Munschauer, MD— Medical Director, Diagnostic Ultrasound, Children's Hospital of Buffalo, Buffalo
William Newey, MD—Diagnostic Ultrasound, Saratoga Hospital, Saratoga
Nina Ploetz, AAS, RT, RDMS—Sonographer, Highland Hospital, Rochester
David Rowland, MD—Medical Director, Diagnostic Ultrasound, Sisters of Charity Hospital, Buffalo
Deborah Rubens, MD—Medical Director, Diagnostic Ultrasound, Strong Memorial Hospital, Rochester
Susan Russell, BS, RDMS— Director of Ultrasound Training, Genesee Hospital, Rochester

Kevin Rutkowski, RDMS—Chief Sonographer, United Health Services, Johnson City
Roxanne Schon, CNMT, RDMS—Chief Sonographer, St. Jerome's Hospital, Batavia
Bobbi Stebbins, BS, RDMS— Chief Sonographer, Perinatal Ultrasound, Strong Memorial Hospital, Rochester
Bruce Stringer, MD—Ultrasound Laboratory, Buffalo General Hospital, Buffalo
Richard Tobin, MD—Director, Diagnostic Ultrasound, Genesee Hospital, Rochester
Lorsey Waite, BS, RDMS—Chief Sonographer, Children's Hospital, Buffalo

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Peter A Cardegna, Ph.D., Clemson University—Program Director; Associate Professor, Physics
Jerry M. Adduci, Ph.D., University of Pennsylvania—Professor, Chemistry
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Hnshikesh Baneijee, Ph.D., University of Calcutta—Professor, Physics
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Michael Jackson, Ph.D., State University of New York, Buffalo—Assistant Professor, Microelectronic Engineering
Ronald E. Jodoin, Ph.D., University of Rochester—Professor, Physics
Michael Kotlarchyk, Ph.D., Massachusetts Institute of Technology—Associate Professor, Physics
Santosh Kurinec, Ph.D., University of Delhi—Associate Professor, Microelectronic Engineering
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Andreas Langer, Ph.D., State University of New York, Buffalo—Assistant Professor, Chemistry
Vera W. Lindberg, Ph.D., Case Western Reserve University—Associate Professor, Physics
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Ali Ogut, Ph.D., University of Maryland—Assistant Professor, Mechanical Engineering
Sannasi Ramanan, Ph.D., Indian Institute of Technology—Assistant Professor, Electrical Engineering
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David A Sumberg, Ph.D., Michigan State University—Associate Professor, Electrical Engineering
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Monica Coppola, CSC—Associate Interpreter

Denise Cyrkin, TC; BS, University of Wisconsin—Associate Interpreter

Ami Davis, AAS, BFA, Rochester Institute ofTechnology—Apprentice Interpreter

Colleen Freeman, IC/TC; OIC:C, AAS, Genesee Community College—Interpreter
Katharine Gillies, CSC; OIC:C; BA Oberlin College; MBA Rochester Institute of Technology—Interpreter
Kathy Graham, Associate Interpreter
Chris Kelley, AAS, Iowa Western Community College—Associate Interpreter
Mary Beth Kitzel, AAS, Rochester Institute of Technology—Apprentice Interpreter
David Krohn, CSC—Interpreter
Miriam Lerner, CSC; AAS, Portland Community College—Interpreter
Judy Molner, CT/CI; BA, New England College—Interpreter
Kathleen Nyerges, CSC; AAS, Rochester Institute of Technology-Coordinator
Debra Pinch, Apprentice Interpreter
Valarie Randleman, TC; AAS, BS, Rochester Institute of Technology—Associate Interpreter
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Richard Smith, CSC—Coordinator

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Jennifer Carmona, TC; AAS, Rochester Institute of Technology—Associate Interpreter
Carol Convertino, IC/TC; OIC;C; AAS, Rochester Institute of Technology; BS, SUNY College at Brockport—Interpreter
Joni Dowling, CSC; OIC;S/V; AAS, BS, Rochester Institute of Technology—Interpreter
Joy Duskin, IC/TC; AAS, Gallaudet University; BA, SUNY College at Geneseo—Associate Interpreter
Jonathan Hopkins, Associate Interpreter
Kristen Johnson, CB; AA, Broome County Community College; BS, Rochester Institute of Technology—Associate Interpreter
Mary Ann Kehm, CSC; OIC;S/V; BS, SUNY Empire State College-Interpreter
Leslie King, TC, AAS, Rochester Institute of Technology; BS, SUNY College at Fredonia—Associate Interpreter
Darcy McIndoe, TC; OIC:V/S; BS, SUNY College at New Paltz—Associate Interpreter
Amanda Mothersell, AAS, Rochester Institute of Technology—Associate Interpreter
Doney Oatman, CT—Associate Interpreter
Elouise Oyzon, IC/TC; AAS, Rochester Institute of Technology—Associate Interpreter
James Peinkofer, TC; BA Hartwick College; MSW, SUNY Buffalo-Associate Interpreter
Joyce Pemberton, IC/TC; BS, University of Massachusetts at Amherst—Coordinator
Meredith Ray, CSC; OIC:C; BA Marshall University—Coordinator
Martha Shippee, CSC; AAS, Rochester Institute of Technology—Interpreter

John Mark Smeenk, CSC; BS, MS, Rochester Institute of Technology—Associate Interpreter
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Melissa VanHall, Associate Interpreter
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Interpreting Services III
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Beth Bennett, MS, University of North Florida—Apprentice Interpreter
Marie Bernard, CSC; OIC;S/V; BA, SUNY College at Binghamton—Coordinator
Helen Boreman, AAS, Monroe Community College; AAS, Rochester Institute of Technology—Apprentice Interpreter
Diane Gross, Apprentice Interpreter
Jennifer M. Horak, AAS, Rochester Institute of Technology; BA Pennsylvania State University—Associate Interpreter
Michelle Jablon, BS, Rochester Institute of Tehcnology—Apprentice Interpreter
Lola Johnston, AAS, Western Washington University; BA, Seatde Central Community College—Associate Interpreter
Jennifer Kirkpatrick, CSC; AAS, Rochester Institute of Technology—Interpreter
Cheryl Kryger, AAS, Rochester Institute of Technology—Apprentice Interpreter
Carolyn Morrison, IC/TC; OIC:C; AAS, Rochester Institute of Technology; BA Florida Bible College—Interpreter
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Kelly Sakali AAS, SUNY College at Geneseo; BBA Baylor University—Associate Interpreter
Robyn Shook, BA, Maryville College—Apprentice Interpreter
John Urban, MBA, Rochester Institute of Technology—Apprentice Interpreter
Anne Wania, AAS, Rochester Institute of Technology—Apprentice Interpreter
Corey Wilson, Apprentice Interpreter

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Nancy Carr, TC; BS, SUNY College at Geneseo; MA, Ball State University—Apprentice Interpreter
Susan Dauenhauer, AOS, Bryant and Stratton Business Institute—Apprentice Interpreter

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Sandra Federico, AAS, Gallaudet University—Associate Interpreter
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Terry Johnson, CSC; BS, Rochester Institute of Technology—Interpreter
J. Lynn Lareau, BS, Cincinnati Bible College—Associate Interpreter
Nina LeNoir, Apprentice Interpreter
Catherine Lyon, Apprentice Interpreter
Deborah Makowski, AAS, Rochester Institute of Technology—Associate Interpreter
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Cheri McKee, AAS, Rochester Institute of Technolgy—Associate Interpreter
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Kathie S. Finks, Visitation Specialist

Howard Mann, BSW, MS, Rochester Institute of Technology—(Assistant Professor); Career Opportunities Advisor

Ronnie Mae Tyson, BS, Rochester Institute of Technology—Career Opportunities Advisor

NATIONAL CENTER ON EMPLOYMENT OF THE DEAF

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NdeyHinds, BS,! Syracuse University—Career Opportunities Advisor

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Paul Seidel, BS, Cornell University; MA, University of Rochester—(Assistant Professor); Senior Career Opportunities Advisor

David B. Strom, BET, Rochester Institute of Technology—Career Opportunities Advisor

Mary Ellen Tait, BA, SUNY College at Brockport—Employment Information Specialist

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Bob Brewer, BS, SUNY College at Fredonia—Assistant Chief Engineer

David K Conyer, BS, Indiana University—ITV Production Coordinator

Marilyn J. Enders, BA, Elmira College; MA, American University—(Assistant Professor); Senior Captioning Production Specialist

Charles W. Johnstone, AAS, SUNY Agricultural and Technical College at Alfred; BS, MS Rochester Institute of Technology—(Assistant Professor); Media Services Coordinator

Gail Kovalik, BA Middlebury College; MLS, SUNY College at Geneseo—Staff Resource Center Specialist

Frank A. Kruppenbacher, AAS, Onondaga Community College; BA, SUNY College at Geneseo—ITV Programming Coordinator

Robert H. Murray, AAS, Rochester Institute of Technology—Applications Engineer

Christopher Nuccitelli, BA, New York University—(Instructor); Senior TV Producer/Director

John E. **Panara,** AAS, Monroe Community College; BS, MA, SUNY College at Brockport—(Assistant Professor); Captioning Specialist

Frank Romeo, Chief TV Engineer

Peter S. Schragle, AAS, Rochester Institute of Technology; BA, M.Ed., University of Massachusetts, Amherst—(Assistant Professor); Senior Captioning Specialist

Debra Spatola-Laughlin, BA, Canisius College—(Instructor); TV Producer/Director

Ruth A. Verlinde, BA, University of Michigan; MA, Michigan State University; MA, Ed.D., Teachers College, Columbia University—(Associate Professor); **ITV** Captioning Coordinator

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Gerald C. **Batemanjr.,** BS, MSEd, SUNYCollege at Geneseo; Ed.D., University of Rochester—(Assistant Professor); Instructional Developer

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Leisa Bo ling, AAS, BFA, Rochester Institute of Technology—Artist/Designer

Marie Buckley, BFA, MST, Rochester Institute of Technology—Senior Artist/Designer

Lynn V. Campbell, AAS, BFA, MST, Rochester Institute of Technology—Senior Artist/Designer

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James P. Cox, MS, SUNYCollege at Geneseo—Coordinator, Instructional Development

Sarah Perkins, Phototypographer

Jorge B. Samper, AA, Tallahassee Community College; BA, Florida State University; MS, Rochester Institute of Technology—(Assistant Professor); Media Specialist

Lynn Z. Schaeffer, BS, University of Wisconsin-Milwaukee; MS, Rochester Institute of Technology—(Assistant Professor); Instructional Software/Copyright Specialist

Marcia J. Scherer, BS, Syracuse University; MS, SUNY Buffalo; MS, Ph.D, University of Rochester—(Assistant Professor); Instructional Development and Evaluation Specialist

Biary Siegel, BS, MS, Rochester Institute of Technology—Media Specialist

Michael J. Spencer, AA, BFA, Rochester Institute of Technology; MFA, SUNY Buffalo—(Assistant Professor); Senior Photographer

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Dr. S. Richard Silverman—Director Emeritus, Central Institute for the Deaf

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Important Phone Numbers

COLLEGES

Applied Science & Technology	475-2368
Business	-6025
Continuing Education	-2234
Engineering	-2145
Imaging Arts & Science	
Center for Imaging Science	-5944
School of Art & Design/	
School for American Crafts	-2646
School of Photographic Arts & Sciences	-2716
School of Printing Management & Sciences	-2728
Liberal Arts	-2444*
National Technical Institute	
For the Deaf	-6700
Science	-2484
Graduate Studies	-6523

"Telecommunications Device for the Deaf

INQUIRIES

Information Desk	-2400
Campus Safety	
Emergency, TDD*	-3333, -6654
Business, Escort Service	-2853
REACT (Rape Crisis Confidential)	
	(v/TDD) 258-3399
Admissions	-6631
Alumni, TDD, Fax	-ALUM, -2764, -5308
Bursar	-6186
Campus Safety	-2853
Communications	-5064
	-5414TDD
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RIT Campus Map

To Airport and RIT City Center

To Genesee Valley Park

Ballantyne Bridge

Jefferson Road/Route 252

To Route 15

Brighton-Henrietta Town Line Road

Radisson Inn

Ward Road

North

Scottsville Road/Route 383

Genesee River

East River Road

Andrews Memorial Drive

Lomb Memorial Drive

Lowenthal Road

Andrews

Perkins Road

Perkins Green

John Street

H G

F E D N 60 L

J 76 77 11 M 55

VP 17 7 1 50 K

2 47 90

6 3 43

9 5 35

Kimball Drive 13 8 15 16 B A 99

14 4 23 C

20 Riverknoll 12 25 Wiltsie Drive

18

10 94 Alumni House 97 Colony Manor

19 Energy House

To Eastman Kodak Co. Educational Center

To Racquet Club

To RIT Research Corp.

RIT City Center

to I-490

Andrews St.

N

Church St.

State Street

Genesee River

St. Paul St.

W. Main

Washington

N. Fitzhugh St.

S. Fitzhugh St.

Plymouth Ave.

Exchange St.

East Main St.

South Ave.

Broad St.

Spring St.

Court Street

Inner Loop

RIT City Center, located at 50 West Main Street, can be reached from campus via Scottsville Road to 390N to 490E. Exit at Plymouth Avenue.
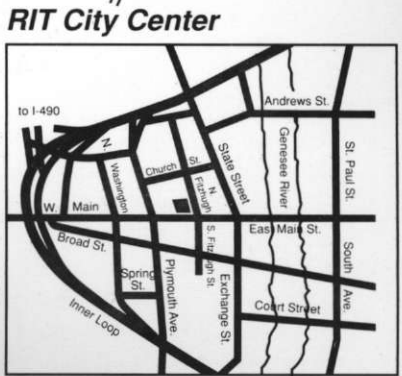
Building Numbers and Names

1 **George Eastman Building:** Administration; Bursar; College of Continuing Education; Communications; School of Food, Hotel, Travel Management; Packaging Science; Registrar; Behavioral Science; School Psychology; Social Work
2 **Frank Ritter Ice Arena**
3 **George H. Clark Gymnasium; Edith Woodward Pool**
4 **Student Alumni Union** and **Ingle Auditorium; Ritskeller**
5 **Wallace Library, Instructional Media Services; Cary Library**
6 **College of Liberal Arts**
7 **James E. Booth Building:** College of Imaging Arts and Sciences (School of Art and Design, School for American Craftsmen; Bevier Gallery; Webb Auditorium)

7 **Frank E. Gannett Building:** College of Imaging Arts and Sciences (School of Photographic Arts and Sciences, School of Printing)
8 **College of Science**
9 **James E. Gleason Building:** College of Engineering; School of Engineering Technology
10 **Lewis P. Ross Building:** Information Systems and Computing; School of Computer Science and Information Technology
11 **Information Center**
12 **Max Lowenthal Building:** College of Business
13 **Facilities Office**
14 **Hugh L. Carey Building:** NTID; Center for Quality and Applied Statistics
15 **Campus Connections:** Bookstore
16 **Kilian J. and Caroline F. Schmitt Interfaith Center**

17 **Center for Microelectronic and Computer Engineering**
18 **Link Building:** Information Technology; Telecommunications Technology
20 **Riverknoll:** Campus apartment housing
23 **Hale-Andrews Student Life Center:** Physical Education; Athletics; Counseling Center; Student Health; SAISD; NTID Psychological Services
25 **Grace Watson Hall:** Resident dining facility; Campus Safety; Residence Life Office
35 **Kate Gleason, Eugene Colby, Frances Baker halls:** Residences
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60 **Lyndon Baines Johnson Building:** NTID academics
76 **Chester F. Carlson Center for Imaging Science**
77 **Bausch & Lomb Center:** Admissions; Cooperative Education and Placement; Financial Aid; Part-time Enrollment Services
90 **Perkins Green:** Campus apartment housing
94 **Alumni House:** 415 John Street
97 **Colony Manor:** Campus apartment housing
99 **Physical Plant buildings**

Bailey Road

To U.S. Route 15 and Thruway exit 46

Rochester Institute of Technology

Office of Admissions
Bausch & Lomb Center
Post Office Box 9887
Rochester, NY 14623-0887