RIT Official Bulletin

Rochester Institute of Technology

Rochester
New York

General Information and Undergraduate Programs 1982-1983

August 1982

ROCHESTER INSTITUTE OF TECHNOLOGY

1982 -1983 INSTITUTE CALENDAR

(Official Institute Calendar as adopted by Policy Council in April, 1980)

Fall Quarter 1982-83	July 12 - August 13	CCE Mail-In Registration for Fall
	July 12 - August 27	CCE Walk-In Registration for Fall
	September 1, 2	CCE Open Registration for Fall
	September 5	Move-In Day for New Resident Students
	September 6, 7	Orientaion for New Students
	September 8	First Day of Classes (CCE)
	September 8	Day College Open Registration - New Students
	September 8, 9	Graduate Student Open Registration
	September 9	Day College Open Registration - Returning Students
	September 10	First Day of Classes (Day Colleges)
	September 10	Non-Matriculated Student Day College Registration
	September 15	Physical Education Registration
	November 18	Last Day of Classes (Day Colleges)
	Nov. 19, 20, 22, 23	Exam Week
	November 23	Last Day of Classes (CCE)
	November 24 - 28	Fall/Winter Break
Winter Quarter 1982-83	Oct. 25 - Nov. 5	CCE Mail-In Registration for Winter
	Oct. 25 - Nov. 19	CCE Walk-In Registration for Winter
	November 22, 23	CCE Open Registration for Winter
	November 29	First Day of Classes (CCE)
	November 29	Day Colleges Open Registration
	November 30	First Day of Classes (Day Colleges)
	November 30	Non-Matriculated Student Day College Registration
	December 7'	Physical Education Registration
	December 18	Last Day of Classes Before Christmas Break
	January 3	Classes Resume After Christmas Break
	February 1	Teaching Effectiveness Conference (No Day College Classes)
	February 22	Last Day of Classes (Day Colleges)
	February 23 - 26	Exam Week
	February 26	Last Day of Classes (CCE)
	February 27 - March 6	Winter/Spring Break
Spring Quarter 1982-83	Jan. 31 - Feb. 11	CCE Mail-In Registration for Spring
	Jan. 31 - Feb. 25	CCE Walk-In Registration for Spring
	March 1, 2	CCE Open Registration for Spring
	March 7	First Day of Classes (CCE)
	March 7	Day Colleges Open Registration
	March 8	First Day of Classes (Day Colleges)
	March 8	Non-Matriculated Student Day College Registration
	March 11	Physical Education Registration
	May 16	Last Day of Classes (Day Colleges)
	May 17 - 20	Exam Week
	May 21	Last Day of Classes (CCE)
	May 21	Commencement
	May 22 - 30	Spring/Summer Break
Summer Quarter 1982-83	April 25 - May 6	CCE Mail-In Registration for Summer
	April 25 - May 20	CCE Walk-In Registration for Summer
	May 24 - 25	CCE Open Registration for Summer
	May 31	Day Colleges Open Registration
	May 31	First Day of Classes (CCE)
	June 1	First Day of Classes (Day)
	June 1	Non-Matriculated Student Day College Registration
	June 6	Physical Education Registration
	July 4	Holiday (No Classes)
	August 9	Last Day of Classes (Day Colleges)
	August 10-12	Exam Week
	August 15	Last Day of Classes (CCE)

* *Dates of Various Summer Sessions to be announced*

REGISTRATION SCHEDULE FOR MATRICULATED UNDERGRADUATE DAY COLLEGE — 1982 -1983

	Fall	Winter	Spring	Summer		Fall	Winter	Spring	Summer
A	1:00pm	2:00pm	8:30am	8:30am	M	8:30am	9:30am	10:30am	9:30am
B	1:30pm	2:30pm	3:30pm	11:00am	N.O.P	9:00am	10:00am	11:00am	9:30am
C	2:00pm	3:00pm	4:00pm	10:30am	Q,R	9:30am	10:30am	9:00am	9:00am
D,E	2:30pm	3:30pm	3:00pm	10:30am	S	10:00am	11:00am	9:30am	9:00am
F,G	3:00pm	4:00pm	1:00pm	10:30am	T.U.V	10:30am	1:00pm	10:00am	8:30am
H.I.J	3:30pm	8:30am	1:30pm	10:00am	W,X,Y,Z	11:00am	1:30pm	2:30pm	11:00am
K,L	4:00pm	9:00am	2:00pm	10:00am					

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 the Undergraduate Bulletin was published. Course and curriculum changes, modifications of tuition, fee, dormitory, meal and other charges, plus unforeseen changes in other aspects of RIT life 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.

RIT admits and hires men and women, veterans and disabled individuals of any race, color, national or ethnic origin, or marital status, in compliance with all appropriate legislation, including the Age Discrimination Act. The compliance officer is James Papero.

General Information and Undergraduate Study 1982/83

Produced by RIT Communications

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

Rochester Institute of Technology
Office of Admissions
One Lomb Memorial Drive
P.O. Box 9887
Rochester, NY 14623
(716) 475-6631

Postmaster: Send all address changes to above address

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RIT at a Glance

Location
Campus in Rochester, New York. The Rochester metropolitan area has a population of about 700,000. City Center campus in downtown Rochester.

Type
Private, coeducational, non-sectarian

Orientation
Science, technology, the fine and graphic arts, management, selected social professions, with strong emphasis on professional competency

Size
Full-time equivalency enrollment in fall, 1981, was 10,950 students

Calendar
RIT operates on the quarter plan, each quarter being 11 weeks in duration. Many classes also are available during the summer (see current summer sessions bulletin).

Degrees
Associate in Arts (AA), Associate in Science (AS), Associate in Applied Science (AAS), Bachelor of Fine Arts (BFA), Bachelor of Science (BS), 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).

Housing
Residence halls for over 3,400 students, with on-campus apartments and townhouses for upperclass students

Sports
Full intercollegiate sports schedule, as well as intramural and recreational programs; facilities include indoor ice rink and pool.

Other cocurricular activities
Fraternities, sororities, professional and honorary societies, special interest clubs, service organizations

Alumni
More than 40,000 in all 50 states and worldwide

Placement
The Institute makes every effort to help students find employment, both during school and after graduation. Central Placement Services acts in four principal areas as a liaison between employers and those students seeking positions. These areas include: part-time jobs on campus and within the community, summer work, cooperative employment, and permanent employment for senior students and alumni.

Accreditation
The Institute is chartered by the legislature of the State of New York ‘and accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools. In addition to institutional accreditation, curricula in some of the colleges are accredited by appropriate professional accreditation bodies. Specific mention of these are included in the college descriptions, where applicable.

What Is RIT?

With a history of more than 150 years, Rochester Institute of Technology is a privately endowed, co-educational, non-sectarian major institution of higher education; its principal task is preparing students for technological competence in a world of change.

RIT is composed of nine colleges: Applied Science and Technology, Business, Continuing Education, Engineering, Fine and Applied Arts, General Studies, Graphic Arts and Photography, Science, and the federally-funded National Technical Institute for the Deaf.

As the information contained in these pages shows, RIT offers a variety of master’s, bachelor’s and associate’s degrees, as well as certain certificate and diploma programs.

Some of these offerings are unique or unusual: packaging science, nuclear medicine technology, printing, photographic science, and the programs of the School for American Craftsmen and the previously-mentioned National Technical Institute for the Deaf (NTID).

Many of the programs are co-op, a formal program of campus study augmented by work off campus in the student’s chosen field. Pioneered by RIT in New York State, the cooperative educational concept enhances the Institute’s “learn by doing” philosophy. During the past academic year, over 2,000 students in business, engineering, science, engineering technology, printing and computer science and technology, alternated academic quarters with work quarters during their last two or three undergraduate years.

RITs students reflect the diversity of its programs. They come from almost every state in the union and many foreign countries. More than 45 percent transfer from two-year colleges or other four-year institutions. Older and part-time students compose a greater and greater proportion of the totaf enrollment.

The percentage of women also is increasing; today about a third of the Institute’s students are female.

An increasing number of RIT alumni are entering graduate schools, but RIT maintains its focus on preparation for moving directly into professional occupations.

RIT continues to place basic emphasis upon teaching as the essential responsibility of the faculty. In support of this are such activities as an Institute Committee on, Effective Teaching and individual and group projects to improve teaching productivity. However, faculty are engaged also in research and other scholarly activities.

The Institute’s alumni number more than 40,000 in every state and worldwide.

RIT’s campus in suburban Rochester occupies 400 acres on a 1,300 acre site. It houses complete

academic and sports facilities, including an indoor ice rink and Olympic-size swimming pool. The academic/administrative complex of 13 buildings, which has received several architectural awards, is arranged as three adjacent quadrangles. The residential complex of 16 interconnected buildings is reached by a quarter-mile mall past tennis courts and playing fields. Adjacent to the residential area is the NTID academic/residence complex.

Many of the Institute's full-time day students live in Institute-operated residence halls. Four apartment villages with a total of 659 units house upperclass students.

The Institute maintains its City Center at 50 West Main Street in downtown Rochester. There the College of Continuing Education offers day and evening courses in which students pursue a range of aspirations from hobbies to master's degrees. Graduate painting and art education are also located here. More than 1,200 students are currently advancing their educational, vocational, and avocational objectives at the City Center. Besides its curricular uses, the City Center provides many technical and community service programs and houses the School of Applied Industrial Studies.

An ongoing intent

When the Rochester Athenaeum was founded in 1829, its intent was to prepare students for "the making of a living and the living of a life."

One hundred and fifty three years later, RITs seventh president, Dr. M. Richard Rose, continues to articulate that purpose: "This saying speaks of making a living and living a life not as two distinct processes, but as one. It is an idea that is central to the type of education that we do best here at RIT."

Undergraduate Programs	Degree and HEGIS* Code				
	AS	AAS	BFA	BS	BTech
College of Applied Science and Technology					
Audiovisual Communications				0605	
Computer Science		5101		0701	
Computer Technology		5101			0701
Civil Engineering Technology					0925
Electrical Engineering Technology					0925
Energy Technology					0925
Food Service Administration		5404		1307	
General Dietetics & Nutritional Care		5404		1306	
Manufacturing Engineering Technology					0925
Mechanical Engineering Technology					0925
Packaging Science				4999	
College of Business					
Accounting		5002		0502	
Business Administration		5001		0506	
Photographic Marketing Management		5004		0509	
Retailing		5004		0509	
College of Engineering					
Computer Engineering				0999	
Electrical Engineering				0909	
Industrial Engineering				0913	
Mechanical Engineering				0910	
Microelectronic Engineering				0999	
College of Fine and Applied Arts					
Ceramics and Ceramic Sculpture		5012	1009		
Graphic Design		5012	1009		
Double Craft Major			1009		
industrial and Interior Design		5012	0201		
Fine Arts - Painting, Printmaking		5012	1002		
Fine Arts - Medical Illustration			1299		
Glass		5012	1009		
Metal Crafts and Jewelry		5012	1009		
Weaving and Textile Design		5012	1009		
Woodworking and Furniture Design		5012	1009		
College of General Studies					
Criminal Justice				2105	
Social Work				2104	
College of Graphic Arts and Photography					
Biomedical Photographic Communications		5299		1217	
Film and Television		5007		1010	
Newspaper Production Management				0699	
Photographic Processing & Finishing Management		5007		0599	
Photographic Science & Instrumentation		5007		0999	
Professional Photographic Illustration		5007	1011		
Technical Photography				1011	
Printing		5009		0699	
Printing Systems Management				0699	
Printing and Applied Computer Science				0699	
College of Science					
Biology	5604			0401	
Biomedical Computing	**			1217	
Chemical Technology		5305			
Chemistry	5619			1905	
Computational Mathematics				1703	
Diagnostic Medical Sonography (Ultrasound)				1299	
Applied Mathematics	5617			1703	
Medical Technology	**			1223	
Nuclear Medicine Technology	**			1299	
Physics	5619			1902	
National Technical Institute for the Deaf					
Interpreting (for the hearing-impaired)	15506				

Enrollment in other than registered or otherwise approved programs may jeopardise a student's eligibility for certain student aid awards. All the above programs are registered according to the indicated HEGIS* code.

**Higher Education General Information Survey*

***Students in these programs receive an AS in General Science (HEGIS 4902) upon the successful completion of the first two years*

N OTE: For information on offerings of the College of Continuing Education, or the National Technical Institute for the Deaf, please write to that respective college for its Official Bulletin or catalog.

RIT Proud of Link With Rochester Dr. *Rose Asserts*

"RIT means different things to different people," says President M. Richard Rose. "For those of us who work and study here, it's a progressive academic citadel that always has been willing to take those extra steps necessary to maintain relevant educational programs.

"For its alumni, RIT continues to provide opportunities to improve themselves and their families educationally, professionally, financially and socially.

"RIT also is something special to those in the greater Rochester community who may never have studied or worked at any of our facilities. It's a special pride in having the main campus of the Institute here.

"For, in many ways, it symbolizes much of what we find so desirable about our community, particularly through its attractive blend of tradition, culture, innovation, business and education.

"Yet, in many ways it has grown hand-in-hand with greater Rochester itself. Its very roots are in the area's early industry.

"It is this link with greater Rochester's history and growth that makes RIT a special place for the entire community. It's a link of which we're very proud. We hope you will share in this pride."

Career Education Supports Strong Links With "Working World"

RIT's particular philosophy of education is called career education.

This interest in career education has characterized RIT from its beginnings. With the establishment in 1885 of the Mechanics Institute, a predecessor of RIT, evening courses were offered for workers who wanted to upgrade their skills in the booming post-Civil War economy. In 1891, Mechanics Institute and the Rochester Athenaeum were consolidated and, over the next decade, developed and taught five three-year courses—mechanics, architecture, design, art, and teaching. There were evening courses for employed persons and day classes available to homemakers.

When we started career education in the 1880s, we called it common sense. Our goal then was to prepare graduates for "the making of a living and the living of a life." Over the years, we've developed that philosophy of career education into a science.

What is career education?

In simplest terms, it's an education that prepares students to leave college and go to work doing what they want to do.

At RIT, it's an education in engineering or fine arts or science or social work or business or any of the other multitude of programs offered through the 10 day and evening colleges of RIT.

But it's an education with a difference.

At RIT it means our graduates can go directly from here to where they want to be—iixthe professional world, doing professional work. Or they can choose further study and research in graduate programs.

It means our students develop a technical competence that means something outside the academic world.

Experiential education provides RIT students with experiences related to personal career planning. Through combined efforts of students, professionals at RIT, and representatives of specific fields, students gain firsthand experience relative to their career interests.

Faculty and staff assist students in identifying the types of experiences related to the chosen disciplines that will encourage career development. Application procedures are taught and referrals are made to employment opportunities as they develop. Geographic mobility is strongly recommended to applicants in order to take advantage of the best openings on a nationwide basis.

Experiential education

Experiential education promotes learning beyond the classroom. It is designed to let students know what it means to work in a specific field.

Experiential education denotes RIT's philosophy of preparedness for a working society and offers students opportunities to develop further expertise in chosen career fields. During a typical off-campus working experience, the student learns through actual career-field employment.

Off-campus experiential education programs include required cooperative education programs in the colleges of Engineering, Business, and Applied Science and Technology; required clinical internships in medical laboratory, diagnostic ultrasound and nuclear medical technology; and required field placements for social work and criminal justice. Optional cooperative work experience programs are offered in printing, packaging science, and in the College of Science, and an optional internship is offered in biomedical photography.

Experiential education also means we recognize that many people already have careers but want to further their knowledge. So we have programs and courses of study designed to accommodate these special needs.

Is career education a new idea?

Maybe in some places.

But at RIT, where we've made a career out of career education, it's the oldest young idea around.

Career services are provided to students as soon as they are accepted into classes at RIT. Students utilize these services to locate work experiences in their career fields on a part-time basis or to fulfill cooperative education or internship requirements of their curricula.

RIT has been a leader in experiential education through cooperative education since 1912. Experiential education offers RIT students the best of two worlds—classroom and laboratory, as well as the world of work. These two elements combine to provide an education well recognized for its benefits.

Services to assist students in securing part-time, summer, co-op/internship, or permanent positions following graduation include:

- Workshops, seminars, and classes are conducted to orient students to available resources. These sessions address specific topics such as career strategy development, resume writing, job hunt strategies, and interviewing techniques.
- Individual counseling allows students the opportunity to discuss the personal needs and decisions they face with respect to employment and career plans.
- Resource library materials provide students with additional information on industries and employers. Much of the information maintained is current data provided by employers from throughout the United States, and many helpful directories and other reference materials as well.
- Campus interviews are made available. Through personal visits to

employers as well as phone and correspondence contacts, an extremely active program of on-campus interviews brought more than 1,000 employer representatives to campus last year.

- Job listings complement campus interviewing with postings>of available positions for part-time/ summer, and co-op/internships, as well as permanent positions for graduating students and alumni. In addition to campus interviews, more than 5,000 listings for part-time jobs on and off campus, summer positions, co-op opportunities, and permanent positions were received last year.
- Reference services include the retention of letters of recommendation for graduating students to be used in their application to employers and to graduate schools, and also the maintenance of work evaluation reports for students in co-op work programs.

In addition to services for students, employment-related research is conducted to answer two questions:

- Where have RITs graduates gone and what are they doing?
- What skills will industries demand in the future?

Information to answer these and many other questions related to the goals of RIT is collected and analyzed. Through activities such as alumni surveys, analysis of national employment data, and contact with industries, the Institute keeps an eye on the needs of students and employers so that the various curricula and new programs can be designed to meet those needs.

Information is synthesized and made available through many , formats to students and their academic advisors as well as Institute planners. The linkages among the students, alumni, and employers enhance RIT's ability to provide a quality education firmly rooted in a dedication to preparation for career success.

The RIT Student Body Is Characterized By Diversity

- There is no typical RIT student. If the student body could be characterized, however, it would be only by its diversity.

Some of our students have just graduated from high school. Some are transferring to RIT after going to college somewhere else. Some are returning to college after a long period of time.

RIT is an institute where painters, potters and photographers go to school with accounting majors; where those interested in a career in social work study with those interested in mechanical engineering.

Students have entered RIT from ' every state in the United States and from many foreign countries. They come from varying economic and social backgrounds.

Yet, despite their diversity, they all have ideas about where they're going in life. A recent survey of incoming freshmen and transfers showed that despite their diversity, most RIT students had one thing in common: they wanted a professional/technical career. This is what RIT is all about. Long before the word "career" became popular, RIT stood solidly behind the idea that education for work—for a job—was worthwhile and sound. And over the years RIT has built up a lot of experience in moving graduates directly into a career.

Veterans

The veteran, often a little older and usually ready to move directly toward a career goal, will find at RIT a serious purpose in education where he or she can make up lost time with minimum problems of adjustment. Veterans' programs at the Institute help vets deal with the machinery of the Veterans' Administration and with the opportunities the government gives them.

Study at RIT is approved under PL89-358 (Readjustment, 1966) PL815 or PL894 (Rehab) and PL634 (War Orphans). For benefits an application for the Certificate of Eligibility may be obtained from the Veterans' Affairs Office, located in the basement of the College-Alumni Union.

VA Form 21E-1995, "Request for Change of Program or School," is used when the veteran wishes to transfer schools. This should be filled out immediately upon acceptance at RIT.

Transfer students

More than 45 percent of all full-time students attending RIT transferred from another two- or four-year college. RIT doesn't simply absorb them and ignore their previous experience; RIT thinks it's valuable. In order to continue building on its excellent relationship with two-year colleges, RIT has established the Center for Community/Junior College Relations. This is an excellent two-way channel for cooperative action. For information on transferring to RIT, see page 15.

Deaf students

The 950 students registered through the National Technical Institute for the Deaf (NTID) make a distinct contribution to the educational processes of the Institute. They are RIT students in every sense: they come from varied backgrounds, are registered in a wide variety of academic fields and fully share in the extracurricular and social life. Deaf and hearing students often share the same dormitories and sometimes the same room. They play on the same teams, attend many of the same classes. Hearing students may also participate in programs for deaf students by interpreting, tutoring, and taking class notes for them. RIT is proud of its share in this national educational effort for deaf people. For more information on NTID, see page 120.

Institute Standards For Student Conduct

RIT's educational mission

It is the mission of RIT "to prepare men and women for living and working in a democratic and technological society" by offering curricula that "meet the need for technological and other specialized knowledge and skills within the broader framework of humanistic values."[1] To achieve its mission, the Institute establishes guidelines that provide for the orderly conduct of its instructional and campus life activities. As an educational community, it strives for a campus environment that is 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 that will enable them to contribute constructively to society.

Historically, RIT has aspired to the goal of teaching students for the "making of a living and the living of a life, not as two distinct processes but as one."[2] This goal includes the emotional, physical, spiritual and social development of students. Because the Institute prepares its students for leadership in their careers and in community life, it has

'Rochester Institute of Technology, "1980 Master Plan," (March 1980).
[J]George W. Hoke, S/aWng *New Trails* (Rochester, N.Y.: Rochester Athenaeum and Mechanics Institute, 19371 o V

set standards of personal development and academic excellence that go well beyond the standards of the larger society. Moreover, the faculty and staff are expected to set examples for students in the pursuit of their personal and academic development. Although RIT acknowledges and respects the diversity of values and life styles of its faculty, staff and students, each member of the RIT community has the responsibility of observing the standards of campus life that are important to the pursuit of the Institute's mission.

Principles underlying Institute conduct policies

1. Students are expected to assume responsibility for their own conduct and also to have concern for the behavior of others. Such responsibility includes efforts to encourage positive behavior and to prevent or correct conduct by others that is detrimental.
2. The Institute places high priority on self-regulation by its members and intends that campus life will provide opportunities for students to exercise individual responsibility.
3. The Institute acknowledges the diversity of backgrounds, life styles and personal moral values of those who comprise the Institute community, and respects the right of individuals to hold values that differ from those expressed by the Institute. However, in their activities and duties as students, they are expected to observe Institute policies and standards.
4. Moreover, the Institute has legitimate concern for personal behavior beyond the impact the behavior has on the rights and freedoms of others. When an individual's pattern of behavior is self-destructive, interferes with the achievement of one's educational objectives, or adversely affects the quality of life on campus, the Institute may intervene to correct or prevent such behavior.
5. The Institute values and safeguards the personal privacy of its members. Rooms in campus housing will not be entered by Institute personnel without either the permission of the residents or the authorization of the vice president for Student Affairs unless a legal search warrant has been obtained. Exceptions are made in emergency situations such as imminent harm to individuals or serious damage to the Institute property and for reasons of health and safety. The Institute adheres to the provisions of the Buckley Amendment regarding the privacy of student records.
6. 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 Institute action.
7. For students living in campus housing, campus life standards have special significance. The residence hall environment is highly interpersonal, and the behavior of every individual in some way 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 residence halls publications.

Summary of conduct policies

In keeping with the principles listed above, the following broad areas of conduct for students are enunciated. Although they are not all-inclusive, they indicate in general terms the standards of student concern that are important to the desired quality of campus life and to the educational mission of RIT. More explicit conduct policies are contained within *FACTS,* the RIT student handbook; the residence halls "Terms of Occupancy," and other official Institute documents.

Human rights and dignity

The Institute expects all students to practice high regard for the human dignity of other people. It seeks to prevent all types of discrimination on the basis of race, sex, religion, age, handicap and national origin. Attempts are made to resolve conflicts between individuals and groups with differing backgrounds and views through discussion and clarification of values and attitudes. However, repeated disregard for the rights and dignity of others will result in disciplinary action in accordance with Institute policies and procedures.

Personal conduct

Through its policies, the Institute requires conduct that contributes positively to the personal welfare of students, enhances the quality of the campus living environment and respects the rights of others. Conduct that infringes upon the rights of others or endangers any individual will not be permitted. The sanctions associated with student misconduct are outlined in Institute policies, and actions are taken in accordance with the RIT Judicial Process. The following statements on sexual behavior, alcohol and drug use, appropriate study environments, safety, and student regard for property are a further expansion of the Institute's position on the personal conduct of students.

Sexual behavior and harassment

The Institute acknowledges that an individual student's sexual attitudes and values are a matter of personal choice. However, responsible sexual behaviors, no less than in other areas of human interaction, must take into account the dignity, privacy and rights of others. Sexual harassment is not tolerated. Moreover, no individual should be subjected to exploitive actions. Unacceptable behaviors and living arrangements are further defined within the "Terms of Occupancy" for the various Institute housing units.

Alcohol and drug abuse

Individual students will be held responsible for their behavior even though their judgment may be impaired because of the use of alcohol or other drugs. Registration procedures for all RIT events set forth the responsibilities and procedures to be followed by the sponsoring group at an activity where alcohol is served. No student should feel pressured to consume alcohol or other drugs.

Institute policies on drug and alcohol use conform to the laws of the State of New York. The Institute is not a haven from the law, and both New York State law and Institute policy will be enforced. Those students who evidence problems with alcohol or drugs will be offered, and, if necessary, required to avail themselves of counseling or other appropriate treatment. Even though individual students may be receiving such assistance, they will be held accountable for their behaviors through established Institute judicial procedures.

Study environment

Students need a campus environment that is conducive to studying. This is especially important in those facilities that are designated primarily for study. In the residence halls, each separate living unit must establish in writing the policies it will maintain to provide adequate study conditions according to the basic standards established by the Institute.

Safety

Safety is of critical importance at all places on the campus, but it is particularly important in the residence halls because the carelessness of one individual can threaten the lives of hundreds of

others. Willful violations of safety,
- such as causing false fire alarms, will result in immediate action according to judicial procedures. Safety inspections of individual rooms and group living areas will be conducted periodically by authorized Institute personnel.

Student regard for property
Students are expected to exercise appropriate care of Institute property and regard for the property of others. A student-developed property damage policy in the residence halls holds accountable those students responsible for damage.

Student Misconduct
RIT believes that other than major felonies, student misconduct can be most effectively handled on campus without going through outside law enforcement agencies. Every student has the right for a hearing before the Student Hearing Board on serious misconduct cases. The Student Hearing Board makes recommendations on appropriate sanctions to the vice president for Student Affairs. Although most students request to have their cases handled by an administrator rather than appearing before the Student Hearing Board, the administration relies upon the Student Hearing Board to resolve the more difficult cases where guilt or innocence is questionable, and to determine appropriate levels of sanctions for different types of misconduct. There are no official mandatory sanctions, but in general the following practices apply:

1. False fire alarms, assault with a weapon, sexual assault, and dealing hard narcotics will lead to immediate suspension and possible arrest.
2. Theft of any amount will lead to a deferred suspension status (sanction of disciplinary suspension is imposed, but indefinitely deferred pending future conduct) plus compensation in the form of “work hours” up to the value of the items stolen; this is in addition to return df or restitution for the actual objects stolen.
3. Possession of marijuana results in an initial warning; further incidents could lead to removal from residence halls, disciplinary probation, or suspension from school.
4. Possession pf harder drugs, depending upon amount, would lead to removal from residence halls, deferred suspension, possible arrest and/or actual suspension.
5. Alcohol intoxication leads to an initial warning; further incidents could lead to required counseling, removal from residence halls, and disciplinary action for any acts of misconduct committed while under the influence.
©'Disorderly conduct and disturbing the peace will result in warnings, probation, removal from residence halls, deferred suspension, or actual suspension depending upon seriousness of the incident and previous conduct record; fighting generally results in deferred suspension.
7. Vandalism results in restitution, plus disciplinary action ranging from warning, probation, deferred suspension, or actual suspension and/or arrest, depending upon the extent.
8. Any form of “hazing” that endangers mental or physical health or involves forced consumption of liquor or drugs for initiation purposes results in probation, deferred suspension, or actual suspension of the responsible persons or organizations.

Students who are interested in serving on the Student Hearing Board, or who have questions concerning RIT’s internal judicial process and student rights on campus, should contact Dr. Stanley D. McKenzie, assistant to the vice president for Student Affairs/Judicial Affairs, in the Student Affairs Office on the mezzanine level of the College-Alumni Union, telephone extension 2265.

Admissions Staff Strives To Serve Special Needs

RIT takes pride in the diversity of its student body—a diverstiy actively promoted by the Office of Admissions.

Women, veterans, middle age students, minorities, commuters, handicapped and international students are people with individual needs that require support from RITs student services, according to E. Louis Guard, RIT director of Admissions.

“Each of the admissions staff members works with a group of students who may have special needs,” he says. “In addition to the daily counseling and recruiting responsibilities, each counselor acts as an advisor and program coordinator for a different group on campus.

“Arthur C. Friedel keeps in contact with the international students orl campus, who are here from as far away as China and Spain.

“The international student population at RIT is steadily increasing due to the unique education opportunities offered. Graduates return to their respective countries with the knowledge and expertise needed for application to solve economic, technical and environmental problems.

“A photographer from Brazil might come to RIT for refresher courses, or a whole group may come to campus for a full four- or five-year degree program. Whatever the case, they need someone on campus who can direct them to the services offered in English tutoring, counseling or health care. And our department offers that personalized assistance.”

Barbara Bell’s concern is the minority student. She actively recruits minority students and conducts special career days for prospective students.

Another admissions staff member takes particular interest in women on campus, and is sensitive to the fact that RIT has been viewed as a technical, and therefore male-oriented, institution. “Dorothy Lowe is involved in encouraging women to pursue careers in technical fields, and informing them about the many options open to them,” Guard explains. “We also assist students in locating services they may need on campus—in child care, chaplaincy, counseling, or career development assistance.”

Whether you are a high school student or an experienced homemaker exploring a second career, we encourage you to seek our assistance while you clarify and re-examine your personal career goals. New and exciting career opportunities are available in areas that traditionally were thought of as being male dominated. Majors in accounting, engineering and photographic marketing management are just a few of the many programs available at RIT for women who are interested in pursuing challenging careers.

The admissions staff is prepared to draw upon the various Institute resources and support services to explore the world of work to placement services for those ready to begin the job search. Through this assistance and referral, we can give you a better insight into the opportunities and challenges at RIT.

This involvement of the admissions staff allows them to keep in contact with students currently enrolled. Guard points out that although his role as director is primarily managerial, he acts as an advisor to a fraternity and still does counseling.

“If we’re going to counsel incoming students intelligently, we all have to

be involved with the day-to-day concerns of students who are already here. Our advisory functions keep us in touch," he remarks. "Plus the input of the students who work with us part-time in the office is great for providing regular communicaion and feedback."

The actual admissions procedure is another way in which the admissions staff maintains personal contact with students. A prospective student can expect the admissions staff person who initially interviews him or her to 'act as a liaison throughout the admission process. The counselor takes personal responsibility for following up on the status of each applicant.

Guard explains that Admissions is more interrelated with other departments. "We work closely with Financial Aid, the Counseling Center, the Learning Development Center, Central Placement, Records ancf Institutional Research, the NTID Admissions Office, alumni, and with each of the colleges so that better communication can be maintained. That's just one of the ways in which we're trying to make life—and learning—easier for students as they experience the educational process."

Veterans Are Achievers

"Because our veterans are a little older and realize the value of an education, they undoubtedly try harder," says Gene Clark, director of Veterans Affairs. "They have proven that one's level of maturity and interest in self-development are key factors in successful completion of one's goals. Our average veteran at RIT usually has the added responsibility of a family. With this, of course, comes the added financial pressure of maintaining a home and, more often than not, a full-time job. Because of the complexities of governmental regulations and benefit payment," says Gene, "our veterans have become very dependent on our ability to service their needs. They come to the Office of Veterans Affairs for counseling, information, assistance with problems, tuition deferments, and just to say 1-16110. We, for the most part, are all veterans and feel that having been there makes it easier for those who are to follow. Veterans helping veterans is the basis of our services."

The Office of Veterans Affairs...conveniently located on the lower level of the college union and easily accessible for day and evening students.Js open daily from 8 a.m. until 8 p.m., Monday through Thursday, and until 4:30 p.m. on Friday. The OVA staff is comprised of the director, program secretary, peer-counselors, and VA work-study students constantly handling inquiries and assisting veterans with VA related information. With their assistance, a veteran or dependent can be sure of a steady transition into and through the RIT educational experience.

"Successful contact with our veterans has proven that VA problems can be effectively dealt with before they have a negative impact on our vets," maintains Clark. "We are concerned that many veterans and the dependents of deceased and disabled veterans are not utilizing their benefits. Benefit payment rates have been recently increased and the length of eligibility extended to 10 years for program completion."

Gene is a U.S. Air Force veteran and presently serves as a commissioned cavalry officer with the U.S. National Guard. His degree in business administration combined with his military experience and expertise in veterans' programs provide the background that enables him to successfully assist veterans and their dependents through the maze of veterans' benefits.

Costs

Payment Procedure/The Estimated Quarterly Bill

Charges at RIT are computed on a quarterly basis. The Institute must receive payment in full for each quarter before registration will be allowed. Any preregistered student whose payment is not received by the due date will not be eligible to register until payment is received. Any non-preregistered student must attend Open Registration Day and make payment at that time. Payments sent by mail should be made by check, payable to Rochester Institute of Technology. Due dates for the 1982-83 school year are as follows:

Fall Qtr.	Aug. 6, 1982
Winter Qtr.	Oct. 29, 1982
Spring Qtr.	Feb. 4, 1983
Summer Qtr.	April 29,1983

The student should receive the Estimated Quarterly Billing Packet approximately two weeks prior to the quarterly due date. The packet will contain all the necessary information required to complete the Estimated Bill accurately and quickly. Upon receipt of the Institute's copy of the Estimated Bill and the student's payment in full, the Bursar's Office will process the payment and clear the student for registration.

Students whose college costs are paid by the G.I. Benefit Plan or their employer are required to submit an Estimated Bill accompanied by the proper authorized form. Estimated Billing Packets will be mailed to the student's permanent address, without exception. In addition, the Estimated Billers will be available at the Day College cashier's window.

All billing information will be mailed to the student's permanent address without exception.

Financial standing

Tuition and fees paid to the Institute cover approximately 60-70 percent of the actual expense 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. Any student whose 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 without prior notice.

Tuition

The full-time (12-18 credit hours)* undergraduate amount is $1,688 per quarter.

The part-time (less than 12 credit hours) tuition is $143 per quarter credit hour.

Any undergraduate carrying over 18 quarter credit hours will be. charged $1,688 plus $143 for each credit hour over 18.

Please refer to the subsequent charts for more specific tuition information.

Other fees

In addition to the fees outlined in the following charts, certain segments of students may incur other fees as follows:

Residence Halls Association Fee—$5 per quarter charged to all residence hall students

Off Campus Student Association Fee—$2 per quarter charged to all full-time undergraduates not living in the residence halls

Photo Facilities Fee—$17 per quarter charged to all full-time photo students

Student Medical Insurance Fee—$92 charged Fall Quarter to all full time students who have no other medical insurance and have not signed the waiver option.

Late Registration Fee-A late registration fee of $25 is charged to any student who fails to register (and make the necessary financial commitment) by the designated quarterly open registration day.

Deferred payment plan
For those students who are not able to pay the amount due by the designated due date, R|T has made arrangements for deferred payment through a local bank. For further information regarding this plan call the RIT Bursar's Office at (716) 475-6186.

Books and supplies
These vary widely with the program followed and to some extent the electives chosen. Those having minimal expenses (e.g. sciences, business) will average $250-300; in the arts and crafts, this may be in the neighborhood of $1,000-$1,500; in photographic illustration or professional photography, a realistic allowance is $1,500 in addition to cameras (but in photographic sciences and photo finishing, expenses are minimal).

Typical Expenses
We can tell you what tuition, room and board, and fees will cost you. But estimates of personal expenses are up to the individual student. When estimating what you'll spend for a year at college, remember to count travel expenses, clothes, meals not counted in your board plan, and spending money. A typical full-time resident student would have the following academic year expenses:

Tuition	$5,064
Fees	120
Room	1,455
Board	1,449
Books	307
Personal & Transportation	805
Total	$9,200

As indicated in the preceding paragraphs, expenses will vary according to individual circumstances. A detailed table of charges for tuition and fees according to program choice is found on the following page.

Refund Policies

Advance deposits are non-refundable.

The acceptable reasons for the withdrawal with refund during the quarter are:

For a full refund

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 may elect to complete the course by making special arrangements with both his instructor and department, or to withdraw and receive a full tuition refund. If he withdraws, he will have to repeat the course 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. It remains the student's responsibility to contact his or her department to assure that the withdrawal form and refund are properly processed.

For a partial tuition refund
A student must officially withdraw 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 for Academic Advising and the Bursar.

These partial refunds will be made according to the following withdrawal schedule and percentage of tuition reduction.

During the first week of classes—90%
During the second week of classes—75%
During the third week of classes—60%
During the fourth week of classes—50%
Fifth and subsequent weeks—No tuition reduction

A student is not "officially withdrawn" until he or she receives the student's copy of the withdrawal form. The date on which a withdrawal form is

Based on three academic quarters, as freshman resident studentf

Department or Major	Tuition	Fees*	Roomft and Board	Total**
Engineering	$5064	$120	$2904	$8088
Business Administration, Retailing	5064	120	2904	8088
Food Administration	5064	120	2904	8088
Art and Design	5064	120	2904	8088
School for American Craftsmen	5064	120	2904	8088
Printing	5064	120	2904	8088
Photography (including Photographic Science)	5064	171	2904	8139 *
Biology, Chemistry, Math, Medical Technology Nuclear Medicine Technology, Physics	5064	120	.2904	8088
Chemical Technology (2 Quarters)	3376	80	1936	5392
Computer Science & Technology	5064	120	2904	8088
Social Work, Criminal Justice	5064	120	2904	8088
Career Decision Program	5064	120	2904	8088
Packaging Science	5064	120	2904	8088

† Rochester area students who live at home and commute to campus should substitute their own estimates for room and board.
* Does not include Orientation Fee.
†† Double Room and Board (20 meals per week).

An Aid To Estimating Tuition, Fees

College	School, Department or Program	Co-op	Year	Tuition Per Year	Feest	Total Per Year	Quarterly Payments*		
							1st Qtr.	2nd Qtr.	3rd Qtr.
College of Applied Science and Technology	Computer Science and Technology	Yes	1 & 2 3, 4,5	5064 3376	105 70	5169 3446	1723 1723	1723 1723	1723
	Engineering Technology	Yes	1 &2	(Completion of 2 years at another college)					
			3, 4,5	3376	70	3446	1723	1723	
	Packaging Science	No	Each Year	5064	105	5169	1723	1723	1723
	Audiovisual Communications Instructional Technology	No	1 & 2	(Completion of 2 years at another college)					
			3,4	5064	105	5169	1723	1723	1723
Business	Bus. Administration Food, Hotel and Tourism Management, Retailing	Yes	1 2** 3 4	5064 5064 3376 5064	105 105 70 105	5169 5169 3446 5169	1723 1723 1723 1723	1723 1723 1723 1723	1723 1723 1723
	Photo Marketing	No	Each Year	5064	105	5169	1723	1723	1723
Engineering *	Electrical Mechanical, Industrial, or Computer Engineering	Yes	1 8,2 3, 4,5	5064 3376	105 70	5169 3446	1723 1723	1723 1723	1723
Fine and Applied Arts	Art and Design School for American Craftsmen ,	No No	Each Year	5064	105	5169	1723	1723	1723
Graphic Arts and Photography	Photographic Arts and Sciences Printing	No No ***	Each Year	5064	156	5220	1740	1740	1740
General Studies	Criminal Justice Social Work	Yes	Each Year	5064	105	5169	1723	1723	1723
Science	Biology Mathematics, or Physics	Yes	1 &2 3, 4,5	5064 3376	105 70	5169 3446	1723 1723	1723 1723	1723
	Chemistry	Yes	1 2-5	5064 3376	105 70	5169 3446	1723 1723	1723 1723	1723
	Health Related Professions involving Clinical Science	No	1,2,3	5064	105	5169	1723	1723	1723
			4	(Full-time internship in approved hospital)					
Counseling Center	Career Decision	No	Only 1	5064	105	5169	1723	1723	1723

Note: Books and supplies are not shown in the tables above, since they vary so much with each program. It is, however, essential that they be remembered in budgeting for upperclass years. This is especially true for students in arts and photography.

tDoes not include Residence Halls Association Fee, Off Campus Student Association Fee, Orientation Fee or Medical Insurance Fee (optional)

*In cooperative programs, students pay tuition only for quarters at RIT; normally two per year in alternate quarters.

"Students in College of Business attend classes for 11 quarters over the 4-year program. Payments are due for quarters assigned to school, which may differ in time but not in quantity from above chart.

***If printing students elect to follow the voluntary cooperative plan, tuition is charged only for quarters at RIT.

Any undergraduate carrying over 18 quarter credit hours will be charged regular tuition plus $143 for each quarter credit hour over 18.

Tuition for part-time undergraduate students (carrying fewer than 12 quarter credit hours) is at the rate of $143 per quarter credit hour.

Student Activity Fee is assessed at $5 per quarter.

Note: RIT matriculated day college students taking CCE courses will be charged the day college tuition rates.

A graduation fee of $15 is payable at the beginning of the Spring Quarter of the year in which the student expects to receive an associate's or bachelor’s degree. The graduation fee charge for those receiving a master's degree is $20, which also includes rental of the master's hood.

properly completed shall be the date of "official withdrawal" used to determine the refundable amount.

If a student drops his or her course load from full-time (12 or more credits) to part-time (less than 12 credits) status during the offical Drop Period, he or she may contact the Bursar for a refund based on the differential between the full-time tuition payments and the total per credit charge for the part-time load. *Courses dropped after the official Drop Period will not result in a tuition refund.*

Fees are not refundable.

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. Schonblom, bursar. Matters which cannot be resolved 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:

1. Room
   a) During the first week of classes 90% of *unused* room charge
   b) During the second week of classes 75% of *unused* room charge
   c) During the third week of classes 60% of *unused* room charge
   d) During the fourth week of classes 50% of *unused* room charge
   e) Fifth and subsequent weeks—No refund
2. Board
   a) During the first four weeks, 75% of *unused* board charge
   b) After the first four weeks, 50% of the *unused* board charge

Financial Aid

There are a variety of scholarships, loans, grants, fellowships, and other aid programs available to help you pay for your college education, and the best way to find out about them is to check with the RIT Student Financial Aid Office as soon as possible.

The main objective of the Student Financial Aid Office is to help students (including freshmen, transfer, upperclass, and graduate) and their parents plan for and meet the costs of attending RIT.

It is RITs philosophy that eligible students will be considered for financial assistance according to financial need. Normally this is arranged as a package of aid, consisting of scholarship, grant, loan, and/or employment in conjunction with outside scholarships and grants such as the New York State Tuition Assistance Program and Regents Scholarship, Pell Grant (formerly Basic Education Opportunity Grant), or other state and federal awards. Also, there is a full range of benefits available to eligible veterans attending RIT.

RIT's cooperative programs offer participating students an opportunity to make a very significant contribution to their total college expenses in addition to the valuable' experience gained on the job.

Additionally, through the Student Employment Office, there are many part-time positions available to help defray expenses. Those needing the income from full-time employment should consider attending RIT's College of Continuing Education evenings.

Inquiries for all types of financial assistance should be directed to the RIT Office of Student Financial Aid, One Lomb Memorial Drive, P.O. Box 9887, Rochester, N.Y., 14623; phone (716) 475-2186.

Scholarships

The RIT Board of Trustees has provided a scholarship fund from which general awards are made to entering freshman and transfer students. Other scholarships have been provided by the gifts of the alumni, friends, corporations, foundations, and the income from permanent funds.

Scholarships from these sources 'may vary in amounts from $100 to $3798. The amount of the scholarship and the recipients are determined on the basis of entrance examination data, high school and/or previous college record, and the need for financial aid. These scholarships are one year scholarships. Students receiving scholarship aid may apply for renewal of their award each subsequent year. Entering freshmen may be eligible for gwards if they rank in the upper 20 percent of their high school graduating class, while eligibility for enrolled and transfer students is contingent upon a cumulative grade point average of 3.00 through the winter quarter of the year prior to the one for which the award is requested. In each case the stipend is based on financial need.

A number of industry or business sponsored scholarships are available to entering students in specific departments. In some cases the scholarships are restricted to students from a particular geographic area. In general, scholarships of this type are for three to five years of study, and the student must maintain a specified academic average. Scholarships in this category vary in size from $300 to $5064.

International student scholarship fund

The purpose of this scholarship is to assist international students attending RIT who qualify in meeting their educational obligations. A limited humber of small scholarships are awarded annually winter quarter. Applicants must possess an F-1 visa, be full-time matriculated students and should not already be on a fully funded scholarship. To be eligible, applicants must also be in residence at RIT for three quarters if an undergraduate or one quarter if a graduate student and should not be a previous recipient of this scholarship. Awards are determined by the International Student Scholarship Committee. Criteria for selection includes academic performance with a G.P.A. of 2.8 and demonstrated financial need. For further information, visit the Office of International Student Affairs located on the second floor of the Administration Building.

Tuition payment plans

Monthly payment programs are available through a number of commercial banks and agencies. Inquiries regarding these programs should be directed to the RIT Student Financial Aid Office.

Non-residents

There are no additional charges or fees for RIT students coming from states other than New York State.

To apply for aid

To be considered for financial aid, a student should be enrolled as a full-time or part-time student or have been offered admission as a full-time student.

Although applications for financial aid aren't processed until a student has been accepted, a student shouldn't wait until receiving , notification of acceptance to file for financial aid. This should be done when applying to the Institute.

'A specific rate schedule is available in the Housing Office.

Students are urged to file the Financial Aid Form with the College Scholarship Service between January 1 and March 1 of the year prior to entrance. Applications received in Princeton after March 1 will receive secondary consideration depending upon the availability of funds.

The Financial Aid Form is the basic form used in determining eligibility for most financial aid programs. Completion of this form entitles an applicant to be considered for all types of financial aid offered through RIT.^In a few cases special applications are required and eligible applicants will be notified.)

The confidential statement forms published by the College Scholarship Service, may be obtained at local high school guidance offices, local colleges' financial aid offices, RIT's Financial Aid Office, or by writing directly to College Scholarship Service, Box 176, Princeton, New Jersey 08540.

Freshmen and transfer students can expect notification of financial aid awards by April 15, and upperclass students can expect award notification during May and June.

RIT awards financial assistance primarily on the basis of need. Financial need is defined as the difference between the cost of education and the amount of money that the student has available from outside resources. Outside resources include the expected parental contribution based on their income and assets, student's assets and expected summer savings, outside grants, scholarships, and funds borrowed through the guaranteed student loan program.

Selection and eligibility-campus based aid programs

Campus based aid programs include National Direct Student Loan, Supplemental Education Opportunity Grant, College Work Study, RIT Grants, and RIT Scholarships.

To be awarded financial aid, an individual must be admitted as a degree candidate. The student must be a matriculated student at the time he/she receives aid. RIT makes every effort to continue financial assistance to students each year provided they remain in good academic standing, file the required applications by the recommended deadlines, and financial need continues to be demonstrated.

Continued receipt of financial assistance is contingent upon continued demonstration of financial need and continued demonstration of academic progress. A student may become ineligible to receive further assistance for any of the following reasons:

- Failure to demonstrate academic progress according to the standards set by the dean of the student's college.
- Loss of matriculated (degree seeking) status.
- Failure to meet minimum standards of progress established by the New York State Education Department for the awarding of state tuition grants and scholarships. These standards for associate's degree and bachelor's degree programs are listed on the next page.

Awards are based primarily on financial need and the availability of funds. Academic achievements and community involvement may also be considered. Renewal awards to upperclassmen may be increased or decreased and may be offered in different combinations of grant, loan and work.

Students who are not registered for a minimum of 12 credit hours will not receive campus based awards for that quarter.

State Aid New York Tuition Assistance Program (For N.Y. Residents Only) (TAP)

The tuition assistance program attempts to minimize the difference in cost normally found between new York Public and Independent Colleges so that students are able to make their choice based on a program characteristic alone and not the difference in cost. There is no competition for TAP support.

Selection and eligibility for New York State Tuition Assistance Program

In order for a student to receive Tuition Assistance Program Grant, an individual must be admitted as a full-time matriculated student, meet New York State income and residence requirements, must pursue the program of study in which he/she is enrolled and must make satisfactory progress towards completion of his/her program of study. Listed below are the approved standards of satisfactory progress for the Associate Degree and Baccalaureate Degree respectively.

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 obtain summer employment to assist in financing their education.

Standard of Satisfactory Progress for the Purpose of Determining Eligibility for 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	* 15th
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 Cumulative 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 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 Cumulative Grade Point Average	0	.50	.75	1.00	1.20-	1.30	1.40	>1.60	1.80

Financial Aid at a Glance

Scholarship/Grant	Eligibility	Amounts	Where to apply
Regents College Scholarship (New York State)	New York State residents who plan to attend college and qualify through an examination in the senior year of high school.	$250 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.	$250 to $2,200 per year	N.Y.S. Higher Education Services Corp., 99 Washington Ave., Albany, N.Y. 12255
Regents Awards for Children of Deceased and Disabled Veterans (New York State)	New York State residents who are children of certain deceased and disabled veterans.	$450 per year.	N.Y.S. Higher Education Services Corp., 99 Washington Ave., Albany, N.Y. 12255
Pell Grant (Formerly Basic Educational Opportunity Grants) (Federal)	Undergraduate students who are pursuing their first bachelor's degree, in financial need, attending post-secondary institutions.	$146 to $1670 per year	File Financial Aid Form requesting submission to basic grant or file separate Basic Grant application.
Supplemental Educational Opportunity Grants (Federal)	Students of academic promise who are accepted for college study and who are in exceptional financial need.	$200 to $2,000 per year	Through RIT by use of the Financial Aid Form. File F.A.F. between Jan. 1 and Mar. 1 (prior to next year of attendance).
War Orphans Educational Assistance (Federal)	Children of certain deceased or disabled veterans.	Up to $220 per month	Veterans Administration.
Social Security Education Assistance	Children whose parent(s) is deceased or retired.	Amounts per month vary.	Social Security 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 Veteran Affairs Office.
RIT Scholarships and Grants	Eligibility varies. > '	Amounts vary.	File Financial Aid Form between Jan. 1 and March 1 (prior to the next year of attendance).
Higher Education Opportunities Program (HEOP)	Economically and academically disadvantaged residents of New York State.	Amounts vary.	Director of HEOP at RIT.
Other State Grants	Eligibility varies.	Amounts vary. S	Consult your state's education department.
Student Loans			
Guaranteed Student Loan (GSL)	Must be at least a half-time student.	Undergraduates - up to $2500 per year. $12,500 cumulative maximum.	Local Lenders
Auxiliary Loan to Assist Students (ALAS)	Must be at least half-time and qualify as an independent student.	$2500 per year minus any amount borrowed under Guaranteed Student Loan in the same year.	Local Lenders (It is recommended that the student apply for Guaranteed Student Loan First.)
Parent Loan for Undergraduate Students (PLUS)	Parent with a dependent who is a full-time student.	$3,000 per year for each dependent who is a full-time student.	Local Lenders
National Direct Student Loans	College students who meet financial need requirements established by Federal Government.	Up to $3,000 for first two years of undergraduate study. Maximum of $6,000 for four and five years of undergraduate study; $5,000 for graduate study.	Through RIT by use of the Financial Aid Form between Jan. 1 and March 1.
Employment			
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 $3 35 to $4 95	Through RIT by use of the Financial Aid Form and through the Student Employment Office.
Other college part-time work *	Considerable variation in kinds of positions, hours, and wages.		Consult other RIT publications and RIT Student Employment Office.

Admission Procedures and Services

Specific entrance data for each college is listed in a chart near the beginning of each college section in this bulletin. For each program, we have indicated the required high school subjects, desirable elective subjects and other factors considered by the Admissions Committee. We have also indicated minimum grade point averages required of students who are transferring from another college.

General Information

Your high school or previous college record is usually the best predictor of success. If your high school rank is below the 50th percentile of your class, some other factors that could indicate a potential for success are: (1) better than average grades in the required high school subjects, (2) an improving record of achievement as you progressed through high school/ college, (3) above average admission test scores, (4) graduation from a highly competitive high school whose graduates are usually successful in college, and (5) post high school experience in service or employment that gives evidence of potential for success.

When applying for admission to RIT, one applies for a degree program in one of the individual colleges. However, there is opportunity for electing courses in other colleges as they meet personal goal objectives, and some programs are purposely designed for interdisciplinary experience. In general, serious thought about a career is assumed. Education is thus more direct, and graduates are eagerly sought for their professional competence.

To apply as a freshman student

To apply as a freshman student, you submit your completed undergraduate application and non-refundable $25 fee, official high school transcript and entrance examination scores. Applicants are required to have results of the Scholastic Aptitude Test (SAT) or the American College Test (ACT) submitted to the Admissions Office. Locations of test centers throughout the world, test dates, and application fee information can be obtained from your school or by writing to: College Entrance Examination Board, P.O. Box 592, Princeton; N.J. 08540; or P.O. Box 1025, Berkeley, Calif. 94701; The American College Testing Program, P.O. Box 414, Iowa City, Iowa 52243.

To apply as a transfer student

RIT welcomes transfer students. Currently, more than 45 percent of our students began their education at another college.

To apply as a transfer student, you submit your completed undergraduate application and nonrefundable $25 fee to the Admissions Office.

In addition, the following rules apply to transfers:

1. You do need to submit official transcripts of all college study completed.
2. Provide us with a list of the courses you are now taking not listed On your transcript, and any others you expect to complete prior to enrollment at RIT.
3. If you've already earned 16 or more college credits, submission of SAT or ACT test scores is optional
4. If you've completed two or more years of college prior to enrollment at RIT, you do not need to submit your high school transcript.

All transfer applicants are responsible for insuring that required official transcripts and other documents have been received by the RIT Admissions Office.

Transfer credit

If you've completed studies at another college before coming to RIT, we'll place you at the highest level at which your success in a program can reasonably be expected.

We'll give you junior standing in most programs if you've earned an associate's degree (AA, AS, and AAS) Or equivalent in programs comparable to the RIT program you select. A cumulative average of "C" or better is required.

We'll admit you to transfer adjustment study in the summer term to facilitate your transfer, particularly if you'll be majoring in electrical engineering, fine arts or photography. See applicable program descriptions in this bulletin.

If you've had only a small amount of college study or will be making a significant program change when you come to RIT, we'll determine your transfer credit by an evaluation of individual courses in which you earned a "C" grade or better. Admission will be based on our predication of probable success in the RIT program of your choice.

RIT students who wish to take courses at other accredited institutions and receive transfer credit towards their RIT degree need to secure the prior written approval of the dean(s) of the RIT college(s) concerned in order to assure the appropriateness of the course content and course level for those courses.

Articulation Council

A coordinating council on two-year college/RIT articulation has been established to better serve students transferring from two-year colleges.

This council's responsibilities are:

1) To act as a referral body to solve articulation problems. Although all articulation problems are within the scope of this body, articulation of an academic nature (e.g., transfer of courses) is of primary concern.

2) To make possible sufficient communications between the faculty, staff, and students of community colleges and the faculty, staff, and students at RIT. This communication includes mutual visitations as well as other activities.

13) To serve as a resource within the Institute and elsewhere to identify the implications of RIT-community/junior college relations. The purpose of this objective is to help insure two-year college students a smooth transfer to RIT.

4) To aid in the development and evaluation of research activities relating to two-year colleges.

Membership in the council includes the dean of each of the colleges or the dean's appointed representative. In addition, Admissions, Student Affairs, ROTC, Financial Aid, Records, and other related administrative offices are represented. These members are familiar with the two-year college, its academic, fiscal, and administrative structures, its goals, philosophies, and types of courses and curriculum.

Credit by examination

RIT grants credit for satisfactory scores on examinations covering objectives and contents parallel to the RIT courses for which you seek credit. Usually these are CEEB Advanced Placement or College Level Examinations, New York State Proficiency Examinations, or RIT-prepared examinations. Contact the director of Admissions for procedures.

Credit for non-traditional learning

Credit may be acquired through an evaluation of non-traditional studies

or learning acquired from life experience. Requests for credits where no existing course at RIT matches the student's experiential learning should be directed to the Admissions Office.

Visit to campus

We encourage campus visits and personal interviews in order that you may see firsthand the modern 1,300 acre campus and be provided answers to questions you may have. A personal visit will further overall understanding of the Institute, whaf it has to offer academically and the many services that are available.

To arrange for a tour or counselor interview, simply call the Admissions Office, (716) 475-6631, Monday through Friday between 9 a.m. and 4:30 p.m.

Action on applications

RIT accepts students on a "rolling admission" basis. This means that applications are reviewed and decisions regarding acceptance are made within a few weeks after the application and supporting documents are received in the Office of Admissions. RIT begins accepting applications in September for the following September.

Because of this policy, and because many of RIT's programs fill to capacity very early in the year, it is to a student's advantage to apply as early as possible for admission.

When all required information is received, you will be notified of one of the following actions:

1. Acceptance to your program of study. A transfer student will receive an evaluation showing credit granted and our estimate of time needed to complete your selected program.
2. Acceptance to program of study, but placed on a waiting list because of available places in that curriculum have been filled. When vacancies occur, those judged to be the strongest candidates are selected from the waiting list. The probability of vacancies for those on the waiting list is not predictable. Those remaining on waiting lists will be considered for future entrance dates only if they specifically so request.
3) Deferral of action until more recent grades, test scores or other data requested are available.

RIT admits students without regard to race, color, sex, marital status, disability, or national or ethnic origin.

Early admissions

Occasionally a student will complete the prescribed number and adequate distribution of high school units in three years of high school with the exception of fourth year English and/or history. In such instances he/she may seek admission to RIT under the Early Admissions Program; i.e., without certification of high school graduation. If admitted, the student must fulfill the senior year high school course and first year college course concurrently, and upon successful completion of the course, is then certified for high school graduation by the high school.

Physical examination

A physical examination is required. Submit your exam report on the form provided with your offer of admission before your first RIT registration.

Admission deposit

A $200 nonrefundable advanced acceptance of admission deposit reserves a place in your class and is credited to your first quarter's tuition. The due date will be indicated with your offer of admission. For students entering in September, this is May 1, or within two weeks after acceptance, whichever is later.

International students

Students from countries outside the United States are extended a cordial welcome to study at RIT. Arthur Friedel, assistant director of Admissions, handles international student admissions. He assists students from other lands with some of the questions they face in the admissions process. His telephone number is (716) 475-6631..

The international community is well represented at RIT, with approximately 70 faculty and nearly 200 students from more than 45 countries.

Requirements of admission include the satisfactory completion of secondary schools, which may vary from country to country, but generally represent 12 years of study.

Students who have attended other colleges or universities must arrange to have the college or university send complete, official transcripts, with English translations, directly to the Admissions Office for evaluation. Credit for advanced standing may be awarded only for courses comparable to those offered at RIT and with a grade of at least "C" or the equivalent.

International students should be prepared to meet all expenses in full, as employment opportunities are limited and student aid is rarely available.

Applicants whose native language is not English are required to take the Test of English as a Foreign Language (TOEFL) administered by the Educational Testing Service, Box 899, Princeton, New Jersey, 08540, USA. This test will be given throughout the world in these months: September, November, February, April, and May. The minimum score for admission is 525.

When applicants are judged acceptable, RIT will prepare and forward an official letter of admission and copy of Certificate of Eligibility, Form I-20. The I-20 should be taken to the nearest American Consul for the purpose of securing a Non- C Immigrant "F" Student Visa. Applicants must also show evidence of their ability to pay all of their expenses, through their own means, for the entire period of their stay in the United States by submitting the Declaration and Certification of Finances. Usually some time is required to complete this operation.

The Office of International Student Affairs serves as the focal point on campus for all international students regardless of their programs of study. The office provides assistance with student immigration matters, serves as a resource center for campus and community activities, and helps students solve problems encountered while away from home. The office staff also plans a five-day orientation program for new international students each fall quarter and facilitates contact with the Rochester International Friendship Council to provide friendship and hospitality to international students. After acceptance, the international student may wish to correspond with:

Mrs. Barbara Letvin
Director, International Student Affairs
Rochester Institute of Technology
One Lomb Memorial Drive
Box 9887
Rochester, New York 14623

The RIT International Student Association is committed to providing support and assistance to international students as well as working with the Office of International Student Affairs to develop intercultural programs and activities. International applicants who wish to correspond with a student from their country should write to: President of RIT International Student Association, in care of Barbara Letvin, at the address above.

ESOL Department

The ESOL (English to Speakers of Other Languages) Department in the Learning Development Center provides individual instruction and classes in pronunciation, grammar, writing, conversation and reading as

a support service to matriculated international students. For a fee international students can receive assistance in any aspect of the English language. A full-time intensive English language program is also available.

All international students are required, upon their arrival, to take a battery of English tests. The results of these tests are sent to the student's department chairman with recommendations for course load. If a student's scores indicate that he is deficient in English, he/she will be required to take a minimum of two hours per week of English language instruction per quarter at a cost to the student of $100.

Deaf students
Students with a severe to profound hearing loss may be eligible for admission to RIT with the support of the National Technical Institute for the Deaf (NTID).

NTID is described in greater detail on pages 120-123 of this bulletin. Deaf students can request additional information about NTID at RIT by writing to:

Associate Director of Admissions (NTID)
Ftochester Institute of Technology
One Lomb Memorial Drive
P.O. Box 9887 x
Rochester, New York 14623

Registration and Student Records Keep Track of You and Your Courses

Office of the Registrar
The Office of the Registrar operates the systems in which courses are scheduled, students register and student academic records are maintained.

The scheduling process
The development of the quarterly course and exam schedule is coordinated by the Registrar's Office in conjunction with the academic departments. The goal is to produce schedules that provide:
(1) effective utilization of resources (e.g., classrooms, instructors, time)
(2) equitable accessibility to courses and
(3) ample opportunity for normal progress toward degrees.

In short, course and examination schedules are directed at fulfilling curricular requirements while accommodating student interests.

The registration process
To be registered a student must
(1) be scheduled into courses and
(2) make a financial commitment.

Approximately two weeks into the Fall, Winter and Spring Quarters, a preregistration for the following quarter is conducted.

Preregistration for Fall Quarter is held during the Spring Quarter. For each quarter the Bursar's Office establishes a due date for payment. See "Costs," on p.8 for due dates for the 1982-83 academic year.

A student who preregisters and makes satisfactory financial arrangements by the specified due date is considered registered and will receive a schedule of courses (program notice) in the mail before open registration. If the schedule is complete and correct, it is not necessary to attend open registration.

Open Registration
Any student who wishes to add/drop courses listed on the program notice, needs to make a financial commitment with the Bursar's Office and obtain a copy of his or her program notice or needs to register and pay tuition must attend open registration. Each entering student will be notified by mail of the date and hour of registration for his or her first quarter. Thereafter, students are responsible for consulting the Institute calendar for registration dates and times.

A student who has made schedule adjustments or registered initially at open registration must use his or her copy of the Change in Class Schedule Form as proof of registration for each class listed.

Financial commitment
After registration any student who has added courses but who has not made his or her financial commitment with the Bursar will be dropped from all courses during the second week of the quarter.

Late and non-matriculated day college student registration
Late registration and registration for non-matriculated students occur the day following open registration. Students who are not formally accepted into a program register as non-matriculated students. Matriculated students who did not complete both steps in the registration process by the end of open registration must register late. Late matriculated day college registrants are subject to a $25 processing fee effective the day after Open Registration.

The record keeping process
Transcripts
The official academic record of each student is maintained in the Registrar's Office. A transcript of his or her record can usually be obtained by a student within 48 hours after the request is submitted *in writing.* All courses registered for (excluding current quarter) and all grades received to date will be shown on the transcript. A student must be in good financial standing with the Institute before a transcript request will be processed.

During exam week and the week following exams, it may take more than 48 hours to prepare a complete transcript. The charge for each copy of a transcript is $2.

If a third party requests a transcipt of your record, in most cases a written release from you must be submitted with the request. The Family Educational and Privacy Act of 1974 (commonly known as the Buckley Amendment) provides several exceptions to the release policy. For example, if your department requests your transcript for advising purposes, it will be released. If an employer requests a transcript, he or she will have to have a written request from you. For more * detailed information concerning the Buckley Amendment, see the *FACTS* booklet. • ■

Grade reports
Grade reports are prepared after the completion of each quarter. For Fall and Winter Quarters, day college undergraduate students will receive their grade reports through their department mail folders. For Spring and Summer Quarters, all grade reports will be mailed directly to the permanent address.

Student retention

Based on a summary of the most recent cohort survival statistics, RITs student retention rate is 49 percent for students entering at the first year level and graduating four to five years later (the period between entry and graduation depending upon a student's particular program of study).

Excluding part-time and non-degree students in the College of Continuing Education, 75 percent of first year full-time day students register for their second year; 79 percent of the second year students continue for their third year, and 83 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 Division of Records and Institutional Research.

The Steps Toward Earning YourDegree(s)

Rochester Institute of Technology stresses programs that lead to a high level of technical and professional competence. Programs of study are offered which lead to degrees at the associate, baccalaureate, and master's levels. Certificate, diploma and associate's degree programs are offered by the College of Continuing Education and the National Technical Insitute for the Deaf. Eisenhower College offers the bachelor of arts (BA) degree. For information on these programs please refer to the individual college's catalog or bulletin.

Associate's degree programs

Upon successful completion of the requirements as indicated in the' program outlines of the schools and departments, students can be awarded the associate in science or the associate in applied science degree in some programs.

Two associate's degree programs are designed as terminal degrees. Biomedical photographic communications is both a two-year and a four-year program. The associate in applied science is awarded upon completion of two years of study, and graduates may seek employment with this degree or continue in upper division work toward the four-year bachelor of science degree. Chemical technology is a three-year cooperative program, terminating with the associate in applied science degree.

Bachelor's degree programs

Seven day colleges—Applied Science and Technology, Business, Engineering, Fine and Applied Arts, General Studies, Graphics Arts and Photography, and Science—offer four- or five-year programs leading to the BS, BFA or B. Tech. degrees, depending upon the curriculum. For full descriptions of individual programs see the following sections grouped by colleges. For bachelor's degree programs in the College of Continuing Education please refer to its separate catalog. Programs offered through RIT's Eisenhower College are described in that college's separate bulletin, which is available from the Office of Admissions.

Graduate degree programs

The many programs leading to graduate degrees are fully described in the separate Graduate Bulletin, available from the Admissions Office.

Certification for degree

Upon completion of the stipulated requirements, a student's academic department certifies him or her for a degree. A statement of requirement completion will be listed on the transcript in the appropriate term. *After commencement,* a statement verifying that a degree has been awarded will be posted to the transcript. Degrees for fall, winter, and spring graduates are mailed during the Summer Quarter. Degrees for summer graduates are mailed during the Fall Quarter.

Grading system

Grades representing the students' progress in each of the courses for which they are registered are given on a grade report form at the end of each quarter of attendance.

The 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 (non-credit)
W Withdrawn
X Credit by Examination
Z Audit

A grade of "W" will be assigned in courses from which a student withdraws after the second week of classes or if a student withdraws from all courses in a given quarter. A student can change from credit to audit or from audit to credit status for a course only during the first 10 days of classes.

An X grade indicates successful completion of an external or Institute examination, provided such examination covers or parallels the objectives and content of the indicated course. Credit must be assigned in advance of any credit received through registration for the indicated course.

For exact policy and procedural statements on the above see the Educational Policy and Procedures Manual available in the Student Affairs Office or on reserve in the Wallace Memorial Library.

Quality points

Each course has credit hour value based upon the number of hours per week in class, laboratory or studio, and the amount of outside work expected of the student.

Each letter grade yields quality points per credit hour as follows:
A — 4 quality points
B — 3 quality points
C — 2 quality points
D — 1 quality point

E and F count as 0 in computing grade point average (G.P.A.). R, W, Z, S, X and I grades are not used in computing G.P.A.

The grade point average is computed by the following formula:

$$\text{G.P.A.} = \frac{\text{Total quality points earned}}{\text{Total quality hours}}$$

Academic probation and suspension policy

Matriculated undergraduate full-time and part-time degree students will be placed on probation or suspended from the Institute according to the criteria enumerated herein. All

actions are taken at the end of the quarter, however, a student may petition the dean of the college for reconsideration of probation or suspension should the removal of an incomplete grade (I) raise the appropriate Grade Point Average above those stated below. Each matriculated student will generate three different grade point averages. The *Institute* average reflects all course work completed at RIT. The *Program* average reflects course work completed at RIT applicable to graduation in a student's current academic program. The current academic program refers to the Institute and college degree course requirements specified by the degree granting college and noted in the Institute catalog. The third average, in the *Principal Field of Study,* reflects course work completed in a student's specialized field of study.

1. Any student whose Program Quarterly Grade Point Average falls below 2.00* or whose Cumulative Grade Point Average in the principal field of study** (based upon at least 20 credit hours attempted in the principal field at RIT) falls below 2.00 will be *placed on probation.*
2. Any student who has been placed on probation according to (1) above is *removed from probation* for achievement of both a 2.00 Program Quarterly Grade Point Average and a 2.00 Cumulative Grade Point Average in the principal field of study, based upon at least 20 credit hours attempted in the principal field at RIT.
3. Any student who is on probation according to (1) above and who is not removed from probation in the two succeeding periods of study in which credit is earned, will be suspended from RIT for a period of not less than one quarter.
4) Any student who has been placed on probation after having been removed from probation and whose Program Cumulative Grade Point Average is below 2.00 will be suspended. Any student who has been placed on probation after having been removed from probation and whose Program Cumulative Grade Point Average is 2.00 or above will be granted one quarter to be removed from probation or he/she will be suspended from RIT.
5. Any student whose Program Quarterly Grade Point Average falls below 1.00 will be suspended from RIT.

*"C" *Average*
"The principal field of study is defined to be all courses within the college offering the program. For the Computer Engineering, Packaging, Criminal Jysf/ce, *Social Work and Printing Systems Management programs, programs within the College* of *Continuing Education and NTID, and new interdisciplinary programs the appropriate Professional* courses *will be identified (and so indicated in official publications) as being part of the principal field of study.*

6. Any student who has been readmitted to his or her original program, after having been suspended, and then goes on probation will be suspended from RIT.
7. A suspended student may not enroll in any academic course at the Institute while on suspension. When there is evidence that the student's scholastic problems are the result of inappropriate program choice, or other extenuating circumstances, the suspension may be waived or the student may be admitted to another program or allowed to take courses on a non-matriculated basis if it is approved by the dean of the college in which the enrollment is required.

In evaluating the request for waiver of suspension, the dean may seek the recommendation of the Counseling Center as to the appropriateness of the program for the career goals of the student under consideration.

8. A student may apply to the Office of Admissions for re-admission at the end of his suspension. His re-admission must be approved by the dean of the college he wishes to attend upon his return (this may be his original college or another).

Disciplinary probation

Students are expected to conduct themselves at all times in such a way as to reflect credit on themselves and the Institute. Any student guilty of flagrant violation of good conduct may be warned, placed on probation, or in serious cases, dismissed from the Institute.

Class attendance and other rules

Students are expected to fulfill the attendance requirements of their individual classes. Rules and regulations relating to conduct in the residence halls and use of general campus facilities are issued directly by the appropriate offices of the Institute and published in the student handbook.

It is the responsibility of all students to attend their scheduled classes regularly and punctually in order to promote their progress and to maintain conditions conducive to effective learning.

Absences for whatever reason do not relieve students of responsibility for fulfilling normal requirements in any course. In particular, it is the students' responsibility to make individual arrangements in advance of missing class due to personal obligations such as religious holidays, job interviews, athletic contests, etc., in order that they may meet their obligations without penalty for missing class.

Attendance at Saturday classes may be required. The Institute reserves the right to alter any of its courses at any time.

What You'll Need For Graduation

The following general requirements apply to students who are candidates for an undergraduate degree.

Certificates and diplomas

1. Satisfactorily meet the program requirements of the College.

Associate's and baccaulaureate degrees

1. Successfully complete all required courses of the Institute and college, including cooperative employment where applicable.
2. Full payment or satisfactory adjustment of all financial obligations.
3. A minimum of 45 quarter credit hours shall be successfully completed in residence at the Institute in the college granting the degree (inclusive of service courses). If the student has successfully completed 45 quarter credit hours in residence he or she may petition the dean to study 15 quarter credit hours in absentia in the final year of the degree; a minimum 30 of the final 45 quarter credit hours are to be completed in residence.
4. A program grade point average of 2.00.
.5. Mimimum number of quarter credit hours as required by that college, but in no case shall this be less than 90 quarter credit hours for the associate's degree and 180 quarter credit hours for the baccalaureate degree.
6. Physical education requirements as published in this *Official Bulletin.*
7. Demonstrate competence in writing skills as established in the Institute's writing policies.

Writing policy

The writing policy of Rochester Institute of Technology is meant to insure that each graduate develops sufficient skill in the use of the English language to function as an educated member of society and to meet any special demands for written communication likely to be placed upon him in his intended career.

Students must demonstrate that they have the writing skills needed for successful entry into their chosen careers. At least three academic quarters before the student's anticipated completion of baccaulaureate degree requirements, the departmental faculty will determine whether the student has met departmental writing standards. A full description of these standards and certification procedures is available from each department.

Students whose writing does not meet these standards will have to take the appropriate remedial measures recommended by the department. Beginning in September, 1980, students who entered the Institute in Fall 1978 or later must meet the departmental writing standards before they can graduate.

The nature and standards of departmental writing requirements will be consistent with Institute policy and will be reviewed by the Institute Writing Committee.

For the master's degree
See separate Graduate Bulletin, available from the Admissions Office.

Commencement
Candidates for the Institute's certificates, diplomas, associate, baccalaureate and masters degrees are expected to attend commencement ceremonies. Candidates may be excused from such attendance with the explicit approval of their dean.

Student Affairs Offers Services For Help In and Out of Classroom

What happens in the classroom is a big part of a college education. But what happens outside the classroom can be almost 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, College-Alumni Union, Religious Activities and the Chaplaincy, Counseling Center, Learning Development 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 staffs, have their own governing organizations and develop social programs. A wide variety of athletic, social and professional activities is available for all students.

Complementary Education
Viewed as a necessary dimension of the student's education at RIT, Complementary Education formally recognizes and encourages important experiences that happen outside the classroom that complete and enhance the traditional academic activities of the Institute. Its essential aim is to further the professional development of students by aiding the colleges in establishing programs within the context of their own curricula. It will supplement their curricula in four broad content areas—personal and social development, learning skill development, civic competence, and leisure and avocational skills.

Complementary Education is multi-faceted. The Complementary Education Grants Program makes funds available to students, faculty and staff who want to develop unique kinds of experiences. These projects are not credit bearing, but formal recognition that describes what was learned is offered. In addition, the Complementary Education advisors will welcome first-year students and meet with these freshman in small groups to provide information about RIT and positive first impressions of the campus. They continue to be resource people throughout the first year.

Three programming efforts are being added that further emphasize our belief in experiential education. The Outdoor Education, Community Services, and Educational Travel programs will offer unique opportunities beyond the campus for RIT students. Each of these activities offers formal learning before the event takes place and evaluation and sharing of the experience. Students will have the chance to expand their learning environment.

Certification also is given to nonfunded projects already under way that involve students in extended activities that do not entail academic credit. Such documentation is valuable to students in developing their employment placement credentials. Complementary Education also sponsors the Institute Forum, a year-long series of nationally known speakers, that focuses each year on a different topic related to the quality of life and our society.

Learning Development Services

Extra Help for Those Who Need it: HEOP

"Basically, what we're doing is making it possible for disadvantaged students to come to college. Without HEOP, these students wouldn't have been offered acceptance to RIT," says the director of RIT's Higher Education Opportunity Program.

"The students in the program not only have financial difficulty, but also have not excelled in school," he explains. "However, it's had nothing to do with academic potential. They've had problems historically with lack of encouragement from guidance counselors, poor schools, younger sisters and brothers to take care of, time-consuming jobs-any number of things. It's not that these students aren't college material, it's just that they're underprepared.

"HEOP's responsibility is to help them to reach and maintain academic competence."

Many of the students who are in RIT's HEOP are deficient in essential math and verbal skills. But they're competing with students who have been nurtured in supportive environments and have graduated from competitive schools. Professors are rarely aware that a student is in HEOP.

' "We make acceptance and financial aid decisions, provide remedial instruction and tutoring, and do personal, academic and career counseling. At the same time, our students have complete access to all of RIT's student services."

[1] The HEOP staff maintains an open-door policy.

Each student who is admitted to the program as a freshman must enter a five-week pre-freshman program conducted the firSt summer. "They take math and remedial reading as necessary. But everyone has to take Introduction to Psychology, which prepares them for the real tning. The instructor tries to incorporate different facets of a college course, such as a research paper, a personal opinion paper, and different types of tests. Students learn to use the library, organize a paper, and read a textbook effectively. The instructor also comments on individual behavior, allowing us to pinpoint individual problems, such as poor attendance, or lack of assertiveness."

In the eight years of its existence, HEOP has graduated 100 students, many of whom have landed excellent jobs. Graduates in technical fields have the highest success rate.

Every student admitted into HEOP must be both academically and financially disadvantaged. They are all provided with full financial support, which is provided jointly by RIT and state and federal money. Up to a year's supplemental grant is available to any student who may need extra time to complete his or her program of study.

International Student Affairs

The Office of International Student Affairs is a resource center for students on visas or those who seek cross-cultural learning. The office provides assistance with immigration regulations and travel documents, and coordinates various aspects of campus life which support academic and personal growth including cross-cultural programming. The staff works closely with RITISA, the international student organization, and serves as a liaison with off-campus groups who seek to extend friendship to international students. The office is located in the Administration Building, second floor, in the Learning Development Center. Phone 475-6682 for more information.

International Student Emergency Loan Fund

The purpose of this loan fund is to provide emergency financial assistance to international students on visas. Loans cannot exceed $200 and must be repaid in two months. Students applying must have a good track record of payment with the bursar and must not have any outstanding debt to the emergency loan fund. For further information, visit the Office of International Student Affairs.

Learning Development Center

RIT students have a unique opportunity to improve their reading efficiency, study techniques, vocabulary mastery, effective listening and critical thinking abilities, mathematical understandings, computation skills, writing competence, and general facility in the uses of the English language through individual or group instruction provided by the center. There is also instruction for students who speak English as their non-native language. In addition, the center makes arrangements for peer tutoring in most college level courses. Special programs, built around students' requests, are provided for student groups and clubs as well. In cooperation with the Counseling Center, the Learning Development Center also provides counsel, diagnosis, and corrective development background instruction for students not working up to capacity or whose achievement records are unsatisfactory because of needs in basic academic areas.

Consultation, testing, and instructional services are free to all RIT students with the exception of some ESOL (English For Speakers of Other Languages) instruction.

In addition to these programs the Center offers three full-time programs of study: A College Anticipation Program, a specialized program of instruction for high school graduates desiring additional preparation prior to full matriculation at a college/university; a College Restoration Program, an instructional program for students who have been suspended or are liable to suspension from college for academic reasons, and an ESOL (English for Speakers of Other Languages) program for students who do not meet the RIT admission requirements on the TOEFL (Test of English as a Foreign Language) or who want to improve their English skills.

A Place for Students to Learn How to Learn

Educational troubleshooters is how the director describes himself and his faculty.

"We usually work with individuals on a short-term basis to correct a specific learning problem," says Paul Kazmierski, director of the Learning Development Center. LDC is beginning its third decade of operation as an academic support service to RIT students, faculty and the Rochester community. Known by many alumni and friends of the Institute as the Reading and Study Clinic, the center officially adopted its new name in 1974.

"Our subject here really is 'learning about learning' and we wanted our name to reflect that scope," explains Dr. Kazmierski.

The new name fits especially well with the center's expanding efforts in faculty development. When the center began operation on the RIT campus in the 1950s, RIT was just moving toward offering degree programs. At that time skill development for students became especially critical and faculty was involved at the center in student referrals and some shared teaching. In the future, LDC hopes to see more interfacing with faculty to improve instruction.

"We will be spending more time on the process education," predicts Dr. Kazmierski. (Process education includes the skills, systems and methods of learning, exclusive of specific content.)

"We feel that it is important that RIT students become more active participants in the learning process—not passive recipients of a service." says Irene Payne, associate director of the College Program. "It is important for students to become more knowledgeable and analytical about their own learning. In our interaction with students, we guide them to explore their own approaches to learning, evaluate them and develop appropriate strategies for life-long learning."

Students seeking the services of the Learning Development Center have various options. The center offers each quarter a variety of different courses in reading, writing, ESOL, and listening skills plus a series of study skills mini workshops. A student can request an appointment with one of the learning specialists on the faculty for a personal interview to diagnose skill needs and plan an individualized course of action which would lead to more efficient learning for the student. The center also maintains labs for reading, writing, ESOL and mathematics where students can get help with a specific problem, pursue a longer course of study or just practice skills.

During the 1980-81 school year the Learning Development Center saw more than 3,000 RIT students. The current LDC faculty consists of 10 full-time members and several part-time instructors. The center also trains students to assist in a number of programs.

No "typical" student uses the Learning Development Center, according to the director, who cited several examples of students with widely different interests, needs, and grade point averages. People with "A" averages enroll as readily as students who are failing.

The center has developed two programs geared especially for students who are failing or who anticipate difficulty gaining entrance y to college: the College Anticipation Program and the College Restoration Program. Both programs are highly structured and require students to attend classes approximately six hours a day, five days a week, for the academic term.

Although the majority of LDC's work is centered on the RIT students and faculty, the center's services are well known throughout the Rochester community. Educational institutions, businesses and industries refer clients to the center for diagnpstic evaluation, classes or individualized instruction. Forty-two adjunct faculty have augmented the efforts of the 10 full-time faculty in delivering instruction to more than 830 community clients during the past year. In addition, the center has conducted training workshops for organizations in Rochester and across the nation.

Full-time programs

Student's acceptance in the Learning Development Center's full-time programs is determined after a review of academic records, an interview, and diagnostic testing. After having been accepted into a program, the student is classified as an RIT Special Student and an individual program is planned to meet the student's needs.

The student is enrolled in a block of LDC laboratories, classes and workshops. Individual tutoring is arranged as needed. One or more credit courses from the Institute's regular offerings may be part of the program. Selection of these courses is under the guidance of the Learning Development Center.

College Anticipation Program: Helping the Student to Prepare

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.

Diagnostic testing includes measurements of aptitude, interest, achievement and personality. Once the educational diagnosis has been analyzed, and it has been determined that the College Anticipation Program is appropriate for the student, an individual program is designed.

This program generally includes a content course*, LDC instruction and academic counseling. The work is based upon 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.

The College Restoration Program: Helping the Student to Come Back

The College Restoration Program is a specialized program of instruction for students who have been suspended from college.

A course of action can be recommended only after the reason for academic difficulty has been established. If after diagnostic testing, which includes measures of aptitude, interest, achievement and personality, it is determined that CRP can be helpful, a very structured program, including content courses*, LDC instruction and counseling is arranged.

The student meets weekly with an academic advisor to clarify directions and goals, to discuss relationships between the skills courses and the content courses and to review progress. The student is also provided the opportunity to discuss problems, their causes and effects, with an RIT counselor at the Counseling Center if he or she desires.

**Students must have permission from departments offering credit courses.*

The entire program is designed to strengthen the student's self-motivation, self-discipline, and self-confidence. Successful completion of this program should qualify students for readmission to the college or department of their choice or for entrance to 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.

ESOL (English to Speakers of Other Languages) Program

The Learning Development Center offers three separate packages for full-time study of the English language. Classes include pronunciation, conversation, grammar, writing, reading, TOEFL preparation, English for Printers, and English for academic purposes.

Arrangements may also be made to receive individual instruction and to work in the language lab. A fee is charged for these services. -*

Students may come to the ESOL writing lab during scheduled hours free of charge. Here students will receive help with assignments, learn to edit their work and review English grammar.

Before a specific package is selected, each student is tested to determine the level of his or her English skills and to diagnose specific needs.

All packages conform to National Association for Foreign Student Affairs (NAFSA) guidelines and meet immigration requirements of 1-20 student status.

The characteristics of the three packages are as follows:

Intensive Study
- for students with beginning to intermediate English skills
- 15 hours class or individual study
- 10 hours language and/or writing lab

Semi-intensive study
- for students with intermediate to advanced English skills
- 5 hours language and/or writing lab.
- 4 hour credit course*

Support study
- for students with Advanced English skills
- 4-5 hours of class or individual instruction
- optional language/writing lab
- 8 hours credit courses*

For more information about Learning Development Center services contact the center at 475-6682 (Eastman Memorial Building, second floor, north wing).

The ESOL Department has recently initiated a program in which international students teach their native language. The international student meets with a trained language instructor who assists in the development of the curriculum, the design of exercises and the use of appropriate materials. The international student then instructs in his/her native tongue. The language, the culture and customs can all be part of this program. For more information about learning a new language or teaching your native language contact Rhona Genzel, supervisor of ESOL Programs, at the Learning Development Center.

Counseling Center

The Counseling Center, located in Grace Watson Hall, offers a variety of services to RIT students. These services include:

- Personal Counseling
- Career Counseling
- Career Decision Program
- Career Resource Center
- SIGI
- Testing
- Research
- Developmental Programs *
- Consultation

Counseling Center hours are 8:30 - 4:30, Monday through Friday. For more information about Counseling Center services, please call 475-2261.

Personal Counseling

Problems are a part of living. Yet, problems often influence how we feel about ourselves and others, impose limitations upon our effectiveness, and interfere with our ability to achieve desired goals. While you are at RIT, you may experience personal problems such as feeling anxious, depressed, having difficulty with friends, courses or professors, or being concerned about your relationship with your parents. Seeking individual help can be useful in coping with both large and small problems, and may be the first step toward handling them in a positive and effective way. Individual and group counseling is 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, and coping with a personal crisis.

Counselors can be seen initially without an appointment. Just stop by the Counseling Center between 9-12 or 1 -4, Monday through Friday. There is no cost and you can be assured of confidentiality.

Individual Career Counseling

Career counseling is also available at the Counseling Center. Counselors can assist you in making thorough appraisals of your interests, abilities, and personality traits so that you can use this information in developing educational and vocational plans. Tests of aptitude, interest and personality may be used in this assessment process.

Group Career Exploration

For the student who would like assistance with choosing or re-examining a chosen field of study,-the Counseling Center also offers a 3-credit Career Exploration course which provides students with an opportunity to increase their awareness of themselves, career options, and the process of career decision making.

Career Decision Program

The Career Decision Program has been designed to provide RIT students with the opportunity for an in-depth structured career guidance experience as they choose or change a specific program of study. The Program provides enrollment to selected students for up to three quarters and includes the following elements:

1. Intensive career/academic advisement during a period of exploration and choice;
2. Opportunity to sample preferred coursework across as many as 3 majors before narrowing to a single field of concentration;
3. Continuation of financial aid for students, receiving assistance (the Program carries the benefits of full matriculation for students carrying a minimum of 12 credit hours);
4. Participation in the 3-credit Career Exploration Course referred to under "Group Career Exploration".

*"*Students must have permission from departments offering credit courses.*

Since enrollment is limited and sufficient time is required for a thorough assessment of a student's situation, it is advisable to apply as early in the quarter as possible for the coming quarter. Interviews can be arranged by calling RIT Counseling Center, 475-2261.

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 catalogues on microfiche. Students are welcome to browse through these materials during the Counseling Center's regular hours: 8:30 - 4:30, Monday through Friday.

SIGI
SIGI (pronounced SIGGY) stands for System of Interactive Guidance and Information. It is a computer-based guidance system designed to help you make informed and appropriate career decisions. SIGI is often used as part of the career counseling process.

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.

Research
The Counseling Center conducts research activities related to the quality of student life. One major research project is the In-Coming Student Questionnaire which assesses the expectations of in-coming students on such factors as academic goals, study habits, self-esteem, and level of career planning.

Developmental Programs
Staff members of the Counseling Center will provide presentations and workshops to interested student groups on a wide range of topics, for example, assertion awareness, values clarification, communication skills, leadership development, and human sexuality. Interested student groups are invited to contact the Counseling Center at 475-2261.

Consultation
Staff members of the Counseling Center will provide consultation services to interested student groups and organizations in a number of areas within the scope and expertise of the Counseling Center staff. Some examples of consultation services requested by student groups are as follows: 1) designing training programs, 2) problem-solving, 3) conflict management, and 4) improving organizational effectiveness.

The Office of Special Services—Student Support Program

The "non-traditional" student at RIT may encounter special problems or need special assistance. The goal of The Office of Special Services is to provide the necessary academic and non-academic support that will enable students to realize fully their potential and to complete successfully their chosen college career.

Special Services provides individual and group tutoring, study skills development and academic advisement. Also offered are individual and group counseling, some specialized assistance for handicapped students (i.e., readers, tapers orientation) advocacy and liaison with other campus and community resources. Some of the activities featured are:

Career Forums—a series of student conducted workshops facilitated by professionals working in fields of study offered at RIT. Program includes site visits to area industries and complexes.

Achievement Awards Programs—an annual dinner to give recognition to and award students for academic or social achievement and to honor graduating members of the program.

Leadership Seminar—a summer component of Special Services in which student leadership potential is enhanced and developed through training workshops, mentorship and practical application.

The Office of Special Services is also designed, in part, to provide support services to physically handicapped students at RIT. Support services include tutoring and additional academic support, counseling, career development, special programs and referral resources in the community. The staff strives to assist students resolve educational and noneducational problems that are related to academic success such as gaining accessibility to elevators and helping students secure specially designed instructional materials or programs.

Information regarding any issues relating to barriers—physical or academic—will be provided, and appropriate referrals can be made.

Contact the office at 475-2832 or 2833. It is located in Grace Watson Hall (wheelchair or orthopedically limited students may use the Campus Safety entrance.) [

The Office of Special Services is federally funded under the Office of Education. Eligibility for the program is determined by financial need, physical disability or handicap, or first generation college status. Any student who is a citizen of the United States and meets one of the eligibility requirements may become a member of Special Services.

Foremost, the staff provides personal concern for and attention to each student enrolled.

For more information about the Office of Special Services, call 475-2832/2833.

Student Health Service

The Student Health Service is on campus to serve you in two ways. When you are sick or injured, we will diagnose the problem and develop a plan of treatment. At the same time, we will help you learn about the cause and prevention of the illness or injury. We also provide health education programs covering self care, lifestyle and wellness orientation, stress management, nutrition, and other health related subjects of interest to you.

All medical information is strictly confidential and will not be released without your consent. Exceptions to • this rule are made only when reports are required by the public health laws of New York State. Students are required to submit the Medical History and Evaluation Form, as current, complete and honest background medical information is important for us to render proper care.

The health team at Student Health Service consists of board certified physicians, nurse practitioners, registered nurses, a psychiatrist, and a gynecologist. Professional personnel oriented to the needs of the deaf are included on the staff. Students are seen on a walk-in basis between 8:30 a.m. and 4 p.m., Monday through Friday. Between 4 and 4:30 p.m. only, emergency care is provided. From 4:30 to 11 p.m.,

Monday through Friday, routine medical care is provided in the residence halls by a registered nurse.

Emergency medical services are provdided on campus by the Emergency Medical Unit, a student run New York State certified ambulance service. Coverage is provided seven days a week, 24 hours per day.

All these services are covered by the $20 quarterly health fee which is mandatory for all full time undergraduate students.

Health Insurance

Expenses for hospital care, consultations, x-rays, and laboratory tests are the responsibility of the individual student. Due to the high cost of such services, every student is required to be covered by health insurance.

A brochure describing benefits of an Institute-sponsored plan is mailed to each student prior to registration. All students are automatically enrolled and billed unless a completed waiver card and proof of alternate insurance is provided to the Student Health Service.

Student Housing

The residence halls

The Department of Residence Life provides a living environment for approximately 6,000 students in residence halls or apartments. The Department of Residence Life, part of the Division of Student Affairs, has as its primary goal the development of a residential setting consistent with the overall educational philosophy of the Institute.

RIT recognizes the significant effect the on-campus living environment has on the social, academic, educational, and overall development of the student. The aim of the Residence Life Department is to create a positive environment to promote this development.

All first-year students are required to live in the residence halls, except those who live with their families. Resident students enrolled in cooperative employment programs are charged only for the period of occupancy. Each student is required to sign a Room and Board Request and Assignment Form, which is included with the housing information mailing.

Students cannot be guaranteed accommodations in the residence halls for more than one year due to current demand for housing. Whenever housing projections indicate the need to do so, a number of upperclass students are required to vacate the residence halls to provide adequate space for new students. Most students leaving the residence halls can be accommodated in apartments near the campus.

RIT realizes that the student body is not homogeneous and that students have diverse interests, backgrounds, experiences, needs and maturity. In recognition of this, a variety of living options is available. Many residence areas are coeducational; men and women live on the same floor. Many Greek organizations (fraternities and sororities) have their own houses. There are also academic houses in art, business, computer science, engineering, and photography; International House for both international and American students; and Unity House, which emphasizes the development of the black culture.

Most residence hall units have double rooms only, although some units do include a limited number of single rooms. These single rooms are not available to entering students. During fall quarter some entering students may be assigned to triple rooms.

All corridors and rooms are carpeted. A bed, desk, chair, dresser, closet, and window covering are provided for each student in a room. Each corridor in the unit has its own bathroom, equipped with showers. Some suites are available, composed of three bedrooms connected to a common bathroom. Each house has its own lounge furnished for study and relaxation. Coin-operated laundry facilities are available in the basement.

Each student is furnished with information on residence hall living by the Department of Residence Life after he or she is accepted.

All residence hall students must participate in one of the Institute bbard plans. The charges for residency and meals are included in the section on student expenses.

Apartment housing

Apartment housing is available to single or married undergraduate and graduate students and to a limited number of faculty and staff in Institute owned or leased apartments and townhouses. Contracts for single students run September through May. A mixture consisting of each housing group can be found in each apartment complex on campus. All apartments are equipped with refrigerator and stove but are otherwise unfurnished. However, furniture may be leased readily from local rental companies. All Institute apartments are located less than a mile and a half from the center of campus and are serviced by RITs shuttle bus system. A brochure describing the four complexes—Colony Manor, Perkins Green, Riverknoll, and Racquet Club-is available from the Office of Off-Campus and Apartment Life, One Lomb Memorial Drive, P.O. Box 9887, Rochester, N.Y., 14623; (716) 475-6920.

Off-campus housing

The Office of Off-Campus and Apartment Life provides an Off-Campus Center that strives to meet the needs of off-campus students by providing a variety of services and programs. The center maintains up-to-date listings of available rooms, apartments, and houses in the Rochester area and operates a Roommate Locator Service to help students find compatible roommates. The Off-Campus Center is located in the Residence Life Office and is open Monday through Friday from 8:30 a.m. to 5 p.m.

Orientation and Special Programs

In the summer and fall of each year, RIT provides freshmen and transfer students with orientation programs to help familiarize them with their new environment. These programs include academic advisement, tours, faculty/staff interaction, parents sessions and social events. The summer orientation programs consist of four sessions (two for freshmen and two for transfer students) that deal mainly with academics, pre-registration, and support services offered by the Institute. The fall program concentrates on promoting student interaction and building a sense of community. It has been shown that a student will receive the greatest benefit if he/she is able to participate in both the summer and fall programs.

During the orientation process, students are given a copy of *FACTS,* a student handbook that contains RIT policies, procedures and helpful survival hints.

Off-campus students are encouraged to live in the residence halls during the summer program to experience residence life for two days and attend special workshops geared to meet their needs as off-campus students.

A mandatory $35 program fee is charged to each new full-time day, matriculated student to cover program development costs.

Off Campus Student Association

OCSA is the representative student government for all RIT students who do not reside in the dormitory. The Off Campus Student Council, formed in 1978, is composed of off-campus students from the 10 colleges and the four RIT-operated apartment complexes. 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 student? 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 computerized ride pool system and off-campus survival booklets. The OCSA lounge, located in the basement of the College-Alumni Union is a place for the off-campus student to relax. OCSA also publishes a newsletter twice per quarter that contains beneficial off-campus news.

If you are interested in getting involved, stop in at the OCSA office in the basement of the Union, or call 475-6680 for more information.

Student Directorate

The Student Directorate is the governing body for students. It represents the student population by working 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 student body.

All full-time and part-time undergraduate and graduate students become members of the RIT Student Directorate through payment of the Student Activities Fee. All other students may become members of the Student Directorate if they wish to participate in student-sponsored activities by paying the Student Activities Fee.

College-Alumni Union

The College-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, 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 co-curricular activities, features the 525-seat Ingle Auditorium; a self-service bookstore; a complete gameroom for bowling, billiards, foosball, and electronic games; a uni-sex hairstyling salon; a candy and tobacco counter; three separate dining areas comprised of the main cafeteria, the Ritskellar, and the Clark Dining Room; meeting rooms and lounges. In addition to offices for the staff, there are the offices of Career Education, Special Events, Student Affairs, Orientation, Chaplains, Complementary Education, College Activities Board, Student Directorate, WITR radio station, Student Television Systems, *Techmila, Reporter,* Off-Campus Student Association, and other student organization offices.

The College Activities Board

The College Activities Board which is composed of students, faculty and staff advisors and a College-Alumni Union 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.

Social events

Major social events on the activities calendar include Spring-In, Homecoming, and Winter Weekend. Many other dances, parties, speakers and events are sponsored by the College Activities Board, the Residence Hall Association, the Greek Council, special interest clubs of many kinds, and departmental and professional associations such as Alpha Chi Sigma, Delta Lambda Epsilon, Delta Sigma Pi, and Sigma Pi Sigma. Two national sororities and nine national fraternities offer social activities and promote high scholastic and social standards among members.

Student professional associations

A number of national technical associations have student affiliate chapters on the RIT campus. Frequently sponsored by parent chapters in Rochester, these societies play an important part in Institute life by bringing together students who have commorr interests in special subjects. The associations are both professional and social in purpose.

Student publications

RIT students produce some of the most professional collegiate publications in the country. The Student Activities Fee helps to finance most student publications, distributed to all full-time students.

The *Reporter* is published by students weekly, except during examinations and holidays, and serves as the student news magazine.

Techmila, the student yearbook, contains a student-edited pictorial and written description of student life at the Institute during the year. The *Reporter* and *Techmila* have consistently won state and national awards.

An activities calendar is issued quarterly.

A student handbook is issued early in the year, as a cooperative effort of students and staff. This includes the student directory listing addresses, telephone numbers, and other information about students. This becomes a handy year-long reference of activities and people.

These publications draw their talented staff—artists, photographers, writers, managers and prihters-from the entire student body.

Religious activities

The religious program is voluntary, , active and enlightened, designed to minister to the varieties of religious faith in a responsible, attractive manner among future-oriented students. Chaplains representing the three major religious groupings maintain offices on the campus. They are available for pastoral counseling, advisory work, teaching, and sacramental ministries. There is a regular schedule of religious services on campus. Churches in the area have shown interest in establishing relations with students, and transportation to and from services may be arranged.

Hillel Foundation, Catholic Campus Ministry, and Lutheran Campus Ministry have local branches on campus, and other religious organizations are welcome to use the facilities in the College-Alumni Union. Representatives of these campus organizations form the RIT Office of Campus Ministry.

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 the black students at RIT.

Each year the committee sponsors various social and cultural programs which are designed to achieve these objectives.

Performing arts
The Division of Performing Arts at NTID supports a variety of activities, which include:

- The NTID Theatre presents three plays during the year. These plays use deaf and hearing actors working together and are performed in both sign language and voice for the enjoyment of all audiences.
- The NTID Lab Theatre offers experimental, new, or unusual productions. In addition, new directors and student writers use the space for developing their skills.
- The RIT Dance Company includes deaf and hearing dancers in at least one concert each year. They rehearse three times a week throughout the year; the company's emphasis is on modern dance.
- Sunshine and Company consists of students and faculty who perform for special RIT events and community activities. Their shows include signed songs, dance, and drama for deaf and hearing audiences.
- Sunshine Too is a company of six performers traveling throughout the country from October to June. They present shows for schools, alumni groups, special RIT groups, and the general public. They provide information on RIT and deafness during their performances and workshops.
- The RIT Tiger Band performs at athletic events and RIT special events. In addition, they have concert appearances at various times during the year.
- The Sign/Sing Chorus includes students, faculty, and staff, who present a holiday show and a winter/spring event. Songs are sung by a chorus of 25-30 members and signed by another group of 10-15 people. Rehearsals are once a week.
- The NTID Music Combo is composed of NTID music students who perform contemporary music for RIT and community events.
- Guest artists are invited to perform in the NTID Theatre. A dance company, a professional mime, and the National Theatre of the Deaf are typical presentations each year.

Physical Education at RIT

Rochester Institute of Technology recognizes the need for physical fitness and recreation in today's society. To meet this demand, the Institute offers an exceptional program of courses designed to aid the student in developing and maintaining fitness, acquiring physical skills in a variety of lifetime activities and providing 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 campus life. The learning experiences provided through the physical education curriculum are an integral part of the total educational experiences at RIT.

The department also offers an adapted physical education program designed exclusively to meet the developmental and recreational needs, interests and capabilities of the handicapped students. This program is offered to those who cannot safely participate in the general physical education program.

Institute's PE Policy
Baccalaureate Degree—All day-school candidates for the baccalaureate degree 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, but may be completed at any time during the succeeding academic quarters.
Associate Degree—All day-school candidates for the associate degree are required to successfully complete three quarters, or the equivalent of one year, of physical education. This is normally met during the first year, but may be completed before the end of the second year.
Transfer Students—All day-school students who transfer into RIT from any other institution also must comply with the physical education vrequirement for the associate and baccalaureate degrees.

Physical Education Classes

The following classes are offered as selections in the Physical Education Department:

Cardio and Strength Activities
Aerobic Dance, Army Conditioning Methods, Bicycling, Circuit Training, Conditioning, Fitness for Life, Jogging, Judo, Karate, Kung Fu, ROTC, Swimming for Fitness, Weight Training, Yoga

Recreation and Sports Activities
Afro-Carribean Dance, Archery, Badminton, Ballroom Dance, Basketball Officiating, Billiards, Bowling, Canoeing, Cross Country Skiing, Dance Performance I & II, Disco Swing Dance, Diving, English Horseback, Fencing, Fishing, Frisbee, Golf, Hunting, Ice Skating, Juggling, Modern Dance, Outdoor Living, Racquetball, Scuba Diving, Self Defense/Women, Sign Dance, Skiing (downhill), Swimming, Tennis, Water Polo, Western Horseback

Team Activities
Basketball, Field Hockey, Ice Hockey, Lacrosse, Soccer, Softball, Touch Football, Volleyball

Life Support and Safety Programs
Advanced First Aid, Care & Prevention of Athletic Injuries, CPR & Multi-Media First Aid, Emergency Medical Tech Training, Life Saving, Water Safety

Adapted Activities
(for handicapped students)
Bowling, Horseshoes, Swimming, Table Tennis, Volleyball, Weight Training

Intramural Activities at RIT

An extensive program of intramural activities is offered at RIT, designed for students, faculty and staff. Under direction of the Department of Physical Education, Recreation and Intramurals, activities include basketball, volleyball, softball, ice hockey, flag football, swimming, water polo, bowling, tennis and golf.

Recreation at RIT

RIT offers some of the finest university recreational facilities available. Indoor facilities feature two gymnasiums, ice rink (with running surface around upper level), swimming pool, physical fitness and weight training center, wrestling room and game room (bowling, video games, billiards). Outdoor facilities include 12 tennis courts, an all-weather track and numerous athletic fields. The equipment cage provides equipment for recreation, athletic, instruction and intramural needs and interests. Services include general information center, assignment of lockers, towel service, equipment loan and lost and found.

Intercollegiate Athletics

At RIT, intercollegiate athletics is an integral part of the total educational environment. Participation on a team or as a spectator greatly enhances campus spirit and student life.

The Institute recently announced plans to upgrade its intercollegiate athletics program, citing several (sports for special emphasis. Among these are men's hockey, basketball, soccer and lacrosse. Increased emphasis is also being placed on women's sports.

RIT offers intercollegiate competition during fall, winter and spring seasons. In the fall, the Institute competes in men's cross country and soccer. Women's competition is offered in volleyball and tennis. Winter activities feature hockey, basketball, swimming and wrestling for men and swimming and hockey for women. In the spring, men's teams compete in baseball, track, tennis and lacrosse. Women's 'sports feature softball and track.

RIT's teams, known as the Tigers, are members of the National Collegiate Athletic Association (NCAA), Eastern College Athletic Conference (ECAC), Independent College Athletic Conference (ICAC), Association of Intercollegiate Athletics for Women (AIAW), New York State Association of Intercollegiate Athletics for Women (NYSAIAW), United States Intercollegiate Lacrosse Association (USILA) and New York State College Hockey Association (NYSCHA). The ICAC, RIT's prime conference of competition, includes Alfred, Clarkson, Hobart, Ithaca, Rensselaer Polytechnic Institute, St. Lawrence and RIT.

With the exception of men's hockey, all teams compete in Division III of the NCAA, ECAC and AIAW. Hockey has been elevated to Division II of the ECAC.

Eligibility for intercollegiate competition is governed by NCAA, ECAC and AIAW rules. A student must be full-time (minimum 12 quarter hours of credit) and making satisfactory progress toward a baccalaureate degree.

Throughout the years, Tiger teams have experienced continued success within the conference and nationally. RIT has won numerous conference titles and boasts more than 30 All-Americans.

Information regarding intercollegiate athletics is available through the department (475-2614) or by contacting the sports information office (475-6154). The "Tiger Hotline," in operation throughout the year, offers daily information on schedules and results of intercollegiate competition. Dial 475-6180.

We invite you to "Experience the Tiger Spirit," and follow the teams throughout the year.

Resources for RIT Community Living

Day Care

The Horton Child Care Center is a preschool and kindergarten for children of students, faculty and staff at RIT. It is located in Riverknoll housing, adjacent to the academic buildings. The center offers all-day and half-day programs for children ages 2 years 9 months through 5 and has an after-school care program for children ages 6-8. It is open all four academic quarters. The summer quarter has a day camp format and is open to children 2 years 9 months through 8. Some tuition aid is available.

Inquiries and application can be made by writing the Director, Horton Child Care Center, 85 Kimball Drive,' Rochester, NY 14623, (716) 424-1244.

Identification card

All day students and evening students (CCE) are required to have an official Institute Identification Card. Your card must be carried with you at all times, and loss reported at once, to the I.D. Office, 475-2125.

All I.D. cards must be validated quarterly. Replacement of lost cards is $5.

Automobile registration

Those students having automobiles on campus must register these vehicles with the Campus Safety Department at the time they first register for classes, or upon bringing the automobile onto campus for the first time. Failure to register a vehicle to be parked on campus will result in a $10 fine for the initial parking infraction. Fines are $5 and $10 and if unpaid, or not otherwise reconciled, are automatically charged to students' accounts.

Campus Safety Department

There is a professional security and safety staff on duty 24 hours a day, all of whom are Institute employees. While this staff constantly patrols all campus areas, RIT does not assume liability for lost or stolen personal effects of students, faculty or staff. We therefore urge you to maintain an insurance policy on your own or through your family insurance program for personal property casualty experiences away from home.

For on-campus emergencies requiring immediate medical, firefighting, or law enforcement attention, call emergency telephone number 475-3333. For routine matters call 475-2853.

Textbooks and supplies

Textbooks, school supplies, art and design supplies, and photographic supplies and equipment may be purchased at the RIT bookstore. Also in stock are general reading material and monogrammed items. An estimate of expenses likely to be incurred in a specific area of study may be obtained by contacting departmental offices. The major portion of the expenditures for textbooks and supplies is made at the beginning of each quarter (see also "Books and Supplies" on page 9).

Alumni Association

The RIT Alumni Association is an organization of more than 40,000 graduates and former students of the Institute. All graduates are automatically members.

The objectives of the association are to advance the growth and development of RIT through individual and group endeavors within industry and the community, to support the fund raising objectives of the Institute; to foster beneficial relationships among alumni, students and the Institute; and to encourage outstanding academic and extracurricular achievement by the undergraduates.

There are a number of services available to alumni, including a travel program to destinations throughout the world; the *Alumni News,* published four times a year; use of the library and athletic facilities (with ID card); help from Central Placement Services Office in locating a job, and many social events, including Homecoming.

There are also many programs within which alumni work with the Institute's'various departments. These include admissions, placement, and alumni-student interaction programs. Alumni in many metropolitan areas throughout the country participate in activities of service to the Institute. The Institute recognizes the value of its alumni and places a strong emphasis on their participation in planning for the future.

Under the direction of the Alumni Affairs Office, alumni may assist the financial development of the Institute by giving to the RIT Fund. This fund provides needed support for student financial aid and other operations of the Institute.

The Office of Alumni Relations, located on the fourth floor of the George Eastman Building, is the center of alumni activity on campus. The office maintains the alumni records, assists in conducting the business of the association, and serves as the communications center and clearinghouse for all alumni activities. Alumni are always welcome at this office.

Division of Academic Services Supports Instruction

The Division of Academic Services is made up of three areas that support instruction at RIT: Instructional Media Services, Wallace Memorial Library and the Office of the Registrar. The goals of the division are to improve learning by providing a full range of media related resources and efficient service.

Specific functions of the areas include: providing and producing audiovisual instructional materials and providing equipment, facilities, and assistance needed for their use (Instructional Media Services); selecting, distributing, and providing bibliographic services for the instructional use of printed materials (Wallace Memorial Library); and the full services of the Office of the Registrar, described on page 17.

Instructional Media Services

Reno Antonietti, Director

Instructional Media Services provides a complete range of audiovisual support services to faculty and students. IMS consists of a television center, production services, audiovisual distribution services and a Media Resource Center.

Television

This center is utilized as both a distribution system for delivery of instructional media to locations throughout the campus and as a production system to create both black and white and color programming. A professional staff of producer/directors and graphic artists and engineers are available to aid faculty in the development of programs ranging from complete courses to short modules for use within a course. The center has a wide variety of video cameras and recorders including portable units for remote location programs and fully equipped color studios. Thus, flexibility is available to meet the instructional needs of the Institute. Several videotape formats are available ranging from two-inch broadcast to half-inch and three-quarter-inch videocassette.

The television center provides distribution of programming over a cable system that reaches academic, administrative and residence areas. A master antenna system is operated in conjunction with the closed-circuit system to provide local broadcast stations (TV and radio) to faculty and students. The center also maintains a large library of videotapes on a wide variety of subjects and has access to videotape libraries throughout the country.

The center supports the RIT Cable Television courses.

Production services

A professional staff of producer/directors, designers, artists and photographers are available to assist faculty in creating instructional media. The services are at two levels:

1. General services to meet the daily routine needs of faculty and students and,
2. Producer services to aid the faculty in the development of more sophisticated mediated instruction.

In addition, consultation and advisement is provided in the selection, purchase and use of television, photography, cinematography, animation, graphics and audio.

Audiovisual distribution services

Faculty and students are provided access to the large number of instructional materials available from sources throughout the country. Research assistance is provided to search out and recommend the best of these materials. Equipment and projectionist services are also available as well as the loan of a variety of audiovisual hardware.

Media Resource Center

This center, located just inside the library entrance on the main floor, contains a variety of nonprint media and audiovisual equipment for

individual student use. In addition, the center contains an outstanding collection of over 75,000 slides as well as viewing facilities for the collection of approximately 600 motion picture prints. Videocassette playback equipment is also available for individual use.

Wallace Memorial Library

Patricia A. Pitkin, Acting Director

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 Memorial Library, he or she will not only find a variety of print and non-print forms in which to locate information but also a unique on-line computer catalog where the search for references may be made.

Particularly adapted to an institution of technology and the arts and sciences, the Wallace Memorial Library contains, in addition to material in the usual form of books, magazines, newspapers and pamplets, material in the form of microfilm, microfiche, motion pictures, recordings, audio and video cassettes, slide/tapes and filmstrips. RIT has the largest microfilm collection and the greatest use of non-print media of any area college library.

The library is a true multi-media learning center with expanded services and innovative procedures to increase its usefulness. To assist the students in the use of all these resources, reference librarians are on duty during the week and on weekends. Located throughout the three floors of the library are more than 900 student study stations, including individual study carrels and group study rooms.

During the year student work in art and photography is exhibited in display gallery areas. Outstanding student art and photography work is permanently displayed within the building. Several lounge areas also are located throughout the building.

The library contains a special collection of materials on the deaf to serve the National Technical Institute for the Deaf and to support research by anyone wishing to pursue studies in the problems of deafness. A Special Collections area houses the archives, rare books, faculty writings and RIT theses, and a separate Chemistry Library houses selected science material.

In addition the library offers computerized searching of information data bases and interlibrary loan service. Use of these services provides access to virtually all publicly available printed material.

The regular hours for the library are: Monday - Thursday, 8 a.m. -11 p.m.; Friday, 8 a.m. - 9 p.m.; Saturday, 9 a.m. - 6 p.m.; Sunday, noon -11 p.m. Special hours for exam time, breaks, and holidays are posted and publicized.

Division of Faculty and Program Development Supports Better Teaching

Lawrence Belle, Assistant Vice President

The Division of Faculty and Program Development provides an array of services designed to enhande the quality and effectiveness of RIT's educational programs.

Its specific functions include searching out and implementing ways of improving courses of instruction and curriculum design. This is achieved through cooperative efforts with the faculty in the planning, design, implementation and evaluation of learning systems appropriate to the Institute. The Division of Faculty and Program Development works closely with the colleges in implementing the Institute's academic computing objectives and, in general, supports the use of innovative instructional methods and technologies.

In addition, the division assists individual faculty in gaining additional professional and educational experience. It coordinates the Institute's faculty career development programs such as exchanges and leaves.

The Division of Faculty and Program Development supports the Institute's numerous faculty and instructional development programs.

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College of Applied Science And Technology

Dennis C. Nystrom, Dean

Organized in 1973, the College of Applied Science and Technology is one of nine colleges within the administrative framework of Rochester Institute of Technology. It incorporates the School of Engineering Technology, the School of Computer Science and of Instructional Technology, the Department of Career and Human Resource Development, and the School of Food, Hotel, and Tourism Management.

Both the School of Engineering Technology and the School of. Computer Science and Technology have expanded rapidly to include additional curricula designed to meet their original objectives. At the same time, they have established close relationships with many two-year colleges. By so doing, they can build upon the curricula of the associate's degree granting institutions and supply faculty in those areas of technical and professional education where a demonstrated need exists. In fact, the School of Engineering Technology is upper division only and accepts graduates of appropriate associate degree programs.

The Department of Packaging Science offers courses leading to the bachelor of science degree in packaging science. This department draws heavily upon courses offered in other schools and colleges of the Institute. With the addition of several packaging science courses, the broadly-developed curriculum is representative of the areas of knowledge that are basic to the packaging science industry.

The School of Computer Science and Technology-an existing program since 1971—became a department of the College of Applied Science and Technology in June 1973 and a school in the same college in July 1976. This school is also closely related to the two-year colleges and has an active upper-division component besides offering the freshmen and sophomore years.

The Department of Instructional Technology offers both upper-division work in audiovisual communications and graduate programs in instructional technology. The audiovisual curriculum serves 9raduates of the two-year colleges and upon completion of an additional two years leads to the bachelor of science degree.

The School of Food, Hotel and Tourism Management became part of the College of Applied Science and Technology in July 1982. This school has an active upper division - component as well as offering the AAS degree to its qualified second-year students. Graduates who earn a •BS degree with a major in general dietetics in the School of Food, Hotel and Tourism Management are qualified to apply for American Dietetic Association internships. Graduates of the coordinated dietetics program meet both the academic and clinical requirements for membership in the American Dietetic Association.

Resources

The college utilizes some of the finest facilities and equipment available. The packaging science laboratories, the computer science facilities and equipment, and the instructional technology laboratory have all seen additional equipment installed. The laboratories in the School of Food, Hotel and Tourism Management rival those in industry and allow the students to further their career goals by simulating on-the-job experience. The School of Engineering Technology's sharing of facilities with the College of Engineering allows the use of the most modern and sophisticated equipment in the engineering technology curricula.

Memberships

CAST holds institutional membership in the American Association of Community and Junior Colleges.

Acceptance of the associate's degree

The School of Engineering Technology and the Department of Instructional Technology (Audiovisual Communications) function as upper-division units only. Holders of an appropriate associate's degree from a community, junior, or technical college (or other similar two-year institutions) will receive full credit for those curricula leading to the bachelor's degree.

Engineering Technology students may receive the engineering technology B. Tech in three years of additional study in the cooperative education program.

Audiovisual Communications' transfers may receive the BS degree with two additional years of study.

The School of Computer Science and Technology and the department of Packaging Science admit students into the upper division years and accept the associate degree at full value if the associate degree is obtained in a computer related program or a packaging science program, respectively. They also conduct a four-year curriculum into which high school graduates are admitted.

Faculty

Members of the professional staff have had considerable experience in the industrial field and/or teaching in two-year and four-year colleges, and have completed graduate programs in the various fields of their specialties.

Program planning

Each student in CAST is considered individually when his or her program is planned. The diversity of subject background from the two-year colleges necessitates an almost tailor-made pattern of courses'for the individual. In this process, students can be assured of building upon previous courses and knowledge of their particular field, assuring that their associate's degrees retain the integrity they deserve, and guaranteeing, as far as possible, that previously studied material will not be repeated.

Admission at a Glance:

General Information on RIT'S admission requirements, procedures and services is included in detail on pages 15-16 of this Bulletin.

College of Applied Science and Technology Programs

The College of Applied Science and ■ Technology prepares students for a world of rapidly expanding technological applications. The programs reflect RIT's goal of offering students relevant, career-oriented programs that lead to rewarding employment.

The college includes the Department of Instructional Technology, the School of Engineering Technology, the School of Computer Science and Technology, the Department of Packaging Science, and the School of Food, Hotel and Tourism Management.

Computer Science: General computer science, prepares graduates to enter employment as research programmers or enter graduate schools for specialized training. The **Applied Software Science** option is designed to prepare students to enter employment as applied software specialists, applications programmers, or research programmers. Degrees granted: AAS-2 year; BS-4-5 year.

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Computer Technology; The **Computer Systems** option is oriented to prepare management, systems analysts, information systems designers, and business applications programmers. Systems application area is . selected from the other RIT programs. The **Systems Software** option is designed to prepare systems programmers or systems software specialists. Any relevant curriculum at RIT may be chosen as minor study. Degrees granted: AAS-2 year; B. Tech.-4-5 year.

Computer Engineering: A program jointly offered with the Department of Electrical Engineering. Oriented to prepare students in hardware design, interface, and process control. Degree granted: BS-5 year with co-op.

Packaging Science: The three options-management, design or technical—prepare students for initial employment in such areas as management, sales, marketing, purchasing, graphic design, structural design, product development, and the technical and engineering phases of production. Degree granted: BS-4 year.

'Civil Engineering Technology: This program offers two options—environmental controls, and construction. The, environmental option places emphasis on water and wastewater treatment and pollution abatement. The construction option is oriented toward building construction and construction management. Degree granted: B. Tech.-3 year with co-op.

'Electrical Engineering Technology: Early emphasis in this program is on further mastery

Freshman Admission Requirements			Transfer Admission with junior standing	
Program	Required High School Subjects*	Desirable Elective Subjects	Two Year College Programs	Desirable minimum grade point average
Computer Systems **Systems Software Science**	Elem. Algebra Inter. Algebra		Data processing, business, or equivalent computer technology	2.25
Applied Software Science **Computer Science**	Elem. Algebra; Inter. Algebra Trigonometry Plane Geometry Physics or Chemistry	Additional mathematics and science	Computer Science, engineering, mathematics and science.	2.3
Packaging Science	Elem. Algebra; Inter. Algebra 1 year any science Additionally for the Technical option; Plane Geometry; Trigonometry	Additional mathematics, science, printing and art	Packaging Science, business administration, engineering technology, art and design, science, or equivalent	2.3
Civil Engineering Technology	First two years available at many two year colleges.		Civil, construction technology, or equivalent.	2.3
Electrical Engineering Technology	First two years available at many two-year colleges and RIT's College of Continuing Education.		Electrical technology, electronics technology or equivalent.	2.3
Mechanical Engineering Technology	First two years available at many two-year colleges and RIT's College of Continuing Education.		Mechanical technology or equivalent.	2.3
Manufacturing Engineering Technology	First two years available at some two-year colleges and RIT's College of Continuing Education		Manufacturing technology, mechanical technology, drafting & design technology or equivalent.	2.3
Energy Technology	First two years available at some two-year colleges.		Air Conditioning Technology, Energy Technology, Solar Technology, Environmental Systems Technology or equivalent.	2.3
Audiovisual Communications	First two years available at some two-year colleges.		Audiovisual technology, television production, communications electronics, or comparable programs.	2.3
Food Management, Hotel and Resort Management Option, Travel Option	Elem. Algebra; Inter. Algebra; 1 year chemistry preferred	Additional mathematics and science	Food service administration; hotel-motel management or equivalent.	2.25
Dietetics	Elem. Algebra; Inter. Algebra; 1 year chemistry preferred	Biology; additional mathematics	Dietetics or equivalent.	2.3

t All options include electives in social science, literature and humanities.
" Four years of English are required in all programs, except where state requirements differ

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in electronics circuit theory, and materials for design and mathematics. Later courses are elective options in electrical power, communications, and digital computer design. Degree granted: B. Tech.-3 year with co-op.

'Mechanical Engineering Technology: Early emphasis in this program is on further mastery of mechanics, electricity, and mathematics. Later courses are elective options in either manufacturing, energy or mechanical design. The practical and applied are emphasized. Degree granted: B. Tech.-3 year with co-op.

'Manufacturing Engineering Technology: A program to prepare persons to apply sophisticated techniques to production processes. Courses will emphasize computer aided manufacturing, productivity, and the related activities required to enter this increasing complex field. Degree granted: B. Tech.-3 year with co-op.

'Energy Technology: a program to prepare specialists in the field of residential, commercial and industrial energy management and control. Degree granted: B. Tech, 3 years with co-op.

'Audiovisual Communications: Prepares students with production/design abilities in using various media. The graduate becomes an audiovisual communications specialist or an audiovisual producer. Degree granted: BS-2 year.

Food Service Administration: Prepares graduates for managerial positions in restaurants and food service operations such as hotels, schools, business firms, and governmental agencies. The **Hotel and Tourism Management** option develops comprehensive managerial skills for the rapidly expanding field of tourism. The **Travel Management** Option prepares graduates to plan, arrange, and coordinate travel. Degrees granted: AAS-2 year; BS-4 year.

Dietetics: Graduates can develop within a broad spectrum of interests from service to management positions in hospitals, nursing homes, and in the growing field of community nutrition (sponsored by national, state and local agencies). Also, large national restaurant chains often have dietitians in responsible staff positions. Degrees granted: AAS-2 year; BS-4 year.

Department of Instructional Technology

Clint Wallington, Chairman

Bachelor of Science in Audiovisual Communications

The use of audiovisual materials for training, for public relations, and for presentations has grown significantly. What was previously unusual in training—slide/tape training packages, multi-image presentations, audio and video cassettes—is now commonplace. Behind the scenes is a core of professional audiovisual specialists who translate ideas into media. While the growth of the field brings a need for specialists in particular medium such as photography, television, or filmmaking, there is a demand for the audiovisual generalist who can work in a variety of media and manage the production process from client need to finished product.

'Upper *Division only.*

Audiovisual Communications, BS degree

Year		Quarter Credit Hours: Fall	Winter	Spring
Third >fl5ar	ICIC-401 Message Desigh	4		
	ICIC-430 Audiovisual Presentation Design	4		
	ICIC-489 Audio for AV Presentations	4		
	ICIC-440 Audiovisual Program Design I		4	
	ICIC-510 Writing for AV Programs		4	
	ICIC-450 Audiovisual Design II			4
	ICIC-424 Visual Production Techniques			4
	GLLC-402 Conference Techniques		4	
	SSEG-201 Contemporary Science			4
	General Studies - Upper Division	4	4	4
	Physical Education	0	0	0
Fourth Year	ICIC-595 Senior Project I	2		
	ICIC-405 AV Seminar		2	
	ICIC-596 Senior Project II		2	
	SSEG-202, 203 Contemporary Science		4	4
	AV Production Elective	4		
	Management Elective			4
	General Studies - Upper Division	4		8
	General Studies Seminar/Project		2	
	Professional Elective	4		
	Free Elective	4	4	
	Physical Education	0	0	0

RIT's Audiovisual Communications program in the Department of Instructional Technology is specifically designed to expand and improve the skills of graduates of two year (associates degree) programs in audiovisual technology.

It is an upper division transfer program leading to a bachelor of science degree after two years of study. For the first time graduates of two-year colleges can transfer into a four-year college without changing their major field.

RIT's Audiovisual Communications program is an important steppingstone to better job opportunities or to further graduate study. It is one of only a few programs in the nation offering a baccalaureate degree in this field. It is innovative in concept, pragmatic in its approach, and emphasizes a strong career orientation for its students.

Objectives

The primary objectives of the BS program in audiovisual communications are to prepare fully qualified individuals for professional employment as audiovisual communications specialists. This rapidly growing field is concerned with effectively and efficiently transmitting information by using systematically designed audiovisual materials. The bachelor of science program is concerned with training professionals in the rigorous process of designing and producing these materials. An advisory committee from industry, potential employers, and educational institutions helps keep the curriculum up-to-date and relevant.

Curriculum

The curriculum concentrates on three major areas: audiovisual program design, audiovisual management, and multi-image production and staging. The emphasis is on acquiring technical competence, a mastery of skills and techniques. Course assignments are made to permit hands-on experience in designing, producing and evaluating audiovisual productions with specific communications objectives. By requiring core courses in design and production and permitting electives from a wide range of courses, a high degree of individualization is accomplished. Course requirements may be adjusted to meet individual needs through student/faculty advisement conferences.

Admission requirements

The two-year BS degree program accepts transfer students of two-year colleges who hold an associate's degree in such areas as audiovisual technology, media specialist, photography, film making, television production, graphic design, commercial art, and other related fields.

Graduates from other programs in two-year colleges will be considered but may be required to take courses to make up any deficiencies in audiovisual production skills.

Graduation requirements

The BS degree requires the completion of 96 quarter credit hours, a normal two-year program. If not acquired at the two-year college, RIT also requires two years of physical education.

Audiovisual Management electives
ICIC-550 Management of Audiovisual Programs
ICIC-560 Media Facilities Design
ICIC-502 Practicum in Audiovisual Management
Other electives may be taken in other colleges, especially the College of Business, and in the School of Computer Science and Technology after securing the approval of the appropriate department and the student's academic advisor.

Audiovisual Production electives
ICIC-489 Audio for AV Productions
ICIC-490 Audio Techniques
ICIC-503 Practicum in Production
ICIC-570 Survey of AV Hardware
ICIC-580 Producing Multi-image Presentations I
ICIC-581 Producing Multi-image Presentations II
ICIC-583 Advanced Multi-image Project
ICIC-585 Producing Special Effects Slides
Other electives may be taken in the College of Continuing Education, the School of Engineering Technology, and the School of Photographic Arts and Sciences, with permission of the appropriate department and the student's academic advisor.

School of Computer Science and Technology

Wiley R. McKinzie, Director

The School of Computer Science and Technology offers programs leading to BS, B. Tech and MS degrees. The school accepts both high school graduates and two-year college graduates as freshmen and upper division classmen respectively. All degree programs offered in the School of Computer Science and Technology are designed to meet the manpower demands of industry, government and educational institutions. In addition to theoretical foundations, practical aspects of computer science or computer technology are emphasized. The opportunity for hands-on experience with computer systems is provided and encouraged. Graduates of the School of Computer Science and Technology are fully prepared for employment in computer industries, computer applications departments, or enrollment in graduate schools to pursue advanced studies.

Computer science and technology covers a very wide spectrum of the field of computing. A computer scientist or technologist can specialize in areas such as computing theory, scientific computing, information systems, systems software, numerical analysis, operating systems, data base systems, programming languages, systems analysis, and many others. It is important to note that programming is merely a tool in computer science and itself is not computer science. An undergraduate computer science and technology student is required to take a certain number of computer science courses in a selected option that will provide a good foundation in computing and useful specialities for employment.

Programs
The School of Computer Science and Technology offers the following programs:

1. Computer science (BS) degree program with options in computer science and applied software science
2. Computer technology (B. Tech) degree program with options in computer systems and system software science
3. A computer engineering (BS) program jointly offered with the Department of Electrical Engineering. (For details see the College of Engineering section.)

Students entering as freshmen may change options during the first three years of study without losing credit for courses they have taken (except computer engineering).

The only concern is mathematics requirements and professional or free electives, which differ between the various options. Students in all computer science and technology programs are required to obtain one year (four quarters) of Co-op work experience before graduation.

Computer Science program
The computer science program of the School of Computer Science and Technology offers options in computer science and applied software science. As a result of the mathematical requirements of the BS degree program, students with strong interest in mathematics are encouraged to pursue the BS degree options. In the case of students who are interested in computer science and technology, but are weak in mathematics, the bachelor of technology options would be the more desirable choice.

Computer Science option, BS degree

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	ICSS-202 Introduction to Computer Science	4		
	ICSP-208 Introduction to Programming	4		
	ICSP-210 Program Design & Validation		4	
	ICSP-305 Assembly Language Programming			4
	SMAM-251, 252, 253 Calculus	4	4	4
	SPSP-205. 206 Physics & Lab		4	4
	* General Studies Elective (Lower Division)	4	4	4
	‡ Physical Education Elective	0	0	0
Second Yearf	ICSS-315 Digital Computer Organization	4		
	I CSS-320 Data Structure Analysis		4	
	SMAM-305 Calculus	4		
	Math Elective *		4	
	Computer Science Elective		4	4
	ICSS-340 Finite State Machine & Automata			4
	Science Elective	4		4
	'General Studies Elective (Lower Division)	4	4	4
	‡ Physical Education Elective	0	0	0
Upper Division Years	I CSS-400 Logical Design	4		
	I CSS-440 Operating Systems	4		
	I CSS-480 Formal Languages	4		
	ICSS-525 Assemblers, Interpreters & Compilers	4		
	ICSP-350 Programming Language Concepts	4		
	ICSS-520 Computer Architecture I	4		
	ICSS-340 Numerical Methods	4		
	SMAM-511, 512 Numerical Analysis or Math Elective	8		
	Computer Science Elective	20		
	Math/Science Electives.	8		
	* General Studies Elective (Upper Division)	30		
	Free Electives	8		
	Co-op (4 quarters)			

‡ *See Pg. 27 for Policy on Physical Education.*
* *See Pg. 75 for General Studies requirements.*
† *Upon completion of the second year, the association in applied science degree is awarded*

The computer science option is designed for students who are not sure which speciality will be pursued and for those who wish to enter graduate studies immediately following graduation. The applied software science option is designed for students who wish to work as scientific applications specialists upon graduation. However, the applied software science option also fully prepares its students for graduate studies.

Computer Science option

This program is designed to provide students with a broad and flexible background in computing theories and applications. Students who have decided not to specialize in an applied area should take this approach. In general, the program provides instruction in the following areas:

1. Computer science: required and elective courses including courses in the areas of automata theory, formal languages and logical design.
2. Math and/or science: including courses in calculus, physics, and numerous electives.
3. General studies: including courses in language, literature, science, humanities and the social sciences.
4. Free electives: two unrestricted courses.

Graduates from this program are fully capable of entering employment or pursuing further educational goals at the graduate level.

Applied Software Science option

This program is designed to provide competence in scientific and technical application software. All technical and scientific fields, such as engineering, physical science, mathematics, library science, psychology and others, rely heavily on the computer to achieve analysis, design, production, control and test. The applied software specialist is needed to make the computer applicable to a chosen field(s). Employment is to be found as scientific programmer or scientific system analyst in any of the above fields.

Students with strong mathematic backgrounds or interests are encouraged to choose this option.

Applied Software Science option, BS degree

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	ICSS-202 Introduction to Computer Science	4		
	ICSP-208 Introduction to Programming	4		
	ICSP-210 Program Design and Validation		4	
	ICSP-305 Assembly Language Programming			4
	SMAM-251, 252, 253 Calculus	4	4	4
	Physics Elective		4	4
	* General Studies Elective (Lower Division)	4	4	4
	‡ Physical Education Elective	0	0	0
Second Yearf	ICSS-315 Digital Computer Organization	4		
	ICSS-320 Data Structure Analysis		4	
	ICSP-215 Programming Language - FORTRAN			4
	SMAM-305 Calculus	4		
	SMAM-306 Differential Equations		4	
	Computer Science Elective			8
	Math-Science Elective and SMAM-351 Probability and Statistics	4	4	
	* General Studies Elective (Lower Division)	4	4	4
	‡ Physical Education Elective	0	0	0
Upper Division Years	I CSS-430 Numerical Methods		4	
	ICSS-440 Operating Systems		4	
	ICSP-350 Programming Language Concepts		4	
	ICSS-520 Computer Architecture I		4	
	Computer Science Electives		24	
	Math or Science Electives		12	
	•General Studies (Upper Division)		30	
	Free Electives		8	
	Co-op (4 quarters)			

‡ See *Pg. 27 for Policy on Physical Education.*
* See *Pg. 75 for General Studies requirements.*
† *Upon completion of the second year, the associate in applied science degree is awarded.*

Computer Technology program

The computer technology program of the School of Computer Science and Technology offers two options leading to the bachelor of technology degree. Course work reflects how these options are more specialized and directed toward particular areas than the bachelor of science degree program.

The options of this program are structured such that approximately 50 percent of the course work is in computer science and another 25 percent is in a professional elective area chosen outside computer science from such areas as business, mathematics, engineering, etc. This additional course work allows the students to tailor their overall program to a computer application or technical area of their own choosing. The remaining course work is in liberal arts (i.e., general studies electives) and mathematics. The required mathematics courses (i.e., Introductory Calculus and Statistics) give these students the necessary mathematical background to deal with many problems in computer science and computer technology. Students who want a more intensive background in mathematics can take the classical calculus and probability and statistics course sequence to meet the mathematics requirements and apply the additional hours towards their professional elective requirement. Two options are currently offered: computer systems and systems software science.

Students transferring to RIT with an associate's degree in data processing, accounting, etc. will find the bachelor of technology program particularly attractive. Except in unusual cases, these students can expect to receive full transfer credit for their AAS course work and a balanced mapping of these courses into the required curriculum. Since the students enter the program as juniors, they are normally eligible to begin their Co-op work experience after one quarter of course work at RIT.

Most graduates of the computer technology program go on to full-time employment in their chosen application or technical area of computer science. Some, however, choose to continue on to graduate school; the appropriateness of their undergraduate degree for graduate study largely depends on the composition of their professional elective area.

Computer Systems Option

The goal of this program is to provide students with the skills and technology fundamental to a career in business applications computing. Graduates from this program must master the principles and skills which underlie the disciplines of business data processing and data management. These include hardware organization and assembly language, data structures, file management, business programming system specification and design, business applications programming, data communication, and database design and implementation.

Positions in business data processing and data management not only require a strong computing background, but also a sound foundation in analytical and business skills. For this reason, students are required to take a basic sequence of courses from the School of Business and the Department of Mathematics. The student may continue to pursue a professional electives concentration in either business or mathematics, or may choose yet another relevant curriculum at RIT.

The computer systems curriculum is designed to facilitate transfer for graduates of two-year degree programs in data processing or business.

Computer Systems Option B. Tech. degree

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	ICSS-202 Introduction to Computer Science	4		
	ICSP-208 Introduction to Programming	4		
	ICSP-210 Program Design and Validation		4	
	ICSP-305 Assembly Language Programming			4
	SMAM-214, 215 Introductory Calculus (3)	3	3	
	SMAM-309 Statistics (3)			4
	* General Studies Electives (Lower Division)	4	8	8
	‡ Physical Education Electives	0	0	0
Second Year	ICSS-315 Digital Computer Organization	4		
	ICSS-320 Data Structure Analysis	4		
	ICSS-325 Data Organization and Management		4	
	ICSP-307 Business Applications Programming			4
	ICSS-335 Systems Specification, Design and Implementation			4
	Computer Science Elective (1)		4	
	BBUB-201 Management Concepts	4		
	BBUA-210 Financial Accounting		4	
	Professional Elective			4
	* General Studies Elective (Lower Division)	4	4	4
	‡ Physical Education Electives	0	0	0
Upper Division Years	ICSS-420 Data Communication Systems		*i* 4	
	ICSS-485 Database Concepts		4	
	ICSP-488 Programming Systems Workshop		4	
	Restricted Computer Science Electives (2)		8	
	Computer Science Electives (1)		32	
	BBUB-434 Operations Management		4	
	Professional Electives		28	
	* General Studies Electives (Upper Division)		15	
	Cooperative Education (4 quarters)			

† *Upon successful completion of the second year, students are eligible for the Associate in Applied Science degree.*

(1) Computer Science courses may be taken as Computer Science Electives except as noted in the Course Description Catalog.

‡ See *Pg. 27 tor Policy on Physical Education.*

* See *Pg. 75 for General Studies requirements.*

(2) Restricted Computer Science Electives tor the Computer Systems Option

Students must take one course from Group A and one course from Group B.

Group A: Systems Software - Software Emphasis
ICSP-350 Programming Language Concepts
ICSS-440 Operating Systems
ICSS-530 Fundamentals of Discrete Simulation
ICSS-570 *Introduction to Computer Graphics*

GroupB Systems Software - Hardware Emphasis
ICSS-520 Computer Architecture I
ICSS-521 Introduction to Microprocessor Systems
ICSS-545 Computer Architecture II
ICSS-565 Computer Systems Selection

(3) *Mathematically inclined students may satisfy the mathematics requirement by substituting SMAM-251, 252, 253, 351 and 352 tor the listed SMAM courses The additional courses will be counted as professional electives.*

Systems Software Science Option

The goal of this program is to provide students with a background in the principles of systems software as well as experience in the design, implementation, and maintenance of systems programs. Systems programs are those which enhance the performance, utility or flexibility of a computer system. In many respects, a systems programmer is a toolmaker whose tools are used by applications programmers. These tools include operating systems, compilers, text processors and database systems.

Students in this option must learn to deal with the lowest level programs in a computer system. For this reason, a deep understanding of hardware concepts and assembly language programming is essential. In addition, a strong grounding in operating systems principles, language processors and data communications is necessary.

Graduates are prepared for employment as systems programmers or systems software specialists. Any relevant curriculum at RIT may be chosen for professional electives.

Systems Software Science Option, B. Tech. degree

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	ICSS-202 Introduction to Computer Science	4		
	ICSP-208 Introduction to Programming	4		
	ICSP-210 Program Design and Validation		4	
	ICSP-305 Assembly Language Programming			4
	SMAM-214, 215 Introductory Calculus (3)	3	3	
	SMAM-309 Statistics (3)			4
	* General Studies Electives (Lower Division)	4	8	8
	‡ Physical Education Electives	0	0	0
Second Yeart	ICSS-315 Digital Computer Organization	4		
	ICSS-320 Data Structure Analysis	4	*	
	ICSS-325 Data Organization and Management		4	
	ICSP-306 Advanced Assembly Techniques			4
	, Computer Science Electives (1)		4	4
	Professional Electives	4	4	4
	* General Studies Elective (Lower Division)	4	4	4
	‡ Physical Education Electives	0	0	0
Upper Division Years	ICSS-350 Programming Language Concepts		4	
	ICSS-420 Data Communication Systems		4	
	ICSS-440 Operating Systems		4	
	ICSS-580 Language Processors		4	
	Restricted Computer Science Electives (2)		12	
	Computer Science Electives (1)		24	
	Professional Electives		32	
	* General Studies Electives (Upper Division)		15	
	Cooperative Education (4 quarters)			

† *Upon successful completion of the second year, students are eligible for the Associate in Applied Science degree.*

(1) *Computer Science courses may be taken as Computer Science Electives except as noted in the Course Description Catalog.*

(2) *Restricted Computer Science Electives for the System Software Science option: Students must take one course from Group A, one course from Group B, and one course from Group C.*

Group A: Advanced Software Techniques
- *ICSS-540 Operating Systems Laboratory*
- *ICSS-560 Compiler Construction Laboratory*
- *ICSS-585 Systems Programming Laboratory*

Group B: Advanced Digital Computer Principles
- *ICSS-520 Computer Architecture I*
- *ICSS-545 Computer Architecture II*
- *ICSS-521 Introduction to Microprocessor Systems*

Group C: Application Areas
- *ICSS-485 Database Concepts*
- *ICSS-515 Analysis of Algorithms*
- *ICSS-530 Fundamentals of Discrete Simulation*
- *ICSS-570 Introduction to Computer Graphics*

(3) *Mathematically inclirled students may satisfy the mathematics requirement by substituting SMAM-251. 252, 253, 351 and 352 for the listed SMAM courses The additional courses will be counted as professional electives.*

‡ *See Pg. 27 for Policy on Physical Education.*

* *See Pg. 75 for General Studies requirements.*

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's degree level educational programs, engineering technology curricula were designed to prepare people to work with' engineers and scientists as technicians. This educational role is presently being carried out primarily in two-year community colleges and technical institutes.

More recently, RIT again was a pioneer in the development of baccalaureate programs in engineering technology.

Programs

The School of Engineering Technology offers the following upper^division (junior-senior) programs leading to the bachelor of technology (B. Tech.) degree:

1. Civil Engineering Technology with options in construction and environmental controls
2. Electrical Engineering Technology
3. Mechanical Engineering Technology
4. Manufacturing Engineering Technology
5. Energy Technology

The School of Engineering upper-division programs are designed specifically to accept graduates of associate's degree programs in similiar engineering technology fields, and provide a continuation of study in the student's area of specialization. Each program area consists of a carefully integrated program heavily involved in professional studies, coupled with liberal education, mathematics, and on-the-job experience.

individually when his or her program is planned. 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.

The 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. At the present time, the New York State Board for Engineering and Land Surveying requires the B. Tech graduate to achieve additional experience prior to becoming eligible for the New York State Professional Engineer examination. Requirements differ in other states.

Cooperative work plan

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

The co-op plan provides opportunity for individual students to learn and become familiar with direct application of techniques, skills, and the latest developments in their field. 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 geographic location, and familiarization with the industrial community and environment can and do affect an individual's decision on the direction a future career might take. Only co-op can provide a suitable trial ground.

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

In the School of Engineering Technology each student is assisted in finding work related to specific career goals, however, as is the case in any employment situation, the major impetus must originate with the individual student. In some School of Engineering Technology programs the entering (junior) class is divided into two sections with one half of the class beginning their RIT program on a co-op job, and the other half beginning with their academic work. Detailed schedules are provided in the description of the individual programs on the following pages.

Admission requirements

The School of Engineering Technology accepts only transfer students. Admission to the bachelor of technology degree programs in the School of Engineering Technology is open to persons holding an associate's degree in air conditioning technology, civil or construction technology, electrical technology, manufacturing technology, mechanical technology, a comparable associate's degree program, or an acceptable equivalent. Please refer to individual department requirements for a more complete definition of an acceptable degree.

Admission may be offered to students with other associate degrees or program backgrounds. In such cases, students should contact the School of Engineering Technology for an individual evaluation of the appropriateness of their previous academic experience.

Program requirements

School of Engineering Technology students are required to successfully complete the prescribed program including co-op experience.

A total of 38 quarter credit hours of general studies for the B. Tech degree (associate's degree program plus RIT course work) is required. The quantity of general studies to be completed at RIT is, therefore, 38 quarter hours *minus* the amount of general studies transferred from the two-year college.

Unless suitable physical education credit is transferred, students are also required to complete up to three physical education electives with passing grades.

Graduation requirements

The minimum requirements for the B. Tech degree in engineering technology are (1) successful completion of the prescribed program including co-op work experience. (2) minimum cumulative quality point average of 2.0.

Accreditation

The program of study leading to the bachelor of technology degree in civil engineering technology, (environmental and construction options), electrical engineering technology, and mechanical engineering technology, are all accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). The School of Engineering Technology is a member institution of the American Society for Engineering Education.

Civil Engineering Technology Department

John C. Loos, Chairman

Civil Engineering Technology, upper division baccalaureate program
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, work drawings, specifications, and construction.

All students enter this program at the third year level or higher having already received an appropriate associate's degree in Civil Engineering technology or an acceptable equivalent. An appropriate associate's degree should include:

- Technical Math (2 college-level courses with introduction to calculus)
- Drafting
- Technical Physics
- Soil Mechanics
- Surveying (2 semesters including route surveying)
- Statics and Strength of Materials
- Structural Design

Students lacking these courses may be required to take the missing courses prior to entry into the program or concurrently within a reasonable time.

Entering students have a choice of following either a curriculum oriented towards environmental controls or towards the construction industry. However, since both programs of study are sufficiently broad in scope and allow for elective courses, graduates of either program of study should find wide-ranging employment opportunities.

Cooperative Education Plan
Work experience gained while completing alternating work and study quarters is especially valuable. A typical co-op job at a consulting firm might include assisting engineers in design drafting, feasibility or preliminary report writing or inspecting, surveying, or investigating in the field. Other co-op students work in water treatment plants, checking control panels; operating valves, pumps, and other equipment; performing laboratory tests; or doing maintenance work.

Civil Engineering Technology, B. Tech degree-Environmental option

Year		Quarter Credit Hours: Fall	Winter	Spring	Summer
1,2	Completion of an appropriate Associate's degree at a two-yeas college				•
Third Year	# ITEC-420 Hydraulics	4			
	ITEC-428 Report Writing	2			
	SCHG-271 Chemistry of Water I	4			
	SMAT-421 Solution of Engineering Problems I	4			
	(‡ SMAT-420 Introduction to Solutions of Engineering Problems	(4)			
	* General Studies Elective (Lower Division)	4			
	‡ Physical Education Elective	0			
	ITEM-404 Applied Mechanics of Materials				3
	SCHG-272 Chemistry of Water II				3
	SBIG-440 Environmental Microbiology				4
	SMAT-422 Solution of Engineering Problems II				4
	ft SMAT-421 Solution of Engineering Problems I				(4)
	* General Studies Elective (Lower Division)				4
	‡ Physical Education Elective				0
Fourth Year	ITEC-432 Water Transport Systems	3			
	ITEC-434 Environmental Pollution	3			*i*
	I TEC-438 Principles of Treatment of Water and Sewage... .	4			
	ICSP-205 Computer Techniques	3			
	ITEE-414 Basic Electrical Principles	4			
	SMAT-422 Solution of Engineering Problems II	(4)			
	‡ Physical Education Elective	0			
	ITEC-510 Design of Water Treatment Facilities				3
	ITEC-514 Land Planning				2
	ITEC-516 Analysis of Reinforced Concrete Structures				4
	Technical Elective-				4
	* General Studies Elective (Upper Division)				5
Fifth Year	ITEC-513 Computer Techniques	1			
	ITEC-520 Design of Wastewater Treatment Facilities	4			
	ITEC-527 Soil Mechanics and Foundations	4			
	Technical Elective	4			
	‡‡ ITEE-414 Basic Electrical Principles	(4)			
	General Studies Elective (Upper Division)	5			
	** I TEC-544 Contracts and Specifications				3
	** ITEC-546 Professional Principles & Practices				1
	Technical Elective				4
	Free Elective				4
	* General Studies Elective (Upper Division)				5

 # Students who successfully complete a proficiency examination in hydraulics will take ITEC-434 in lieu of ITEC-420
‡‡ Entering students will take SMAT-420 or SMAT-421 depending on an evaluation of their mathematics background. Those students assigned to SMAT-420 will be taking a 3-course sequence in Solution of Engineering Problems and will, therefore, defer taking ITEE-414 until the first quarter of the fifth year (in lieu of a technical elective)
" Offered in Spring Quarter only
‡ See Pg. 27 for Policy on Physical Education.
**See Pg. 75 for General Studies requirements.*

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

Graduates
Past graduates with their B. Tech. in civil engineering technology are employed by consulting engineers, construction companies, industries, and by federal, state, and local governmental agencies. They are scattered from coast to coast and from New York to Texas. Their titles range from project or design engineer to plant operator, inspector, field party chief, and environmental officer. Also several graduates have successfully completed master's degrees at other universities and have also registered as professional engineers in several states.

Construction option cooperative education schedule

Year	Fall	Wintet	Spring	Summer
3	Work	RIT	RIT	Work
4	Work	RIT	RIT	Work
5	Work	RIT	RIT	-

Civil Engineering Technology, B. Tech degree-Construction option

Year		Quarter Credit Hours: Fall Winter	Spring Summer
1,2	Completion of an appropriate associate's degree at a two-year college ,		
Third Year	# ITEC-420 Hydraulics	4	
	I TEC-426 Report Writing	2	
	SCHG-271 Chemistry of Water I	4	
	SMAT-421 Solution of Engineering Problems I	4	
	‡‡ SMAT-420 Introduction to Solutions of Engineering Problems	4	
	ITEM-436 Engineering Economics	4	
	‡ Physical Education Elective	0	
	** ITEC-460 Construction Equipment		3
	ITEM-404 Applied Mechanics of Materials		3
	BBUB-245 Business Management		4
	SMAT-422 Solution of Engineering Problems II		4
	SMAT-421 Solution of Engineering Problems I		(4)
	* General Studies Elective (Lower Division)		4
	‡ Physical Education Elective *1*		0
Fourth Year*	~*ITEC-470 Timber Design & Construction	3	
	" ITEC-422 Elements of Building Construction	4	
	ICSP-205 Computer Techniques	3	
	ITEE-414 Basic Electrical Principles	4	
	t* SMAT-422 Solution of Engineering Problems II	(4)	
	* General Studies Elective (Lower Division)	4	
	‡ Physical Education Elective	0	
	ITEC-516 Analysis of Reinforced Concrete Structures		4
	** ITEC-500 Labor Relations		4
	Technical Elective		4
	* General Studies Elective (Upper Division)		5
Fifth Year	***ITEC-508 Cost Estimates	2	1
	"ITEC-509 Estimating Problems	1	
	ITEC-527 Soil Mechanics and Foundations	4	
	***ITEC-444 Mechanical Equipment for Buildings	3	
	Technical Elective	3	
	‡‡ ITEE-414 Basic Electrical Principles	(4)	
	* General Studies Elective (Upper Division)	5	
	** ITEC-544 Contracts & Specifications		3
	** ITEC-546 Professional Principles & Practices		1
	'* ITEC-450 Construction Project Management		4
	Free Elective		4
	* General Studies Elective (Upper Division)		5

* *Students who successfully complete a proficiency examination in hydraulics will take ITEC-422 in lieu of ITEC-420*

‡‡ *Entering students will take SMAT-420 or SMAT-421 depending on an evaluation of their mathematics background. Those students assigned to SMAT-420 will be taking a 3-course sequence in Solution of Engineering Problems, and will, therefore, defer taking ITEE-414 until the first quarter of the fifth year (in lieu of a technical elective.)*

** *Offered in Spring Quarter only*

*** *Offered in Winter Quarter only*

‡ See *Pg. 27 for Policy on Physical Education.*

* See *Pg. 75 for General Studies requirements.*

Technical electives

ITEC-480 Groundwater Hydraulics.....3 credits
ITEC-505 Construction Safety..... 3 credits
ITEC-549 Environmental Engineering Project.....4 credits
ITEC-550 Construction Practices..... .. 4 credits
ITEC-552 Structural Analysis & Design II (structural steel)..... 4 credits
ITEC-580 Senior Construction Seminar.....3 credits
CTEM-560 Legal and Ehical Responsibilities of the Field Engineer (Evening course)*.....4 credits
ITEC-556, 557 Wastewater Treatment Plant Operation and Control I & II.....1-4 credits

With departmental approval, technical electives may be selected from existing courses in mathematics, chemistry, physics, engineering, and technology. 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 of the day college courses are open if schedules can be arranged and the students have the capacity to handle additional credits.

Electrical Engineering Technology Department

John A. Stratton, Chairman

Electrical Engineering Technology, upper division baccalaureate program

The bachelor of technology degree in electrical engineering technology is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

This relatively new professional program is designed to meet the growing needs for technologists in a technologically oriented society.

The term technologist is used to define the graduate of this program, one whose professional training is in the application of existing technology and devices to the solution of routine engineering design problems.

The bachelor of technology program in electrical engineering technology offered at Rochester Institute of Technology is an upper-division program. The upper-division feature of the program provides a viable transfer option to those students who have completed their associate's degree and desire to continue their education in technology.

The first two quarters of course work are designed to provide uniform mastery in the fields of mathematics and circuit theory. The remaining four quarters of course work consist of professional courses with elective options in the fields of electrical power, communications, and digital computer design.

Elective courses are available for the student to pursue his or her chosen option and to provide course work that complements his or her professional objectives. Professional electives are normally assumed to be those shown as technical electives. However, the Institute provides a wide variety of course offerings and students are urged to make full use of these offerings in developing their professional programs. Academic advisors are provided to assist the student in this selection process.

For students who wish to concentrate their electives in the computer area, a sequence of courses is shown which provides a strong program in this area.

The curriculum also includes one year of cooperative work experience

Electrical Engineering Technology cooperative education plan

Year		Fall	Winter	Spring	Summer
• 3 *and 4*	A	RIT	Work	RIT	Work
	B	Work	RIT	Work	RIT
5	A	RIT	Work	RIT	-
	B	Work	RIT	RIT	-

Electrical Engineering Technology, B. Tech degree

Year		Quarter Credit Hours: Fall	Winter	Spring	Summer
1,2	Completion of an appropriate associate's degree at a two-year college				
Third Year	I TEE-401 Circuit Theory I	4			
	ITEE-424 Logic and Digital Devices	4			
	** SMAT-420 Calculus for Technologists I	(4)			
	SMAT-421 Calculus for Technologists II	4			
	* General Studies (Core)	4			
	‡ Physical Education Elective	0			
	iTEE-402 Circuit Theory II				4
	I TEE-428 Linear Amplifier Design				4
	** SMAT-421 Calculus for Technologists II				(4)
	SMAT-422 Solution of Engineering Problems				4
	ICSP-205 Computer Techniques				3
	ITEE-425 Power Concepts				3
	‡ Physical Education Elective				0
©urth Year	"SMAT-422 Solution of Engineering Problems	(4)			
	I TEE-404 Control Systems I	4			
	I TEE 532 Power Amplifier Design . . .	4			
	ITEE-542 Microprocessors	4			
	* General Studies (Core)	4			
	‡ Physical Education Elective	0			
	ITEE-520 Electrostatic and Magnetic Fields				4
	ITEE-530 Applications of Discrete and Integrated Circuit Elements	.			4
	* General Studies (Concentration)				4
	Technical Specialization Option: (Digital Design I, Power Systems I, Transmission Lines and Antennas)				4
Fifth Year	ITEM-411 Engineering Materials I	4			
	* General Studies (Concentration)	4			
	ITEF-436 Engineering Economics	4			
	'General Studies (Seminar)	2			
	Technical Specialization Option: (Digital Design II, Protective Relaying, Communications I	4			
	ITEM-408 Introduction to Strength of Materials				4
	* General Studies (Concentration)				4
	Free Elective				4
	Technical Elective				4

** *Entering students will take SMAT-420 or SMAT-421 depending on the evaluation of their mathematical background. Those students assigned* to *SMAT-420 will be taking a 3-course sequence in Calculus for Technologists and will therefore, defer taking one fourth year General Studies Elective until their fifth year, thus, reducing the elective choices by one course.*

‡ *See Pg. 27 for Policy on Physical Education.*

* See *Pg. 75 for General Studies requirements.*

Elective Sequence-Computer Design Specialization

4th Year **Spring/Summer**	ITEE-538 Computer Design I
5th Year **Fall/Winter** **Spring**	ITEE-539 Computer Design II ITEE-543 Minicomputers, Controllers and Peripherals

and, thus, provides important training in the solution of real technical problems.

Entering students are divided into two groups, A and B, and are assigned to work or school according to the schedules shown. Note that half of the entering students will begin their program of studies at RIT by working on their co-op job.

Admission requirements

All students enter the program at the third year or junior level as transfers from existing two-year associate's degree electrical technology programs. Students from associate's degree programs that are closely related to electrical technology and that have appropriate circuits and electronic course levels are also accepted but may be required to take remedial courses prior to matriculating into the program.

Technical electives

(each carries 4 quarter credit hours)

ITEE-524 Microwave Systems
ITEE-528 Introduction to Minicomputers
ITEE-534 Communication Systems I
ITEE-535 Communication Systems II
ITEE-536 Control Systems II
ITEE-538 Digital Computer Design I
ITEE-539 Digital Computer Design II
ITEE-542 Microprocessors
ITEE-543 Minicomputers, Controllers and Peripherals
ITEE-546 Industrial Electronics
ITEE-547 Digital Processing of Signals
ITEE-550 Power Systems I
ITEE-551 Protective Relaying
ITEE-552 Power Systems II
ITEE-554 Electronic Optic Devices
ITEE-555 Transmission Lines and Antennas
ITEE-560 Microelectronics I
ITEE-561 Microelectronics II
ITEE-562 Construction and Failure Analysis
ITEE-580 Senior Project
ITEF-424 Statistical Quality Control I
ITEM-550 Topics in Machine Design for Electrical Majors

Mechanical Engineering Technology Department

Louis B. Gennaro, Chairman

Mechanical Engineering Technology, upper division baccalaureate program

Background

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 the new needs which arise from the desire to do things in a more creative and efficient manner. The central theme of all industry is to successfully design and produce a functional, reliable and profitable product, or service. This task can only be accomplished by individuals who are familiar with concepts, the body of knowledge, and a set of learned skills which apply to their specific field.

The Mechanical Engineering Technology Program develops in the student the ability to conceive the design problem and to derive solutions through the application of familiar concepts in innovative ways, so that he can make his vital contribution to the objective of technological enterprise in his subsequent career.

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

Mechanical Engineering Technology cooperative education plan

Year		Fall	Winter	Spring	Summer
3 and 4	A	RIT	Work	RIT	Work
	B	Work	RIT	Work	\ RIT
5	A	RIT	Work	RIT	-
	B	Work	RIT	RIT	-

Mechanical Engineering Technology, B. Tech Degree

Year		Quarter Credit Hours: Fall Winter	Spring Summer
1 2	Completion of appropriate Associate's degree or equivalent		
Third Year	** SMAT-420 Calculus for Technologists I	(4)	
	** SMAT-421 Calculus for Technologists II	4	
	ICSP-205 Computer Techniques	3	
	ITEM-404 Applied Mechanics of Materials	4	
	ITEM-407 Mechanical Engineering Technology Lab I	3	
	ITEM-414 Materials Technology I	3	
	‡ Physical Education	0	
	** SMAT-421 Calculus for Technologists II		(4)
	** SMAT-422 Solution of Engineering Problems		4
	ITEM-405 Applied Dynamics		4
	ITEM-409 Mechanical Engineering Technology Lab II		2
	ITEM-415 Materials Technology II		3
	* General Studies Elective (lower division)		4
	‡ Physical Education		0
Fourth Year	** SMAT-422 Solution of Engineering Problems	(4)	
	ITEM-440 Applied Thermodynamics	4	
	ITEE-411 Electrical Principles for Design I	4.	
	Technical Elective	4	
	* General Studies Elective (lower division)	4	
	‡ Physical Education	0	
	ITEM-460 Applied Fluid Mechanics		4
	ITEM-506 Machine Design		4
	ITEE-412 Electrical Principles for Design II		4
	* General Studies Elective (upper division)		5
Fifth Year	ITEM-465 Thermofluid Laboratory	3	
	ITEM-521 Logic Control Systems	4	
	Technical Elective	4	
	* General Studies Elective (upper division)	5	
	Technical Elective		4
	Technical Elective		4
	Free Elective		4
	* General Studies Elective (upper division)		5

" *Entering students will take SMAT-420 or -421 depending on an evaluation of their mathematics background. Those assigned to SMAT-420 will not be required to take a fourth-year technical elective.*

‡ *See Pg. 27 for Policy on Physical Education.*

* See *Pg. 75 for General Studies requirements.*

Objectives of the program
The objectives of this program are to prepare the student to occupy professional positions in mechanical design, test engineering, field service engineering, technical sales, and plant operations upon graduation. The program emphasizes the development of a design methodology, and this is reinforced through the use of project-oriented assignments which challenge the student to develop his design abilities.

Curriculum
In the early quarters, the student expands his skills in the fundamentals of mechanics, mathematics and materials technology.

In the senior quarters, the main concentration is in machine design, and a range of electives are available in this area.

Individuals will be allowed to select electives from energy specialization or the manufacturing technology program, provided they satisfy the prerequisites for the courses elected.

A substantial measure of laboratory work is required, including the preparation of quality reports.

Admission Requirements
All students enter this program at the third-year level having received an appropriate associate's degree in mechanical technology, design-drafting technology or an acceptable equivalent. It is expected that these programs will have provided the entrant with background in the following:

- Mathematics through Introductory Calculus
- Physics
- Mechanical Drafting
- Manufacturing Processes
- Statics and Elementary Strength of Materials
- Machine Design

Technical Electives - Mechanical
- ITEF-437 Value Analysis
- ITEM-406 Dynamics of Machinery
- ITEM-442 Heat Transfer
- ITEM-451 Vibration and Noise
- ITEM-508 Special Topics in Machine Design
- ITEM-530 Instrumentation
- ITEM-540 Thermal Technology
- ITEM-599 Independent Study

Energy Technology

Upper Division Baccalaureate Program

Background
Recent history has brought energy to the forefront of the news on a daily basis. Energy is the life blood of the national economy and has wide-ranging from international, political and economic impact. Industrial commercial and governmental groups as well as individuals are now focusing a great deal of attention on energy conservation and energy management techniques. The increasing importance of this vital field has created a strong demand for persons who are well grounded in energy technology.

Objectives of the Program
The Energy Technology Program was developed to provide a direct route for persons having associate's degrees in energy related technologies to gain professional positions in the energy field. It is designed to prepare individuals to work in the areas of building energy system design, energy conservation, and energy management. These positions are with consulting engineering'firms, industrial corporations, building owners, mechanical contractors and companies manufacturing and marketing HVAC apparatus.

The Curriculum
The curriculum in energy technology has been designed with the

Energy Technology co-operative education plan

Year	Fall	Winter	Spring	Summer
3	RIT	RIT	Work	Work
4	RIT	Work	RIT	Work
5	Work	RIT	RIT	-

Energy Technology, B. Tech Degree

Year		Quarter Credit Hours: Fall	Winter	Spring
1,2	Completion of appropriate Associate's degree or equivalent			
Third Year	** SMAT-420 Calculus for Technologists I	(4)		
	"SMAT-421 Calculus for Technologists II	4		
	ITEM-408 Introduction to Strength of Materials	4		
	ICSP-205 Computer Techniques	3		
	ITEE-411 Electrical Principles for Design I	4		
	ITEC-428 Report Writing	2		
	"SMAT-421 Calculus for Technologists II		(4)	
	** SMAT-422 Solution of Engineering Problems		4	
	ITEM-440 Applied Thermodynamics		4	
	ITEE-412 Electrical Principles for Design II		4	
	* General Studies Elective (lower division)		4	
	‡ Physical Education		0	
Fourth Year	** SMAT-422 Solution of Engineering Problems	(4)		
	Technical Elective	4		
	ITEM-460 Applied Fluid Mechanics	4		
	ITEM-442 Heat Transfer	4		
	* General Studies Elective (lower division)	4		
	‡ Physical Education	0		
	ITEM-465 Thermofluid Laboratory			3
	ITEM-540 Thermal Technology			4
	ITEF-436 Engineering Economics			4
	* General Studies Elective (upper division)			5
	‡ Physical Education			0
Fifth Year	ITEM-542 HVAC System Engineering		4	
	Technical Elective		4	
	Technical Elective		4	
	* General Studies Elective (upper division)		5	
	ITEM-522 HVAC Control Systems			4
	Technical Elective			4
	Free Elective			4
	* General Studies Elective (upper division)			5

** *Entering students will take SMAT-420 or -421 depending on an evaluation of their mathematics background Those assigned to SMAT-420 will not be required to take a fourth-year technical elective.*

‡ *See Pg. 27 for Policy on Physical Education.*

* *See Pg. 75 for General Studies requirements.*

assistance of professionals in the field and educators from two-year programs in air conditioning technology. It includes courses which these professionals feel are fundamental for success in the field. There is a very strong emphasis on energy topics: thermal energy, heat transfer, fluid mechanics and electrical energy. Integrated into the main stream of energy courses are supporting courses in mathematics, computer science, engineering economics, and civil engineering technology. In addition to the required courses, students are encouraged to enhance their particular area of interest.

Admission requirements

The Energy Technology Program admits students holding an associate's degree in air conditioning technology, energy technology, environmental control technology or the equivalent. Interested persons not holding an associate's degree in one of these areas are advised to contact the program coordinator to discuss admission.

Technical Electives-Energy Technology

ITEC-544 Contracts and Specifications
ITEC-550 Construction Practices
ITEE-425 Power Concepts
ITEE-550 Power Systems I
ITEM-404 Applied Mechanics of Materials
ITEM-405 Applied Dynamics
ITEM-541 Alternative Energy Applications I
ITEM-543 Energy Management I
ITEM-544 Energy Management II
ITEM-545 Solar Thermal Applications
ITEM-547 Special Topics - Energy Technology

Manufacturing Engineering Technology, upper division baccalaureate program

Background

Leaders in the manufacturing engineering profession estimate that the present shortage of qualified manufacturing technologists is between 50,000 and 100,000 people - and this need is increasing. The two principle factors generating this demand are industrial productivity and technological innovations. The rate of increase of productivity in American industry is lagging that of most industrial nations.

Realizing that competitive position in world markets, domestic markets, and profits are tied to the productivity of manufacturing units there is considerable effort by industrial organizations to improve their productivity. This nation-wide 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.*

These efforts to improve productivity have led to the rapid introduction of new, often exotic, processes, equipment, and increased amounts of automation. This factor has created a demand for personnel well versed in the new manufacturing technologies: numerical control, machine tools, micro-processor controls, computer-aided manufacturing, and manufacturing systems.

Manufacturing Engineering Technology cooperative education plan

Year		Fall	Winter	Spring	Summer
3 and 4	A	RIT	Work	RIT	Work
	B	Work	RIT	Work	RIT
D	A	RIT	Work	RIT	-
	B	Work	RIT	RIT	-

Manufacturing Engineering Technology, B. Tech Degree

Year		Quarter Credit Hours: Fall	Winter	Spring
1,2	Completion of appropriate Associate's degree or equivalent			
Third Year	** SMAT-420 Calculus for Technologists I	(4)		
	"SMAT-421 Calculus for Technologists II	4		
	ICSP-205 Computer Techniques	3		
	ITEF-403 Machine Elements	4		
	ITEF-436 Engineering Economics	4		
	‡ Physical Education	0		
	"SMAT-421 Calculus for Technologists II		(4)	
	** SMAT-422 Solution of Engineering Problems		4	
	ITEF-471 Computer Numerical Control		4	
	ITEF-492 Plant Layout & Materials Handling		4	
	* General Studies Elective (lower division)		4	
Fourth Year	Technical Elective	4		
	** SMAT-422 Solution of Engineering Problems	(4)		
	ITEF-502 Advanced Manufacturing Processes	4		
	ITEE-411 Electrical Principles I	4		
	* General Studies Elective (lower division)	4		
	‡ Physical Education	0		
	ITEE-412 Electrical Principles II			4
	ITEF-424 Statistical Quality Control I			4
	ITEF-437 Value Analysis			3
	* General Studies Elective (upper division)			5
Fifth Year	ITEF-526 Quality Systems		4	
	ITEF-472 Tool Engineering		4	
	Technical Elective		4	
	* General Studies Elective (upper division)		5	
	ITEF-510 Process Design I			4
	Technical Elective			4
	Free Elective			3-5
	* General Studies Elective (upper division)			5

*** Entering students will take SMAT-420 or -421 depending on an evaluation of their mathematics background. Those assigned to SMAT-420 will not be requited to take a fourth-year technical elective.*
‡ See *Pg. 27 for Policy on Physical Education.*
** See Pg. 75 for General Studies requirements.*

Objectives of the program
The primary objectives of the baccalaureate program in manufacturing technology are to prepare individuals for professional employment as manufacturing technologists. 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 industries. Throughout the academic program, a large measure of hands-on laboratory experiences related to manufacturing technology are provided.

Curriculum
The manufacturing engineering technology curriculum has been designed with the aid and consultation of professionals in the field. It includes those courses which these people feel are fundamental for professional success in industry. The program includes courses in Advanced Manufacturing Processes, Computer Numerical Control, Computer-Aided Manufacture, Manufacturing Laboratory and Management Studies. Students are encouraged to select technical electives to enhance their particular areas of interest.

Admission Requirements
The most appropriate qualification for students entering the third-year level of the program is the associate degree in mechanical or manufacturing technology. It is expected that these programs will have provided coverage in the following topics:

Mathematics through pre-calculus
Physics
Strength of Materials
Materials Technology
Manufacturing Processes
Numerical Control
Metrology

Students from other backgrounds will be considered, but they may be required to take additional courses as prerequisites to the main program of study.

Manufacturing Engineering Technology electives
ITEF-425 Statistical Quality Control II
ITEF-431 Manufacturing Organization
ITEF-475 Computer-Aided Manufacturing
ITEF-480 Work Simplification and Measurement
ITEF-491 Material Control
ITEF-511 Process Design II
ITEF-514 Special Topics
ITEF-599 Independent Study

Other electives may be taken in the College of Applied Science and Technology, College of Continuing Education, College of Engineering and College of Science with the approval of the appropriate department and the student's academic advisor.

School of Food, Hotel and Tourism Management

George T. Alley, Director
»
RIT's School of Food, Hotel and Tourism Management is preparing students for a wide variety of careers ranging from restaurant, hotel and tourism management to dietetics. A career in the food and hospitality industries has become highly specialized in the business world. Efficient and sophisticated management is vital and requires a diversity of skills from many disciplines. Students study accounting, economics, computer science, business management, behavioral science, food preparation, nutrition, and other related areas.

The philosophy of the school requires that each student must combine practical experience with classroom theory to meet graduation requirements. Under a cooperative employment plan, work assignments are related to the students' interests in the hospitality field. They are diversified in order to provide a variety of experiences, and are progressive, reflecting growth in knowledge and practical experience. The department requires 1,600 hours of work experience between the freshman and senior years—more than any other four year hospitality management program. The work-study program can provide financial assistance, stimulate classroom experience and serves as a preview for determining career direction in the industry.

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 and desire for a lifetime of learning,
5. an intellectual spirit for constructive thought and action in building a good life and effective citizenship.

Programs of study
Food Management
The hospitality service industries employ more people than any other in the nation. These industries cover the wide scope of public feeding, lodging and tourism. The program is designed to prepare persons for managerial positions in restaurants and food service operations of differing types of institutions such as hotels, motor lodges, resorts, clubs, airlines, colleges and schools, business firms and governmental agencies.

General dietetics is a well defined and structured professional program for persons interested in pursuing a career in the administrative and/or therapeutic aspects of food and nutritional needs in health care facilities.

Food Management

Year		Quarter Credit Hours: Fall	Winter	Spring	Summer
First Year	ISMF-210 Introduction to Food, Hotel & Tourism Management	4			
	ISMF-220 Career Seminar	1,			
	ISMF-215 Principles of Food Production	5			
	GLLC-220 English Composition	4			
	Contemporary Science	4			
	BBUB-201 Management Concepts		4		
	GSSE-210 Introduction to Economics		4		
	GLLL-332 Literature		4		
	BBUQ-291 Math I		4		
	BBUA-210 Financial Accounting			4	
	ISMD-213 Nutrition Science			4	
	BBUQ-292 Math II		4		
	'General Studies			4	
	‡ Physical Education	0	0	0	
	ISMF-499 Cooperative Education				0
Second Yeart	ISMF-321 Menu Planning and Merchandising	4			
	BBUM-263 Marketing Principles	4			
	BBUQ-351 Statistics I	4			
	ISMF-425 Purchasing and Inventory Control		4		
	BBUA-211 Managerial Accounting		4		
	ICSS-202 Introduction to Computer Science		4		
	ISMF-314 Sanitation and Safety		2		
	ISMF-311 Design and Equipment Engineering			4	
	Contemporary Science - Chemistry or Microbiology.			4	
	* General Studies	4	4	4	
	‡ Physical Education	0	0	0	
	ISMF-499 Cooperative Education			5	0
Third Year	ISMF-424 Food and Labor Cost Control	4			
	BBUA-420 Cost Accounting	4			
	ISMF-331 Food Systems Management I	4			
	ISMF-340 Beverage Operations		3		
	ICSS-200 Survey of Computer Science		4		
	ISMF-416 Product Development			4	
	Electives			4	
	BBUF-441 Financial Management			4	
	•General Studies	4	8	4	
	ISMF-499 Cooperative Education				0
Fourth Year	ISMF-430 Restaurant Management	5			
	ISMF-554 Senior Career Seminar	1			
	Electives	8			
	ISMF-499 Cooperative Education		0		
	ISMF-511 Banquet and Catering			4	
	ISMF-426 Personnel and Training			4	
	Electives			4	
	Senior Seminar-G.S			2	
	General Studies	4		4	

‡ *See Pg. 27 for Policy on Physical Education.*
* *See Pg. 75 for General Studies requirements.*
† *Upon successful completion of the second year, the associate in applied science is awarded.*

Hotel and Resort Management

The Hotel and Tourism Management option is a professionally oriented curriculum for students seeking careers involving the development, management, and operation of hotel, tourist and recreation enterprises. The composite of discipline areas allows the student to understand the physical characteristics of tourist and recreation properties, as well as gaining the business expertise to manage and successfully market their recreational attributes.

The U.S. Department of Labor predicts that between 1978 and 1985 over 7,000 hotel managers or assistant manager positions will be available for qualified personnel in each of those years.

Travel Management

The dynamic growth of modern travel has created many technical problems for the traveling public and with them the need to consult highly qualified experts, to plan, arrange and coordinate travel. Today, more than ever before, travelers are faced with a myriad of alternatives for transportation, accommodations and other travel services, and are increasingly beginning to rely upon the travel professional to help guide them wisely and honestly. Travel agencies and travel counselors have an important impact on tourist economics and on firms (foodservice, lodging, transportation) which supply services to tourists.

The Travel Management program combines a study of specialized courses in travel management with a sound general education. In addition to the specialty courses, students are provided a broad-based curricular approach with courses in accounting, management principles, marketing, business law, foreign languages, and the computer sciences. The program is structured so as to provide the students with a balance of “hands-on” experience and business theory. This is necessary to further their understanding as to the “whys” the travel industry operates as it does in its business environment. Thus, this career education orientation provides both the four year student and the transfer student with a balance of theoretical classroom based instruction with the experiential opportunities that is furnished by cooperative education.

Students are prepared for Management careers in Tour Promotion, Corporate Travel Planning; Federal and State Tourist Boards; Convention Bureaus; Airline/ Steamship/Motor Coach Companies; retail and wholesale Travel Bureaus; Hotel/Resorts and a variety of leisure business industries.

Opportunities

Our nation is now a service economy which means that the majority of employment opportunities will be service oriented. The food service area ranks as the nation's fourth largest industry while hotels rank seventh. Combined, they enjoy a rank of third. The closely interrelated tourism industry is one of the fastest developing businesses in the United States. With the continued expansion of U.S. food companies and hotels into foreign markets, international tourism offers ever increasing opportunities for professionally trained individuals.

Cooperative Work Experience

RIT’s hospitality education program is relevant to what’s happening in the world today by blending classroom study with on-the-job, paid work experience. Students study the theory of a discipline and have 1,600 hours of practical application. Their diversified academic and practical backgrounds enhance their career opportunities.

Two-Year transfer program for Food Management and Hotel and Resort Management

Students who have earned an appropriate associate's degree or its equivalent prior to enrollment at RIT may normally expect to complete the requirements for the B.S. degree in two years which includes six academic quarters and two quarters of cooperative employment experience.

Transfer students must complete a minimum of 102 quarter credit hours with an earned minimum grade point average of 2.0 in the departmentally approved program, and complete two quarters of approved cooperative education assignments.

- Transfer students with less than two years of college or from other educational backgrounds can be accommodated. The amount of transfer credit will be determined by evaluation of 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.

General Dietetics and Nutritional care

Dietetics encompasses the complete range of nutritional services from management of food service systems to therapeutics. The term dietitian has been defined as a specialist educated for a profession responsible for the nutritional care of individuals and groups. Many in this field have positions of management, not only on the staff of hospitals, but also in supervisory posts in government agencies—national, state, local—and in the growing field of community nutrition.

Opportunities

As a dietitian you will be involved with people of all ages, cultures and economic means. If you enjoy people and learn to understand them as individuals, then you can help solve their food needs.

Dietitians are health professionals who apply the science and art of human nutrition. They help individuals and families choose foods for adequate nutrition in health of disease throughout the life cycle. Dietitians also supervise the preparation and service of food to groups, develop modified diets, participate in nutrition research and supervise the nutritional aspects of health care.

Hotel and Resort Management

Year		Quarter Credit Hours: Fall	Winter	Spring	Summer
First Year	ISMF-210 Introduction to Food, Hotel and Tourism Management	4			
	ISMF-220 Career Seminar	1			
	ISMF-215 Principles of Food Production	5			
	GLLC-220 English Composition	4			
	Contemporary Science	4			
	BBUB-201 Management Concepts		4		
	GSSE-210 Introduction to Economics		4		
	GLLL-332 Literature		4	•	
	BBUQ-291 Math I		4		
	BBUA-210 Financial Accounting			4	
	ISMD-213 Nutrition Science			4	
	BBUQ-292 Math II			4	
	* General Studies			4	
	‡ Physical Education	0	0	0	
	ISMF-499 Cooperative Education				0
Second Year	ISMH-423 Hotel Operations	5			
	BBUQ-351 Statistics I	4			
	BBUM-263 Marketing Principles	4			
	ISMH-400 Resort and Recreation Enterprises		4		
	ISMH-401, 2, 3, 4, 5, 6 Resort and Recreation Enterprises - Lab		1		
	BBUA-211 Managerial Accounting		4		
	ICSS-202 Introduction to Computer Science		4		
	SCHG-289 Science - Contemporary or Microbiology			4	
	ISMF-314 Sanitation and Safety in Food Operations			2	
	•General Studies	4	4	12	
	‡ Physical Education	0	0	0	
	ISMF-499 Cooperative Education				0
Third Year	ISMF-424 Food and Labor Cost Control	4			
	BBUA-420 Cost Accounting	4			
	ISMH-412 Maintenance of Engineering Systems for Hotel/Resort Properties		4		
	ISMH-420 Hotel and Travel Law		4		
	I CSS-200 Survey of Computer Science		4		
	ISMT-330 Convention Sales/Service			4	
	ISMT-220 Travel Intermediaries			4	
	BBUF-441 Financial Management			4	
	'General Studies	4	8	4	
	ISMF-499 Cooperative Education				0
Fourth Year	ISMF-430 Restaurant Management	5			
	ISMF-431 Beverage Operations . . .	3			
	•General Studies	4			
	ISMF-554 Senior Career Seminar	1			
	ISMF-499 Cooperative Education		0		
	ISMH-450 Hotel Marketing and Sales Management			4	
	ISMF-426 Personnel and Training			4	
	ISMF-511 Banquet and Catering Management			4	
	Elective	4		4	
	Senior Seminar -G.S.			2	

‡ See *Pg. 27 for Policy on Physical Education.*
** See Pg. 75 for General Studies requirements.*

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Programs

The School of Food, Hotel and Tourism Management offers two options in dietetics: the traditional program in general dietetics and the Coordinated Undergraduate Program (CUP) in general dietetics.

Travel Management

Year		Quarter Credit Hours: Fall	Winter	Spring	Summer
First Yeai	ISMF-210 Introduction to Food, Hotel and Tourism Management	4			
	ISMF-220 Career Seminar	1			
	GLLC-220 English Composition	4			
	Contemporary Science	4			
	BBUB-201 Management Concepts		4		
	GSSE-210 Introduction to Economics		4		
			4		
	BBUQ-291 Math I		4		
	BBUA-210 Financial Accounting			4	
	ICSS-202 Introduction to Computer Science			4	
	BBUQ-292 Math II			4	
	•General Studies	4		4	
	‡ Physical Education	0	0	0	
	ISMF-499 Cooperative Education or Language Institute				0
Second Year	ISMH-423 Hotel Operations	5			
	BBUM-263 Marketing Principles	4			
	BBU1-351 Statistics I	4			
	ISMH-400 Resort and Recreation Enterprises		4		
	ISMH-401, 2, 3, 4, 5, 6 Resort and Recreation Enterprises - Lab		1		
	BBUA-211 Managerial Accounting		4		
	ISMT-201 Travel Lab I		3		
	ISMT-220 Travel Intermediaries			4	
	ISMT-202 Travel Lab II			2	
	* General Studies	4	4	8	
	SPSP-289 Contemporary Science - Physics			4	
	‡ Physical Education	0	0	0	
	ISMF-499 Cooperative Education or Language Institute				0
Third Year	ISMT-320 Passenger Transportation Systems	4			
	BBUA-420 Cost Accounting	4			
	ISMT-370 Passenger Transportation Policy		4		
	ICSS-200 Survey of Computer Science		4		
	ISMH-420 Hotel and Travel Law		4		
	ISMT/Business elective		4		
	ISMT-330 Convention Sales/Service			4	
	BBUF-441 Financial Management		>	4	
	ISMT-303 Travel Lab III			2	
	* General Studies	8		8	
	ISMF-499 Cooperative Education				0
Fourth Year	ISMT/Business elective	4			
	ISMH/Business elective	4			
	ISMH-410 Tourism Consumption Analysis	4			
	Senior Seminar -G.S	2			
	•General Studies	4			
	ISMF-499 Cooperative Education		0		
	ISMT/Business elective			4	
	ISMH/Business elective			4	
	ISMT/Business elective			4	
	ISMF-426 Personnel and Training			4	
	ISMF-554 Senior Career Seminar			1	

‡ See *Pg. 27 for Policy on Physical Education.*
** See Pg. 75 for General Studies requirements.*

I. The traditional program in general dietetics

The curriculum in general dietetics leading to a baccalaureate degree at RIT meets the education requirements of the American Dietetic Association. The courses included are in the areas of physical, biological and social sciences; food principles and management; nutrition in health and disease; accounting and finance. Four year students must complete three quarters of approved cooperative work experience.

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 in General Dietetics must be determined by evaluation of each individual's record.

Transfer students must complete a minimum of 102 quarter credit hours with an earned minimum grade point average of 2.0 in the departmentally approved program, and complete two quarters of approved cooperative education assignments.

In addition to completing an approved academic program, persons seeking certification as a Registered Dietitian (R.D.) need to have an approved clinical experience and pass the qualifying comprehensive examination of the American Dietetic Association.

II. Coordinated Undergraduate Program in general dietetics (CUP)

The coordinated dietetics program combines the undergraduate curriculum and planned clinical study to meet the academic and clinical requirements for membership in the American Dietetic Association (ADA).

This program is planned to integrate formal teaching and supervised clinical experience in hospitals, nursing homes, school food services and community health agencies. Clinical facilities in several large hospitals provide a comprehensive health care environment for student learning. Academic and clinical phases are taught together to reinforce each other. Learning experience involves team teaching by RIT faculty and clinical instructors, each contributing their expertise in the profession.

Completion of the program leads to a bachelor of science degree plus ADA membership. Successful completion of a national examination qualifies the member to become a registered dietitian.

All RIT dietetics students are enrolled in the traditional program in general dietetics in 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 the coordinated undergraduate program must be submitted by March 1, to be considered for admission into the professional phase the following ' September.

Cooperative work experience is not required of students in the coordinated program because clinical hours have been planned in the junior and senior years of the professional phase.

Another set of CUP application forms from the School must be completed and submitted to the department by March 1.

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 CUP in Dietetics must meet course prerequisites listed in the

preprofessional phase. The following areas of study must be completed:

- Food and Nutrition Principles
- Microbiology
- General and Organic Chemistry
- Biochemistry I
- Physiology

Management Courses:

- Mathematics, Accounting and Statistics
- Economics
- TOTAL of 24 credit hours of General Studies (including Introduction to Sociology)

Applicants are required to have a minimum grade point average of 2.5 on the basis of 4.0 scale from two years of basic preprofessional 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.

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Course descriptions

For a complete outline of courses offered at RIT, please request the Course Description catalog from the Admissions Office.

Year	General Dietetics[1]	Quarter Credit Hours: Fall	Winter	Spring	Summer
First Year	ISMF-215 Principles of Food Production	5			
	"SCHG-201, 211 General Inorganic Chemistry (plus lab)	4			
	GLLC-220 English Composition	4			
	BBUQ-291 Math	4			•
	BBUB-201 Management Concepts		4		
	BBUA-210 Financial Accounting		4		
	** SCHG-202, 212 Organic Chemistry (plus lab)		4		
	GLLL-332 Literature		4		
	ISMD-213 Nutrition Science			4	
	ICSS-202 Introduction to Computer Science			4	
	**SCHG-203 Biochemistry I 7?			4	
	•General Studies		I	4	
	‡ Physical Education •	0	0	> 0	
Second Yearf	ISMF-321 Menu Planning & Merchandising	4			
	** SBIG-210, 220 Microbiology (plus lab)	4			
	** SCHG-204 Biochemistry II	4			
	GSSE-210 Introduction to Econorpics	4			
	BBUQ-351 Statistics I		4		
	** SBIO-305, 306 Anatomy & Physiology (plus lab) or SBIG-211, 212 Human Biology II, III		4	4	-
	ISMF-314 Sanitation and Safety		2		
	ICSS-200 Survey of Computer Science			4	
	'General Studies		8	8	
	ISMF-499 Cooperative Education				0
	‡ Physical Education	0	0	0	
Third Year	ISMF-416 Product Development	4			
	ISMF-425 Purchasing & Inventory	4			
	ISMF-331 Food Systems Management I		5		
	ISMF-311 Equipment Design & Engineering		4		
	ISMD-519 Educational Principles		4		
	General Studies	8	4		
	ISMF-499 Cooperative Education			0	0
Fourth Year	ISMF-424 Food and Labor Cost Control	4			
	* ISMD-525 Advanced Nutrition/Diet Therapy	5			
	Senior Seminar -G.S.		2		
	* ISMD-526 Advanced Nutrition/Diet Therapy		4		
	* ISMD-554 Nutrition in Life Cycle		4		
	ISMF-426 Personnel and Training		4		
	* ISMD-550 Community Nutrition			4	
	ISMF-511 Banquet & Catering Management			4	
	General Studies	4	4	4	
	Elective	4		4	

[1] *Changes in the dietetics program are subject to approval by the American Dietetics Association.*
** *These courses offered* only in the quarters listed on the schedule.
‡ *See Pg. 27 for Policy on Physical Education.*
* *See Pg. 75 for General Studies requirements.*
‡ *Upon successful completion of the second year, the associate in applied science degree is awarded.*

Year	General Dietetics (Coordinated Undergraduate Program)*	Quarter Credit Hours: Fall	Winter	Spring	Summer
Third Year	ISMD-402 Dietetic Environment	4			»
	ISMF-416 Product Development	4			
	ISMF/Business Elective	4			
	ISMF-331 Food Systems Management		5		
	ISMD-519 Educational Principles		4		
	ISMF/Business elective		4		
	"General Studies	4	4		
	ISMF-424 Food & Labor Cost Control			4	
	ISMF-426 Personnel and Training			4	
	ISMD-551 Food Systems Management II (Clinical Course)			8	
Fourth Year	ISMD-560 Clinical Dietetics I	4			
	ISMD-561 Clinical Dietetics II	4			
	Senior Seminar-G.S.	2			
	ISMD-562 Clinical Dietetics III		4		
	ISMD-563 Clinical Dietetics IV		6		
	ISMD-554 Nutrition for Life Cycle		4		
	ISMD-550 Community Nutrition			4	
	ISMF-511 Banquets and Catering Management			4	
	"General Studies	8		8	

* *Changes in the dietetics program are subject to approval by the American Dietetics Association.*
** *See Pg. 75 for General Studies requirements.*

Department of Packaging Science

Harold J. Raphael, Director

Packaging Science, upper division baccalaureate program

The Packaging Science program, leading to the bachelor of science degree, is broadly interdisciplinary providing educational opportunities for men and women seeking careers in the multi-faceted packaging industry.

Graduates are prepared for initial employment in such areas as packaging development, sales, purchasing, structural and graphic design, production, research, and marketing.

Packaging is a $50 billion industry exhibiting dynamic growth and providing employment for many thousands of men and women with wide-ranging skills and expertise.

Since the end of World War II the development of a package for a given product has become increasingly complex involving input from many areas of business and from people with diverse backgrounds. This has resulted in the need for specially trained professionals able to work with concepts, individuals, materials, and machines. Qualified persons in this area are in demand and find themselves in a rapidly changing, challenging career. The RIT program trains people for this exciting profession.

The degree program in Packaging Science was developed because of a close and well-established relationship between the packaging industry and Rochester Institute of Technology over many years.

Packaging has become increasingly related to total marketing concepts; it has even greater dependence upon new developments in materials and processes. Therefore, the industry requires management personnel with strong backgrounds in business, engineering, science and the creative dimension.

All of these educational disciplines are found in the department curricula of RIT. This interdisciplinary program synthesizes these existing and recognized strengths with additional offerings recommended by representatives of the industry.

BS degree in Packaging Science-Technical option

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	IPKG-201 Principles of Packaging	4		
	•General Studies	4	4	4
	SMAM-204 Modern Algebra	4		
	SMAM-214, 215 Introduction to Calculus		3	3
	SCHG-208, 209 College Chemistry	4		4
	PPRT-200 Introduction to Printing		3	
	ICSP-205 Computer Techniques			3
	BBUB-201 Management Concepts		4	
	‡ Physical Education	0	0	0
Second Year	IPKG-310 Methods of Evaluation	2		
	IPKG-311 Packaging Materials I	3		
	IPKG-312 Packaging Materials II		3	
	IPKG-315 Container Systems			4
	'GeneralStudies.	4	4	4
	SCHO-231, 232 Organic Chemistry	4	4	
	ITEM-425 Statistical Quality Control			4
	ITEM-301 Engineering Graphics		3	
	BBUM-263 Marketing Principles			4
	PPRT-203 Layout and Printing Design	3		
	‡ Physical Education	0	0	0
	Free Elective		4	
Third Year	IPKG -401 Career Seminar			2
	IPKG-431 Packaging Production Systems	4		
	IPKG-432 Packaging for Distribution		4	
	IPKG-433 Packaging for Marketing			4
	IPKG-562 Packaging Regulations		3	
	'General Studies	5	5	5
	SPSP-211,212, 213 College Physics	4	4	4
	IPKG-420 Technical Communication			3
	Free Electives		2	
	GLLC-501 Effective Speaking	5		
Fourth Year	IPKG-520 Packaging Management	4	/	
	IPKG-524 Packaging Economics *		3	
	IPKG-530 Packaging and the Environment			4
	IPKG-585 Shock and Vibration			4
	* General Studies	5	5	5
	Free Electives	8	8'	4

‡ See *Pg. 27 for Policy on Physical Education.*
* See *Pg. 75 for General Studies requirements.*

Characteristics of the program

The program has these characteristics:

1. It is career oriented—the graduate is ready to enter directly into a position of responsibility.
2. It is interdisciplinary—the student becomes familiar with the many facets of packaging through courses in several RIT colleges.
3. It is flexible-the program offers three options: management, design, and technical, with ample opportunity for electives according to interest.
4. It is representative of industry needs—the content developed with the assistance of the Rochester Area Packaging Association, consultants from the packaging industry, and educational specialists.
5. It is adaptable to a modified cooperative plan, used widely in other RIT programs.

Admission requirements

The four-year BS degree program considers foradmission high school graduates who meet the following requirements: English, 4 years; mathematics, elementary algebra and either plane geometry or intermediate algebra; science, one year. Candidates are evaluated in relation to career objectives, designated option, and other indications of potential success in the program. A portfolio is required of those students electing the design option.

*

Upper division (transfer)

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 from this point in their education directly into a chosen

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

Principal field of study
For students matriculated in the interdisciplinary Packaging Science Program, 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, the required courses in the College of Fine and Applied Arts for the Design Option or the required courses in the College of Business for the Management 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.

Year	Packaging Science–Design option	Quarter Credit Hours: Fall	Winter	Spring
First Year	IPKG-201 Principles of Packaging	4		
	FADF-230. 231, 232 Design 2-0	3	3	3
	FADF-240, 241, 242 Design 3-D	3	3	3
	SMAM-201 Algebra	3		
	•General Studies		4	8
	SSEG-201 Biology		4	
	SSEG-202 Chemistry			4
	‡ Physical Education	0	0	0
	ICSS-200 Survey of Computer Science		4	
Second Year	IPKG-311 Packaging Materials I	3		
	IPKG-312 Packaging Materials II		3	
	IPKG-315 Container Systems			4
	FADC-301,302,303 Introduction to Communication Design	3	3	3
	FADF-261, 262, 263 Drawing	3	3	3
	* General Studies	4	4	4
	‡ Physical Education	0	0	0
	IPKG-301 Engineering Design Graphics		3	
Third Year	IPKG-310 Methods of Evaluation	2		
	IPKG-401 Career Seminar			2
	IPKG-431 Packaging Production Systems	4		
	IPKG-432 Packaging for Distribution		4	
	IPKG-433 Packaging for Marketing			4
	FADC-401, 402,403 Packaging Design I, II, III	6	6	6
	SSEG-203 Physics	4		
	BBUM-263 Marketing Principles		4	
	'General Studies			5
	Free Elective	2	4	
Fourth Year	FADC-501, 502, 503 Packaging Design IV, V, VI	6	6	6
	IPKG-420 Technical Communications		3	
	PPRT-200 Introduction to Printing		3	
	PPRT-206 Reproduction Photography			3
	'General Studies	5	5	5
	Free Elective	2		4
	GLLC-501 Effective Speaking	5		

Year	Packaging Science–Management option	Quarter Credit Hours: Fall	Winter	Spring
First Year	IPKG-201 Principles of Packaging	4		
	SMAM-201, 202, 203 Algebra, Trigonometry, Analytical Geometry	3	3	3
	•General Studies	4	4	4
	SSEG-203 Physics			4
	GSSE-301 Economics I	4		
	GSSE-302 Economics II		4	
	BBUA-210 Financial Accounting	4		
	PPRT-200 Introduction to Printing			3
	‡ Physical Education	0	0	0
Second Year	IPKG-310 Methods of Evaluation.....i	2		
	IPKG-311 Packaging Materials I	3		
	IPKG-312 Packaging Materials II		3	
	IPKG-315 Container Systems			4
	■General Studies	4	4	4
	SCHG-201 General Chemistry & SCHG-2.11 Laboratory. . . .	4		
	SCHG-202 Organic Chemistry&SCHG-212 Laboratory. . . .		4	
	BBUM-263 Marketing Principles	4		
	BBUB-201 Management Concepts		4	
	BBUB-401 Behavioral Science			4
	Business Elective			4
	‡ Physical Education	0	0	0
Third Year	IPKG-431 Packaging Production Systems	4		
	IPKG-432 Packaging for Distribution		4	
	IPKG-433 Packaging for Marketing			4
	IPKG-401 Career Seminar			2
	'General Studies	5	5	5
	PPRT-203 Layout and Printing Design		3	
	Business Elective		4	
	I CSS-200 Survey of Computer Science	4		
	IPKG-562 Packaging Regulations		3	
	Free Elective			6
	GLLC-501 Effective Speaking	5		
I Fourth Year	iPKG-520 Packaging Management	4		
	IPKG-524 Packaging Economics		3	
	IPKG-530 Packaging and the Environment			4
	* General Studies	5	5	5
	ITEM-301 Engineering Graphics		3	
	ITEM-425 Statistical Quality Control			4
	IPKG-420 Technical Communications		3	
	Free Electives	8	3	• 5

‡ See *Pg. 27 for Policy on Physical Education.*
• See Pg 75 for General Studies requirements.

College of Business

Walter F. McCanna, Dean

The College of Business is composed of the School of Business Administration and the School of Retailing. The programs reflect the world of business, which has become increasingly complex, ahd advance new theories with business application. Ideas that were not even formulated five years ago are viewed as routine today. New knowledge is constantly evolving that must become part of the student's education. While incorporating this new knowledge into the program, it is also important that the student's education have lasting value.

Physical facilities include well-appointed classrooms and laboratories and modern equipment. Student learning is extended further through other facilities, including an up-to-date and complete library of books and periodicals, as well as through use of television, films, professional speakers and field trips applicable to the various fields of study.

Accreditation and professional memberships

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

Memberships in professional organizations contribute to the quality of the programs in the College of Business. The School of Business Administration maintains membership in the American Association of Collegiate Schools of Business Assembly and the Middle Atlantic Association of Colleges of Business Administration. The School of Retailing is a member of the American Collegiate Retailing Association, an organization to promote the profession of retail management and to maintain high standards of education for the retail profession.

The plan of education

Each program within the College of Business includes a "core group" of business subjects in addition to courses in communications, social studies and the humanities. This provides for an understanding of the complex relationships existing within the business organization. The student also concentrates in a particular subject area, with each successive course built upon accumulated knowledge and skills, providing a challenge equal to the student's capabilities.

Cooperative employment is an integral part of the program in the College of Business. Under the supervision of the director of experiential learning, each student obtains practical work experience in varied phases of his or her field of interest, not limited to the local area. Since this work experience is related to the student's total career objective, the student gains more from class work and is prepared to assume some increased responsibility during successive work periods. The student also develops judgment and initiative, keener understanding of the major field and special phases of interest, and the possibility of moving more rapidly toward goals after graduation.

The cooperative plan

Cooperative employment arrangements for students in BS degree programs are made during the first and second years. A student's program ends with an academic quarter. Transfer students begin and end their program with academic quarters at RIT.

Transfer students are required to complete a minimum number of cooperative employment quarters. The number is determined by evaluation of the individual's record and program.

Graduation requirements

The minimum academic-requirements in the College of Business are:

AAS degree: The degree of associate in applied science is awarded upon earning a minimum grade point average of 2.0 in the departmentally approved program.

BS degree: The bachelor of science degree is granted if the student has (1) earned a minimum grade point average of 2.0 in the departmentally approved program, and (2) completed the required number of supervised cooperative education blocks for the program.

Writing policy

Students must demonstrate that they have the writing skills needed for successful entry into their chosen careers. At least three academic quarters before the student's anticipated completion of baccalaureate degree requirements, the departmental faculty will determine whether the student has met departmental writing standards.

Students whose writing does not meet these standards will have to take the appropriate remedial measures recommended by the department. All students must meet departmental writing standards before they can graduate.

Transfer programs

The College of Business has, for years, integrated transfer students into its baccalaureate degree programs. Typically, students who have earned an associate's degree or its equivalent 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 required quarters of cooperative employment experience.

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

A transfer student must (1) complete a minimum number of credit hours required for the specific transfer program with an earned minimum grade point average of 2.0 in the departmentally approved program, and (2) complete required quarters of approved cooperative education assignments.

Graduate programs

The College of Business offers master's degree programs in business administration, human services management, and accounting on a part-time and full-time basis.

The programs are professional in nature and acquaint the student with all aspects of business management as well as offering a concentration in a field of specialization. Specific details are contained in the Graduate Bulletin, available from the Admissions Office.

Course descriptions

For a complete outline of courses offered at RIT, please request the Course Description catalog from the Admissions Office.

Admission at a Glance: College of Business Programs

General Information on RIT's admission requirements, procedures and services is included in detail on pages 15-16 of this Bulletin.

The major programs in this college are: accounting, business administration, retailing, food administration and tourist industries management, and photo marketing.

All faculty in the college have outstanding academic and practical experience. They are aware of the newest theories and application ideas in their areas of expertise. The Co-op program is especially strong. This helps graduates get jobs.

Accounting-Graduates of the accounting program meet candidacy requirements for the C.P.A. examination. Students interested in the certificate in management accounting (CMA) or careers in general accounting are advised to choose the business administration program. Degrees granted: AAS-two year; BS-four year.

Business Administration-Provides business basics in accounting, management, mathematics, economics, computer science, and behavioral science. Students may select concentrations in finance, management or marketing. Degrees granted: AAS-2 year; BS-4 year.

Retailing-Prepares students for five broad areas within the retail field: merchandising, operations, finance, personnel, and sales promotion. These-competencies will help graduates achieve middle and upper-middle management positions after some years of on-the-job experience. Degrees granted: AAS-2 year; BS-4 year.

Photographic Marketing Management-This rigorous program is designed to provide students with a thorough knowledge of the photographic process and a solid background in business administration. You will be challenged by courses in economics, finance and marketing principles that prepare you for a multifaceted management-level career in the photographic business. Degrees granted; AAS-2 year, BS-4 year.

Freshman Admission Requirements

Program	Required High School Subjects*	Desirable Elective Subjects
Accounting	Elem. Algebra; Inter. Algebra; 1 year any science	Additional mathematics and science
Business Administration	Elem. Algebra; Inter. Algebra; *f* 1 year any science	Additional mathematics and science
Retailing	Elem. Algebra; Inter. Algebra; 1 year any science	Additional mathematics and science
Photographic . Marketing Management	Elem. Algebra; Inter. Algebra; 1 year chemistry preferred	Additional mathematics and science

Transfer Admission with junior standing

Two Year College Programs	Desirable minimum grade point average
Accounting or equivalent	2.35
Business administration, marketing, or any associate in arts, science or applied science graduate. This is an excellent opportunity for two-year liberal art graduates to enter a career-focused field.	2.35
Retailing; retail merchandising or equivalent.	2.35
Business administration; marketing or equivalent.	2.35

One *third of the courses in each program consists of electives in social science, literature, and humanities.*
** Four years of English are required in all programs, except where state requirements differ.*

School of Business Administration

Andrew M. DuBrin, Staff Chairman, E. James Meddaugh, Staff Chairman, Accounting

Objectives

The basic objective of the School of Business Administration is to create and provide experiences which lead to the continuing growth of the individual in achieving his or her occupational, social, and personal goals. The programs offered provide for an understanding of the concepts essential to competence in business management.

To provide an education that will allow the graduate to perform and grow in this dynamic and complex field of business, the programs in the School of Business Administration are designed to: (1) make students aware of the world about them; (2) open and stimulate students' minds to initiate—and welcome—new ideas and techniques; (3) provide mastery in a marketable skill.

Programs of Study

Accounting

The field of accounting provides many opportunities for successful and rewarding careers. The Certified Public Accounting major has been registered with the State Education Department of New York which means that graduates, who have maintained a 2.0 GPA in accounting courses, meet the requirements for candidancy for the Certified Public Accountant examination. Cooperative employment for

accounting students offers opportunities with public accounting, accounting departments in a diversified group of industries or in other accounting related fields such as finance. The experience gained enhances full-time employment upon graduation. Additionally, appropriate cooperative work experiences qualify as part of the experience requirement for certification.

Students interested in the Certificate in Management Accounting (CMA) or in careers not requiring the CPA background are advised to choose the General Business Administration program with appropriate elective courses in accounting to meet those special interests.

T ransfer students

. Students transferring from an accredited institution to the Certified Public Accounting Program will have their transcripts evaluated on a course-by-course basis. This is to insure that graduates meet the educational requirements for candidacy to the Certified Public Accountant examination.

Business administration

The purpose of the business administration program is to create a total experience in which students develop abilities, knowledge, and attitudes which will help them perform as competent and responsible business administrators. The core curriculum is designed to give the student a basic competence in accounting, economics, finance, marketing, behavorial science, production management, and the administrative process. Toward the end of the second year, the student is encouraged to identify an area of concentration — a field in which he or she plans to exercise the administrative skills.

The elective course options allow the student to concentrate study in accounting, economics, finance management or marketing. The extensive offerings in all these fields permit the student to gain in-depth knowledge which will provide a solid foundation for career development.

Additionally, the program permits the student with special career interests to combine the study of business administration with other areas — such as retailing, food administration, hotel and tourist management or computer science to name just a few. Program counseling is available to assist developing a program designed for such special combined interests.

Year	Certified Public Accounting	Quarter Credit Hours Fall	Winter	Spring
First Year	BBUB-202 Introduction to Business	4		
	BBUQ-291, 292, 293 Quantitative Methods I, II, III	4	4	4
	BBUE-230, 235 Micro & Macro Economics		4	4
	Computer Literacy Requirement	2	2	
	BBUB-210 Career Seminar I			1
	Science Electives		4	4
	General Studies CORE and English Comp	8	4	4
	Physical Education Electives	0	0	0
Second Year	BBUQ-351. 352 Statistics I & II	4	4	
	BBUA-301, 302 Financial and Managerial Accounting	4	4	
	BBUB-301, 302 Business Law I & II	4	4	
	BBUB-320 Behavioral Science & Org. Theory			4
	BBUB-334 Production Operations Management			4
	BBUB-310 Career Seminar II			1
	General Studies CORE	4	4	4
	General Studies Electives			4
	Physical Education Electives	0	0	0
Third Year		Sr/F		W/S
	BBUA-408, 409 Intermediate Accounting I & II	4		4
	BBUA-431 Cost Accounting	4		
	BBUB-420 Principles of Management	4		
	BBUF-441 Corporate Finance	4		
	BBUF-445 Advanced Corporate Finance			4
	General Studies Electives and Concentration			8
Fourth Year		Sr/F	w/s	Sr
	BBUA-522, 523 Tax Accounting I & II	4	4	
	BBUA-530 Auditing	4		
	BBUA-540 Advanced Accounting		4	
	BBUA-550 Accounting Theory			4
	BBUE-505 Intermediate Microeconomics		4	
	BBUM-463 Principles of Marketing	4		
	BBUQ 460 Management Science			4
	BBUB-551 Integrated Business Analysis			4
	General Studies Electives and Concentration	4	4	4
	General Studies Senior Seminar			2

Year	Business Administration	Quarter Credit Hours Fall	Winter	Spring
First Year	BBUB-202 Introduction to Business	4		
	BBUQ-291, 292, 293 Quantitative Methods I. II, III	4	4	4
	BBUE-230, 235 Micro & Macro Economics		4	4
	Computer Literacy Requirement	2	2	
	BBUB-210 Career Seminar I			1
	Science Electives		4	4
	General Studies CORE and English Comp	8	4	4
	Physical Education Electives	0	0	0
Second Year	BBUQ-351, 352 Statistics I & II	4	4	
	BBUA-301, 302 Financial and Managerial Accounting	4	4	
	BBUB-315 Legal Environment	4		
	BBUB-320 Behavioral Science & Org. Theory			4
	BBUB-334 Production Operations Management			4
	BBUB-310 Career Seminar II			1
	General Studies CORE	4	8	
	General Studies Electives			8
	Physical Education Electives	0	0	0
Third Year		Sr/F		W/S
	BBUM-463 Principles of Marketing	4		
	BBUB-420 Principles of Management	4		
	BBUQ-460 Management Science	4		
	BBUF-441 Corporate Finance	4		
	Business Concentration Electives			8
	General Studies Electives			4
	General Studies Concentration			4
• Fourth Year		Sr/F	W/S	Sr
	Business Concentration Electives	12	8	
	Business Electives			12
	BBUB-507 Business Environment		4	
	BBUB-551 Integrated Business Analysis			4
	General Studies Concentration	4	4	
	General Studies Senior Seminar			2

Cooperative Education
Students in business administration benefit from diversified cooperative employment opportunities in all the functional areas of business management. These opportunities provide not only insight and working knowledge of a particular business specialty, marketing for example, but also how these specialties are applied in various industries. Cooperative education is therefore an integrated educational experience.

Transfer students
The College of Business has, for years, integrated transfer students into its baccalaureate degree programs. Students who have earned an associate's degree or its equivalent prior to enrollment at RIT normally may expect to complete the requirements for the BS degree in two years, which includes six academic quarters and two quarters of cooperative employment experience.

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

Business electives
(Each gives 4 Quarter Credit Hours)
The following courses are open to accounting, business administration, retailing and food, hotel, tourist management students having the necessary prerequisite courses.

Year	Retail Management	Quarter Credit Hours: Fall	Winter	Spring	Summer
First Year	BBUB-202 Introduction to Business	4			V
	BBUQ-291, 292, 293 Quantitative Methods I, II, III	4	4	4	A
	Computer Literacy Requirement	2	2		C
	BBUB-210 Career Seminar I			1	A
	BBUE-230, 235 Economics (Micro, Macro)		4	4	T
	BBUA-301 Financial Accounting			4	I
	BRER-201 Introduction to the Retail Industry		4		0
	General Studies	8	4	4	N
	Physical Education Electives	0	0		
Second Year	BBUQ-351, 352 Statistics I & II	4	4		V
	BBUB-310 Career Seminar II			1	A
	BBUA-302 Managerial Accounting	4			C
	BBUB-315 Legal Environment		4		A
	BBUB-320 Behavioral Science & Organizational Theory			4	T
	BBUB-334 Production/Operations Management			4	I
	BRER-301 Retail Merchandising & Control	5			0
	Science Electives		4	4	N
	General Studies	4	4	4	
Third Year	BBUF-441 Corporate Finance	C	4		
	BBUM-463 Principles of Marketing	0	4		
	BBUB-420 Principles of Management	0	4		
	BBUQ-460 Management Science	p			4
	BRER-401 Retail Store Operations & Management			4	
	Retail/Business Electives		4	4	4
	General Studies			8	8
	Physical Education Electives		0	0	0*
Fourth Year	BBUB-507 Business Environment	C	4		
	BBUB-551 Integrated Business Analysis	O		4	
	BRER-501 Senior Seminar in Retail Management	0	4		
	Retail/Business Electives	p	8	4	
	General Studies			10	

* *Optional* Co-op

School of Retailing

John S. Zdanowicz, Director

The major objective of the School of Retailing is to educate young men and women to be able to move toward middle and upper middle management positions in the broad dimensions of the retail industry. The student should attain a clear understanding and competency of the entry level expectations of the field that will serve as a spring board for rapid personal and professional growth.

Retailing at RIT enables the students to attain a basic understanding of all aspects of a business enterprise-accounting finance, management and marketing; depth of understanding of the basic concepts of retailing, and their current applications; an introduction to the common tools of management in the forms of computers and statistical analysis; a broad background in the natural and social sciences which shape the retail environment, and the attitudes that will assist the student in setting and attaining personal and professional goals in this area.

Retailing is a broadly defined program and provides a foundation for many careers in addition to the traditional store merchandising function. Students can go into positions in store operations, personnel, branch store management or sales promotion in the traditional retail industry. Others will find a career in working with retailers from the perspective of manufacturers or as specialists in promotion or other aspects of the retail industry.

Merchandising covers primarily the process of planning selecting, buying, and selling; operations deals with the general operations of the retail enterprise and tends to focus on the responsibilities of store managers and independent retailers; personnel is responsible for selection, training, placing, advancement and welfare of all employees; sales promotion is responsible for advertising, display, and the many forms of publicity in which a retailer engages.

Photographic marketing management is a program that is offered jointly by the School of Retailing and the College of Graphic Arts and Photography. This is the only program of its kind in the country.

Retailing program
The program is designed to offer a specialized curriculum that provides in-depth understanding of the retail industry and its tasks, along with a comprehensive foundation in the theory and practice of the management of any enterprise. In addition to the required core of business and retail courses, the student may elect concentrations within the retail offerings.

The student interested in a career in retail operations management may select, with faculty advisement, elective courses from other business disciplines such as finance and control, personnel management and computer information systems. Thus students are able to tailor their academic program to meet their career objectives and industry demand.

Merchandising is the heart of the retail program and includes electives in buying and specialized seminars in curcent merchandising topics that reflect the ever-changing dimensions of the field.

The ***interior design management option*** exposes the student to interior design history, textiles and interior design theory. This option prepares the student for an entry level position in the field of residential or commercial interior design.

Cooperative education
The cooperative employment component of the program allows the student to explore the realities of a retail career while gaining actual experience during the junior and senior years. The retailing courses are designed to build on this experience to integrate courses and employment into a unified learning experience. Retail students enjoy a wide range of co-op opportunities in retail establishments in major cities from Chicago to Boston to Atlanta. Depending on the interests of the student, co-op can be developed in a wide range of situations in addition to the traditional retail store environment.

The academic program is designed so that a student may take advantage of an extended cooperative employment opportunity during the Fall Quarter through the Christmas holiday. This is the most ideal period to gain retail experience. The Winter Quarter academic program is specially structured for those students returning to school in January.

Transfer students
The School of Retailing has, for years, integrated transfer students into its baccalaureate degree programs. Students who have earned an associate degree or its equivalent prior to enrollment at RIT normally may expect to complete the requirements for the BS degree in two years, which includes six academic quarters and two quarters of cooperative employment experience.

Merchandising option-electives
BRER-412 Advanced Merchandising
BRER-413 Buying Management/ Market Analysis
BRER-414 Fashion Apparel Merchandising
BRER-452 Retail Sales Promotion
BRER-552 Current Trends in Retailing
BRER-553 Textiles

Interior design management-electives
BRER-412 Advanced Merchandising
BRER-431 Interior Design I
BRER-432 Interior Design II
BRER-433 Interior Design History
BRER-452 Retail Sales Promotion
BRER-553 Textiles

Photographic Marketing Management
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 economics, finance, and marketing principles. The combination of work in these two disciplines prepares the student for a multifaceted management-level career in the photographic' business. Opportunities for positions include those in customer service aspects of photofinishing and professional color laboratories and management. positions with photographic manufacturers and photographic retailers. For further information, including transfer requirements, contact the College of Business.

Year	Photographic Marketing Management	Quarter Credit Hours: Fall	Winter	Spring
First Year	BBUB-202 Introduction to Business	4		
	BBUQ-291, 292, 293 Quantitative Methods I, II, III	4	4	4
	Computer Literacy Requirement	2	2	
	BBUB-210 Career Seminar I			1
	BBUE-230, 235 Economics (Micro, Macro)		4	4
	BBUA-301 Financial Accounting			4
	BRER-201 Introduction to the Retail Industry		4	
	General Studies	8	4	4
	Physical Education Electives	0	0	0
Second Year	BBUQ-351, 352 Statistics I & II	4	4	
	BBUB-310 Career Seminar II			1
	BBUA-302 Managerial Accounting	4		
	BBUB-320 Behavioral Science & Organizational Theory		4	
	BBUB-334 Production/Operations Management			4
	BRER-301 Retail Merchandising & Control	5		
	PPHM-201, 202, 203 Basic Principles of Photography	4	4	4
	General Studies		4	8
Third Year	BBUB-315 Legal Environment	4		
	BBUB-420 Principles of Management	4		
	BBUF-441 Corporate Finance		4	
	BBUM-463 Principles of Marketing		4	
	BBUQ-460 Management Science			4
	BRER-401 Retail Store Operations & Management			4
	PPHG-211, 212, 213 Materials & Processes of Photography	3	3	3
	General Studies	4	4	4
	Physical Education Electives	0	0	0
Fourth Year	BBUB-507 Business Environment	4		
	BBUB-551 Integrated Business Analysis			4
	BRER-501 Senior Seminar in Retail Management		4	
	PPHT-311 Color Photography/Design	4		
	PPHT-312 Color Printing/Theory		4	
	PPHM-320, 321 Mechanics of Photographic Hardware		4	4
	PPHM-310 Survey of Production Processing & Finishing			2
	Photo/Retail/Business Electives	4		4
	General Studies	4	6	4

Business electives
(Each gives 4 Quarter Credit Hours)
The following courses are open to accounting, business administration, retailing and food, hotel, tourist management students having the necessary prerequisite courses.

Business electives

Accounting
Cost Accounting
Tax Accounting
C.P.A. Problems
Auditing
Advanced Accounting I, II
Seminar in Accounting

Economics
Managerial Economics
Business Cycles and Forecasting
Recent Economic Policies
Advanced Money and Banking
Labor Economics
Seminar in Economics

Finance
Money and Capital Markets
Financial Problems
International Finance
Security Analysis
Portfolio Management
Financial Institutions
Seminar in Finance

Management and Quantitative Methods
Multinational Management
Labor Relations
Purchasing
Planning and Decision Making
Organization Theory

Marketing
Consumer Behavior
Consumer Services Analysis
Marketing Management Problems
Marketing Research
Advertising
Sales Management
Seminar in Marketing
International Marketing
Marketing Logistics
Comparative Marketing

College of Continuing Education

Robert A. Clark, Dean

At Rochester Institute of Technology's College of Continuing Education you can grow professionally, personally and educationally. The College is alive, vibrant and dynamic, providing you with an environment in which to learn while improving your professional development and personal skills. Academic policies and procedures are designed to encourage your learning. Our total effort — our whole reason for being here, in fact — is to help you design and accomplish your educational program.

In addition, you'll be encouraged to know that our 153 years of career education experience provide you with programs tailored to meet your specific educational goals, career needs and busy schedule.

The College of Continuing Education provides you with an alternative to full-time study through part-time study at night, on weekends or during the day. Working closely with the other nine colleges of the Institute, we develop flexible educational opportunities for you. Class hours and course offerings are scheduled to meet specific needs of employers, employees and non-working people alike. As a result, many people like you have attained educational goals not otherwise available.

We aim to provide higher educational experiences for all who desire them. Under the Open Admission Policy, you are free to take any course or to pursue any degree for which you have sufficient background. Academic advisors are available throughout the year to answer questions regarding your course or program choices.

If you choose to follow a specific program of study, numerous options are available in fields as diverse as management and photography, machine tool and general education. Our advisors will tailor your program, within limits, to fit your needs. Our faculty, too, are keenly aware that a classroom is more than just a sea of faces. They try to vary assignments to fit individual requirements, allow for your questions and opinions, and attempt to know you as a person.

The College confers the diploma of the Institute in nineteen fields, as well ' as a certificate in management.

Twenty-two options lead to the associate in applied science, and the associate in arts degree is offered in general education.

Fourteen programs lead to the bachelor of science. Programs designed primarily for transfer students with associate degrees are offered, leading to the bachelor of technology degree in electrical and mechanical technology.

If you're a graduate student the master of science degree is offered in applied and mathematical statistics.

In addition to credit courses, the college offers you workshops, seminars and short courses to meet specific needs of community groups, professional organizations, agencies, industries, government and business. Non-credit programs include offerings as diverse as career exploration seminars, workshops in professional development for secretaries, breakfast seminars for managers and continuing education for health field personnel.

Another alternative offered through the College is the RIT Summer Session. Along with the opportunity for you to continue work in your chosen academic program, RIT's unique summ'er offerings also feature learning opportunities for students from other colleges and representatives from business and industry. Concentrated courses combining the resources of the entire Institute are offered in numerous subject areas and unusual formats.

If you're ready to join the one in five adults currently enrolled in continuing education across the country then you've come the right place. We'd like to help you. Come grow with us at the College of Continuing Education.

College of Engineering

Richard A. Kenyon, Dean

The programs offered by the College of Engineering are planned to prepare students to fit into present-day industrial and community life, and to lay a foundation for graduate work in specialized fields. This is accomplished by offering curricula which are strong in fundamentals, yet lead to specialization in the junior and senior years, and maintain a balance among humanistic-social subjects, the physical sciences, and professional courses.

Five-year programs
The college offers five five-year cooperative 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 Mechanical Engineering maintain extensive laboratory facilities in the Gleason Engineering Building to provide students with ample opportunities to work with up-to-date equipment in their respective fields. The laboratories are structured and outfitted to provide basic laboratory work as a part of the engineering curricula, to offer students the opportunity for independent laboratory projects, and to provide facilities for fundamental research by students and faculty. The Computer Engineering Department utilizes its own growing facility plus those of the Electrical Engineering Department and the School of Computer Science and Technology The new program in microelectronic engineering utilizes its own growing laboratory facility as well as existing laboratories in electrical engineering and photo science.

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. Prior to the beginning of the third year, students are assigned to A and B sections; in any given quarter, one section follows cooperative employment while the other attends classes. Employment arrangements are made by each student through the co-op coordinator in Central Placement. The chart illustrates the cooperative program as offered by the College of Engineering.

Cooperative Education plan

		Fall	Winter	Spring	Summer
1 st and 2nd yrs.		RIT	RIT	RIT	Vacation
3rd, 4th yrs.	A	RIT	Work	RIT	Work
	B	Work	RIT	Work	RIT
5th yr.	A	RIT	Work	RIT	x-
	B	Work	RIT	RIT	-

Transfer programs
The College of Engineering at RIT has for many years admitted graduates from two year engineering science programs at community colleges and technical institutes. The rapid integration of these transfer students into the baccalaureate programs in significant numbers has provided an added dimension and a uniqueness to the College of Engineering.

In virtually all cases, accepted graduates of the two-year engineering science programs are able to enter the regular third year program in any of RIT's five engineering programs.

For those students who have completed programs in electrical or electronics technology with a high scholastic average, there is a three-year AAS Transfer Program leading to a bachelor of science degree in electrical engineering. Two-year electrical technology graduates will, of course, wish also to consider the educational opportunities available to them through RIT's upper-division bachelor of technology programs in the School of Engineering Technology.

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Orientation
The engineering programs are strongly oriented toward mathematics and the physical sciences. Emphasis is placed upon the study of these subjects in the first two years to provide a foundation for the applied sciences and for the engineering subjects which are scheduled 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 programs must be high school graduates, and must have completed elementary and intermediate algebra, plane geometry, trigonometry, and both physics and chemistry while 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.

Graduation requirements
The minimum requirements for the bachelor of science degree in the College of Engineering are:

1. Satisfactory completion of the program with no failing grades. •
2. A minimum number of quality points equal to at least twice the number of quarter hours required.

Prospective students should consult the individual program descriptions for additional information.

Accreditation
The programs of study leading to the bachelor of science degree in electrical engineering, industrial engineering and mechanical, engineering are accredited by the Accreditation Board for Engineering and Technology (ABET). The college is a member institution of the American Society for Engineering Education.

The programs in computer engineering and microelectronic engineering are “registered for professional purposes” with the State Education Department of the State of New York as a preparatory step to seeking ABET accreditation. All graduating seniors are eligible to sit for the Intern Engineer portion of the New York State Professional Engineering Examination during their final quarter in school.

Part-time students

An increasing number of students desire to pursue their engineering degree on a part-time basis while maintaining full-time employment in industry. In response to the needs of such students, the College of Engineering has expanded its scheduling of classes in the upper-division of the Mechanical and Electrical Engineering programs so that these courses may be taken during the late afternoon and early evening as well as during the day. Students wishing to pursue part-time studies must qualify for matriculation as regular third year engineering students through mormal admission procedures. As with full-time students, part-time students are required to complete the equivalent of five quarters of approved cooperative work experience. Arrangements are made for part-time students to utilize approved portions of their regular employment to satisfy the co-op requirements. Persons wishing further information on part-time studies in either Electrical or Mechanical Engineering should contact the relevant department head.

Graduate degrees

Programs leading to the master of science degrees are offered in both the electrical engineering and mechanical engineering departments. The programs may be pursued on a part-time or full-time basis since the majority of courses are offered in the late afternoon and early evening.

In addition, the College of Engineering offers a post-baccalaureate professional program leading to the master of engineering degree. The degree is without discipline designation, and study may be pursued in such areas as electrical engineering, industrial engineering, mechanical engineering, environmental studies, engineering management, 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 in local industry.

The College of Engineering offers jointly with the College of Science a program leading to the master of science degree in Materials Science and Engineering.

For further information on graduate programs in the College of Engineering, request the Graduate Bulletin or contact the associate dean for Graduate Programs, College of Engineering.

Course descriptions

For a complete outline of courses offered at RIT, please request the Course Description Catalog from the Admissions Office.

Admission at a Glance: College of Engineering Programs

Five five-year cooperative programs leading to the BS degree are offered. The four majors are: electrical, computer, industrial, mechanical and microelectronic engineering.

The programs prepare students for employment in the modern industrial world. There are extensive laboratory and experimental facilities available for student use. The programs in mechanical, industrial, and electrical engineering are accredited by the Accreditation Board for Engineering and Technology.

Electrical Engineering[1]—Students first develop proficiency in mathematics, science, and engineering fundamentals. Fundamental electrical studies include: electromagnetics, energy conversion, circuit theory, and electronics. Degree granted: BS-5 year.

Computer Engineering[1]—This program offers a blend of computer science and electrical engineering which is designed to enable the graduates to intelligently incorporate computers within engineering products. Degree granted: BS-5 year.

Industrial Engineering[1]—Students learn design improvement and installation of integrated systems of people, materials, and equipment. Students also develop specialized knowledge in mathematics and physical science with methods of engineering and design. Degree granted: BS-5 year.

Mechanical Engineering'—Students devote the first two years to the study of mathematics, physics, chemistry, and mechanics. There are two options in upper years-applied mechanics, and thermal fluid sciences. Degree granted: BS-5 year.

Microelectronic Engineering[1]—Offered in conjunction with the College of Graphic Arts and Photography and the College of Science, the new five-year program will emphasize the photolithographic aspects of microelectronic processing. It will provide the broad interdisciplinary background in optics, chemistry, device physics, computers, electrical engineering, and statistics necessary for entry into the microelectronic industry.

Electrical Engineering AAS Transfer program—This is a specialized program that provides a clearly defined route to the bachelor of science degree in Electrical Engineering for holders of an AAS degree in electrical technology. Incoming students enroll in transfer adjustment courses the summer before entering as third-year students. Degree granted: BS-3 year, at RIT.

Freshman Admission Requirements			Transfer Admission with junior standing	
Program	Required High School Subjects*	Desirable Elective Subjects	Two Year College Programs	Desirable minimum grade point average
Electrical Engineering	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; Physics and Chemistry	additional mathematics	Engineering Science (liberal arts with math/science option considered on individual basis), or Electrical Technology (A.A.S. Degree)	2.5 3.50
Computer Engineering	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry Physics and Chemistry	additional mathematics	Engineering Science (liberal arts with math/science option considered on individual basis).	3.50
Industrial Engineering	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; Physics and Chemistry	additional mathematics	Engineering Science (liberal arts with math/science option considered on individual basis).	2.50
Mechanical Engineering	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; Physics and Chemistry	additional mathematics	Engineering Science (liberal arts with math/science option considered on individual basis).	2.50
Microelectronic Engineering	Elem. Algebra; Plane Geometry Inter. Algebra; Trigonometry Physics and Chemistry	additional mathematics	Engineering Science (liberal arts with math/science option considered on individual basis).	3.00 ' /

'Four years ot English are required in all programs, except where state requirements differ
A substantial number of professional and free electives are also available

Computer Engineering

Roy S. Czernikowski, Head

The computer engineering program is effectively an interdisciplinary program between electrical engineering and computer science which embellishes their offerings in this relatively new field of study. The program-tS designed to prepare the graduate both to design engineering products that closely incorporate or communicate with computers and also to undertake significant graduate study where sophisticated computer design can actually be addressed.

This program studies the electrical engineering aspects of the circuits and devices used in large scale digital systems and the mathematical theories of their description to permit the graduate to engage in the design and construction of these systems.

In addition, this program also investigates computer science topics in the areas of computer architecture, microprogramming, operating systems, and especially real time computation in order to intelligently integrate hardware and software in engineering products. The intensive laboratory requirements ensure the graduate of significant experience with various microcomputers in controlling engineering systems.

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

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 Technology. Matriculated students not maintaining a 2.00 cumulative grade point average in their principal field of study are subject to academic probation and suspension according to Institute policy.

BS Degree in Computer Engineering

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	SMAM-251, 252, 253 Engineering Calculus I, II, III	4	4	4
	SMAM-265 Foundations of Discrete Mathematics			4
	SCHG-208, 209 General Chemistry for Engineers I, II	4		4
	SPSP-205, 206 General Physics I, II		4	4
	ICSP-208 Introduction to Programming	4		
	ICSP-305 Assembly Language Programming		4	
	* General Studies - Lower Division	4	4	
	‡ Physical Education Elective	0	*m*	0
Second Year	SMAM-305 Calculus IV	4		
	SMAM-306 Differential Equations		4	
	SPSP-207 General Physics III	4		
	SPSP-314 Modern Physics I		4	
	ICSP-216 Program Design & Validation/FORTRAN		4	
	ICSS-430 Numerical Methods			4
	EECC-341 Introduction to Digital Systems for Computer Engineering students	4		
	EEEE-351 Circuit Analysis I			4
	EMEM-331, 332 Mechanics I, II	4		4
	* General Studies - Lower Division		4	4
	‡ Physical Education Elective	0	0	0
Third Year		F/W		Sp/S
	SMAM-351 Probability & Statistics I			4
	ICSS-320 Data Structure Analysis	4		
	EEEE-352, 353 Circuit Analysis II. III	4		4
	EEEE-430 Linear Systems			4
	EEEE-441, 442 Electronics I, II	4		4
	* General Studies - Lower Division. . . .*	4		
Fourth Year	I CSS-440 Operating Systems	4		
	I CSS-520 Computer Architecture I			4
	E FEE-531 Energy Conversion	4		
	EEEE-613 Introduction to Automatic Controls			4
	EEEE-643 Digital Electronics	4		
	EECC-660 Interface Electronics & Logic			4
	* General Studies - Lower Division	4		
	* General Studies - Concentration			4
Fifth Year	ICSS-545 Computer Architecture II	4		
	EEEE-634 Introduction to Communication Systems	4		
	EEEE-693 Digital Data Communications			4
	EECC-655 Real Time Computation	4		
	Math/Science Elective			4
	Professional Elective			4
	* General Studies - Concentration	4		4
	Senior Seminar	2		

‡ *See Pg. 27 for Policy on Physical Education.*
* *See Pg. 75 for General Studies requirements.*

Electrical Engineering

Harvey E. Rhody, Head

The cooperative five-year engineering program

The bachelor of science program in electrical engineering at RIT has been developed in direct response to the increasing diversity in talent and ■ training required of engineers by society. While providing a sound engineering core, the program offers significant opportunity for personalized curriculum planning. Individualized study plans may range from intense specialization to broad general coverage with ample opportunity for interdisciplinary activity in all cases. An integrated co-op work program adds to this flexibility to produce a mature graduate with well-developed academic and industrial perspectives.

The role of the engineer has been defined as "applying the laws of mathematics and the principles of science to the solution of practical problems." Within this definition, the content of the program and the sequence of courses are easily understood.

The first two years of the program are devoted to the mastery of those laws of mathematics and principles of science with an introduction to engineering fundamentals. After this basic groundwork has been covered, the third year begins the study of core electrical engineering subjects in circuit theory and electronics, along with some advanced mathematics. The fourth year continues this exposure to basic electrical engineering topics in electromagnetics, communications, controls, energy conversion, and advanced electronics.

The fifth and final year allows the student to specialize in areas suited to his or her professional interests. The professional electives may be taken, with the approval of the student's advisor, from courses offered by the Electrical Engineering Department, the College of Engineering and the College of Science. The free electives may be chosen from offerings anywhere in the Institute.

BS degree in Electrical Engineering

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	EEEE-201 Intro, to Electrical Engineering	4		
	SCHG-208, 209 General Chemistry for Engineers I, II	4		4
	SMAM-251, 252, 253 Engineering Calculus I, II, III	4	4	4
	SPSP-205, 206 General Physics I, II**		4	4
	* General Studies - Lower Division	4	4	4
	ICSP-220 Fortran Programming for Engineers		4	
	‡ Physical Education Elective	0	0	0
Second Year	EEEE-351 Circuit Analysis 1			4
	EMEM-331, 332 Mechanics I, II	4		4
	SMAM-305 Calculus IV	4		
	SMAM-306 Elementary Differential Equations		4	
	SMAM-328 Engineering Mathematics			4
	SPSP-207 General Physics III**	4		
	SPSP-314, 315 Introduction to Modern Physics I, II		4	4
	* General Studies - Lower Division	4	4	
	EEEE-340 Intro, to Digital Systems		4	
	‡ Physical Education Elective	0	0	0
Third Year		F/W		S/SR
	EEEE-352, 353 Circuit Analysis II, III	4		4
	EEEE-430 Linear Systems			4
	EEEE-441, 442 Electronics I, II	4		4
	SMAM-351 Probability and Statistics			4
	SMAM-420 Complex Variables	4		
	* General Studies - Lower Division	4		
Fourth Year	EEEE-531 Energy Conversion	4		
	EEEE-471, 472 Electric and Magnetic Fields I, II	4		4
	EMEM-431 Thermodynamics			4
	EEEE-643 Digital Electronics	4		
	EEEE-634 Intro, to Communication Systems	4		
	EEEE-613 Intro, to Classical Controls			4
	* General Studies - Upper Division			5
Fifth Year	Professional Elective	4		4
	Professional Elective	4		4
	Free Elective	4-5		4-5
	* General Studies - Upper Division	5		5

‡ See Pg. 27 for Policy on Physical Education.
** See Pg. 75 for General Studies requirements.*
*** The University Physics sequence (SPSP-311, 312, 314) may be taken by those students who desire a more intensive course and who have the necessary background in mathematics.*

In today's world, engineering decisions are rarely taken in a vacuum but rather within an ethical and socio-economic framework. For this reason, spread throughout the curriculum are general studies courses which permit students to increase their understanding of this decision framework and to improve their ability to communicate effectively.

Professional Electives in Electrical Engineering	Quarter Credit Hours
EEEE-532 Electrical Machines.	*4*
EEEE-535 Introduction to Power Electronics	*4*
EEEE-536 Motor Applications and Control.	*4*
EEEE-614 Design of Controls System	4
EEEE-621 Transmission Propagation and Waves	*4*
EEEE-645 Special Semiconductor Devices	4
EEEE-650 Introduction to Logic and Switching	4
EEEE-665 Microcomputer Systems 1	4
EEEE-666 Microcomputer Systems II	4
EEEE-670 Introduction to Microelectronics	4
EEEE-671 Hybrid Microelectronics	4
EEEE-672 Optical Devices and Systems	4
EEEE-674 Fiber Optics: Theory and Applications	*4*
EEEE-675 Analog/Hybrid Computation	4
EEEE-6761.C. Processing Laboratory	4
EEEE-677 Digital Filters and Signal Processing	4
EEEE-679. Active and Passive Filters	4
EEEE-687 Power Systems Analysis	4
EEEE-693 Digital Data Communications	4
EEEE-695 Introduction to Audio Engineering	4
EEEE-696 Communication Circuit Design	4

Engineering Science transfer program

A powerful force in current engineering education is the emergence of the community college offering two-year programs in engineering science leading to the associate in science degree. In New York State these programs have resulted from the combined efforts of educators from both public and private institutions, and from both community colleges and major universities. Accordingly these programs represent and provide the general footing upon which engineering education must be based. The electrical engineering program at RIT is sufficiently related to these programs that transfer is possible and encouraged directly into the third year of the RIT curriculum, with a full two years' credit granted to the holders of an accredited AS degree in engineering science. Transfer students should see page 27 for policy on physical education.

AAS Transfer Program

Dr. Kenneth Hsu, Coordinator

In addition to the transfer of students holding the AS degree in engineering science, the Electrical Engineering Department at RIT has a long and rewarding history of students transferring into electrical engineering from the successful completion of AAS programs in electrical technology at community colleges. A specialized prbgram for these students is available in our AAS Transfer Program. This program is unique within the State of New York. It provides a clearly defined avenue to the bachelor of science degree for holders of the AAS degree in electrical technology.

Incoming students are brought to the campus in the summer (fourth) quarter immediately following their AAS program. On the basis of personal interviews with faculty members from mathematics, computer science, and electrical engineering, an individual program is designed for each AAS transfer student. The objective is to use this initial summer quarter to bring the students to the point where the ^remainder of their bachelor of science program can be constructed from existing, regularly scheduled Institute courses. Beyond this intial summer quarter, the AAS transfer student follows a co-op work plan leading to the bachelor of science degree at the end of his or her third academic year at RIT. Professional and free elective opportunities are also provided in this plan for the expression of individual student interests.

BS degree in Electrical Engineering
AAS Transfer Program

Year	This is a "typical" curriculum for a student, with an AAS degree, who transfers to RIT's Electrical Engineering Department with 1 year of engineering calculus	Quarter Credit Hours: Fall	Winter	Spring	Summer
t	EEEE-351 Circuit Analysis I				4
	* General Studies (Lower Division)				4
	ICSP-220 Fortran Programming for Engineers				4
	SMAM-305 Calculus IV				4
third Year	EEEE-352,353 Circuit Analysis II, III	Co-op	4		4
	EEEE-430 Linear Systems		/		4
	EEEE-441, 442 Electronics I, II		4		4
	SMAM-306 Differential Equations		4		
	SMAM-328 Engineering Mathematics				4
	SPSP-314 Modern Physics		4		
	‡ Physical Education		0		
Fourth Year	EEEE-471,472 Electromagnetic Fields I, II	Co-op	4	4	
	EEEE-531 Energy Conversion		4		
	EEEE-643 Digital Electronics		4		
	EMEM-431 Thermodynamics				4
	* General Studies - Lower Division		4		
	•General Studies - Upper Division				5
	SMAM-351 Probability & Statistics				4
	‡ Physical Education		0		
Fifth Year	Professional Elective	Co-op	4	4	
	Professional Elective			4	
	EMEM-331, 332 Mechanics I, II		4	4	
	* General Studies - Upper Division		5	5	
	SMAM-420 Complex Variables		4		
	‡ Physical Education		0		

All AAS *transfer students will be required to take a minimum of 115 quarter credit hours at RIT, minus applicable transfer credits*
AAS transfer students have Co-op *during Fall and Spring quarters.*
‡ See Pg. *27 for Policy on Physical Education.*
* See *Pg. 75 for General Studies requirements.*
t *Summer prior to third year.* <

Industrial Engineering

Richard Reeve, Head

Industrial engineering differs from other branches of the engineering profession 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 with people as well.

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 skill in the mathematical and physical science, 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 modeling and applications, management systems, and manufacturing processes. Through the use of professional and free electives the I.E. student, in consultation with his/her advisor, is able to build a minor concentration of study in Business, Mechanfcal Engineering, Electrical Engineering, Computer Science, and related fields.

BS degree in Industrial Engineering

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	EIEI-201 Introduction to Industrial Engineering	4		
	EIEI-202 Computing for Industrial Engineers		4	
	SCHG-208, 209 General Chemistry for Engineers I, II	4		4
	SMAM-251, 252, 253 Engineering Calculus I, II, III	4	4	4
	SPSG-205, 206 General Physics I, II		4	4
	* General Studies - Lower Division	4	4	4
	‡ Physical Education Elective	0	0	0
Second Year	EMEM-331 Mechanics I (Statics)	4		
	EMEM-332 Mechanics II (Dynamics)			4
	SMAM-305 Engineering Calculus IV	4		
	SMAM-306 Elementary Differential Equations		4	
	SMAM-308 Engineering Mathematics			4
	SPSG-207 General Physics III	4		
	EMEM-343 Materials Processing		4	
	EMEM-344 Materials Science			4
	Science Elective		4	
	* General Studies - Lower Division	4	4	4
	‡ Physical Education Elective	0	0	0
Third Year		F/W		S/SR
	EIEI-420 Work Measurement & Analysis I	4		
	EIEI-520 Engineering Economy	4		
	EIEI-481 Management Theory & Practice	4		
	SMAM-351, 352 Introduction to Probability & Statistics	4		4
	EIEI-415 Human Factors I			-4
	EIEI-401 Introduction to Operations Research I			4
	EIEI-422 Systems & Facilities Planning			4
Fourth Year	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		
	** Professional Electives	4		4
	* General Studies - Upper Division			5
Fifth Year	EIEI-530 Engineering Design	4		
	EI EI-560 Project Design			4
	** Professional Elective	4		4
	* General Studies - Upper Division	5		5
	Free Elective	4		4

***At least one professional elective must be selected from the following courses: EMEM-431 Thermodynamics; EMEM-415 Fluid Mechanics I; EEEE-461, 462 Electrical Engineering I, II.*
‡ See *Pg. 27 for Policy on Physical Education.*
** See Pg. 75 for General Studies requirements.*

Careers

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

Balance rather than specialization has allowed our graduates to pursue varied career paths. Examples of this diversity, along with the role that an industrial engineer might function within, are reflected through the following partial listing of recent industrial engineering co-op assignments.

1. Hospitals
   a. improve efficiency of a patient therapy department
   b. optimal patient scheduling for physicians
   c. establishment of a medical peer review system
   d. establishment of outpatient clinic staffing levels

2. Manufacturing industries
   a. product life studies
   b. layout of new and existing work
   c. design and implementation of an information system
   d. investigation of production processes involved in cleaning carbide dies
   e. economic investigation-new versus repaired breakdown analysis
   f. investigation of waiting lines in connection with a product line
   g. investigation of delivery service which involved scheduling, route modification, and material handling
   h. assisted in setting up a production control monitoring board
   i. computer programming relating to pricing policies, blending problems, and truck scheduling
   j. downtime studies of various operations using time study and work sampling
   k. development and computerization of a forecasting model

Transfer programs

Transfer programs for industrial engineering students are arranged on an individual basis. This allows a student to build an industrial engineering program which best takes into account his or her previous education and work experience. Students completing an AAS in engineering science normally receive credit for the first two years and start their program at RIT with the third year class.

Further information

If you are interested in learning more about the opportunities within industrial engineering and/or the nature of the cooperative work assignments in industrial engineering, write to the department for further information.

Mechanical Engineering

Bhalchandra V. Karlekar, Head

Mechanical engineering is perhaps the most comprehensive of the engineering disciplines, with the mechanical engineer's interests ranging from the design of missile systems to the design of energy efficient systems. The spectrum of professional activity for the mechanical engineering graduate runs from research through development and design 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 first two years of the undergraduate program are devoted to an intensive study of mathematics, physics, chemistry, and mechanics—the basic tools of the engineer—and to a thorough grounding in the humanities. The final three years of the program integrate the cooperative work experience with the professional subject matter of the mechanical engineering disicipline.

• In the fourth and fifth years, the mecahnical engineering student gets considerable backgrounds design. This is accomplished with two sets of courses—Group I and Group II. Each student takes at least three courses from Group I and at least two from Group II. Each Group I course has two of its four credit hours devoted to design. Group II courses are entirely design—four credit hours each.

In consultation with his or her academic advisor, each student also selects two elective courses. These may be other undergraduate or graduate courses in mechanical engineering or courses offered by other colleges within RIT. By appropriate selection of Group I courses, Group II courses, and Elective courses a student may tailor his or her program to a specific area of interest.

The Mechanical Engineering Department is staffed to offer professional courses in the areas of thermal systems, applied mechanics, manufacturing, environmental science, systems analysis, and materials science. The laboratories of the department are equipped to provide extensive experimentation in these areas and students are encouraged to pursue independent research in addition to that required in their programs.

Transfer programs

The Mechanical Engineering Department at RIT has a long-standing tradition of admitting graduates from two-year community college programs in engineering science and in engineering technology. The addition of these transfer students in significant numbers to our regular undergraduate students has provided an added dimension and a uniqueness to the RIT engineering program.

The AS graduate in engineering science with above average scholastic achievement can generally anticipate entering the BS program in mechanical engineering as a regular third-year student. In a few cases it may be necessary to alter one or two courses in the program to accommodate differences in the programs of preparation in the first two years. However, these changes are generally minor.

The AAS graduate in mechanical technology who has demonstrated outstanding achievement should seriously consider transfer to a BS program in mechanical engineering as one alternative for continuing formal education. Because the basic philosophies underlying the technology programs and the engineering programs are significantly different, the AAS graduate in technology requires a somewhat special program to adapt his or her previous educational experience to the BS program in engineering. Recognizing that no single program of study can effectively integrate all mechanical technology graduates into the engineering curriculum each qualified transfer student is given a specific program of study that best meets his or her career goals, satisfies the basic accrediting requirements for the BS degree, provides a meaningful cooperative work experience, and permits the student to fulfill the degree requirements in a reasonable , period of time.

Extended day schedule

The extended day schedule is offered in the late afternoon and early evening hours. The schedule is designed for those who already have an AS (Engineering Science) degree, are presently working and who seek an accredited BSME degree. The requirements under this schedule are exactly the same as the day schedule. Further details can be obtained by contacting the Mechanical Engineering office.

Combined five-year BS/MS degree program

In addition to the bachelor of science and master of science degree programs described under the section entitled "College of Engineering," 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 a minimum of 225 quarter credit hours. After completing this requirement, the student is awarded the BS and MS degrees simultaneously. Admission into the program is based on the student's cumulative grade point average, which must be at least 3.0, letters of recommendation from the faculty, and a personal interview by a departmental committee. All students in the program are required to maintain a cumulative grade point average of at least 3.0. Further information regarding this program can be obtained from the Department of Mechanical Engineering.

A transfer student who has completed one quarter at RIT and who has achieved a cumulative grade point average of at least 3.0 may apply for admission into the five-year combined BS/MS degree program.

Course description
For a complete outline of courses offered at RIT, please request the Course Description catalog from the Admissions Office.

Group I Courses
EMEM-694 Stress Analysis
EMEM-672 Dynamics of Machinery
EMEM-635 Heat Transfer II
EMEM-652 Turbomachinery
EMEM-658 Engineering Vibrations
EMEM-601 Alternative Energy Sources

Group II Courses
EMEM-632 Advanced Mechanical Systems Design
EMEM-665 Thermal Fluid Design
EMEM-620 Optimal Design
EMEM-625 Creative Design

Elective Courses
Gas Dynamics
Advanced Thermodynamics
Advanced Strength of Materials
Refrigeration and Air Conditioning
Engineering Economy
Patent Law
Graduate courses
Courses from other colleges

BS degree in Mechanical Engineering

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	SMAM-251, 252, 253 Calculus I, II, III	4	4	4
	SCHG-208, 209 General Chemistry for Engineers I, II	4		4
	EMEM-201 Intro, to Mechanical Engineering Graphics	4		
	SPSP-205, 206 General Physics I, II		4	4
	EMEM-343 Materials Processing		4	
	* General Studies - Lower Division	4	4	4
	‡ Physical Education Elective	0	0	0
Second Year	EMEM-366 Statics	4		
	EMEM-337, 338 Strength of Materials I, II		4	4
	SPSP-207 General Physics III	4		
	SMSM-305 Calculus IV	4		
	SMAM-306 Differential Equations		4	
	EMEM-340,341 Engineering Communications I & II		4	
	* General Studies - Lower Division	4	4	
	EEEE-461 Electrical Engineering I			4
	SMAM-318 Intro, to Part. Dif. Eq			4
	EMEM-344 Materials Science			4
	‡ Physical Education Elective	0	0	0
Third Year	-	F/W		Sp/Su
	EMEM-413,414 Thermodynamics I, II	4		4
	EEEE-462 Electrical Engineering II	4		
	EMEM-437 Introduction to Machine Design	4		
	* General Studies - Lower Division	4		
	EMEM-415 Fluid Mechanics I			4
	EMEM-439 Dynamics I			4
	EMEM-440 Numerical Modeling			4
Fourth Year	EMEM-514 Heat Transfer I	4		
	EMEM-543 Dynamics II	4		
	EMEM-516 Fluid Mechanics II	4		
	SPSP-314 Modern Physics	4		
	EMEM-501 Mechanical Engineering Laboratory			4
	EMEM-544 Dynamics of Phys. Systems I			4
	Group I course			4
	•General Studies - Upper Division			4
Fifth Year	Group I courses	4		4
	Group II courses	4		4
	* Genera) Studies - Upper Division	4		4
	Elective courses	4		4
	General Studies - Senior Seminar			2“

‡ *See Pg. 27 for Policy on Physical Education.*
* *See Pg. 75 for General Studies requirements.*
** *This course can also be taken during Fall or Winter.*

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Microelectronic Engineering

This year the College of Engineering is proud to introduce its undergraduate degree program in microelectronic engineering, believed to be the first in the nation. Offered in conjunction with the College of Graphic Arts and Photography and the College of Science, the new five-year program will emphasize the photolithographic aspects of microelectronic processing. It will provide the broad interdisciplinary background in optics, chemistry, device physics, computers, electrical engineering, and statistics necessary for entry into the microelectronic industry.

Students in the program will have hands-on experience in the processing of integrated circuits, the vital component in almost every advanced electronic product manufactured today. The nationwide shortage of microelectronic engineers grows by 400 a year and is expected to total 2,000 by 1985. RIT graduates in this program will be prepared to enter industry immediately after graduation or to go on to advanced work in graduate school.

Developed with the assistance of many national corporations, the microelectronic engineering degree curriculum strongly reflects RITs philosophy of quality education for careers. The program offers an unparalleled opportunity to prepare for professional challenge and success in one of the leading technologies of our time.

BS degree in Microelectronic Engineering

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	SMAM-251, 252, 253 Calc. I, II, III	4	4	4
	SCHC-211,212 Gen. Chem.	3	3	
	SCHO-230 Organic Chemistry			3
	SCHG-205, 206, 207 Chem. Lab. I, II, III	1	1	1
	AMCR-210 Intro, to Microelectronics	2		
	PPHS-205 Ph. Sci. for Eng. I	2		
	SPSP-311,312 Univ. Phys. I, II		4	4
	SPSP-371, 372 Phy. Lab. I, II		1	1
	'General Studies	4	4	4
	‡ Phys. Ed	0	0	0
Second Year	SMAM-305 Calc. IV	4		
	SMAM-306 Diff. Equations		4	
	SMAM-328 Eng. Math			4
	SPSP-313 Univ. Phys. III	4		
	SPSP-314 Mod. Phys		4	
	SPSP-315 Intro. Semi. Phys			4
	SPSP-373 Phys. Lab III	1		
	PPHS-433, 434 Statistics I, II	4	4	
	ICSP-220 Fortran		4	
	AMCR-3401.C. Technology			2
	PPHS-207 Ph. Sci. for Eng. II			2
	EEEE-351 Circuit Anal. I			4
	* General Studies	4		
		0	0	0

‡ *See Pg. 27 for Policy on Physical Education.*
* See *Pg. 75 for General Studies requirements.*

BS degree in Microelectronic Engineering

Year		Quarter Credit Hours: Fall, Winter	Spring, Summer
Third Year	EEEE-352 Circuit Analysis II	4	
	EEEE-441, 442 Electronics I, II	4	
	AMCR-440 Linear Systems		4
	PPHS-541 Fundamentals of Optics	4	4
	PPHS-543 Optical Engineering		4
	•General Studies	4	4
Fourth Year	EEEE-643 Dig. Elect	4	
	EEEE-665 Processors		4
	AMCR-530, 540 EM Fields I, II	4	4
	AMCR-560 Device Physics	4	
	PPHS-571, 573 Elect. Chem. I, II	4	4
	•General Studies		4
Fifth Year	AMCR-640 Elect	4	
	PPHS-441 Adv. Lithography	4	
	PPHS-575 Elect. Chemistry III	4	
	AMCR-6501.C. Proc. Lab		4
	AMCR-630 Elect. Chemistry IV		4
	AMCR-660 Sem./Res		2
	PPHS-660 Sem./Res		2
	•General Studies	4	4
	* General Studies Seminar		2

* See *Pg. 75 for General Studies requirements.*

College of Fine and Applied Arts

Robert H. Johnston, Dean

The College of Fine and Applied Arts offers programs in the arts and crafts through curricula in the School of Art and Design and the School for American Craftsmen. Concentrations, or majors, in the School of Art and Design are given in graphic design, industrial and interior design, painting, printmaking and medical illustration. In the School for American Craftsmen concentrations are given in ceramics and ceramic sculpture, glass, metalcrafts and jewelry, weaving and textile design, and woodworking and furniture design.

The studies in the two schools of the college express a common educational ideal: the conviction that technical competence provides the most satisfactory foundation for the expression of creative invention. However, the mastery of techniques is seen as a means, not an end; the end of education in the arts is the exercise of creative imagination.

Resources

The equipment and studios of the School of Art and Design are superior in every respect. A comprehensive art library of source material and an outstanding collection of slides are available for reference; and instructional films and other visual aids are utilized. Exhibitions, held in the Bevier Gallery, feature the work of contemporary painters, designers, and graphic artists, as well as work by faculty and students. Exhibition space in the Bevier Gallery extends the classroom into the public arena. In this gallery the focus is to bring attention to excellence in ideas, concepts, and aesthetic endeavors through the arts, crafts, and design expressions. Openings are planned for students to meet the artists. The Student Honors Show hangs through the summer and the opening of classes in September. Professional designers, painters, photographers, and graphic arts personalities are invited to lecture and give demonstrations. Rochester industry and commerce often sponsor pilot programs which are carried on under faculty supervision.

An added resource is the community of Rochester itself, with its many opportunities for educational, cultural, and social enrichment. Exhibitions, programs in the performing arts, and lectures are available to provide extracurricular learning for the interested student.

The resources of the School for American Craftsmen available for the student are exceptional: excellent equipment and facilities and a unique and challenging program combining learning and doing.

The faculty in the College of Fine and Applied Arts are productive in the fields in which they teach, and the honors and prizes they have won are a reflection of the prestige they enjoy as artists, designers and craftspeople. They have been broadly educated in Europe and the United States, and *ire* well acquainted with contemporary practice in their art design or craft. While the teaching staff is composed of professional artists and craftspeople, able to practice their art or craft with distinction, they are, as well, interested and sympathetic teachers and counselors.

The Wallace Memorial Library is particularly strong in the extensive list of contemporary periodicals in design, arts and crafts available for study and research.

Accreditation

The programs of study offered in the College of Fine and Applied Arts are fully accredited: courses of study have been approved by the New York State Department of Education, the Middle States Association of Colleges and Secondary Schools, and the National Association of Schools of Art. The college is a charter member institution of the National Association of Schools of Art and Design.

Plan of education

The programs in the College of Fine and Applied Arts are two and four years in length and lead to the associate in applied science and the bachelor of fine arts degrees. Students attend school for three quarters, each eleven weeks in length, during the school year. Advanced study at the graduate level is offered which leads to the master of fine arts and the master of science for teachers degrees. The former may be earned normally in two years, the latter in one. Both graduate degrees may be earned in programs carried during the regular and summer studies, depending on admission and department program. Among the programs offered for the master of science for teachers degree is a concentration in art education designed for those holding the bachelor of fine arts degree (or a bachelor of arts degree with an art major) which leads to the graduate degree and permanent certification to teach in the public schools of the State of New York. This is a September start.

Those interested in graduate study should request a copy of the Graduate Bulletin, which describes the degrees offered, the programs of study, and the procedures governing admission.

Course descriptions

For a complete outline of courses offered at RIT, please request the Course Description catalog from the Admissions Office.

Transfer program

The College of Fine and Applied Arts offers a summer transfer program for art and design majors. Successful completion of this program qualifies students for second year standing in the following options: graphic design, industrial and interior design, painting, printmaking or medical illustration. Designed especially, though not exclusively, for graduates of community colleges, this transfer program is open to students with:

1. good academic standing at another college,
2. one or two years of college, with a heavy emphasis in studio art (minimum of 12 semester or 18 quarter credit hours).
3. presentation of an acceptable art portfolio demonstrating strength in one or more areas.

Summer Session

The College of Fine and Applied Arts offers a program of summer study in both the School or Art and Design and the School for American Craftsmen that is arranged for designers, teachers, and craftspeople. Both basic and advanced workshops are given, as well as graduate courses. Those interested should write the director of the Summer Session for information. v

Junior year abroad '%

The School for American Craftsmen, in cooperation with the Scandinavian Seminars, offers a junior year abroad in the field of the crafts. This permits certain well-qualified students to

spend their third year of study in one of the Scandinavian countries, after which they return for a fourth year of study at RIT. Full credit for the year of satisfactory study overseas will be granted toward the BFA degree. Information on the junior year abroad program can be obtained by writing the dean, College of Fine and Applied Arts.

Policy regarding student work
The College of Fine and Applied Arts reserves the right to retain student work for educational use or exhibition for a period of time to exceed one and one-half quarters beyond the year the object has been made. The college also reserves the right to select an example or examples for its permanent collection. In such cases, where work is selected for the permanent collection the material cost only will be paid by the college. It is an honor to have one's work in the permanent collection of the College of Fine and Applied Arts.

Attendance regulations
The programs of the college utilize the studios and shop experiences 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, and to complete assignments, will be taken into consideration in grading.

Professional approach
Educational programs in the College of Fine and Applied Arts are related to the kinds of art services which the society needs, and based on teaching projects which can be made realistic and meaningful to the student. The problems duplicate, as far as possible, those found in the working situation after graduation. The courses are full-time, instruction is largely on an individual basis, and full opportunity is given for personal development. Exhibitions, lectures, and field trips add breadth and variety to the formal programs of study.

A unique feature of the educational programs offered in the College of Fine and Applied Arts is its emphasis on the professional approach to the understanding and solution of problems. Instructional services provided by a professionally experienced and oriented faculty, plus the well-equipped shops and studios designed with the needs of professional artists, designers or craftspeople in mind, further emphasize the practical character of the program of instruction.

Students are asked to demonstrate a professional attitude and purpose: to apply themselves to the requirements of the program, to cooperate in the fulfillment of its goals, and to assume some responsibility for their educational developmental through independent work.

Relationship with other RIT schools
Educational facilities of a rare sort in the arts are available to the student in the School of Art and Design: the superior resources of the School of Photographic Arts and Sciences and the School of Printing. A program of instruction which emphasizes production, as well as design of the crafts, gives a unique character to the educational program in the School for American Craftsmen.

The School of Art and Design, in addition to its major concentrations, offers courses in drawing, design, and art electives required in the curriculum. Craft electives are taught by the School for American Craftsmen. Students may elect, with advising and as space is available, elective courses in the college; these complement their programs and interests.

Portfolio Guidelines For Undergraduate Applicants

The following guidelines are presented for all undergraduate students (including transfers) applying to the College of Fine and Applied Arts. Presentation of the portfolio is one of the requirements used in totally assessing the performance and academic capabilities of the applicant. 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 8V2" x 11" vinyl slide protector page and identify.

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

School for American Craftsmen applicants should submit samples of work in the area of their selected craft major.

2. All portfolio work must be submitted as slides for committee review. Original work is not accepted.

3. Slides will be returned by the College of Fine and Applied Arts only when return postage is enclosed.

4. While every precaution will be taken to ensure proper care and handling, the Institute assumes no responsibility for loss or damage to slides.

5. Identify slides by name and address.

6. Please send portfolio and all other application materials to:

Rochester Institute of Technology
Office of Admissions
One Lomb Memorial Drive
Box 9887
Rochester, New York 14623
Telephone: (716) 475-6631

Visits to the campus and College of Fine and Applied Arts are encouraged. Please contact the Admissions Office.

Admission at a Glance: College of Fine and Applied Arts

This college is composed of the School of Art and Design and the School for American Craftsmen, with approximately 700 students.

Students are urged to develop the highest technical abilities as well as personal creative expression. The faculty includes many of the nation's most outstanding and creative artists, designers and craftsmen. Students learn by working in the studios equipped with excellent facilities. Most graduates earn their living utilizing their RIT background.

Graphic Design-Graphic Design has many facets. A visual problem-solver at the core, the graphic designer is concerned with achieving the highest level of information and aesthetic quality in the work. Graphic designers work for advertising, corporate design offices, government, magazines, industrial firms, printers, museums and other organizations.

Fine Arts-Students concentrate in printmaking, painting or medical illustration and take other art electives. They prepare as professional artists and have exploratory potential for later careers in teaching. Performance levels are developed that enable graduate degree studies in studio concentrations. Medical illustrators enter research areas in hospitals and publishing and teaching institutions. Degrees granted: AAS-2* year; BFA-4 year.

Industrial and Interior Design-The program in industrial and interior design prepares students for careers in the expanding professions of industrial design and interior design. Artistic talent and analytical thought are applied to the design of products and interior spaces. Practical design projects develop aesthetic understanding, technical abilities, sensitivity to human needs and awareness of the social consequences of the designer's efforts. Degrees granted: AAS-2 year; BFA-4 year.

Ceramics and Ceramic Sculpture—Graduates are self-employed as designer craftsmen, designers or technicians in industry, teachers, or administrators of craft programs. Professional competencies are developed in such areas as fabrication, chemistry and application of glazes, organization of ceramic shop for efficient production, ceramic raw materials, kiln types, fuels and construction. Degrees granted: AAS-2 year; BFA-4 year.

Glass—Graduates are self-employed designer craftsmen, designers or technicians in industry, teachers, or administrators of craft programs. Professional competencies are developed in organization and construction of the glass studio, functions and care of tools, analysis of glass as a material, glass fabrication, glass design, engraving, cold-working techniques, mixing of batch glass, color and fuming techniques. Degrees granted: AAS 2-year; BFA-4 year.

Metalcrafts and Jewelry—Graduates are self-employed designer craftsmen, designers or technicians in industry, teachers, or administrators of craft programs. Professional competencies are developed in use of equipment, metalcrafts, techniques and production in various metals, raising, forging, forming, planishing, enameling, design of jewelry, flatware, holloware. Degrees granted: AAS-2 year; BFA-4 year.

General Information on RIT's admission requirements, procedures and services is included in detail on pages 15-16 of this Bulletin.

* *Medical illustration students receive an AAS degree in painting.*

Weaving and Textile Design—Graduates are self-employed designer craftsmen, designers or technicians in industry, teachers, or administrators of craft programs. Professional competencies are developed in such areas as fabric design, analysis of equipment and problems, pattern drafting, analysis of fibers, use of eight to ten harness looms, techniques of weaving, design within price range and use. Degrees granted: AAS-2 year; BFA-4 year.

Woodworking and Furniture Design—Graduates are self-employed designer craftsmen, designers or technicians in industry, teachers, or administrators of craft programs. Professional competencies are developed in such areas as functions and care of woodworking tools, wood as a material, techniques of wood fabrication, design, layout, construction analysis, veneering and finishing, estimating and production. Degrees granted: AAS-2 year; BFA-4 year.

Double Crafts Major-Requests for the double crafts major are reviewed after successful completion of two years of study in one major concentration.

Freshman Admission Requirements			Transfer Admission with junior standing	
Program[1]	Required High School Subjects*	Desirable Elective Subjects	Two Year College Programs	Desirable Minimum Grade Point Average
Graphic Design	1 year any mathematics; 1 year any science	Art courses: portfolio of original artwork required	Art, design or commercial art. Admission and class standing determined in part by evaluation of required portfolio. Where student lacks sufficient art credit, a summer transfer program is offered at RIT.	2.0
Fine Arts -painting -printmaking -medical illustration	1 year any mathematics; 1 year any science; 2 years science for medical illustration	Art courses: portfolio of original artwork required, examples of nature for medical illustration	Art or commercial art. Admission and class standing determined in part by evaluation of required portfolio Where a student lacks sufficient art credit, a summer transfer program is offered at RIT. Space in medical illustration is limited at admission time, and a special portfolio is required.	2.0
Industrial and Interior Design	1 year any mathematics; 1 year any science	Art courses; portfolio of original artwork required	Art or commercial art. Admission and class standing determined in part by evaluation of required portfolio. Where student lacks sufficient art credit, a summer transfer program is offered at RIT.	2.0
Ceramics and Ceramic Sculpture	1 year any mathematics; 1 year any science	Art or industrial courses; portfolio of original ceramics work required	Transfer as a junior is uncommon, as comparable programs are not generally available at other colleges. Space in this program at RIT is limited.	2.0
Glass	1 year any mathematics; 1 year any science	Art or industrial courses; portfolio of original glass work required	Transfer as a junior is uncommon, as comparable programs are not generally available at other colleges. Space in this program at RIT is limited.	2.0
Metalcrafts and Jewelry	1 year any mathematics; 1 year any science	Art or industrial courses; portfolio of original metals work required	Transfer as a junior is uncommon, as comparable programs are not generally available at other colleges. Space in this program at RIT is limited.	2.0
Weaving and Textile Design	1 year any mathematics; 1 year any science	Art or industrial courses; portfolio of original textiles work required	Transfer as a junior is uncommon, as comparable programs are not generally available at other colleges. Space in this program at RIT is limited.	2.0
Woodworking and Furniture Design	1 year any mathematics; 1 year any science	Art or industrial courses; portfolio of original wood work required	Transfer as a junior is uncommon, as comparable programs are not generally available at other colleges. Space in this program at RIT is limited.	2.0

[1] *About one-third of the courses in each program consist of electives in social science, literature and humanities.*
* *Four years of English are required in all programs (except where state requirements differ).*

School of Art and Design

The objectives of the programs 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 design and execution of projects in communication design, environmental design, painting, printmaking 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 assist students in finding the means to enjoy them; and to cooperate with the College of General Studies in helping students grow culturally and socially, and to inspire them to make their maximum contributions as creative artists and citizens. Aesthetic and applied , concepts are brought together.

Electives—
FADC-411, 412, 413 Graphic Design
FADC-511, 512, 513 Graphic Design
FADC-520 Professional Design Business Practices
FADD-320 Graphic Visualization
FADD-311, 312, 313 Industrial and Interior Design
FADP-320 Color
FADP-321, 322, 323 Illustration
FADP-411, 412, 413 Drawing and Painting
FADP-511,512, 513 Painting
FADR-411, 412, 413 Printmaking
FADR-511, 512, 513,Printmaking
FADS-411, 412,413 Sculpture
PSCC-251, 252, 253 Ceramics I
FSCG-251, 252, 253 Glass I
FSCM-251, 252, 253 Metalcrafts I
FSCT-251, 252, 253 Textiles I
FSCW-251, 252, 253 Woodworking I
PPHF-207, 208 Introduction to Filmmaking
PPHF-209 Introduction to TV
PPHG-207, 208, 209 Still Photography
PPRT-201, 202, 203 Typographical Composition

Art History; select two courses-
FSCF-300 History of Design
FSCF-310 History of Crafts
FSCF-320 History of Art Criticism
FSCF-330 Philosophy in Art
FSCF-340 Man and His Symbols
FSCF-350 Asian Art
FSCF-360'l8th and 19th Century Art
FSCF-370 20th Century Art
FSCF-390 Selected Topics

Graphic Design, Painting, Printmaking, Industrial and Interior Design majors

Year		Quarter Credit Hours Fall	Spring	Winter
First Year	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
	'General Studies	4	4	4
	‡ Physical Education Elective	0	0	0
Second Yearf	FSCF-225, 226, 227 Art and Civilization	3	3	3
	'General Studies	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)			
	***FADC-301,302, 303 Graphic Design	8	8	8
	***FADD-301, 302, 303 Industrial and Interior Design			
	—FADP-301. 302, 303 Painting			
	"FADR-301, 302, 303 Printmaking			
	See Note Below			
Third Year	FSCF-380 Contemporary Art (One quarter required; offered every quarter	3		
	o Art History Electives (select two)		3	3
	•General Studies	4	4	4
	Major (one) FADR-401, 402, 403 Printmaking			
	FADC-401, 402, 403 Graphic Design			
	FADP-401. 402, 403 Painting	6	6	6-
	FADD-401, 402,403 Industrial and Interior Design			
	** *Electives (one per quarter)*	3	3	3
Fourth Year	•General Studies	4	4	4
	Major (one) FADR-501. 502, 503 Printmaking			
	FADC-501, 502, 503 Graphic Design			
	FADP-501, 502, 503 Painting	9	9	9
	FADD-501, 502, 503 Industrial and Interior Design			
	** *Electives (one per quarter)*	3	3	3

† *Upon completion of the second year, the associate in applied science degree is awarded.*
v ‡ *See Pg. 28 for Policy on Physical Education.*
* *See Pg. 78 for General Studies requirements. Fine and applied arts students are required to take 20 qt. cr. of General Studies core curriculum. They are advised to select from the nine courses other than fine arts.*
** *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.*
*** *Core Electives-Introductory courses that are prerequisite to the respective third year major. FADC-301, 302, 303, required for entrance into Graphic Design major: FADD-301, 302, 303 for Industrial and Interior Design major: FADP-301, 302, 303, for Painting major and FADR-3Oh 302, 303 for Printmaking major. However, all three Core Electives are available as elective choices.*
o *Total of 18 quarter credits of Art History; Art and Civilisation and Contemporary Art required.*

NOTE: Beginning September 1982 students in their second year of study will select only two art courses. One will be a core prerequisite and the second course may be a core or an art elective. Core courses will be four credits each and meet for nine clock hours. Recommended program is two art core courses.

Programs
Major concentrations are offered in graphic design, industrial and interior design and the fine arts (painting, printmaking, medical illustration). Electives may be pursued, beginning in the second year, in painting, printmaking, industrial and 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 is a program that deals with systematic thinking, strong visual fundamentals, aesthetic/informational requirements, problem-solving and methodology. New communications technologies such as computer graphics are utilized. The program in Industrial and Interior Design prepares students for careers in the expanding professions of industrial design and interior design. Artistic talent and analytical thought are applied to the design of products and interior spaces. Practical design projects develop aesthetic understanding, technical abilities, sensitivity to human needs and awareness of the social consequences of the designer's efforts. *i*

The fine arts serve the student who is interested in concentrated study in areas of painting, printmaking, or medical illustration, and electives of additional art choices. Students emerging from this program are prepared as professional artists and have exploratory potentialities for later careers in teaching. An option within fine arts exists with concentration in medical illustration for a few further selected students, thus leading to work in health areas.

Medical illustration students will be taught Gross Anatomy through the University of Rochester during the Fall Quarter of the junior year. A tuition surcharge will be in effect that quarter.

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalog from the Admissions Office.

Medical illustration option
(CFAA portfolio and additional six drawings of natural forms, to be presented as slides, are required for admission.)

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	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
	•General Studies	4	4	4
	‡ Physical Education Elective	0	0	0
Second Yearf	FSCF-225, 226, 227 Art and Civilization	3	3	3
	•General Studies	4 -	4	4
	‡ Physical Education Elective	0	0	0
	"•FADP-311,312 Medical Illustration	3	3	
	***FADP-313 Medical Illustration			3
	SBIG-201 General Biology	4		
	SBIG-211, 212 Human Biology		4	4
	S Photography (A&D) for three quarters:			
	PPHG-207 Still Photography	3		
	PPHF-207 Introduction to Filmmaking		3	
	PPHF-209 Introduction to TV			3
Third Year	•General Studies	4	4	4
	FADP-421, 422, 423 Medical Illustration Applications	5	8	8
	Gross Anatomy (U of R)†	7		
	** Art Elective		3	3
Fourth Year	•GeneralStudies	4	4	6
	FADP-531, 532, 533 Advanced Medical Illustration	6	6	6
	Select One:			
	FADE-511, 5.12, 513 Design Applications	3	3	3
	FADC-511, 512, 513 Communication Design			
	** Art Elective (one per quarter)	3	3	3

** See Pg. 75 for General Studies requirements.*
*** Art Electives listed on previous page.*
**** Core courses that are prerequisite to the third year.*
***** 3 quarters of Still Photography may be substituted*
, † A tuition surcharge will be applied in this quarter.
‡ See Pg. 27 for Policy on Physical Education.
† Upon successful completion of the second year, the associate in applied science (fine arts—painting) degree is awarded.

The credit requirements for students admitted September 1981 in Fine Arts—Painting, Printmaking; Graphic Design; and Industrial and Interior Design programs are as follows:

	qtr. cr.
Required Major	84
Required Professional Electives	21
Open Electives	9
General Studies	50
Art History	18
Creative Sources	6
	191

Freshman Kit for art and design students is $260. There is an additional cost for supplies.

School For American Craftsmen

The objectives of the programs of study of the School for American Craftsmen 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, foster appreciation, not only of the crafts, but the related arts. The program strives to inspire the student to seek continual improvement through analysis and self-evaluation, and to cooperate with the College of General Studies 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 degree 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.

Craft Majors

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	FADF-201, 202, 203 Design	3	3	3
	FADF-205, 206, 207 Creative Sources	2	2	2
	FADF-261, 262, 263 Drawing	3	3	3
	* General Studies Electives	4	4	4
	Materials and Processes (one)			
	FSCC-200 Ceramics			
	FSCG-200 Glass			
	FSCM-200 Metalcrafts	5	5	5
	FSCT-200 Textiles			
	FSCW-200 Woodworking			
	‡ Physical Education Elective	0	0	0
Second Yearf	FSCF-225, 226, 227 Art and Civilization	3	3	3
	* General Studies Electives	4	4	4
	Materials and Processes (one)			
	FSCC-300 Ceramics			
	FSCG-300 Glass			
	FSCM-300 Metalcrafts	5	5	5
	FSCT-300 Textiles			
	FSCW-300 Woodworking			
	** *Electives (one per quarter)*	3	3	3
	‡ Physical Education Elective	0	0	0
Third Year	FSCF-380 Contemporary Art (one quarter required; offered every quarter)	3		
	oArt History Electives (select two)		3	3
	•General Studies Electives	4	4	4
	Materials and Processes (one)			
	FSCC-400 Ceramics			
	FSCG-400 Glass			
	FSCM-400 Metalcrafts	5	5	5
	FSCT-400 Textiles			
	FSCW-400 Woodworking			
	** *Electives (one per quarter)*	3	3	3
Fourth Year	'General Studies Electives	4	4	6
	Techniques and Thesis (one)			
	FSCC-500 Ceramics			
	FSCG-500 Glass			
	FSCM-500 Metalcrafts	8	8	8
	FSCT-500 Textiles			
	FSCW-500 Woodworking			
	** *Electives (one per quarter)*	3	3	3

† *Upon satisfactory completion of the second year, the associate in applied science degree is*

‡ See *X-27 for Policy on Physical Education.*

* *See Pg. 75 for General Studies requirements. Fine and Applied Arts students are only required to study 20 qt. cr. of General Studies core curriculum. They are advised to select from nine courses other than fine arts.*

** *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 concentration.

o *Total of 18 quarter credits of Art History; Art and Civilization and Contemporary Art required.*

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalog from the Admissions Office.

Electives—
FADC-411, 412, 413 Graphic Design
FADC-511, 512, 513 Graphic Design
FADC-520 Professional Design Business Practices (Spg Qtr)
FADD-320 Graphic Visualization
FADD-311,312, 313 Industrial and Interior Design
FADP-320 Color
FADP-321, 322, 323 Illustration
FADP-411, 412, 413 Drawing and Painting
FADP-511, 512, 513 Drawing and Painting
FADR-411, 412, 413 Printmaking
FADR-511, 512, 513 Printmaking
FADS-411, 412, 413 Sculpture
FSCC-251, 252, 253 Ceramics I
FSCG-251, 252, 253 Glass I
FSCM-251, 252, 253 Metalcrafts I
FSCT-251, 252, 253 Textiles I
FSCW-251, 252, 253 Woodworking I
PPHG-207, 208, 209 Still Photography

Art History; select two courses
FSCF-300 History of Design
FSCF-310 History of Crafts
FSCF-320 History of Art Criticism
FSCF-330 Philosophy in Art
FSCF-340 Man and His Symbols
FSCF-350 Asian Art
FSCF-360 18th and 19th Century Art
FSCF-370 20th Century Art
FSCF-390 Selected Topics

The credit requirements are

	ui.
Required Craft Major	87
Required Professional Electives	21
Open Electives	6
General Studies	50
Art History	18
Creative Sources	6

College of General Studies

Liberal Education in the Humanities and Social Sciences

Mary C. Sullivan, R.S.M., Dean

The College of General Studies provides each student with a • program of liberal education which develops his or her potential as an intellectually aware and responsible human being. It is, therefore, the foundation for the student's entire educational experience. As part of that broader experience which may be called the student's general education, this program of liberal education is distinguishable from the student's professional education in that its purpose is to nurture not specifically professional knowledge or skill, but each student's capacities as a thinking, creating, and responsible person. Thereby enriched, RIT students will be all the better prepared for their professions and their lives, for they will be able to understand and interpret the problems, as well as the personal and social illuminations, found in the study of the many and varied fields of human endeavor.

The program of the College of General Studies, in which all RIT students participate, aims to accomplish the following goals with and on behalf of each RIT student:

—To develop the student's ability to think rationally, to read critically, to speak and to write cogently and clearly;

—To develop the student's ability to analyze issues, to question assumptions, to investigate problems, and to seek solutions;

—To develop the student's understanding of aesthetic values and their relevaifce to life;

—To expand the student's intellectual horizons by acquaintance with the western heritage;

—To develop the student's awareness of how the past invariably affects the present and the future;

—To promote the student's understanding of our society and how it interrelates with and is indebted to other cultures, thereby liberating the student from a narrow provincialism;

—To acquaint the student with knowledge of the basic principles and dynamics of individual and group behavior in the many areas of human interaction;

—To develop the student's understanding of the nature of ethical values;

—To develop the student's awareness of the social, ecological, and ethical consequences of technology, and to foster a sense of responsibility to self and society;

—To 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 General Studies curriculum which offers each student the opportunity to acquire these abilities and understandings through courses in the humanities and social sciences. In addition to regular courses a student may engage in independent study. 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.

Included in the college are degree programs in criminal justice and social work, which are described later in this bulletin. The close involvement of these with the humanistic studies of the other General Studies divisions is an example of what the college is endeavoring to do throughout its curriculum, that is, to demonstrate the interrelation of all fields of learning.

The New General Studies Curriculum

The new curriculum of study in the humanities and social sciences which all RIT students will pursue in the College of General Studies may be understood by examining the following chart. Students in the various RIT associate and baccalaureate degree programs will complete this entire General Studies curriculum or a modification of it, as applicable to their particular degree programs. Faculty academic advisors in the College of General Studies and in the other colleges of the Institute will assist students in interpreting the General Studies curriculum as it applies to their particular degree program. The new General Studies curriculum as outlined here was approved in March 1981 and will be implemented for all RIT students beginning in September 1982. The ' curriculum consists of fourteen 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;
3. A disciplinary or interdisciplinary concentration of three advanced courses;
4. Three advanced electives;
5. The General Studies Senior Seminar and Project.

^Visually, the curriculum may be represented as follows:

In addition to English Composition, the specific Core Courses are:

Literature: required

Fine Arts: one required
- Fine Arts: Visual Arts
- Fine Arts: Musical Arts
- Fine Arts: Film Arts

History: one required
- History: Modern American
- History: Modern European

Philosophy; or Science, Technology and Values: one required
- Philosophy: Ethics y
- Philosophy: Critical Thinking
- Philosophy: Selected Issues
- Science, Technology, and Values

Social Sciences: two required
- Introduction to Economics
- American Politics, or
- Ideology and the Political Process
- Introduction to Psychology
- General Sociology, or
- Cultural Anthropology

The General Studies Curriculum

English Composition
4 credits

The Core Courses
6 foundation courses; 4 credits each

Psychology	Economics	Political Science	Sociology/ Anthropology	Philosophy or Science, Technology and Values	History	Literature	Fine Arts ♦

Social Science Requirements — Humanities Requirements

(Each student will choose 2 of the 4 courses) (4 courses)

3-course concentration with prerequisites, 4 credits each

concentration	concentration	concentration

The concentration may be in a disciplinary or interdisciplinary area.

3 electives, 4 credits each

elective	elective	elective

Senior Seminar and Project
2 credits

Concentrations

A concentration is a group of closely related advanced courses from which the students choose three. The students' liberal education is enhanced by such a concentration in the following ways:

1. Students achieve greater depth in learning because they have, where necessary, taken the prerequisities for these courses and because they benefit from the accumulated depth of the three-course concentration itself.
2. They achieve a kind of "minor" in an area of liberal education.
3. They are able to see cohesion among at least three of their advanced courses.
4. They are able to build on and to link new learning to their core courses.
5. They can develop more judgment and understanding in an area of the RIT or college goals.

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 an in-depth knowledge of the methods, problems and achievements of that mode of inquiry.
2. Interdisciplinary Concentrations:
   a. three interdisciplinary courses on a single broad theme or topic;
   b. three related courses from different disciplines each one of which speaks to some aspect of a common area, subject, or topic;
   c. a mixture of a. and b.

A concentration is composed of three courses chosen from the four to six courses that make up the concentration. The limited number of courses qualifying for the concentration increases the frequency with which they will be offered and the flexibility students will have in scheduling and registration.

The General Studies concentrations available to RIT baccalaureate students will be the following:

Disciplinary Concentrations: Prerequisites and the specific courses qualifying for each of the following disciplinary concentrations will be determined by the General Studies academic committees responsible for these areas of study. In each case, the student will choose three of the four to six courses that qualify for the concentration.

The Disciplinary Concentrations available to students are the following:

- Language Communications
- Economics
- American Artistic Experience
- History
- The Social Impacts of Science and Technology
- International Relations
- Literature
- Philosophy
- American Politics
- Psychology: Human Growth and Developnment
- Sociology: American Society in Transition

Interdisciplinary Concentrations:
A number of interdisciplinary concentrations are clustered around the goals of the Institute and the college. These concentrations involve in-depth study of a topic or an area believed to represent an important realm of interdisciplinary learning for educated persons. Each of these interdisciplinary concentrations will consist of four to six courses from which a student will choose three. The specific courses composing each concentration will be formulated by faculty working in close collaboration with one another so that the courses of the concentration are closely related.

The Interdisciplinary concentrations now available to students are the following:

Environmental Studies

Perspectives on Religion

Women's Studies

In the future additional Interdisciplinary Concentrations will be available.

Electives
The opportunity to choose three elective courses provides students with an element of choice in planning their General Studies program. Electives may be chosen from among core courses not previously taken, or concentration courses for which the student has the proper prerequisites, as well as from among those courses designated "elective,"

General Studies Senior Seminar and Project
The purposes of the Senior Seminar and Project are the following:'

- to give senior students the opportunity to prepare theses or projects that call for analysis and synthesis and for the application of their General Studies experience to major issues that may affect their professional careers;
- to provide seminars for all senior students on a general theme related to their required thesis or project;
- to provide an advanced experience of problem-solving and value-clarification.

The Senior Seminar will be designed and implemented on an annual basis by a Seminar Committee of faculty selected a year in advance by the dean and the staff chairpersons. The main focus of the Senior Seminar will be the formulation and direction of the senior theses or projects. In support of this the Seminar Committee may plan in advance a general theme for each academic year, and may choose related common texts to be read by the students in the Seminar; major lectures on topics related to the theme may also be scheduled.

The course will last one quarter and can be taken anytime in the senior year.

Selected faculty of the various colleges of the Institute may be invited to participate as consultants in the seminars.

Implementation of the New General Studies Curriculum

Fall 1982: Implementation of the entire curriculum except the Senior Seminar and Project.
Fall 1983: Implementation of the Senior Seminar and Project.

This implementation would apply to entering students (freshmen and transfers) as follows:

Students entering in:

Fall 1978: (Graduating Class of 1982*)
The former ("old") General Studies Curriculum** (courses as then prescribed) is required. If these students have not graduated by September 1982 they would still be expected to complete only the former curriculum and would have waiver of ***one*** credit for each remaining upper division elective they need to take. They will not take the Senior Seminar and Project.

Fall 1979: (Graduating Class of 1983*)
Same requirements as Fall 1978.
These students will receive a waiver of one credit on each upper division General Studies course they take in 1982-1983. They will not take the Senior Seminar and Project.

Fall 1981: (Graduating Class of 1985*)
Same requirements as Fall 1980.
These students are of course free and encouraged to choose General Studies lower division courses in the light of the new curriculum as applicable to their degree programs and as needed for the concentration of advanced courses they may later wish to pursue.

Fall 1982: (Graduating Class of 1986*)
The entire new General Studies curriculum will apply to these students, as this curriculum is applicable to their degree programs.

Registration
The courses of the College of General Studies are available to students registered in one of the colleges of the Institute. (Degree programs in social work and criminal justice are available to students through the School of Human Services in the College of General Studies, and are described on later pages of this section.)

It should be noted that beginning in Fall 1982 all courses except the Senior Seminar carry ***four quarter hours of credit.*** Further, all courses meet at least three scheduled class hours each week. The discrepancy between credit hours and class hours is designed to provide for carefully planned and extensive out-of-class assignments and projects. The purpose of this plan is to provide the student with opportunities for instructor-guided extended responsibilities beyond those normally found in a regular classroom situation.

The College of General Studies will enroll students who are not currently degree candidates. Individual programs will be developed for each student.

Diploma courses will not normally be used toward the completion of general studies requirements.

Faculty
The faculty of the College of General Studies 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 the student and continuing growth in their scholarly fields.

Summer Session
Under the auspices of the Institute Summer Session, the College of General Studies, upon sufficient demand, offers a number of courses in Language and Literature, Science and Humanities, and Social Science.

Information concerning courses to be offered can be obtained by contacting the director, Summer Session, or by requesting the Summer Session Bulletin from the College of Continuing Education or RIT Office of Admissions
One Lomb Memorial Drive
P.O. Box 9887
Rochester, New York 14623

College of General Studies: Human Service Degree Programs

Mary C. Sullivan, R.S.M., Dean

The School of Human Services

Social Work
Criminal Justice

Arnold J. Berman, Director

The School of Human Services in the College of General Studies offers two programs leading to the B.S. degree. They are Criminal Justice and Social Work.

Social Work-This program prepares students to assist individuals, families, groups and communities in the identification and solution of problems, with an awareness of social issues and services. A full-time, 20-week field instruction placement in a social work agency provides the student with an opportunity to relate academic learning to professional practice through relevant individual, group, family, and community experiences. Degree granted: BS-4 year.

Criminal Justice-The program is designed to prepare students for responsible positions in criminal justice and the security sector, as well as to provide continuing education for those professionals already employed in a variety of criminal justice agencies. The generic nature of the curriculum provides individual career tailoring and, through a field placement program, offers unique opportunities for practical on-the-job learning experiences. Degree granted: BS-4 year.

Freshman Admission Requirements			Transfer Admission with Junior Standing	
Program	Required High School Subjects	Desirable Elective Subjects	Two-Year College Programs	Desirable minimum G.P.A.
Social Work	English 4 years Mathematics 1 year Any Science 1 year	Social Sciences Humanities, e.g. History Government Economics	Junior standing is offered for an associate's degree in human services, criminal justice or in another appropriate major. Holders of liberal arts or other two-year degrees are also admitted to the programs and transfer credit is given to the fullest extent possible. Transfer students can be given credit for professional courses required in the first two years if they have had comparable coursework elsewhere.	2.0
Criminal Justice				

Criminal Justice Program and Career Opportunities

The bachelor of science degree program in criminal justice is designed to prepare students for entrance into the many careers within the criminal justice system and the public and private security sectors, as well as to provide continuing education for men and women already pursuing professional criminal justice or security careers.

The curriculum is structured in such a way as to provide the student with the basic knowledge and skills of all facets of the criminal justice system. Areas of study include law, law enforcement, courts, corrections, as well as the examination of the issues of crime prevention and resocialization. Through the required professional courses, the opportunity for a thorough understanding of the broad field of criminal justice will be provided for the student. Through the professional electives, the student will have the opportunity to begin specialization in a particular area within the criminal justice field or the security area, as well as to acquire advanced auxiliary skills now needed in these professional areas.

It should be emphasized that in both the professional courses and the general education courses, students will be stimulated to develop their own capacities for sound judgment and their own decision-making skills. Through careful academic guidance, they will be encouraged to design a well-balanced program of study leading to professional competence as well as to breadth in personal development.

A particularly important aspect of the program is the supervised field education placement, a supervised internship in the criminal justice system.

These specific goals are undergirded by a program that pursues the following objectives:

1. To broaden the social, cultural and political perspectives of students.
2. To develop an interdisciplinary and cross-cultural perspective of the area of criminal justice, with special emphasis upon the humanistic perspective.
3. To prepare personnel in terms of broad educational experience in a work setting as well as to develop specific skills through the field work experience.
4. To inquire into the specific areas of juvenile delinquency, white collar crime, political crime, discretionary arrest, loss prevention security, corporate crime, the problem of a dual system of justice, crime without victims, new and innovative programs of rehabilitation and crime control, and majority-minority relations.

Career Opportunities

Career opportunities in the field of criminal justice are many. The ***Occupational Outlook Handbook*** prepared by the Bureau of Labor Statistics indicates a projected need for substantial numbers of new employees in the criminal justice system. Criminal justice is a rapidly changing and expanding field. Students who graduate from the program will find career opportunities in police work, courts, prisons, probation departments, parole, halfway houses, community treatment centers, customs, narcotics control, drug treatment, data processing, youth service programs, counseling, crime control planning and research.

Further, the program offers a concentration in ***security.*** The ***Task Force Report on Private Security*** of the National Advisory Commission on Criminal Justice Standards and Goals projects nearly two million private security positions in the United States and a growth rate of over 100 thousand new positions a year.

Curriculum

The curriculum is designed to prepare students for entrance into both the criminal justice system and the security sector, and to provide continuing education for those already pursuing careers in these areas. If a student hopes to enter graduate school in the future, this program also serves as an excellent foundation for further study in criminal justice, security, law, public administration, human services, criminology and sociology.

Through required professional courses, students gain a thorough understanding of the criminal justice field. Elective courses will enable them to specialize in particular areas within the field. Concentrations in the form of courses in business, social work, photography and computer science, also are available as part of the program. Students receive careful academic guidance in designing a well-balanced program of study leading to professional competence and breadth in personal development.

Field Placement

During the senior year, students spend 10 weeks working in one of a variety of agencies in criminal justice or security. This internship gives them the chance to witness and participate in the activities of an established agency. This field experience allows students to experience directly the realities of working within the system. Some of the traditional agencies in which students are placed during the internship include state and local law enforcement, probation and parole offices, state and local correctional insstitutions, halfway houses, adult and juvenile counseling programs, public defender's or district attorney's offices, and retail and corporate security agencies.

Faculty

The criminal justice faculty are highly qualified individuals with advanced degrees and extensive practical experience in criminal justice or related areas. Among the full-time faculty are experts in law enforcement, institutional corrections, probation and parole, criminal law, civil law, security, and research. Thus, the criminal justice faculty are a source of guidance as well as instruction. They assist students in their specific interest in criminal justice and provide advice on career planning.

The criminal justice program allows students the chance to participate in independent study for academic credit, if they are doing well in their regular studies. Such independent study helps build confidence and develop initiative. Projects may vary from one quarter credit hour to 8 quarter credit hours. This credit may be used to replace criminal justice upper division professional electives.

Student body

The criminal justice student body is composed of men and women from the several regions of New York State and from a number of areas in the northeast, midwest, and central atlantic states. Approximately 160 students are matriculated in the program.

Principal field of study

For students matriculated in the Criminal Justice Program, the principal field of study includes all courses offered by the Criminal Justice Program and/or equivalent CCE courses. 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.

Professional elective options
The following list of professional electives is illustrative of those offered periodically within the Criminal Justice Program. These courses are grouped under only one general heading, even though many are appropriate for students with diverse career objectives.

A student selects professional elective courses with the advice of his/her faculty advisor.

One of the strengths of the criminal justice program is that students may elect to take up to fifty percent of their professional electives from other designated colleges in the Institute, thus enabling them to develop an additional concentration in a related professional ^rea applicable to their career goal.

Professional Elective Options: Criminal Justice

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
Women and Crime

Law
Introduction to Para Legals
Constitutional Law
Legal Rights of Convicted Offenders
Social Control of Deviant Behavior
Evidence
Court Administration
Comparative Criminal Law
Sentencing Process
Victimless Crime
Advanced Criminal Law
Legal Aspects of Security

- 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

Criminal Justice

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	GCJC-201 Fundamentals of the Criminal Justice System. . .	4		
	3 General Studies courses	12		
	GCJC-203 Criminology		4	
	3 General Studies courses		12	
	GCJC-303 Law Enforcement in Society			4
	GCJC-301 Fundamental Concepts of Criminal Law			4
	1 Science/Math/Computer Science course			4
	1 General Studies course			4
Second Year	GCJC-304 Judicial Process. .	4		
	GCJC-207 Corrections	4		
	* 1 General Studies/Math/Science/Computer Science course	4		
	1 Science/Math/Computer Science course	4		
	GCJC-309 Juvenile Justice		4	
	1 General Studies course		4	
	* 1 General Studies/Math/Science/Computer Science course		4	
	** 1 Professional Elective		4	
	GCJC-204 Introduction to Public Administration			4
	1 General Studies course			4
	1 Open Elective			4
	** 1 Professional Elective			4
Third Year	GCJC-526 Seminar in Law Enforcement	4		
	GCJC-528 Etiology of Crime	4		
	2 General Studies courses	8		
	GCJC-207 Seminar in Corrections		4	
	2 General Studies courses		8	
	** 1 Professional Elective		4	
	GCJC-401 Scientific Methodology			4
	1 General Studies course			4
	** 2 Professional Electives			8
Fourth Year	GCJC-403 Field Experience	8		
	GCJC-533, 534 Field Research	4		
	1 General Studies course		4	
	General Studies: Senior Seminar		2	
	* 1 General Studies/Math/Science/Computer Science course		4	
	** Professional Electives		8	
	GCJC-514 Planning & Change			4
	* 1 General Studies/Math/Science/Computer Science course			4
	1 Open Elective			4
	** 1 Professional Elective			4

** Selection from General Studies, Natural Science, Mathematics, or Computer Science. •*
*** Selection for a cognate concentration may be made for 50% of the Professional Electives in the areas of: GeneralStudies, College of Business, College of Photography and Graphic Arts, Social Work, Computer Science.*

Security
Organized Crime
Investigative Techniques
White Collar Crime
Institutional Security
Physical Security and Safety
Retail Security
Emergency and Disaster Planning
Security Management
Legal Aspects of Security
Seminar in Security

Professional Elective Options: Related , Professional Areas

With the approval of the faculty advisor, a student may select an additional professional elective concentration from career-relevant courses offered in the following colleges:
College of Business
College of Graphic Arts and Photography
College of General Studies-Social Work
College of Applied Science and Technology-School of Computer Science and Technology

Therefore, students in the Criminal Justice Program may develop special concentrations in:
Accounting
Computer Science
Management
Photography
Social Work or its related concentrations

Social Work Program Offered in Response to Community Needs

Since its inception in 1829, Rochester Institute of Technology has had a long tradition of,community service. Its program in social work is a response to the needs of communities and is viewed as a continuing step in RIT's community commitment.

The Social Work Program is conceived as a broad generic major to prepare baccalaureate-level social workers and is designed to respond to the trend i)n the profession toward a wider variety of social work practice roles. This trend has received wide support among social work employers, and the National Association of Social Workers and the Council on Social Work Education have officially supported the development of baccalaureate professional curricula. The bachelor of science degree program is the initial entry into the field of social work, and may also prepare students who wish to continue their professional education on the graduate level.

Accreditation
The bachelor of science degree program in social work is accredited by the Council on Social Work Education.

Career Opportunities
Because the curriculum leading to the BS in social work contains a ■ variety of social science offerings, the student will be able to choose a broad spectrum of career goals in addition to the possibility of a variety of graduate programs related to the helping services.

Graduates of the RIT social work program are employed in agencies providing services to the following types of clientele: alcohol and drug abusers, delinquents, single parents, those on probation and parole, those in family court situations, people with emotional problems, mentally retarded people, hearing impaired and other disabled persons, children and their families, and aging people.

Employment is also available in agencies that provide such special services as community planning and intervention, metropolitan planning, rural social services, hospital social services, corrections, school social work, day care, legal services, and human service education.

Principal field of study
For students matriculated in the Social Work Program, the principal field of study is defined to be: (1) required social work courses (including field placement); (2) professional electives; and (3) required service courses offered through the College of General Studies, College of Business, College of Science, and Colleg'e of Applied Science.and Technology.

Matriculated students not maintaining a 2.00 cumulative grade point average in their principal field of study are subject to academic probation or suspension according to Institute policy.

Curriculum
The curriculum leading to the baccalaureate degree in social work rests on the following general areas of content. Most students entering RIT with two years of previous undergraduate study can complete the Social Work program in seven academic quarters (two academic years).

1. Foundation Courses
Taken within the first two years, foundation courses define the role of the professional social worker, explore the history of the social welfare system, basic theory and knowledge about families, groups and communities, and examine the structure and the functions of the system of social services.

2- Skills Courses
These include a series of three Methods courses offered before and concurrently with field instruction designed to provide students with basic generic Interventive techniques and strategies fundamental to / professional practice with individuals, groups, families and the community. Emphasis is placed on the development of Interventive skills and on the differential use of common principles in a diversity of situations requiring social work intervention.

3. Field observation, volunteer opportunities, and field instruction
A continuous range of experiential learning opportunities is provided throughout the curriculum. Observation and volunteer work in a social, governmental, or educational institution is encouraged in the first and second years.

A unique feature of RIT's social work program is its 600 hours of full-time agency field instruction, which usually occurs in the third year. Students must meet specific knowledge, attitudinal and skill criteria as set forth in the Field Placement Policy before advancing to a field placement (see the Social Work Program Student Handbook for a full statement of this policy).

Further "hands-on" opportunities for field experience may be available in the fourth year in connection with the Senior Research course. The Independent Study option also may be used to extend experience in the field. All work in this area will be under the supervision of RIT faculty.

4. Minority Content
Course content on minority populations is an essential and required part of the social work curriculum. The content is provided in a sequence of three courses that address the history of social discrimination, black culture, and hispanic culture, and is also integrated into all other social work courses. In addition, Spanish language courses, manual language courses and a course in sexism are available.

5. Social policy and the profession of social work
This area includes material on social welfare, sources of social conflict, the involvement of government in social welfare, voluntary social welfare services, decision making, economic factors affecting poverty, employment levels, guaranteed annual income, personal social services, and the democratic-humanitarian values of our society as these may emerge in social welfare practice.

In addition, content'on the characteristics and attributes of social work as a profession will be closely examined. The varying roles of the social worker including his or her relationship to clients and agencies will be studied, as well as the various philosophical and ethical bases of action, the motivation required for effective delivery of service, career opportunities, organizational settings, group identification and such issues as bureaucracy versus individualism.

6. Human behavior and the social environment
A broad spectrum of courses is offered in the social sciences and humanities.

Liberal education opportunities assist students in their intellectual, aesthetic, and social development, stimulate their curiousity, and sharpen their ability to engage in independent inquiry. Course work in human behavior is designed to help students become aware of alternate approaches to human problems, and to see their role in a wider philosophical and historical perspective.

These courses promote a greater awareness of psychological, social, political, and economic issues so that the student's professional training in social work is supported by a solid foundation of knowledge and theory. In addition, these academic opportunities will help students to develop those techniques indispensable to good written and oral communication and to a vigorous intellectual independence.

i. Management-related courses
Within the profession of social work, issues of agency and service management have consistently and increasingly been emphasized. Management knowledge and skill have become essential ingredients of professional competence. This special emphasis in the curriculum assures social work students of proficiencies directly pertinent to the needs of modern agencies and, consequently, to employment possibilities.

8. Research
The Research sequence in the curriculum provides students with an understanding of basic research methods, an optional course in statistics (recommended for students planning on graduate study), an introduction to computer science, and "hands-on" experience in designing and carrying out a research project.

9. Professional electives and Concentrations
Professional electives are courses of choice based on the student's announced career goals, and therefore are different for each student. The Social Work Program and other programs at RIT offer a wide variety of course opportunities for the student to explore and develop social work skills in such specific social issue areas as:

- poverty;
- effects of technology on human social life;
- management of human services to address specific human needs;

BS degree in Social Work
Four-year program

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	GSWS-210 The Professional Social Work Role. . <.....	4		
	GSWS-302 Social Welfare: History.....		4	
	GSWS-211 Social Welfare: Structure and Function.....	/		4
	GSWS-215 The Family from a Social Work Perspective	/ '		4
	Biology Requirement.....		4	
	GSSP-203 Psychology of Childhood & Adolescence.....		4	
	Economics Requirement.....		4	
	GSHH-547 History of Social Discrimination			4
	* Four General Studies Core Courses.....	12		4
	" Physical Education.....	0	0	0
Second Year	GSSS-527 Black Culture.....	4		
	GSSS-526 Hispanic Culture.....		4	
	GSWS-315 Assessing Community Needs.....	4		
	GSWS-411 Interviewing and the Helping Relationship (Methods I)			4
	GSWS-356 Group Theory in Social Work.....			4
	Two Professional Electives.....		4	4
	GS - new Human Behavior and the Social Environment....		4	
	SMAM-204 College Algebra (or Statistics).....			4
	'Three General Studies Core Courses.....	8	4	
	** Physical Education.....	0	0	0
Third Year	# GSWS-421 Field Instruction I	5		
	# GSWS-422 Field Instruction II.....		5	
	GSWS-433 The Supervisory Process (Seminar).....	4		
	GSWS-434 Managing Community Services (Seminar).....		4	
	GSWS-412 Assessment and Problem Solving (Methods II)..	4		
	GSWS-413 Intervention Strategies (Methods III).....		4	
	GSWS-533 Social Welfare: Policy and Planning.....			4
	One Professional Elective.....			4
	ICSS-200 Survey of Computer Science.....			4
	* One General Studies Elective.....			4
Fourth Year	GSWS-534 Research Methods.....	4		
	GSWS-535 Senior Research.....		4	
	GSWS-532 Professional Issues.....			4
	Three Professional Electives.....	4	4	4
	"Management Elective.....			4
	* Two General Studies Electives.....	4	4	
	'General Studies Concentration (3 courses).....	4	4	4
	* General Studies Senior Seminar.....	2		

** See Pg. 75 for General Studies requirements. Social Work students entering in Fall 1982 will complete the entire new General Studies curriculum.*
**• See Pg. 27 for Policy on Physical Education.*
 # Full-time field placement in social work agency.
**** Elective course taken in the College of Business*
NOTE: Transfer credit may be given, when appropriate, for any courses with the exception of the methods sequence (GSWS-411, 412, 413), Field Instruction I and II (GSWS-421, 422), field seminars (GSWS-433, 434), Social Welfare Policy and Planning (GSWS-533), Professional Issues (GSWS-532), and Senior Research (GSWS-535).

- working with the disabled, especially hearing impaired people;
- application of the computer to meeting human needs;
- the unique, continuing and disturbing issues of Black and Hispanic minority people in our society;
- the puzzling and value-charged issues of alcohol and drug abuse;
- the increasing interrelationship of human social needs and the legal system
- the growing focus on the roles of the family and how it effects changes in childhood, and therefore, adulthood;
- the delivery of social services to rural areas;
- self-awareness and personal growth;
- sexism and sexual identity issues in our society;
- working with aging people;
- advocacy with clients in dealing with social institutions;
- and mental health services

Students desiring to focus their professional electives in a specific area of study may develop a professional concentration. Basically, a concentration is a sequence of at least three professional elective courses, offered within the Social Work Program or in other programs focused on a single unified field of service. Professional concentrations include:

- Deafness
- Alcoholism and Substance Abuse
- Families and Children
- The Legal System (Criminal Justice)
- Management
- Computer Science
- Advanced Field Placement

Course Descriptions

For a description of course content and sequencing, please request the ***Courses*** catalog from the Admissions Office.

BS degree in Social Work
Transfer Curriculum for Students with an Associate Degree

Year		Quarter Credit Hours: Fall	Winter	Spring	Summer
Junior Year	GSWS-210 The Professional Social Work Role.....	4			
	GSWS-215 The Family From a Social Work Perspective.....	4			
	GSWS-302 Social Welfare: History.....	4			
	GSWS-315 Assessing Community Needs.....		4		
	GSWS-356 Group Theory in Social Work.....		4		
	GSWS-411 Interviewing and the Helping Relationship.....			4	
	GSWS-211 Social Welfare: Structure and Function.....			4	
	GSWS-412 Assessment and Problem Solving (Methods II).....				4
	##GSWS-421 Field Instruction I				5
	GSWS-433 The Supervisory Process (Seminar)				4
	Two Professional Electives.....		4	4	
	•Two General Studies Electives.....	4	4		
	* General Studies Concentration.....			4	
	** Physical Education.....	0	0	0	
Senior Year	GSWS-413 Intervention Strategies (Methods III).. . .	4		'■	
	GSWS-422 Field Instruction II.....	5			
	GSWS-434 Managing Community Services (Seminar).....	4			
	GSWS-534 Research Methods.....		4		
	GSWS-533 Social Welfare: Policy and Planning.....		4		
	GSWS-535 Senior Research.....			4	
	GSWS-532 Professional Issues.....			4	
	Two Professional Electives.....		4	4	
	* One General Studies Elective.....	4			
	* General Studies Concentration.....		4	4	
	* General Studies Senior Seminar.....			2	

 # Transfer students holding an appropriate two year degree (e.g., an Associate Degree in Human Services) will be admitted to the Transfer Curriculum. It is recommended that such students prepare themselves by successfully completing equivalent courses in the following areas during their first two years of college: Introduction to Psychology, Introduction to Sociology, Introduction to Economics, English Composition, Developmental Psychology, Science, Math, Minority Cultures or Soanish language.

** See Pa. 75Jor General Studies requirements. Social Work students entering in Fall 1982 will complete the entire new General Studies curriculum.*

***See Pg. 27 for Policy on Physical Education.*

Full-time field placement in social work agency.

Note■ Transfer for credit may be given, when appropriate, for any courses with the exception of the methods sequence (GSWS-411, 412, 413) Field Instruction I and II (GSWS-421, 422), field seminars (GSWS-433,434) Social Welfare• Policy and Planning (GSWS-533), Professional Issues (GSWS-532- and Senior Research (GSWS-535)

College of Graphic Arts and Photography

Mark F. Guldin, Dean

The College of Graphic Arts and Photography encompasses the School of Photographic Arts and Sciences, the School of Printing, and the Technical and Education Center of the Graphic Arts.

The School of Photographic Arts and Sciences was established in 1930 with a two-year course for the training of technicians for the photographic industry. It now offers undergraduate programs leading to a BS degree in photographic science and instrumentation, a BS degree in technical photography, a BS degree in filmmaking and television, a BFA degree in professional photographic illustration and a BFA degree in fine art photography. A program in photographic marketing—given jointly by the School of Photographic Arts and Sciences and the College of Business—leads to the BS degree. Programs in biomedical photographic communications and photographic processing and finishing management leading to AAS and BS degrees are also offered. Graduate programs lead to an MS degree in photographic science and instrumentation, and to an MFA degree in photography. More than 950 students are enrolled from nearly every state and many foreign countries. The curriculum in photographic science and instrumentation is the only accredited program of its kind leading to the BS and MS degrees.

In 1937 the Institute absorbed the Empire State School of Printing with the object of establishing advanced technological education in printing and the graphic arts. The School of Printing offers programs leading to the bachelor of science degree in printing with 14 options for specialization. The BS program in newspaper production management provides graduates who can synthesize the new technologies into the newspaper technical departments and provide long-range management planning to this important segment of the printing industry. The program in Printing Systems Management combines printing and industrial engineering, and prepares graduates for optimizing operating conditions in the complex printing establishment. A new BS degree in Printing and Applied Computer Science further expands the scope of the school's offerings. It also offers programs leading to the MS degree in printing technology and printing education. Over 700 degree candidates are enrolled in the School of Printing. Students come from almost every state, and students from many foreign countries have registered in printing programs.

The Technical and Education Center, with its own full-time staff, renders service to various fields of the graphic arts. It also conducts short, highly specialized courses for men and women engaged professionally in the graphic arts.

Resources

The college is housed in a building that has been specifically designed for instruction in photography and printing. Its many specialized laboratories and wide range of equipment make it the most complete of any degree-granting institution in these fields.

The faculty has been carefully selected on the basis of their teaching effectiveness and ability to relate well with students. They are also individuals who are educationally qualified and have had extensive professional experience and training in the graphic arts industries.

The establishment of three distinguished professorships highlights this qualification of the college's teaching staff. Establishment of The Paul and Louise Miller Distinguished Professorship in Newspaper Management in the School of Printing emphasizes the importance placed on education for persons entering the rapidly changing newspaper industry. The Melbert B. Cary, Jr., Professorship emphasizes the school's continued involvement in typography and design. The James E. McGhee Professorship highlights the School of Photographic Arts and Sciences' interest in photographic processing and finishing, as well as in the photographic marketing and management areas.

Rochester is the world center of research and development in photography and a center of research in the graphic arts, as well as a city well-known for quality printing. It is an ideal environment for students in either photography or the graphic arts because they have access to a faculty which is close to progress in these fields, and through guest lectures, field visits, and meetings of scientific and professional organizations, they can personally meet many of these leaders in research and development.

The RIT library is rich in both photography and the graphic arts, and the cooperation of the George Eastman House of Photography and the library of the Kodak Research Laboratories makes available one of the largest collections of reference materials for these fields to be found anywhere.

Two special libraries are housed in the college directly, the Technical and Education Center Library and the Cary Library. The latter contains the Melbert B. Cary, J., Graphic Arts Collection, with more than 4,000 volumes of rare books illustrating the past and present of fine printing.

Plan of education

The college seeks to prepare men and women to be professionally competent in their chosen area and to have an appreciation and understanding of our cultural heritage and democratic institutions. Although the primary concern of the college itself is with science and technology, and the occupational aspects of life, it requires of every student courses in communication, the humanities, and the social and natural sciences. These form an integrated program of liberal education in the College of General Studies and require from one-quarter to one-third of the student's time.

The college operates on the quarter plan, each quarter being 11 weeks in length. Many classes are available during the summer.

Most programs of the college include a senior thesis as a requirement for the bachelor's degree. This involves independent study and research on a subject chosen by the students and approved by their advisors. The thesis provides the student the opportunity to make a detailed study of a subject of particular interest. It often requires extensive reading, thus making the student more conversant with the literature and, where laboratory research is involved, the student acquires experience in the design of experiments, the conduct of research, and the writing of technical reports A number of these reports have been presented at meetings of scientific and professional societies and printed in appropriate journals.

The School of Printing offers a Senior Seminar which brings to

campus each year some 15-20 industry people who discuss new developments and technologies in the graphic arts and how students can prepare to meet new challenges evolving from them.

Transfers
With the growth of community, junior, and two-year technical colleges throughout the country, many men and women have a better chance to identify their occupational and professional goals. The college recognizes the value of these programs and, for students who perceive such goals within the scope of the college's programs, every effort is made to accept the maximum amount of transfer credit from the two-year college curriculum. Some scholarships are available.

Degrees and requirements
Candidates for the BS and BFA degrees must complete the requirements of a major program.

Requirements for the MS degree in photographic science and instrumentation, printing technology, and printing education, for the MFA degree in photography and the MST degree in printing education are to be found in the Graduate Bulletin.

Except for the newspaper production, printing systems management and printing and applied computer science programs, the associate in applied science degree is awarded all students who successfully complete the requirements of the first two years of the BS or BFA program.

Summer Session and special programs
During the Summer Session the School of Printing offers a wide range of technical and management courses which may be taken for credit.

Special, intensive summer courses are also available in graphic arts orientation, flexography, gravure and screen printing.

Additional specialized short-term summer programs can be designed by the School of Printing to meet the particular needs of paper, ink and equipment manufacturers and related segments of the graphic arts industry.

The School of Photographic Arts and Sciences offers several special courses each summer to meet professional or avocational needs not met by the four-year programs.

Information on summer programs in either school can be obtained from the director of the Summer Session.

Technical and Education Center
The Technical and Education Center of the Graphic Arts serves the printing and graphic communications industry through product testing, continuing education, and the dissemination of information. It enjoys an international reputation as a source of the most current information and techniques in the graphic arts. The center acts as an interface between RIT's academic programs and industry.

The Technical and Education Center staff has been recruited from industry and research organizations. Staff members work to serve industry needs through four main departments: physical testing, information services, the seminar center, and the order department.

The Physical Testing Laboratory conducts industry-supported programs for testing paper, plates, blankets, inks and press chemicals. It has the only full-size, four-unit perfecting web offset press for testing in the world. The staff works with paper and ink companies, press manufacturers and printers as consultants and testing coordinators.

The Information Services Library houses an extensive international collection of graphic arts periodicals, technical reports and conference proceedings. These are used to compile a monthly publication, ***Graphic Arts Literature Abstracts,*** which offers subject-categorized, fully indexed informative abstracts of the literature. ***GALA*** represents an expanded effort into current awareness and retrospective retrieval capability. The library is open to RIT graduate printing students and Technical and Education Center staff for research. #

The Technical and Education seminar programs cover all aspects of printing, especially color reproduction. Eighteen continuing titles repeat throughout the calendar year, and special tailor-made seminars are held for companies on request. Seminars on the RIT campus offer printers around the world a chance to encounter new ideas, work with quality control tools, and try procedures first-hand, including time to work on the web press. Traveling seminars bring current technical information to other cities across the country.

The Technical and Education Center Order Department fills domestic and international orders for such items as books, quality control tools, research reports, bibliographies, and periodicals like the ***Graphic Arts Literature Abstracts,*** the quarterly ***PhotographiConservation,*** and the ***Technical and Education Center Newsletter.*** Quality control tools available at the order department include color printing aids, tone reproduction aids, resolution test targets, graph papers, and calculator programs. Photocopies of articles abstracted in ***GALA*** make home research possible.

The Technical and Education Center has been able to respond to industry needs over the years with a flexibility that few other resource centers have. The center is expanding—offering more seminars, publishing more bibliographies and books, and filling more orders. Industry support is growing, enabling the center to prosper.

Admission at a Glance: College of Graphic Arts and Photography

General Information on RIT's admission requirements, procedures and services is included in detail on pages 15-16 of this Bulletin.

The School of Photographic Arts and Sciences, the School of Printing, and the Technical and Education Center of the Graphic Arts are included in this college.

The college is internationally known for its excellence and the contributions of its graduates to the world of communication. Faculty are experts in their fields and students work in laboratories with equipment of unsurpassed quality and variety. Students develop their creative abilities as well as technical competence.

Professional Photographic Illustration — Students learn photographic skills to solve visual communication problems leading to vocations in studio and in mass media. Students develop innovative and individualized responses to visual problems, and are expected to become sensitive to contemporary graphic design. Degrees granted: AAS-2 year; BFA-4 year.

Fine Art Photography — After two years of photography in the general BFA program at RIT (or equivalent academic background), a student may wish to pursue photography as a fine art. The program proyides a student with two years of upper division study in photography and related media as a means to develop individual sensitivity and imaging skills. This leads to a broad range of career options that call for a background in esthetics, technical skills, and the ability to solve visual problems with imagination and originality. Degree granted: BFA - 4 year.

Biomedical Photographic Communications- Prepares students for a career in media production working with allied health teams in hospitals, medical and dental research centers, and other health institutions. Students can qualify for employment at end of second year and have received the educational background necessary to apply for registration as a Biological Photographer. Degrees granted: AAS-2 year; BS-4 year.

Film and Television — The degree program in film and television features an introduction to both disciplines with advanced work in either film or video. The curriculum emphasizes production and short periods of outside professional experience are encouraged, usually during the summer. The program is intended to acquaint students with film and TV as creative media and to develop the skills of production. Degrees granted: AAS-2 year; BS-4 year.

Photographic Processing and Finishing Management - Students develop a thorough knowledge of photographic process, production techniques and procedures, and business, including aspects of promotion and selling in a competitive market. Degrees granted: AAS-2 year; BS-4 year.

Photographic Science and Instrumentation- Students learn of the application of physics, chemistry, and mathematics to photography; of the application of photographic processes to science and technology. Course content is comparable to that of engineering programs- mathematics, physics, and chemistry of radiation-sensitive systems, optics and image formation. Degrees granted: AAS-2 year; BS-4 year.

Technical Photography - Prepares students for entry into any of a variety of positions in the field of technical photography, as distinct from providing highly specialized training for a specific position. These include both picture-making positions (such as scientific photography, high-speed photography, technical illustration, audiovisual production, and photographic testing) and non-picture-making positions (such as technical writing, quality control, technical representative, sales, product development and testing, applied research, laboratory supervision, and management).

Printing —Prepares students for careers in printing management by developing an appreciation of aesthetic qualities of good printing and application of science and engineering in graphic arts. Theory and practice in management and communication skills are taught. Degrees granted: AAS-2 year; BS-4 year.

Newspaper Production Management- Prepares students for careers in technical management for the newspaper industry by developing appreciation of tactics and strategies for evaluating and controlling production problems. Incorporates engineering approaches to problem solving. Degree granted: BS-4 year.

Printing Systems Management - Prepares students for careers that emphasize measurement and control techniques, problem solving and optimization of operating conditions in the industrial technological environment in the printing industry. Degree granted: BS-4 year.

Printing and Applied Computer Science - Prepares students for entry positions in printing systems analysis, production control, engineering liaison, customer engineering, marketing support, process engineering, and prodcution design. These lead to careers in production management, director of computer technology, and operations manager. Degree granted: BS - 4 year.

Freshman Admission Requirements			Transfer Admission with junior standing	
Program	Required High School Subjects*	Desirable Elective Subjects	Two-Year College Programs	Desirable minimum grade point average
Professional Photographic Illustration and Fine Art Photography	2 years any mathematics; 1 year any science	Art courses	Summer Transfer Course PPHL-300 (BFA Photo II) is taken the summer prior to the student's entrance into the third year. (A C grdde or better must be earned in PPHL-300.) Student entering must have associate's degree or equivalent with a minimum of 20 semester credits in photographic courses, 8 semester credits in studio art courses, and a minimum G.P.A. of 2.5 (C+). A portfolio is required.	2.2
Biomedical Photographic Communications ' A'	Elem. Algebra; Plane Geom. or Inter. Algebra; Trigonometry; Biology"	Chemistry; Physics	Associate's degree in biomedical photography or previous college work in audiovisual with strong / emphasis in photography and biology.	2.2
Film and Televisionf	Elem. Algebra; Plane Geom. or Inter. Algebra 1 year any science	Physics or Chemistry; photography; additional mathematics	Total of 96 quarter credits including 24 credits in general studies, a college algebra course, a college design course, and 48 quarter credits equivalent to RIT's PPHG-200, 202, 203; PPHP-301, 302, 303; and PPHP-311,312, 313. Remaining credit may be any combination of drawing, design, or photography. Opportunities for transfer are limited.	2.2
Photographic Processing and Finishing Management	Elem. Algebra; Plane Geom. or Inter. Algebra; Chemistry or Physics	Additional mathematics and science	Because of a liberal selection of professional electives transferring at the the end of two years is readily accomplished for business majors. Others should contact program faculty for evaluation of credit.	2.2
Photographic Science and Instrumentation	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; Physics or Chemistry	Chemistry or Physics; Additional mathematics	Total of 80 quarter credits, including 20 quarter credits in calculus or higher mathematics, one year of college chemistry, one year of college physics, and 24 quarter credit hours in general studies. "C" grade in RIT Summer PPHS-200 and PPHS-210 or equivalent course, or experience-students in engineering science or liberal arts with math/science option usually meet these requirements.	• 2.2
Technical Photography	Elem. Algebra; Plane Geom. or Inter. Algebra; 1 year any science	Additional mathematics and science	Total of 96 quarter credits, including 9 quarter credits in college mathematics, 24 quarter credits in general studies, 24 quarter credits in black-and-white and color photography, one year of college physics, and one year of college chemistry.	2.2
Printing	Elem. Algebra and Inter. Algebra; 1 year science	Printing courses or experience with school publication; chemistry; physics; interest in printing; additional mathematics	Associate's degree in graphic arts including wide range of courses in general studies, a year of college mathematics, a year of college chemistry or physics, and courses in business, management, computers and others. Considered on an individual basis; Student should contact the department.	2.25
Newspaper Production Management	Elem. Algebra; Trigonometry, or Inter. Algebra; Physics or Chemistry	Additional mathematics, physics or chemistry	Associate's degree in graphic arts including a wide range of courses in general studies, a year of college mathematics, a year of college chemistry or physics, and courses in business, management, computers and others. Considered on an individual basis, student should contact the department.	2.25
Printing Systems Management	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; Physics and Chemistry	Additional mathematics	Considered on an individual basis.	2.25
Printing and Applied Computer Science	Elem. Algebra; Inter. Algebra; Trigonometry Plane Geometry Physics or Chemistry	Additional mathematics and	Considered on an individual basis	2.25

** Four years of English are required in all programs, except where state requirements differ*
*** A report is required from the applicant covering visits to photographic departments of at least two hospitals.*
† All applicants for BS degree program are required to submit a portfolio, which might consist of a series of 8 x 10 black-and-white photographs, an 8 or 16 mm film a video tape, or a written work that demonstrates creativity in the English language

School of Photographic Arts and Sciences

Russell Kraus, Director

The program offerings of the School of Photographic Arts and Sciences are designed to prepare students for photographic career fields. The studies involve both technical and creative experiences for visual problem solving. Some chemicals and specialized equipment are supplied. Students are encouraged to purchase photographic equipment ' that will further their chosen careers. All first year BFA students in photography are required to have their own hand-held small or medium format camera and a professional light meter.

Speakers and field trips broaden the student's viewpoint. Participation in the field trips and summer study courses in Europe are encouraged.

Faculty
The School of Photographic Arts and Sciences faculty represent a rich cross-section of various photographic fields; science, technical, professional-illustrative and art.

Faculty members are highly active in professional societies, publications and exhibitions. Each one considers teaching to be his or her first and most important function. Several have received outstanding teaching awards and other professional recognition.

Department of Applied Photography: Thomas Iten, Chairman—BFA Degree in Professional Photographic Illustration.
Department of Film and Television; Dr. Russell Kraus, Acting Chairman and Program Coordinator—BS Degree in Film and Television;
Department of Fine Arts Photography; Dr. Richard Zakia, Chairman and Program Coordinator—MFA Degree in Photography;
Department of Photographic Technology; Dr. Leslie Stroebel, Chairman—BS Degree in Biomedical Photographic Communications, BS Degree in Photographic Processing and Finishing Management; BS Degree in Technical Photography
Department of Photographic Science and Instrumentation; Dr. Ronald Francis, Chairman and Program Coordinator—BS Degree in Photographic Science and Instrumentation, MS Degree in Photographic Science and Instrumentation.

Graduate programs
The School of Photographic Arts and Sciences offers two master's degree programs: MFA in photography and the MS in photographic science and instrumentation. These are described in the separate Graduate Bulletin, available through 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. A special course is offered for high school and college art teachers desiring to build a background in basic photography. For detailed information write the director of Summer Sessions for a Bulletin.

Memberships
The School of Photographic Arts and Sciences maintains memberships in a number of professional organizations: American Management Association, Ameican Society of Training and Development, Association of Professional Color Laboratories, Master Photo Dealers and Finishers Association, National Microfilm Association, Professional Photographers of America, Society of Motion Picture and Television Engineers, Society of Photographic Scientists and Engineers, University Film Association.

Requirements for admission

All applicants for admission must meet the general requirements for admission to the Institute. The requirements for admission to the School of Photographic Arts and Sciences vary with the program.

It has been our experience that desirable applicants should rank within the top 25 percent of their high school class, score above a combined 1050 SAT score, or achieve an ACT composite of 23. The Institute prefers not to be arbitrary in the establishment of admission criteria and therefore will look at all factors in combination, such as, College Board scores, high school records, records of achievement, letters of recommendation, and especially the v student's written statement of educational objectives.

All applicants, except those transferring from other colleges and universities, must take entrance examinations.

Degrees Offered

Professional Photographic Illustration
Applicants for photographic illustration must have had two years of mathematics and one year of science. Art courses are recommended.

Fine Art Photography
After successfully completing two years in RIT's BFA foundation program, or two years 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 third and fourth years.

Biomedical Photographic Communications
Applicants for this undergraduate, program must have had elementary algebra, plane geometry or intermediate algebra, trigonometry and biology. Chemistry and/or physics is recommended. A report is required from the applicant covering visits to photographic departments of at least two hospitals. A personal interview may be required.

Film and Television
Applicants must have had two years / of high school mathematics, including either intermediate algebra or plane geometry, and one year of science. A personal interview may be required.

%

Photographic Marketing Management

Offered jointly by the College of Business and the College of Graphic Arts and Photography, RITs program in photographic marketing is the only one of its type 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 economics, finance and marketing principles. The combination of work in these two disciplines prepares the student for a multifaceted management-level career in the photographic business. Opportunities for positions include those in customer service aspects of photofinishing and professional color laboratories and management positions with photographic manufacturers and photographic retailers. For further information, including transfer requirements, contact the College of Business.

Photographic Processing and Finishing Management
Applicants for admission in this program must have had two years of high school mathematics, elementary and intermediate algebra, and chemistry. Additional science is recommended.

Photographic Science and Instrumentation
Applicants for admision to the undergraduate program in photographic science and instrumentation must have had three years of high school mathematics through trigonometry and either physics or chemistry. Their high school record should indicate a capacity to undertake a science program with reasonable chance of success.

Technical Photography
Applicants for admission to the technical photography program must have had two years of high school mathematics and one year of science.

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalog from the Admissions Office.

Transfer students
A transfer student is a student with acceptable transfer credits who has been accepted into a degree program. He or she may be classified as a first, second, third or fourth year student. Transfer students should be aware that because of the credits carried with them to RIT, they may have a lighter than normal academic load. Normally a student may not carry more than two photographic lab courses.

Transfer credit and transfer programs
Transfer credit will be given for applicalbe courses completed at accredited institutions with a grade of “C” (average) or better. It is not possible for photography students to transfer into the common first year professional photographic illustration, technical photography, or film and television from photographic science or photographic processing finishing management or other'programs at RIT, without incurring loss in time or added expense. Regular transfer procedures apply.

Credit for photography courses will not be accepted without a substantiating portfolio. This work will be reviewed by the appropriate faculty. (Requirements for portfolio submission may be obtained by writing to the Office of Admissions.)

Transfer students should expect to have light schedules during part of their residence at RIT because of prerequisite requirements and scheduling problems.

Summer Transfer
A summer transfer student is one who meets the qualifications of the transfer conditions as outlined above.

There are transfer programs into the second or third year of most of the majors offered by the school. These are for student? who have transfer credits in science, art, business, and/or photography. Students in the transfer stream may find it necessary to attend classes during one or more summers.

Transfer Admission

The transfer credits necessary for entry into any photographic program must have been completed prior to submitting the application for admission to the June transfer program.

Requirements for admission to the second year

Professional Photographic Illustration
A total of 30 quarter credits, including 12 acceptable credits in general studies and 6 acceptable credits in studio courses in drawing and design, and 12 credits in photography or additional art courses, plus a “C” grade or better in summer courses *PPHG-200 (Photography) and PPHG-210 (Materials and Processes of Photography).

Fine Art Photography
One year of college with satisfactory grades, and an acceptable portfolio or successful completion of summer courses PPHG-200 and PPHG-210.

Film and Television
A total of 33 quarter credits, including 12 acceptable credits in general studies, an acceptable science course (nine quarter credits), and/or an acceptable design studio course (six quarter credits); plus 12 credits in photography, additional art courses, or science courses; and a “C” grade or better in summer course ‘PPHG-200 (Photography) and PPHG-210 (Materials and Processes of Photography).

Photographic Processing and Finishing Management
A total of 37 quarter credits, including 12 quarter credits in general studies, acceptable credits in college math (6 quarter credits) and 16 quarter credits in a combination of business and management, plus 3 additional credits in photography or science.

Photographic Science
A total of 39 quarter credits, including 12 acceptable quarter credits in general studies, acceptable courses in calculus (12 quarter credits) or higher mathematics, and general physics or chemistry of not less than one year in either, and 3 additional credits in photography or science, plus a “C” grade or higher in summer courses *PPHS-200 (Fundamentals of Photographic Science) prior to admission to the second year.

Technical Photography
A total of 33 quarter credits, including 12 acceptable credits in general studies, 9 quarter.credits in college mathematics, 12 quarter credits in any combination of additional mathematics, science, and business, plus a C grade or better in summer courses *PPHG-200 (Photography) and PPHG-210 (Materials and Processes of Photography).

Requirements for admission to third year /

Professional Photographic Illustration
A total of 93 quarter credits including 24 acceptable quarter credits in general studies. The remainder of 69 quarter credits must include a minimum of 12 quarter credits of studio courses in design and drawing, plus nine credits of History and Aesthetics of Photography, or their equivalents. If there are insufficient photography studio courses the applicant will be required to take PPHG-200 and PPHG-210 during the summer.

Fine Art Photography
Two years of college, including 20 semester credits in photography, 8 semester credits in studio art, an acceptable portfolio and successful completion of summer course PPHF-300.

Photographic Science
A total of 80 quarter credits including 24 acceptable quarter credits in general studies, a minimum of 20 quarter credits in calculus or higher mathematics, and acceptable courses of not less than one year each in general chemistry and general physics, a computer programming course, plus a “C” grade or higher in summer courses *PPHS-200 and PPHS-210 (Fundamentals of Photographic Science I gnd II) prior to admission to the third year.

Technical Photography
A total of 96 quarter credits, including 24 acceptable credits in general studies, 9 quarter credits in college mathematics, 24 quarter credits in black-and-white and color photography, one year of college physics, and one year of college chemistry. The photography courses must be equivalent to PPHG-201, 202, 203 and PPHP-311,312.**

These are summer courses required by those persons who do not have a sufficient photographic background.

***Substitute technical photography course numbers for color photography/design and color printing theory*

BFA Foundation Years

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	FADF 221,222, 223 Design	2	2	2
	PPHG-201, 202, 203 Photography	7	7	7
	PPHG-211, 212, 213 Materials and Processes of Photography	3	3	3
	General Studies Electives - Lower Division	4	4	4
	Physical Education Elective	0	0	0
Second Yeart	FADF-321, 322,323 Design	2	2	2
	General Studies Electives - Lower Division	4	4	4
	PPHL-301, 302, 303 History and Aesthetics of Photography	3	3	3
	PPHL-311, 312, 313 BFA Photography II	6	6	6
	Physical Education Elective	0	0	0

† *Upon successful completion of the second year, the associate in applied science degree is awarded.*

BFA in Professional Photographic Illustration
with a Major in Illustration Photography or Photojournalism

Year		Quarter Credit Hours: Fall	Winter	Spring
Third Year	FSCF-225, 226, 227 Art and Civilization	3	3	3
	General Studies Electives - Upper Division	4	8	4
	Major Photo Elective	4	4	4
	Professional Electives (selected from BFA elective list)	6	2	4
Fourth Year	Art History Electives	3	3	
	FSCF-380 Contemporary Art			3
	General Studies Electives - Upper Division	4	6	4
	Major Photo Elective	4	4	4
	Professional Electives (selected from BFA elective list)	4	4	4

Professional
Photographic Illustration

Illustration Photography
Photojournalism

The curriculum leading to a bachelor of fine arts degree in professional photographic illustration is planned to prepare the student for those areas of photography which require the solving of visual communication problems with a sound technical base. Students are encouraged to develop innovative and individualized responses to visual problems; they are expected to become sensitive to contemporary graphic design and to visual aspects of their society; they are asked to be perceptive and responsible citizens of an evolving society.

Career opportunities:
The photo students who elect the BFA program may produce advertising photography for magazines, direct mail pieces, posters, billboards, and packages. They may produce editorial photography, magazine illustrations, picture essays, and book illustrations. They may illustrate brochures, annual reports, and other visual materials for business, government, and educational institutions. They are qualified to function as artists using photography as a principal means of expression. They may become scholars, photohistorians, photojournalists, or museum curators.

Areas of concentration:
The bachelor of fine arts program in professional photographic illustration is subdivided into two areas of concentration, each of which is varied enough to provide the student with a broad-based photographic education. Each is also flexible enough in approach to provide the student who so desires to select those courses which provide for and best suit his or her particular needs. The first year is common to photo journalism and photographic illustration programs. After the first year the student plans a program that will fulfill his or her objectives. With an advisor, a tentative three-year program is planned from available courses that will meet the BFA degree requirements.

Photographic Fine Art

Through the gradual development of each individual's sensitivity and imaging skills, the student- is prepared for a broad range of career options that require a solid background in esthetics, technical skills, craftsmanship, and the ability and confidence to solve visual problems with imagination and originality.

The program is designed to encourage each student's artistic development, individuality of style and uniqueness of potential as a photographer. The program does not train photographic technicians or photographers for specific jobs. Rather, fine art photography is designed to enhance student prospects for a lifetime of work that is interesting, challenging, and that offers the potential for growth and change.

BFA in Professional Photographic Illustration
with a Major in Photographic Fine Art

Year		Quarter Credit Hours		
		Fall	Winter	Spring
Third Year	FSCF-225, 226, 227 Art and Civilization	3	3	3
	General Studies Electives - Upper Division	4	8	4
	PPHL-401, 402, 403 Photo Fine Art I	4	4	4
	Electives (selected from FA list)	6	2	4
Fourth Year	Art History Electives		3	3
	FSCF-380 Contemporary Art	3	6	
	General Studies Electives - Upper Division	4	6	4
	PPHL-501, 502, 503 Photo Fine Art II	4	4	4
	Electives (selected from FA list)	4	4	4

Electives
Professional Photographic Illustration
PPHF-401, 402, 403 Film Making I
PPHF-407, 408, 409 History and Aesthetics of Film
PPHF-421, 422 Scriptwriting
PPHL-421, 422, 423 Nature Photography
PPHL-521, 522, 523 Color Photo Workshop
PPHL-411, 412, 413 Photojournalism I
PPHL-5.11, 512, 513 Photojournalism II
PPHL-401, 402, 403 Photography as a Fine Art I
PPHL-501, 502, 503 Photography as a Fine Art II
PPHL-431,432,433 Illustration Photography I
PPHL-531, 532, 533 Illustration Photography II
PPHL-437, 438, 439 Visual
• Communications Workshop
PPRT-591, 592, 593 Reproduction Photography, Offset Platemaking/ Offset Presswork
PPHL-599 Independent Study
Others to be selected in consultation with advisors and chairman.

Electives
Photographic Fine Art
PPHF-401, 402, 403 Film Making I
PPHF-407,408, 409 History and Aesthetics of Film
PPHF-421, 422 Scriptwriting
PPHL-421, 422, 423 Nature Photography
PPHL-521, 522, 523 Color Photo Workshop
PPHL-411,412,413 Photojournalism I
PPHL-511, 512, 513 Photojournalism II
PPHL-431,432, 433 Illustration Photography I
PPHL-531, 532, 533 Illustration Photography II
PPHL-437, 438, 439 Visual Communications Workshop
PPRT-591, 592, 593 Reproduction Photography, Offset Platemaking/ Offset Presswork
PPHL-599 Independent Study
Others to be selected in consultation with advisors and chairman.

Biomedical Photographic Communications

The biomedical photographic communications program is designed to prepare the student for a career in media production within the scientific community. The biomedical photographer can be part of the allied health teams in hospitals, medical and dental research centers or in other health institutions.

The first year courses introduce basic theories and principles as well as practical experience with photographic equipment and photographic processing. The courses are integrated to prepare the student for a summer internship in a medical or scientific facility. The completion of the summer internship is required for the associate's degree in biomedical photography.

The second year rounds out the prerequisites for a beginning career in biomedical photography. Courses include photomacrography, photomicrography, and other specific studies required for this career. The junior and senior years' curricula include electives in film making, television and advanced color printing, which can be selected in consultation with the advisor.

Transfer candidates must have an evaluation prior to admission. A personal interview may be required of the candidate for this program. The student may be required to attend summer courses to satisfy prerequisite courses.

The Biological Photographic Association, the certifying and registering professional organization in the biomedical photography field, has cooperated in the preparation of criteria and in program development. Thus the RIT program can provide the educational background which will form the basis for qualifying to become a Registered Biological Photographer (RBP), after the student enters into his or her profession full time.

Biomedical Photographic Communications

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	PPHB-201, 202, 203 Biomedical Photography I	6	6	6
	PPHG -211, 212, 213 Materials and Processes of Photography	3	3	3
	PPHB-211 Survey of Biomedical Photography			1
	SBIG-201, 202, 203 General Biology	3	3	3
	SBIG-205, 206, 207 General Biology lab	1	1	1
	* General Studies Elective - Lower Division	4	4	4
	‡ Physical Education Elective	0	0	0
	Summer (4th Quarter) Internship for 10 weeks in a medical setting			
Second Yearf	PPHG-301, 302, 303 Biomedical Photography II	5	5	5
	PPHT-311 Color Photography/Design	4		
	PPHT-312 Color Photography/Printing Theory		4	
	PPHB-331, 332, 333 Preparation of Biomedical Visuals	3	3	3
	* General Studies Electives - Lower Division	4	4	8
	‡ Physical Education Elective	0	0	0
Third Year	PPHB-413 Biomedical AV Design and Production	4		
	PPHB-401, 402 Advanced Photography in Biomedical Communications		4	4
	** Professional Electives	3 to 4	3 to 4	3 to 4
	""Science Electives	3 to 4	3 to 4	3 to 4
	'General Studies - Upper Division	•4	4	4
	Summer Internship (Optional)			
Fourth Year	™PPHB-501, 502, 503 Senior Thesis Project	4	4	4
	* General Studies - Upper Division	4	6	4
	Business Electives	4	4	4
	** Professional Electives	3 to 4	3 to 4	3 to 4

† Associate'&degree awarded upon successful completion of second year

*** Possible recommended professional electives:*

PPHP-401, 402, 403 Film Making I

PPRT-591, 592, 593 Reproduction Photography, Offset Plate Making, Offset Presswork.

Electives will be made with the coordinator's permission

Other electives with advisor's consultation

**** Options include:*

Electron Microscopy

Medical Terminology

Computer courses

Advanced courses in the Biological Sciences

***** Selected professional coursesmay be substituted for 4, 8, or 12 credits with written permission of advisor.*

‡ See *Pg. 27 for Policy on Physical Education.*

* *See Pg. 75 for General Studies requirements.*

Film and Television

The courses in film and television are designed for students who recognize the motion picture medium as an expressive force uniquely important in today's world. They are intended to acquaint students with film and television as creative media and to develop the skills of production.

The degree program in Film and Television features an introduction to both disciplines with advanced work in either film or video. The curriculum emphasizes production and short periods of outside professional experience are encouraged; usually during the summer.

Courses are structured as lecturfe-laboratory courses, designed to develop individual skills in communication with moving images and the aesthetic principles governing the art. They also are offered to students in Professional Photography, Photographic Illustration or Biomedical Photographic Communications; and other Institute 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, preproduction 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. The film and video projects are often designed by the individual student. Thus a wide variety of styles and intentions are expressed in the work of the department.

Film and Television

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	FADF-221, 222, 223 Design	2	2	2
	PPHG-201, 202, 203 Photography	7	7	7
	PPHG-211, 212, 213 Materials and Processes of Photography	3	3	3
	* General Studies Electives - Lower Division	4	4	4
	‡ Physical Education Elective	0	0	0
Second Yeart	* General Studies - Lower Division	4	4	4
	o Science Option Electives	3	3	3
	PPHF-301, 302, 303 Film Making (I)	4	4	4
	PPHF-417, 418, 419 TV Production""	4.	4	4
	‡ Physical Education	0	0	0
Third Year	* General Studies - Upper Division	8	4	4
	PPHF-411,412,413 Film Making (II)	4	4	4
	PPHF-407, 408, 409 History of Film	3	3	3
	** Non-Photo Electives	2	6	4
Fourth Year	* General Studies - Upper Division	6	4	4
	Senior Production I & II Film/Television	4	4	
	Film/Television Post Production			4
	"Prof. Elective Courses (one per Qtr.)	2	2	2
	OR Prof. Elective Course in Fall Qtr	(2)		
	and PPHF-421, 422 Script Writing		(3)	(3)
	" Non-Photo Electives.....\	4	4	4

† *Associate's degree awarded upon successful completion of second year.*
‡ See *Pg. for Policy on Physical Education.*
'* *See Pg. for General Studies requirements.*
NOTES: 1. Any student at RII may take any course in the Film/TV Department for which the prerequisites have been met, provided there is space. Students transferring into the Department will be evaluated individually for transfer credit.

o 2. Recommended Science Elective Options (2nd Year) Cr. 3/qtr. Such as:
SCHG-281, 282, 283 General Chemistry
SSEG-201, 202, 203, 204 Contemporary Science
SBIG-201, 202, 203 General Biology
SPSP-211,212,213 College Physics
Other with permission from Coordinator

** 3. *Recommended Non-Photographic Electives (3rd and 4th Year) Cr. 4/qtr. Such as:*
Psychology
Sociology
Music — *Various courses in these disciplines are offered by the College*
Philosophy — *of General Studies*
Literature
BBUA-210 Financial Accounting
ITEE-310, 311 Electricity and Electronics
Various other courses such as Design and Computer Graphics (presently being offered)

***4. *Professional Elective Courses (Any three of the following* courses.)
Directing Cr. 2/qtr,
Visualisation C/» *2/qtr.*
Sound Recording Cr. 2/qtr.
Script Writing Cr. 3/qtr.

""For students not requiring an AAS degree after the second year, it is recommended that PPHF-417, 418, 419 be taken in the third year and PPHF-407, 408, 409 in the second year

Photo Management Program Trains Industry Managers

The curriculum in photographic management is designed to prepare individuals to assume management positions in the photographic processing and finishing industry. The student pursuing this course of study will be involved with obtaining:
(1) a thorough knowledge of the photographic process in order to obtain the highest possible quality from the process: (2) production techniques and procedures necessary to obtain quality in the shortest possible time: and (3) the business aspects of prompting and selling the economically-produced quality product in a competitive market.

Students in this program will spend a large portion of their time in our fully equipped color processing and finishing laboratory to gain hands-on experience in production, quality control, and management techniques.

This is a four-year baccalaureate program with the career objective of plant supervision and management; however, those choosing to terminate after two years are awarded the AAS degree and should qualify for area supervisory positions in a finishing plant.

Photographic Processing and Finishing Management majors

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	PPHS-201, 202, 203 Photo, for Scientists & Engineers	4	4	4
	SMAM-201, 202 College Algebra and Trig	3	3	
	BBUB-201 Management			4
	PPHT-311,312,313 Color Photo Systems	4	4	4
	PPHM-204 Orientation to Production Ph. Processing & Finishing			1
	* General Studies	4	4	4
	‡ Physical Education Elective	0	0	0
Second Yeart	PPHM-301, 302, 303 Production Processing & Finishing	4	4	4
	ITEE-310, 311, 312 Electricity and Electronics	4	4	4
	GSSE-301, 302 Economics I and II	4	4	
	ICSS-200 Survey of Computer Science			4
	* General Studies	4	4	4
	‡ Physical Education Elective	0	0	0
Third Year	PPHM-401, 402, 403 Photographic Process Control	4	4	4
	PPHM-410, 411, 412 Training and Supervision	4	4	4
	SMAM-319, PPHS-413 Statistics of Quality Control		4	3
	BUB-401 Behavioral Science	4		
	PPHM-506 Theory of Corrective Color Printing			2
	'General Studies	4	4	4
Summer Internship				
Fourth Year	BBUA-210, 211 Accounting	4	4	
	El El-482 Production Control	4		
	BBUM-263 Marketing			4
	Professional Electives**	4	4	4
	PPHM-520 Operation, Care and Maintenance of Photofinishing Equipment		1	
	PPHM-501, 502, 503 Senior Seminar	0	0	1
	* General Studies	4	8	6

‡ See *Pg. 27 for Policy on Physical Education.*
* See *Pg. 75 for General Studies requirements.*
*** Professional electives must be chosen in consultation with the student's academic advisor.*
† *Upon successful completion of second year, the associate of applied science degree is awarded. It is required that students seeking the baccalaureate degree spend a summer in an internship program.*

Photographic Processing and Finishing Management

Professional electives
BBUA-331,332 Accounting I, II (Cost)
BBUB-301 Business Law
BBUB-404 Management (Business Policy)
BBUF-281 Money and Banking
BBUF-441 Finance (Financial Management)
GLLC-402 Conference Techniques
GLLC-501 Effective Speaking
PPHM-506 Theory of Corrective Color Printing
PPHM-511, 512, 513 Advanced Machine Processing
PPHM-599 Independent Study
PPHP-411,412,413 Sensitometry
PPHP-441,442,443 Advanced Color Printing
SCHG-205, 206, 207 Chemical Principles
Others to be selected in consultation with advisors.

Photographic Science and Instrumentation

Photographic science is concerned with the materials and processes of photography; photographic instrumentation with the application of photographic processes to science and technology. A primary objective of the photographic scientist is the improvement of existing materials and processes of photography and the development of new methods and materials. The instrumentation engineer is concerned with the planning of new applications of photography or the adaptation of existing methods to new or special requirements. Whereas chemists, physicists, and engineers of disciplines other than photography are employed in both of these activities, there is a need, on an increasing scale, for the specialist in photographic science and instrumentation.

A broad segment of American business is an employer of graduates of the Photographic Science and Instrumentation Division; for example, aerospace, business machines, information handling, microelectronics, scientific instruments, graphic arts, industrial chemicals, and photographic materials and equipment. Aside from industry, many graduates are employed by governmental agencies and laboratories. Graduates with an interest in marketing often move into positions as sales and technical representatives.

The Photographic Science and Instrumentation Division offers three programs leading to both undergraduate and graduate degrees: a four-year program resulting in a bachelor of science degree, a five-year program resulting in simultaneous awarding of the bachelor of science and master of science degrees, and an MS degree program for students holding a bachelor of science degree in science or engineering.

* In addition, it is possible for students with satisfactory credits in mathematics, chemistry, and physics to transfer into either the four-year or five-year program at the beginning of the second or third year by taking a transfer program during the summer quarter and preceding transfer.

In recognition of the division's belief that much degree-relevant learning in photographic science and instrumentation can take place outside the Institute's classrooms, all undergraduates are encouraged to acquire photoscience industrial experience during their program at RIT.

Photographic Science and Instrumentation

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	PPHS-201, 202, 203 Photography for Scientists & Engineers	4	4	4
	SCHC-211,212 General Chemistry	3	3	
	SCHG-205, 206, 207 Chemical Principles Lab	1	1	1
	SCHO-230 Intro, to Organic Chemistry			3
	SMAM-251, 252, 253 Calculus	4	4	4
	* General Studies Electives - Lower Division	4	4	4
	‡ Physical Education Elective		0	0
Second Yearf	PPHS-311 Advanced Sensitometry, Black-and-White Photographic Materials		4	
	PPHS-312 Applied Processing	4		
	PPHS-313 Color Systems			4
	SMAM-305 Calculus	4		
	SMAM-306 Differential Equations I		4	
	ICSP-205 Computer Techniques			3
	SPSP-311, 312, 313 University Physics	4	4	4
	SPSP-371, 372,373 University Physics Lab		1	1
	* General Studies Electives - LowerOivision	4	4	4
	‡ Physical Education Elective	0	0	0
Third Year	PPHS-401 Radiometry	5		
	PPHS-402 Image Microstructure		5	
	PPHS-404 Introduction to Scientific Research			2
	PPHS-411 Statistical Inference	3		
	PPHS-412 Statistical Design of Experiments		3	
	PPHS-413 statistics of Quality Control			3
	Professional Electives (selected from undergraduate elective list)		Varies	
	PPHS-421,422,423 Photographic Chemistry (5 year BS/MS program - may also be taken in 4th year)	4	4	4
	'General Studies Electives - Upper Division	4	4	8
Fourth Year BS Program	PPHS-501, 502, 503 Research	2	4	4
	PPHS-521, 522, 523 Imaging Systems and Evaluation	4	2	2
	Professional Electives (selected from undergraduate elective list) *	To bring undergraduate credit to 184		
	•General Studies Electives - Upper Division	4	6	4
Fourth Year BS/MS Program	'General Studies Electives - Upper Division	5	5	5
	PPHS-421, 422,423 Photographic Chemistry (if not taken during 3rd year)	4	4	4
	PPHS-890 Research	2		
	Professional Electives (selected from undergraduate elective list	To bring undergraduate quarter credits to 184		
Fifth Year BS/MS Program	PPHS-711, 712, 713 Theory of the Photographic Process	3	3	3
	PPHS-731, 732, 733 Instrumental and Photographic	3	3	3
	PPHS-741, 742, 743 Analysis and Evaluation of Imaging Systems	3	4	3
	PPHS-890 Research and Thesis Guidance		• I	
	Professional Electives (selected from graduate elective list)	To bring graduate quarter credit to 45		

† *Upon successful completion of the second year, the associate in applied science degree is awarded .*
‡ *See Pg. 27 for Policy on Physical Education.*
* See *Pg. 75 for General Studies requirements.*

Four-year program
Bachelor of Science in Photographic Science and Instrumentation

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 the study of photographic materials and instrumentation. The photographic science core program then continues with courses in radiometry, the structure of images, color and vision, and methods of engineering photographic systems. Third and fourth year students select elective courses in photographic science and instrumentation, engineering, science, mathematics, and graphic arts to broaden their base of knowledge. An undergraduate thesis is required.

Opportunities also exist to perform thesis work under the direction of selected scientists and engineers in other RIT colleges as well as from local industry as adjunct faculty.

Five-year program
Bachelor of Science and Master of Science in Photographic Science and Instrumentation >
(JJourse content during the first three years is similar to the bachelor of science program and provides the student with a background in mathematics, chemistry, physics, and basic photographic science and instrumentation. The fourth year is spent taking advanced elective courses in chemistry, physics, mathematics, engineering, and/or photographic science and instrumentation. The fifth year is devoted to graduate courses and a graduate thesis.

Admission into the five-year program is normally made at the end of the third year. Completed applications should be sent to the Admissions Office.

Graduate program,
Master of Science in Photographic Science and Instrumentation
The graduate program is designed to prepare persons holding a bachelor of science degree in physics, chemistry, or engineering for positions in the field of photographic science and instrumentation. Applicants without acceptable understanding of photographic materials and processes are required to take a summer course before final admission to the graduate program. This full-time summer course, PPHG-700 (Principles of Photographic Science) begins in June and runs for 10 weeks. Certain graduate courses are offered during the evening on a rotating basis for those desiring to obtain the master of science degree on a part-time basis. Information regarding which courses are offered in which years during the evening may be obtained from the division.

The graduate program is administered by the Council on Graduate Studies and is under the direction of the graduate coordinator (see Graduate Bulletin for particulars).

Technical Photography

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	Photography 1	7	7	7
	Materials & Processes of Photography	3	3	3
	Mathematics			
	* College Algebra	4		
	(Introductory Calculus)		(3)	(3)
	OR			
	(Mathematics of Business & Finance		(3)	(3)
	General Studies	4	4	4
	Physical Education	0	0	0
Second Yearf	*Technical Photography II*			
	Photographic Sensitometry	3		
	Technical Photographic Chemistry		3	
	Photographic Optics			3
	Color Photographic Systems			
	Color Photography/Design	4		
	Color Printing/Theory		4	
	Color Measurement		4	
	College Physics	3	3	3
	College Physics Lab	1	1	1
	General Studies	4	4	4
	Physical Education	0	0	0
Third Year	*Technical Photography III*			
	Preparation of Visuals	3		
	Producing Audiovisuals Presentations 1		4	
	High Magnification Photography			3
	Structuring the Moving Image	4		
	Research Methods		4	
	Introduction to Technical Writing			3
		4		
	Statistics		4	
	Survey of Computer Science			4
	General Studies	4	4	8
Fourth Year	*Technical Photography IV*			
	High-Speed/Time Lapse	3		
	(Introduction to Research)	(1)		
	(Research Project)		(3)	
	OR			
	(Internship)	(1)	(3)	
	Nonconventional Imaging Systems			3
	Statistics, Computer or Electronics Elec	4		
	Basic Television Production		4	
	Professional Elective			3-4
	Behavioral Science	4		
	Accounting		4	
	Management			4
	General Studies	4	4	4
	Senior Seminar (General Studies)			2

** Waiver by examination permits substitution of an elective course.*

Technical Photography \

The technical photography curriculum has been designed to prepare students for entry into any of a variety of positions in the broad field of technical photography, as distinct from providing highly specialized training for a specific position. These include both picture-making and non-picture-making positions.

Picture-making courses are included in all four years of the program, with a transition from a comprehensive foundation course in black-and-white photography through color photography and color printing, motion-picture and television production, to more specialized courses in audiovisual production, high-magnification photography, high-speed photography, and nonconventional imaging systems. These picture making courses are balanced with courses in technical photographic subjects, mathematics, science, business, and general studies. Students are given some options and electives, including the opportunity of serving a summer internship following the third year in place of the research project in the fourth year.

Employment statistics maintained by RIT's Office of Central Placement Services, as well as results of an industry questionnaire done by the

School of Photographic Arts and Sciences, indicate that there is demand for graduates with technical backgrounds for such positions as technical and sales representatives, technical writers, quality control personnel, product development and testing, applied research, laboratory supervision, scientific photography, technical illustration, audiovisual production, photographic testing, and management.

Photographic Science and instrumentation

Recommended undergraduate electives

EEEE-441 Electronics I
EEEE-461,462 Electrical Engineering I, II
PPHS-421,422,423 Photographic Chemistry
PPHS-511,512, 513 Optical Instrumentation
PPHS-531, 532, 533 Theory of the Photographic Process
PPHS-599Independent Study
PPRT-591 Reproduction Photography
PPRT-592 Printing Plates
PPRT-593 Printing Presses
SCHA-311,312 Analytical Chemistry
SCHA-313 Introduction to Physical Chemistry
SCHO-431,432,433 Organic Chemistry
SCHP-441,442, 443 Physical Chemistry
SMAM-307 Differential Equations
SMAM-308 Engineering Mathematics
SMAM-420 Complex Variables
SMAM-501, 502 Advanced Differential Equations
SPSP-314,315 Modern Physics
SPSP-411,412 Electricity and Magnetism
SPSP-455 Optical Physics
Others to be selected in consultation with advisors and staff chairman.

Recommended graduate electives

CASM-731, 741,871 Statistics
CASM-761 Reliability
CASM-811,812 Probability Theory and Application
CASM-821,822,823 Theory of Statistics
CASM-841,842 Regression Analysis
CASM-851 Nonparametrio Statistics
EEEE-702 Introduction to Random Variables and Signals
EEEE-734 Communication Techniques
EEEE-735 Digital Data Transmission
PPHS-751, 752, 753 Special Topics in Photographic Science
PPRM-702 Computers in Management
PPRT-702 Graphic Reproduction Theory
SCHA-711 Instrumental Analysis
SMAM-711,712 Advanced Engineering Mathematics
Others to be selected in consultation and with the approval of graduate coordinator. Undergraduates with proper prerequisites may take graduate electives for undergraduate credit upon approval of advisors and staff chairman.

School of Printing

The School of Printing at Rochester Institute of Technology is the world's largest and best equipped school for developing printing managers. It enjoys a position of leadership because of its extensive laboratory facilities, its up-to-date programs of study, its competent faculty, and its successful graduates. More than 700 students are enrolled in its bachelor's and master's degree programs.

The school has 25 laboratories with more than $25 million in up-to-date printing equipment, occupying 125,00 square feet of space. Most equipment is upgraded or replaced by manufacturers as they advance the state of the art. The school offers more than 70 courses in printing technology and management from which students take about half their coursework. Other courses—including engineering, computer science, business, science and general studies—are taken in other RIT colleges.

The primary objective of the School of Printing is to prepare students—both men and women—for successful careers in printing, publishing and allied industries. While students get considerable hands-on experience with the latest equipment in many technological areas, the emphasis is on learning "why" rather than "how to." Printing school graduates have successful careers at all levels of graphic arts management: in selling, supervision, design, and research, among other positions.

All of the school's programs require study in a broad range of courses but allow study in particular areas of interests in depth. All programs require students to take courses to help develop understanding and appreciation in the following areas—aesthetic qualities of good printing, procedures involved in the major important processes, principles of management, applications of science and engineering in the graphic arts—and liberal arts courses as a means of developing personally as a well-rounded individual and responsible citizen. To facilitate curriculum development, the faculty of the School of Printing is divided administratively into three sections: design-composition, photography-plate-press, and management. All of the school's programs share the same faculty.

The School of Printing offers four bachelor of science degree programs and a master of science degree program. The bachelor's degree programs are described here. The master's program was developed for students who already have a bachelor's degree (not necessarily in printing) and is described in the RIT Graduate Bulletin. Some college graduates with bachelor's degrees choose to pursue a BS in printing rather than the MS in printing technology degree because of its greater flexibility in program of studies. Upon admission, such students usually are given the equivalent of about two years of credit, allowing them to earn the BS in printing degree in two years of concentrated effort.

Scholarships and Financial Aid

Competitive scholarships are offered through the National Scholarship Trust Fund of the Education Council of the Graphic Arts Industry. Anyone interested in applying for one of these scholarships should do so early in the senior year in high school, since the application must be filed in advance of the date set for competitive examinations. If information is not available in the local high school, the candidate should write to:

Education Council of the Graphic Arts Industry
4615 Forbes Avenue
Pittsburgh, PA 15213

More than 55 scholarships are available to School of Printing students through RIT's Financial Aid Office. They range in size from $100 to full tuition. Some of these awards may be continued beyond one year depending upon the students' scholastic records. See the section on financial aid located near the front of this catalog.

The School of Printing also administers some scholarships directly. These usually are awarded to upperclassmen on the basis of previous performance at the school.

Cooperative Program

The cooperative program in printing is flexible and voluntary. It is available to printing students who have successfully completed the first two years of the printing program and to qualified transfer students accepted at the third-year level. The intent of the cooperative program in printing is to afford students the opportunity of enlarging and improving their college education by combining formal, classroom learning with practical work experiences. Printing students following the cooperative program have a wide variety of graphic arts work experiences available to them. Students in the program may take up to five years to complete BS degree requirements.

Internships

A number of firms offer summer employment in selected areas to third-year students who are chosen competitively. These positions provide significant educational experience.

Course Descriptions

For a complete outline of courses offered at RIT, please request the Course Description Catalog from the Admissions Office.

Printing Degree Program

Prior to September 1979 the printing program was the only bachelor of science degree program available at the School of Printing, and the school's international reputation is built on it. From its inception the program has drawn students from nearly every state in the union and from numerous Central and South American, African, Asian, and European countries.

Although the school has recently introduced special programs to meet important and specific industry needs (described on the succeeding pages of this catalog), 80 percent or more of students in the school continue to enroll in the printing program. It offers the greatest amount of flexibility in allowing students to customize their programs for the careers they seek.

This program is based on a sound foundation in the technologies important to the printing industry and also requires courses in important management areas. It allows numerous electives from which students may choose management or technical courses according to their career goals.

The printing program's list of required courses is indicated in a boxed tabulation at the end of this section.

While each student is expected to use initiative in selecting elective courses, the three faculty divisions administer optional program sequences to guide students toward specific career objectives.

Design Composition Division

Emery E. Schneider, Staff Chairman

Most people in the graphic arts need to have an appreciation for good design and typography because much of their time is spent evaluating printing from the standpoint of design and production. Many printing firms hav$ organized their own design and composition facilities in order to offer a complete service to their customers and need well-qualified people in these areas. In addition, the needs of in-plant and corporate advertising departments for educated people in the creative fields and for printing buyers are extensive. For these reasons, the Design-Composition Division not only offers introductory creative courses for those students who will pursue other areas of endeavor, but also offers sequences in the design field in which the student may specialize. These sequences include:

Book design and book production. A sequence designed to prepare students to fill a variety of positions in the book publishing and book manufacturing industries. This flexible program can be altered to fit the specific needs of others interested in the wide range of opportunities in the publishing industry.

Design and Typography. A sequence for students with a basic interest in the aesthetics of printing. It includes a broad range of courses—calligraphy to typography, design to copy preparation—that are important in the creative fields of the printing industry.

Composing Room Procedure. A sequence giving students an overview of typesetting techniques and management. The diversity and challenges in this field are reflected in a series of courses ranging from electronics in computerized typesetting through estimating and other management areas related to the composing room.

Photography-Plate-Press Division

Charles J. Weigand, Staff Chairman

The production segment of the industry is the core area of most printing facilities. All managers in the industry, from design through delivery and in nonproduction areas, need a firm grasp of this core area if their decisions are to be valuable. This is the home area for the production manager in plants producing books newspapers, forms or commercial printing. For these reasons, the Photography-Plate-Press Division offers courses in all the major printing processes, encompassing camera work, image assembly, platemaking, presswork, inks, substrates, binding, finishing, and distribution.

This division administers sequences in various production areas such as:

Lithographic Technology. This sequence gives students in-depth knowledge of lithographic management. The student is prepared for positions such as technical service representative, production scheduling, quality control analysis, and technical sales.

Package Printing. This sequence, offered in conjunction with the Department of Packaging Science, emphasizes the problems encountered in printing on many different kinds of materials and in packaging many different kinds of products. This program prepares students for positions in production and sales with the packaging printer, an expanding segment of the graphic arts.

Reproduction Photography. A sequence for students who wish to specialize in the photomechanical processes in printing. The student is prepared for management positions with camera service departments within printing firms and with color separation service companies.

Flexographic Technology. A sequence for students who wish to enter the flexographic industry. It allows the student to use elective credits to emphasize appropriate technical course work and take advantage of many management electives.

Management Division

W. Frederick Craig, Staff Chairman

To facilitate a high level decision-making process, management personnel in the graphic arts need to have a clear understanding of the interrelationships that exist among the marketing, financial, personnel, and production segments of the industry. To this end, the Management Division offers course work in these various areas. In collaboration with other divisions, the Management Division provides the

Printing Degree Program

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	PPRM-110 Freshman Orientation	0		
	PPRT-201 Typography	3		
	PPRT-202 Composition Technology	3		
	PPRT-203 Layout & Print Design I	3		
	PPRT-204 Relief Press		3	
	PPRT-205 Gravure		3	
	PPRT-206 Reproduction Photography			3
	PPRT-207 Printing Plates			3'
	PPRT-208 Lithographic Press			3
	PPRT-209 Screen Printing I		3	
	Mathematics Sequence	3 or 4	3	3
	General Studies - Lower Division	4	4	4
	Physical Education Electives	0	0	0
Second Year	PPRM-201 Intro, to Technical Writing		3	
	PPRM-210 Financial Controls I		3	
	PPRM-302 Personnel Relations I			3
	PPRT-302 Composition Systems	3		
	PPRT-311 Planning & Finishing	3		
	PPRT-312 Image Assembly	3		
	PPRT-402 Appl. of Electronics to G.A.			3
	Science Sequence (either Chemistry or Physics)	4	4	4
	General Studies - Lower Division	4	4	4
	Physical Education Electives	0	0	0
Third Year	PPRM-301 Appl. of Computers in G.A.	3		
	PPRM-401 Estimating I		4	
	PPRM-403 Printing Production Management I			3
	PPRT-410 Introduction to Paper			3
	Professional Electives . >	3	3	3
	Science Sequence	4	4	4
	General Studies Concentration - Upper Division	8	4	4
Fourth Year	PPRM-590 Senior Seminar	2		
	SMAM-319 Data Analysis		4	
	Professional Electives	10	8	10
	General Studies Electives - Upper Division	4	4	4
	General Studies Senior Seminar & Project			2

topping for shaping future managers in the graphic arts. This division offers these sequences:

Estimating. Estimating is at the heart of the successful economic well-being of the printing industry. Accurate job costing and analysis can mean the difference between success and failure for any printing concern. This sequence prepares students for positions found in every segment of the industry from commericial printing through packaging and specialized forms manufacturing.

Computer Applications. Computers are of increasing importance to the printer as they can perform the usual business data-processing tasks as well as more specialized applications ranging from typesetting to process control. This sequence is designed to provide students with a basic understanding of computers and their potential in production management.

Newspaper Production Management. A sequence for students who wish to specialize in newspaper management. This sequence emphasizes production, labor, finance, and marketing in relation to the newspaper industry. New technological changes in the industry are also emphasized.

Financial Management. This sequence utilizes courses in both the School of Printing and the College of Business. Students prepare themselves for the financial aspects of managing a graphic arts business.

Personnel Management. Drawing heavily on courses in the College of General Studies, the sequence prepares students for positions in personnel management, labor relations, and other positions where the ability to work closely with individuals is of prime importance.

Production Management. Students in this sequence are prepared to enter all phases of printing dealing with production problems in the commercial printing industry as well as in the newspaper, book, and magazine publishing industries. Management positions evolving from this sequence are that of scheduler, assistant production manager, and production manager.

Saies-Marketing. This sequence prepares students for positions in printing sales and marketing and printing equipment or supply sales, as well as positions as technical representatives for graphic arts supply firms and as printing buyers and brokers.

Career Opportunities. The graduate with a BS degree in printing has available a wide variety of technical and managment positions in printing and related industries. Among these are positions in administration and general management, production management, production and quality control, sales, estimating, cost and financial control, process and plant development, graphic design, newspaper production management, and graphic arts research. A variety of positions in commercial printing, packaging, and service industries and in the book, newspaper, and magazine publishing industries are available to graduates.

The two-year portion of the program is for those who wish to enter employment after two years of college study. Graduates of this program obtain employment as assistants in such classifications as estimating, production control, specification writing, purchasing, copy preparation, typography and layout, and sales.

Special Requirements for Admission

Overall requirements for admission are given in the general information section of this bulletin. In addition, it is important that an applicant have an interest in printing courses, which may be shown by success in high school printing courses, by extracurricular activities in connection with a school newspaper or yearbook, by employment in a printing establishment, or by gaining an idea of the activities and opportunities in the field through investigation or personal associations. While high school graduation is stated as a basic requirement for admission, with intermediate algebra and one year of science as specific prerequisites, it is highly recommended that students take as much mathematics and science as possible in high school.

Math/Science Sequences

Each student must take 13 or 14 credits of college mathematics as required by the School of Printing. Nine or 10 of these mathematics credits are earned in the freshman year, and placement will be determined through testing and a review of the student's academic background. Preparatory math courses will be available if the need for them exists.

The second-year science sequence must be Chemistry for Printers (SCHG-281, 282, 283) or Physics for Graphic Arts (SPSP-214, 215, 216). However, with departmental approval students can substitute certain other college chemistry or physics sequences. The third-year science sequence can be chemistry or physics, advanced chemistry, advanced physics, calculus, computer, or Photography for Scientists and Engineers (PPHS-201, 202, 203).

Electives

General Studies Electives

In general, the program requires that the student take at least one course per quarter from this area, which includes such subjects as economics, psychology, logic, ethics, language, communications, literature, and fine arts appreciation.

Professional Electives

These are usually selected from the printing management and technology electives listed below, but may also include courses from the College of Business or Engineering or other colleges in the Institute if the subject matter is approved as relevant to the student's needs.

Thefollowing electives supplement required courses. Students elect courses to suit their individual interests and objectives and to meet the credit requirements of the printing program. Selection is subject to prerequisite requirements and availability of courses.

Printing electives

Printing Management

PPRM-402 Estimating II (Cr-4)
PPRM-404 Printing Production Management II (Cr-4)
PPRM-502 Financial Controls II (Cr-4)
PPRM-506 Business Law (Cr-3)
PPRM-507 Computer Estimating Workshop (Cr-4)
PPRM-509 Economics of Production Management (Cr-4)
PPRM-510 Personnel Relations II (Cr-4)
PPRM-511 Labor Relations in Graphic Arts (Cr-4)
PPRM-512 Collective Bargaining in the Graphic Arts (Cr-3)
PPRM-513 Sales in the Graphic Arts (Cr-4)
PPRM-514 Newspaper Management (Cr-4)
PPRM-515 Legal Problems of Publishing (Cr-4)
PPRM-516 Marketing in Graphic Arts (Cr-4)
PPRM-518 Purchasing in the Graphic Arts (Cr-3)
PPRM-599 Independent Study (Cr-Arranged)

Printing Technology
PPRT-213 Principles of Copy Preparation (Cr-3)
PPRT-301 Typography II (Cr-4)
PPRT-303 Layout and Printing Design (Cr-4)
PPRT-304 Advanced Relief Press (Cr-4)
PPRT-306 Tone Reproduction Photography (Cr-3)
PPRT-309 Advanced Screen Printing (Cr-3)
PPRT-310 Advanced Image Carriers (Cr-3)
PPRT-313 Copy Preparation (Cr-4)
PPRT-314 Advanced Flexography (Cr-4)
PPRT-315 Ink and Color (Cr-4)
PPRT-317 Calligraphic Forms (Cr-3)
PPRT-319 Newspaper Design (Cr-3)
PPRT-320 Newspaper Production (Cr-3)
PPRT-321 Web Offset (Cr-3)
PPRT-329 Introduction to Book Design (Cr-3)
PPRT-333 Introduction to Book Production (Cr-3)
PPRT-401 Typographic Workshop (Cr-4)
PPRT-403 Layout and Printing Design (Cr-4)
PPRT-406 Color Separation Photography (Cr-3)
PPRT-501 Development of Printing Types (Cr-3)
PPRT-506 Advanced Color Reproduction (Cr-3)
Other electives to be selected in consultation with advisors.

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Newspaper Production Management

Robert G. **Hacker,** coordinator

The printing and publishing industries are undergoing dynamic changes in technology. Within the newspaper field these changes are particularly, drastic, completely altering how things are accomplished. In addition, advances in technology and market penetration of related information-handling industries 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 shall 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 business 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 steer this changing industry. Graduates of the newspaper production 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 in the ability to steer existing manpower and management systems through potentially stormy change to a useful and profitable position in the marketplace. The revolution in this field points to the need for a new person to deal with the technological and managerial problems of such change. This program is intended to fulfill the developing industry need for such people. As its name implies, the program concentrates on those courses that have been most helpful to graduates particularly interested in careers in newspaper production management.

Newspaper Production Management

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	EENG-201 Intro, to Engineering	4		
	PPRM-110 Freshman Orientation	0		
	PPRM-302 Personnel Relations I			3
	PPRM-310 Industrial Organization & Management. . .			3
	PPRT-202 Composition Technology	3		
	PPRT-206 Reproduction Photography	3		
	PPRT-207 Printing Plates		3	
	PPRT-208 Lithographic Press		3	
	PPRT-302 Composition Systems		3	
	PPRT-319 Newspaper Design			3
	Mathematics Sequence	3 or 4	3	3
	General Studies - Lower Division	4	4	4
	Physical Education Electives	0	0	0
Second Year	Work Measurement & Analysis	4		
	PPRM-201 Intro, to Technical W iting		3	
	PPRM-301 Appl. of Computers in G.A.	3		
	PPRT-210 Newspaper Presses		3	
	PPRT-320 Newspaper Production I			3
	PPRT-322 Circulation & Mailroom			3
	PPRT-402 Appl. of Electronics to G.A.		3	
	SCHG-281, 282, 283 Chemistry for Printers	4	4	4
	Professional Elective			3
	General Studies - Lower Division	4	4	4
	Physical Education Electives	0	0	0
Third Year	El El-422 Systems & Facilities Planning	4		
	PPRM-210 Financial Controls I		3	
	PPRM-514 Newspaper Management		4	
	PPRM-518 Purchasing in the GA	3		
	PPRT-330 Newspaper Production II			3
	Professional Elective			3
	Science Sequence	4	4	4
	General Studies Concentration - Upper Division	4	4	8
Fourth Year	PPRM-509 Economics of Production Management. . .		- : —	4
	PPRM-511 Labor Relations in G.A.	4		
	PPRM-515 Legal Problems in Publishing			4
	SMAM-319 Data Analysis		4	
	Professional Electives	8	8	2
	General Studies Electives - Upper Division	4	4	4
	General Studies Senior Seminar & Project			2

Career Opportunities

The graduate with a BS degree in newspaper production management has numerous career choices within the newspaper industry. Many young people find entry positions as production assistants, assistant production managers, assistant business managers, and computer specialists. These can lead to positions of production director, director of data processing, operations director, business manager and publisher. All these positions present a distinct challenge in an industry undergoing a vast technological change.

Requirements for Admission

General requirements for admission are given in the general information section of this bulletin. In addition, it is highly desirable that an applicant have a deep interest in newspaper

management, which can be shown by success in working on a school newspaper, working for a daily or weekly newspaper or by a general interest in the mass media.

High school graduation is a requirement for admission along with course work in elementary algebra, trignometry, intermediate algebra, physics, or chemistry. Preference is given to those applicants who have had additional work in mathematics, physics or chemistry. The entrance requirements and general program scope are similar to those in the printing degree program. It requires coursework aimed at the newspaper industry, rather than the printing industry in general.

Program of Study-

The School of Printing offers a four-year course of study leading to a bachelor of science degree in newspaper production management. The newspaper industry is large: 383,000 people in 8,200 establishments producing more than 1,700 dailies and 7,400 weeklies. The ***U.S. Industrial Outlook*** says of the newspaper industry, "The continuing development and implementation of new technologies, successful research efforts and educational programs will support a growth rate ranging between 7 and 8 percent per year to the mid-1980s.

The program stresses management, engineering, sciences, computer printing technology, along with liberal studies.

Math/Science Sequences

Each student must take 13 or 14 credits of college mathematics as required by the School of Printing. Nine or 10 of these mathematics credits are earned in the freshman year, and placement will be determined through testing and a review of the student's academic background. Preparatory math courses will be available if need for them exists.

The second-year science sequence must be Chemistry for Printers (SCHG-281, 282, 283). However, with departmental approval students can substitute certain other college chemistry sequences. The third-year recommended science sequence—to be chosen after consulting with the coordinator of the program—is a series of computer courses.

Electives

General Studies Electives

In general, the program requires that the student take at least one course per quarter from this area, which includes subjects such as economics, psychology, logic, ethics, language, communications, literature, and fine arts appreciation.

Professional Electives

These are usually selected from the electives listed below, but may also include any other School of Printing course. Students elect courses to suit their individual interests and objectives and to meet the credit requirements of the newspaper program. Selection is subject to prerequisite requirements and availability of courses.

Recommended Professional Electives:

PPRM-516 Marketing in the Graphic Arts
ICSP-215 Programming Language—FORTRAN
PPRT-323 Newspaper Color
PPRT-324 Newspaper Composition
PPRM-702 Computers in Management

Printing Systems Management

Walter A. Campbell, Coordinator

The printing industry needs people who have competency in both printing and industrial engineering. They must be able to collect data on plant operation, interpret the data, and make appropriate operational adjustments in line with those data. At the same time, they must be up-to-date with technical changes and new developments in the printing industry. *

Working with computers, methods analysis, electronics, mechanics, and many different kinds of people are daily occurrences. The program in printing systems management integrates coursework in printing technology, printing management, industrial engineering, math/science, and general education to prepare managers for the printing industry who are excellent problem solvers when analyzing printing plant operations.

Employing about 1.1 million people, the commercial printing industry has about 45,000 plants. Although many of these plants are quite small, about 9,000 of them would be of sufficient size to require the services of at least one graduate of the printing systems management program, and many of these firms have stressed the need for people educated in both printing and industrial engineering.

U.S. Industrial Outlook says, "The stability and growth that has existed in the commercial printing industry for more than a decade is expected to continue into the 1980s." This program is designed to complement the industry's growth by stressing management, engineering, and the sciences, along with computer and printing technology.

This program's admission standards appeal to students with interests in advanced mathematics, engineering, and printing. The program emphasizes a variety of engineering courses that prepare graduates for engineer-type positions in the printing industry. At.the same time, this preparation enhances the graduate for a variety of production management positions.

Career Opportunities

The graduate with a BS degree in printing systems management has many career choices within the printing industry. Many find beginning positions as production assistants, assistant production managers, assistant plant engineers, computer engineering specialists, and systems analysts. These can lead to positions as production manager, direqtor of computer technology, plant engineer, and operations manager.

Requirements for Admission

General requirements for admission are given in the general information section of this bulletin. In addition, it is highly desirable that the applicant have a great interest in both printing and industrial engineering, which can be shown by success in working on a school newspaper or yearbook, by working summers in a printing plant, or by general interest in graphic communications and engineering. High school graduation is a requirement along with coursework in elementary algebra, plane geometry, intermediate algebra, trigonometry, physics, and chemistry. Preference is given to those who have additional work in mathematics, physics, and chemistry. Students admitted to this program must meet the full entrance requirements of the RIT College of Engineering in mathematics, physics, chemistry, and SAT scores.

Program of Study

The School of Printing offers a four-year course of study leading to a bachelor of science degree in printing systems management. The program includes a total of 196 quarter credits. Of these there are 35 credits in printing technology, 29 credits in printing management, 40 credits in industrial engineering, 32 credits in math/science, 54 credits in general studies, and six elective credits. The first-year curriculum of this program and that of the Printing and Applied

Computer Science program are practically the same. Therefore, a student may transfer between the program at that time with no loss of credit.

Electives
Students may elect professional courses in printing or industrial engineering to complete their course requirements.

General Studies Electives
In general, the program requires that the student take at least one course per quarter from this area, which includes subjects such as economics, psychology, logic, ethics, language communications, literature, and fine arts appreciation.

Printing and Applied Computer Science

William H. Birkett, Coordinator

In recent years computers have become widely used in most areas of the graphic arts industry. From typesetting to management information systems 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, RIT's School of Printing, in cooperation with the School of Computer Science and Technology, established the printing and applied computer science program for students who want to combine both fields.

Career Opportunities
Graduates with a BS degree in printing and applied computer science have many career possibilities open to them. These include systems analysis, production control, engineering liaison, custom engineering, customer training, marketing support, purchasing, process engineering and production design, as well as general staff positions. These positions can lead to management responsibilities as production manager, director of computer technology and operations manager. These are all stepping stones to higher management positions.

Requirements for Admission
Requirements for admission are given in the general information section of this bulletin. In addition, it is highly desirable that the applicant have a great interest in printing and computers, which can be shown by success in working on a school newspaper or yearbook, by working summers in a printing plant, or by general interest in graphic communications as well as in computers and their applications. High school graduation and coursework in elementary algebra, plane geometry, intermediate algebra, trigonometry, physics, and chemistry is required. Preference is given to those who have had additional work in physics, calculus, and computer usage.

Printing Systems Management

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	PPRM-110 Freshman Orientation	0		
	PPRM-210 Financial Controls I	3		
	PPRM-301 Appl. of Computers in G.A.			3
	PPRM-403 Printing Production Managment I			3
	PPRT-201 Typography		3	
	PPRT-204 or PPRT-205 or PPRT-209 Flexography or Gravure or Screen Printing I	3	•	-
	PPRT-206 Reproduction Photography			3
	PPRT-207 Printing Plates		3	
	PPRT-208 Lithographic Press		3	
	PPRT-213 Principles of Copy Preparation	3		
	SMAM-251.252, 253 Calculus	4	4	4
	General Studies - Lower Division	4	4	4
	Physical Education Electives	0	0	0
Second Year	EENG-201 Intro, to Industrial Engineering	4		
	EENG-202 Computing for Industrial Engineers		4	
	PPRM-201 Intro, to Technical Writing			3
	PPRT-302 Composition Systems	3		
	PPRT-311 Planning & Finishing	3		
	SMAM-305 Calculus	4		
	SMAM-351,352 Intro. Probability & Statistics		4	4
	SPSP-205, 206 Physics (Mechanics & Heat)		4	4
	General Studies - Lower Division	4	4	4
	Physical Education Electives	0	0	0
Third Year	EIEI-401 Operations Research I			4
	EIEI-415 Human Factors		4	
	EIEI-420 Work Measurement & Analysis	4		
	EIEI-422 Systems & Facilities Planning	4	<	
	EIEI-511 Applied Statistics II		4	
	PPRM-401 Estimating I		4	
	PPRM-511 Labor Relations in G.A.			4
	PPRT-308 Lithographic Press Problems			4
	PPRT-315 Ink and Color	4		
	General Studies Concentration - Upper Division	4	4	4
Fourth Year	EIEI-482 Production Control		4	
	EIEI -503 Simulation	4		
	EIEI-550 Safety Engineering	4		
	PPRM-502 Financial Controls II			4
	PPRM-590 Senior Seminar	2		
	PPRT-406 Color Separation Photography	3		
	PPRT-500 Quality Control in G.A.		3	
	Professional Electives		3	3
	General Studies Electives - Upper Division	4	8	4
	General Studies Senior Seminar & Project			2

**NOTE Details on General Studies requirements, recommended General Studies courses, and recommended professional electives can be obtained from the printing systems program coordinator.*

Program of Study
The School of Printing offers a four-year course leading to a bachelor of science degree in printing and applied computer science.

Approximately 20 percent of the coursework is in computer science, 30 percent in printing technology and management, 25 percent in math/science, and 25 percent in general studies.

A survey of employers in the graphic arts industry indicates the strong need for trained printing/

computer specialists. As more and more graphic arts 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.

The cooperative plan of study is available in the School of Printing for students choosing this program. Graduates of two-year colleges are encouraged to transfer into the four-year program. Transfer students find that many of their two-year college credits are applicable toward the four-year degree. The first-year curriculum of thjs program and that of the Printing Systems Management 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.

General Studies Elective

In general, the program requires that the student take at least one course each quarter from this area, which includes such subjects as economics, psychology, logic, ethics, language, communications, literature, and the fine arts appreciation.

Printing and Applied Computer Science Program

Year		Quarter Credit Hours: Fall	Winter	Spring
Ftrst Year	PPRM-110 Freshman Orientation	0		
	PPRM-210 Financial Controls I	3		
	PPRM-301 Appl. of Computers in G.A.	3		
	PPRT-201 Typography		3	
	PPRT-204 or PPRT-205 or PPRT-209 Flexography or Gravure or Screen Printing I		3	
	PPRT-206 Reproduction Photography		3	
	PPRT-207 Printing Plates			3
	PPRT-208 Lithographic Press	3		
	PPRT-213 Principles of Copy Preparation			3
	PPRT-302 Composition Systems			3
	SMAM-251, 252, 253 Calculus	4	4	4
	General Studies - Lower Division	4	4	4
	Physical Education Electives	0	0	0
Second Year	ICSP-208 Introduction to Programming	4		
	ICSP-305 Assembly Language Programming			4
	ICSS-210 Program Design & Validation		4	
	PPRM-201 Intro, to Technical Writing	3		
	PPRM-403 Printing Production Management I		3	
	PPRT-311 Planning & Finishing			3
	SMAM-305 Calculus	4		
	SPSP-205, 206 Physics		4	4
	General Studies - Lower Division	4	4	4
	Physical Education Electives	0	0	0
Third Year	ICSS-315 Digital Computer Organization	4		
	ICSS 320 Data Structures		4	
	ICSS-325 Data Organization & Management			4
	ICSS-420 Data Communication Systems		4	
	PPRM-302 Personnel Relations I	3		
	PPRT-315 Ink & Color			4
	PPRT-500 Quality Control in G.A.	3		
	SMAM-351, 352 Intro. Probability & Statistics	4	4	
	General Studies Concentration - Upper Division	4	4	8
Fourth Year	*ICSS-513 Computer Graphics in 2-D			4
	* ICSS-565 Computer Systems Selections		4	
	* ICSS-721 Microprocessor & Microcomputers	4		
	PPRM-401 Estimating I	4		
	PPRM-590 Senior Seminar	2		
	* PPRT-308 Lithographic Press Problems •		4	
	* PPRT-406 Color Separation Photography	3		
	Professional Electives		4	8
	General Studies Electives - Upper Division	4	4	4
	General Studies Senior Seminar & Project			2

** Other approved upper level courses may be substituted, giving depth rather than breadth, to meet individuals needs, with approval of the program curriculum management team.*

NOTE: Details on General Studies requirements, recommended General Studies courses, and recommended professional electives can be obtained from the printing and applied computer science program coordinator.

College of Science

John D. Paliouras, Dean

The undergraduate in the College of Science at RIT gets a different kind of education than at any other school in New York State.

Our program combines work-study with the potential for undergraduate research and a strong faculty-student interaction brought about by the smallness of the various departments and the resulting classes. Our main interest is high quality teaching at the undergraduate level.

The industrial work-study program, which pays a salary, enables students to obtain this high quality education at a cost comparable to a public education. In addition, it allows students to see what industry is all about early in their undergraduate training rather than waiting until after graduation.

Our stress is on the practice of science in the real world, not just classroom lecturing. We're career-oriented and train students for where the jobs are.

In addition to the industrial work-study experience, the science student at RIT is exposed to research by having the opportunity to work with a faculty member on a project. A number of these projects have resulted in publication in scientific literature.

We seek faculty members with a proper blend of interests in both teaching and research. Research permits the faculty member to practice his profession and stay up-to-date and provides projects for our students.

The modern trend in undergraduate education is to expose the student to the methods of undertaking a research project. This is as important to a science education as many of the lecture-type courses students are required to take as part of their major programs.

The College of Science is an ideal size to provide quality undergraduate education. It has 60 faculty members in the sciences and mathematics, most of whom hold the Ph.D. degree. This size provides faculty with a variety of expertise in sciences and mathematics, so a student can find a faculty member with whom to interact regarding a particular interest.

When the college moved into the new science building in 1968, it was very fortunate that RIT received about a million dollars in federal funds to permit the purchase of a wide variety of scientific instrumentation. We are as well-equipped as some universities which stress graduate education, but in our case this equipment is used by the undergraduates.

Our faculty realizes its responsibility to maintain up-to-date curricula so that our graduates will fit into the current needs of industry as well as meet the requirements of graduate schools. This challenge includes not only modern trends in science, but such things as the use of computers and sophisticated, modern lab equipment.

Many high school students don't know which of the sciences they wish to major in. We encourage such students to come to RIT as undeclared science majors. Programs can be designed which will enable them to postpone a definite commitment to a particular major in science for one or sometimes two years without any loss of time toward a degree. This option has been attractive to quite a few high school students.

The best way to evaluate college programs is the success of the graduates. Our graduates have been very successful in both industry and graduate schools. We have found, for example, that they are doing exceedingly well in passing Ph.D. qualifying exams early in their graduate programs. In terms of industrial success, employers report that our graduates not only have good training for industry, but because of their work experience, immediately fit into the industrial way of life with a high degree of initiative and seriousness of purpose.

During the 19 years of its history as an integral academic unit of RIT, the College of Science has developed into a first rate educational center which not only services and supports nearly all of RIT programs but offers a great variety of its own major programs.

In addition to the four basic programs leading to a bachelor's degree in biology, chemistry, college has developed one associate's degree program in chemical technology, four bachelor's degree programs in biomedical computing, computational mathematics, medical technology, nuclear medicine technology, and two master's programs in chemistry and clinical chemistry.

In an effort to increase the diversity of its programs and hence enhance the educational alternatives for its students, the College of Science has entered into an interinstitutional dual degree program with the Massachusetts College of Pharmacy allowing students to pursue studies in biology/pharmacy or chemistry/pharmacy.

The programs

The College of Science has undergraduate programs in biology, chemistry, mathematics, computational mathematics, physics, chemical technology, medical technology, nuclear medicine technology, pharmacy, biomedical computing, and pre-medicine and pre-dentistry.

Choice of majors

A student may enroll in the College of Science as a science major without designating a specific major. In consultation with an advisor, a program will be designed to meet the student's individual needs and goals., The program can be flexible and cover a number of introductory college level courses in science.

Prior to the end of the first year, the student should decide upon a specific major and may then enroll as a candidate for a degree in one of the departments: biology, chemistry, mathematics, physics, or clinical sciences.

Declared major

The student who has definitely decided upon a specific major field will indicate a choice when applying, and may therefore be enrolled as a candidate for a degree in that department upon admittance by the Institute. A program will be designed to prepare the student for competency in his or her chosen profession.

The programs in the College of Science are sufficiently flexible to

allow the student to obtain an indepth background in a discipline other than the chosen major, A wide selection of elective courses in such areas as business, chemistry, photography, computer science, physics, mathematics, and biology, makes it possible to take a series of courses which could result in an elective concentration (i.e., minor) in an area related to but not required for the major.

To illustrate, the following is a typical.distribution of courses for the first year as a science major.

Each of the departments has majors programs operating on a five-year cooperative work/study plan, and the Chemistry Department has a three-year cooperative program in chemical technology and a program leading to the master of science degree.

Graduates of the five-year programs in the College of Science receive a bachelor of science degree. These graduates qualify for professional work in processing and laboratory operations, research and experimental work, or supervision of technical projects, as well as for graduate education leading to the master of science or doctor of philosophy degrees.

The transfer plan

Students with associate's degrees in a comparable program from other educational institutions normally can expect to transfer at the junior year level. Transfer credit is granted for those studies which parallel Institute courses in the curriculum for which admission is sought.

Transfer students applying for a program at RIT, similar to their previous college study, are expected to present an accumulative average of "C" or above. Students making significant program changes will be evaluated on the probability of their success in the new program, with the grades earned in previous study only a part of the criteria

It is also RIT policy to grant credit by examination in lieu of course credits, for subjects that parallel the objectives and content of courses for which advanced credit is being sought. Contact the director of admissions for policy and procedures.

Undeclared Science Option

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	SBIG-205, 206, 207 Gen. Biology Lab	1	1	1
	"SBIG-201, 202, 203 General Biology	3	3	3
	"SCHC-211, 212 General Chemistry	3	3	
	SCHO-230 Intro, to Organic Chemistry			3
	SCHA-261, 262, 263 Chemical Analysis	3	3	3
	SMAM-251, 252, 253 Calculus	4	4	4
	"SPSP-311, 312 University Physics		5	5
	* General Studies Elective	4	4	4
	‡ Physical Education	0	0	0

‡ See *Pg. 27 for Policy on Physical Education.*
* See *Pg. 75 for General Studies requirements.*
*** Any two of these three in a given quarter.*

The cooperative plan

The school year is divided into four 11-week quarters, Fall, Winter, Spring, and Summer. Students in the biology, mathematics, biomedical computing and physics programs attend classes during the fall, winter, and spring for the first and second year. At the beginning of their third year, employment arrangements are made for students in the five-year cooperative programs. Students are assigned to A and B Sections for the last three years of attendance. Students in Section A attend classes during the Fall Quarter while those in section B work on their cooperative jobs. The two sections interchange at the beginning of the Winter Quarter, when students in Section B attend classes and those in Section A work in industry. This interchange of the work/study periods continues throughout the remainder of the third, fourth and fifth years. The work/study periods continue throughout the remainder of the third, fourth and fifth years. The work/study section to which the student is assigned is designated by the coordinator of employment.

The accompanying diagrams illustrate the cooperative schedule as it applies to students in the five-year programs. Students in the five-year chemistry program participate in the co-op program as described above except their co-op experience starts at the beginning of their second year. Chemistry majors thus spend one year on campus and then spend alternate quarters in full-time study and full-time co-op employment for the next four years.

Chemical technology

Candidates enrolled in the chemical technology program spend their initial quarter in classes at the Institute. At the completion of the first quarter, the class is divided into two sections and each section alternates between academic and industrial quarters for the duration of the three-year program.

The accompanying diagram illustrates the cooperative schedule for the chemical technology program.

Admission at a Glance: College of Science Programs

General information on RIT's admission requirements, procedures and services is included in detail on pages 15-16 of this Bulletin.

Undergraduate programs are offered in the areas listed below.

The programs offered are flexible enough so that students can take courses to meet their individual needs and, at the same time, obtain a quality career-oriented education. Students can take electives in such courses as computer science, photography, or business.

The co-op plan of this college is ideal for students eager to increase their chances for employment after graduation.

Biology—Prepares students for graduate study in the biological disciplines and medical arts. Also for occupations in medical research labs, food and agriculturally related industries, pharmaceuticals and environmental organizations. Degrees granted: AS-2 year; BS-4 or 5 year, depending on co-op.

Biology/or Chemistry/Pharmacy—A five-year inter-institutional dual degree program in affiliation with the Massachusetts College of Pharmacy. Prepares students with a thorough education in either biology or chemistry and pharmacy. Graduate pharmacists can choose from a variety of career areas including community, clinical, sales, teaching or marketing. The program also is excellent preparation for entrance to graduate programs in pharmacology, dentistry and medicine. Degrees granted: AS-2 year; Dual BS-5 years.

Biomedical Computing—Graduates are prepared to assume positions on the staffs of medical and/or industrial laboratories or hospital computer departments, or to work with physicians and other health professionals in a clinical environment and on medical research projects. Degree granted: BS-5 year.*'

Chemistry—Graduates qualify for higher level positions in several fields of chemistry Including professional industrial work in processing and laboratory operational research and experimental work, supervision of technical projects, managerial positions and graduate study. Degree granted: AS-3 year; BS-5 year.

Chemical Technology—A three-year Co-op curriculum that leads to direct industrial employment. Emphasis is on the qualitative and quantitative analysis skills and knowledge to perform industrial laboratory tasks. Degree granted: AAS.

Mathematics, Computational Mathematics—Graduates qualify for positions in industry and business as well as graduate study. A combination of mathematics courses and electives in math-related areas and/or computer science greatly enhances employment opportunities. Degrees granted: AS-2 year, BS-4 or 5 year, depending on Co-op.

Medical Technology—Prepares students for employment in hospital, industrial-medical, or research laboratories. Students spend three years at RIT and one year in an approved hospital internship. Degree granted: BS-4 year.*

Medical Imaging Technologies

Ultrasound Technology—prepares students for positions in hospitals, clinics, research ancl administration. Graduates are trained in abdominal, obstetrical and gynecological ultrasound scanning techniques and procedures. Baccalaureate option - three years at RIT and one year of clinical internship. Certificate option - one year of clinical internship. Degree granted: BS-4 year; Certificate-1 year.

Cooperative schedule for chemical technology

		Fall	Winter	Spring	Summer
1st year	A	RIT	RIT	Work	RIT
	B	RIT	Work	RIT	Work
2nd year	A	Work	RIT	Work	RIT
	B	RIT	Work	RIT	Work
3rd year	A	Work	RIT	Work	-
	B	RIT	Work	RIT	-

/

Cooperative schedule for five-year program in biology, mathematics, physics and biomedical computing

<r		Fall	Winter	Spring	Summer
1 st and 2nd years RIT		RIT	RIT	RIT	Vacation
3rd, 4th years	A	RIT	Work	RIT	Work
	B	Work	RIT	Work	RIT
5th year	A	RIT	Work	RIT	-
	B	Work	RIT	RIT	-

Cooperative schedule for five-year chemistry program

		Fall	Winter	Spring	Summer
1st year		RIT	RIT	RIT	Vacation
2nd, 3rd years	A	RIT	Work	RIT	Work
4th years	B	Work	RIT	Work	RIT
5th year	A	RIT	Work	RIT	-
	B	Work	RIT	RIT	-

Nuclear Medicine Technology-prepares students to'use radioactive materials in the .diagnosis and treatment of disease. Graduates prepare and administer doses, operate nuclear medicine instruments, position patients for diagnostic procedures, and prepare information received from the tests for the doctor's interpretation. Students spend three years at RIT and one year in a hospital internship. Degree granted: BS-4 year.

Physics—Graduates find employment opportunities with industrial, academic and government agencies, or pursue graduate study in such areas as biophysics, atmospheric science, applied science or industrial business administration. Degree granted: AS-2 year; BS-5 year.

Pre-Medicine, Dentistry, Etc.—Students interested in pursuing a career in medicine, dentistry, optometry, osteopathic medicine, veterinary science or podiatry, major in any College of Science or Institute program; no formal program exists specifically for preparation for these careers. The faculty Pre-professional Advisory Committee counsels and assists RIT students in making application to these professional schools. Degrees are awarded in the programs chosen by the students.

College of Science Admission Guide

Freshman Admission Requirements			Transfer Admission with junior standing	
Program	Desirable Elective Subjects	Required High School Subjects*	Two Year College Programs	Desirable Minimum Grade Point Average
Biology, Biology/ Pharmacy	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; Biology	Physics or Chemistry; additional mathematics, C.E.E.B. Biology Achievement Test	Liberal arts major with a math/biology option or equivalent. Changes from other science major or engineering science can be arranged.	2.0
Biomedical Computing	Elem. Algebra; Plane Geometry; Inter. Algebra Trigonometry; Biology	Physics; Chemistry; Additional Mathematics Computer Science	Liberal arts major in science, mathematics, computer technology and engineering. Changes from other allied health majors can be arranged.	2.5
Chemistry, Chemistry/ Pharmacy	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; Chemistry	Physics; C.E.E.B. Chemistry Achievement Test	Liberal arts major with a math/chemistry option or equivalent. Changes from other science majors or engineering science can be arranged.	2.0
Chemical Technology	Elem. Algebra; 1 year any science	Additional mathematics and science	Program terminal at AAS degree-no junior year courses.	
Mathematics, Computational Mathematics	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigohometry; / Chemistry or Physics	Physics or Chemistry; additional mathematics	Liberal arts major with a math/science option. Changes from engineering, science or other math-oriented programs can be arranged.	2.0
Medical Technology Medical Imaging Technologies	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry Biology	Physics or Chemistry	Medical laboratory technology, other allied health programs or equivalent programs.	2.5
Nuclear Medicine Technology	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; 2 years	Additional mathematics and science	Biology, medical technology, radiologic technology, other allied health programs or equivalent programs.	2.0
Ultrasound Technology	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; 2 years lab science	Additional mathematics and science		2.5
Physics	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; Chemistry or Physics	Physics or Chemistry; additional mathematics; C.E.E.B. Physics Achievement Test	Liberal arts major with a math/physics option or equivalent. Changes from other science majors or engineering science can be arranged. »	2.0
Undeclared Science Option	Elem. Algebra; Plane Geometry; Inter. Algebra, Trigonometry; Lab science	Physics, Chemistry Biology or additional mathematics	Not applicable	

' About one-third of the program includes electives in social science, literature, and humanities.
**Four years of English are required in all programs, except where state requirements differ/*

Biology Program

Paul A. Haefner, Jr., Head

The Department of Biology offers programs leading to the AS and BS degrees in Biology.

The program of the Department of Biology prepares students for the pursuit of graduate degrees in a variety of biological disciplines as well as the medical arts. Students terminating their education at the BS level find rewarding positions in occupations related to the life sciences, including biomedical research laboratories, food and agriculturally related industries, the pharmaceutical industry and environmental organizations.*

Requirements for the AS degree in biology

The student must meet the minimum graduation requirements of the Institute as described on page 18 and in addition must complete the requirements contained in the particular program listed below or its equivalent.

The program must include a minimum of six quarter courses in biology, six quarter courses in non-biological sciences and six quarter courses in general studies.

Requirements for the BS degree in biology

The student must meet the minimum graduation requirements of the Institute as described on page 18 of this bulletin. In addition, the student must complete a minimum of 60 quarter credit hours in biology. A required core of courses comprises 43 quarter credit hours in biology (General Biology, General Ecology, Botany, Introductory Microbiology, Genetics, Biological Laboratory Techniques, Biology Seminar, one quarter course in Anatomy, one quarter course in Physiology. The remaining 17 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 and three courses in mathematics, including at least two courses in calculus, is also required.

Institute requirements for General Studies may be found on page 75. The policy on Physical Education is described on page 27.

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	** SBIG-201, 202, 203 General Biology	3	3	3
	SBIG-205, 206, 207 General Biology Laboratory	1	1	1
	SCHG-215, 216, 217 General Analytical Chemistry	3	3	3
	SCHG-225, 226, 227 General Analytical Chemistry Lab.	1	1	2
	SMAM-204, 214, 215 College Algebra, Intro to Calculus	4	3	3
	or			
	SMAM-251, 252, 253 Calculus	(4)	(4)	(4)
	'General Studies Core	4	. 4	4
	‡ Physical Education Elective	0	0	0
Second Year AS Degree	SBID-340General Ecology	4		
	SBIO-304 Botany or SBIO-305 Physiology & Anatomy		4	
	SBIO-303 Comparative Anatomy or SBIO-306, Physiology and Anatomy			4
	SCHO-231, 232, 233 Organic Chemistry	4	4	4
	SPSP-211, 212, 213 College Physics	3	3	3
	SPSP-271, 272, 273 College Physics Lab	1	1	1
	* General Studies Core r-:	4	4	4
	‡ Physical Education Elective	0	0	0
Third and Fourth Year		F or W		S orSR
	SBIC-404 Introductory Microbiology	5		
	SCLM-432 Biological Laboratory Techniques	4		
	SBID-421 Genetics			4
	* General Studies Core and Concentration	8		12
	Biology Elective	4		8
	Institute-wide Elective	4		4
Fifth Year BS Degree		F or W		S
	SBIB-550 Biology Seminar			2
	Biology Electives	4		4
	Institute-wide Electives	4		4
	* General Studies Electives and Senior Forum	4		6

‡ See Pg. 27 for Policy on Physical Education.
** See Pg. 75 for General Studies requirements.*
*** A minimum of 60 quarter credit hours of biology is required for the BS degree. The required core of courses (SBIG-201, 202, 203, 205, 206, 207; SBIB-550; SBIC-404; SBID-340, 421; SBIO-304; SCLM-432; one quarter course in anatomy; one quarter course in physiology; SBIG-204) comprise 42 hours. The remaining 17 hours is selected from biology electives. Other requirements include a minimum of six courses in chemistry (SCHG-215, 216, 217; SCHO-231, 232, 233), three in physics (SPSP-211, 212, 213 or SPSP-311,312,313) and three in mathematics including at least two in calculus.*

The specialization track

In conjunction with a faculty advisor, individual student programs can be established to meet particular needs, interests, and goals. Because these tracks 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 tracks are available at RIT:

1. Post-graduate. A student achieving the BS degree in biology at RIT will have the essential prerequisites for entry into most universities offering advanced degrees in biological sciences.
2. Pre-professional. Students interested in careers in medicine, optometry, dentistry, and veterinary science can satisfy the requirements for admission to professional schools by majoring in biology at RIT.
3. Biological Research. This program, which includes a variety of courses such as pharmacology, toxicology, and animal surgery, leads to employment in laboratories engaged in pure and applied biological research or in clinical and medical research.
4. 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 \yastewater and sewage treatment facilities.
5. Environmental Science. This track prepares the student 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.
6. Pharmacy. An inter-institutional program between RIT and the Massachusetts College of Pharmacy educates the student for the practice of pharmacy. Three years are spent at RIT as a biology major, the final two academic years are in residence at MCP. Baccal&ureate degrees are awarded from both institutions.

7. EM Technician. The Electron Microscopy Society of America (EMSA) is the national organization that certifies individuals as EM technicians. Such individuals are in high demand to work in EM laboratories in hospitals, industries and research organizations. The necessary coursework and training to enable a student to receive certification from EMSA is provided by the biology department. It is possible to receive both a baccalaureate degree and certification in four years (or five years, if the student participates in co-op).

8. 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 a research technician, or entry into graduate or professional training.

Minor Concentrations

Minor concentrations in other fields are also possible for the biology major through planned use of electives. Chemistry, physics, computer science, mathematics, engineering, engineering technology, management, and photography are potential options which enhance the biology degree.

Pharmacy/Biology, Chemistry Double Program For Pharmacists

Paul A. Haefner, Jr.
Terence C. Morrill — Co-Directors

RIT has joined forces with the largest and second oldest college of pharmacy in the country, Massachusetts College of Pharmacy, to offer a double degree program in pharmacy. Graduates of the five-year program earn a bachelor of science degree in pharmacy from Massachusetts College of Pharmacy and bachelor of science degree in either biology or chemistry from RIT.

Pharmacists work in community or chain store pharmacies, hospitals or other health care institutions, in sales or product development for the pharmaceutical industry, and for cosmetic firms, government agencies, insurance companies, and social service agencies. Pharmacists must have a comprehensive knowledge of drugs, including their compositions, chemical and physical properties, and pharmacological . activities in the patient, and must be familiar with tests for drug purity and strength. They also serve as a prime source of drug and health information for patients and other health professionals. Additionally, in many health care settings pharmacists are becoming more involved with the clinical use of drugs and drug therapy.

RIT's program is designed to give students a thorough background in the basic sciences as well as exposure to general studies; professional training in pharmacy; and clinical experience in pharmacy in a health care setting. Students in the program spend three years at RIT (specializing in either biology or chemistry). Their fourth and fifth years are spent studying pharmacy at the Massachusetts College of Pharmacy in Boston. A summer internship concludes the program. Graduates of this inter-institutional program receive a BS degree in Pharmacy from the Massachusetts College of Pharmacy and a BS degree in their area of specialization (biology or chemistry) from RIT.

Admission to the Massachusetts College of Pharmacy phase

Admission to Massachusetts College of Pharmacy is open to a minimum of 10 RIT pharmacy students who apply for admission during their third year of study at RIT through Massachusetts College of Pharmacy's normal transfer-student admission process. Students must possess a cumulative grade point average of at least 3.0 to be eligible for admission to Massachusetts College of Pharmacy. Those who are not selected or who do not maintain the academic average necessary for transferring may remain at RIT and complete their degree program.

Requirements for the AS and BS degrees in biology or chemistry and pharmacy

The student must meet the minimum requirements of the Institute as described on page 18 and in addition must complete the requirements contained in one of the particular options listed on these pages or its equivalent as determined and approved by the departments. The bachelor of science degree in pharmacy from the Massachusetts College of Pharmacy requires five years of study, a summer internship and 260 hours of credit for a degree.

Accreditation

The Massachusetts College of Pharmacy is accredited by the New England Association of Schools and Colleges and The American Council on Pharmaceutical Education.

Course descriptions

For a complete outline of courses offered at RIT, please request the Course Description catalog from the Admissions Office.

Transfer to Massachusetts College of Pharmacy Phase

Biology or chemistry major students accepted for transfer admission into Massachusetts College of Pharmacy will enter the third year (their fourth year) of the pharmacy program. The curriculum of study includes courses in medical terminology, pharmaceutics, public health, virology, pharmacy orientation, pathology, medicinal chemistry, biopharmaceutics, pharmacy law, dispensing, and general education electives. The pharmacy program is concluded with a clinical pharmacy internship in the Boston area. MCP will grant the bachelor of science degree in pharmacy.

The Institute will accept 45 transfer credits from MCP toward the bachelor's of science degrees in either biology or chemistry from RIT depending on the option followed during the first three years of study at RIT. While enrolled at MCP the student must utilize 15 of the minimum hours of MCP electives to satisfy RITs general studies requirement.

Pharmacy Program (Biology option)

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	SBIG-201, 202, 203 General Biology	3	3	3
	SBIG-205, 206, 207 General Biology Lab	1	1	1
	SCHG-215, 216, 217 General & Analytical Chemistry	3	3	3
	SCHG-225, 226, 227 General & Analytical Chemistry Lab	1	1	2
	SMAM-214, 215 Intro. Calculus	3	3	
	SMAM-309 Statistics			4
	GLLC-220 English Composition	4		
	GSSE-210 Intro, to Economics		4	
	GSSP-210 Intro, to Psychology			4
	Physical Education Electives	0	0	0
Second Year AS Degree	SBID-340 General Ecology	4		
	SBIO-305, 306 Physiology & Anatomy		4	4
	SPSP-211,212, 213 College Physics	3	3	3
	SPSP-271, 272, 273 College Physics Lab	1	1	1
	SCH0-231, 232, 233 Organic Chemistry	4	4	4
	GSHH-301 Mod. American History	4		
	GSHF- Fine Arts, Philosophy or GSHP- Ethics		4	
	GLLL- Language, Literature			4
	Physical Education Electives	0	0	0
Third Year	SBIO-304 Botany		4	
	SBID-421 Genetics		,	4
	SBIB-550 Biology Seminar			2
	SCHB-702, 703 Biochemistry	3	3	
	SCLG-301 Medical Terminology	3		
	SCHLM-432 Biol. Lab. Techniques	4		
	Electives - Science		4	4
	General Studies Concentration	4	4	4
	General Studies Seminar			2
	General Studies Core	4		t

Pharmacy Program (Chemistry option)

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	SBIG-201, 202, 203 General Biology	3	3	3
	SBIG-205, 206, 207 General Biology Lab	1	1	1
	SCHC-200 Chemical Safety	0		
	SCHC-211,212 General Chemistry	3	3	
	SCHO-230 Organic Chemistry			3
	SCHA-261, 262, 263 Intr. to Chem. Anal.	3	3	3
	SMAM-251, 252, 253 Calculus	4	4	4
	* General Studies EleCtives - Lower Division	4	4	4
	‡ Physical Education Electives	0	0	0
Second Year AS Degree	SMAM-305 Calculus	4		
	SCHA-311 Anal. Chem. - Instrumental Analysis	3		
	SCHA-318 Anal. Chem. Instr. Anal. Lab	1		
	SBIO-305, 306 Phys. & Anatomy		4	4
	SPSP-311,312 University Physics	4	4	
	SPSP-371,372 University Physics Lab	1	1	
	SCHP-340 Intro. Phys. Chemistry		3	
	SCHP-441 Physical Chemistry			3
	SCHP-445 Physical Chemistry Lab			1
	SCHO-431 Organic Chemistry			2
	SCHO-435 Organic Chemistry Lab			2
	SCHC-201 Chem. Literature			2
	* General Studies Electives - Lower Division	4	4	4
	‡ Physical Education Electives	0	0	0
'Third Year	SCHP-442,443 Physical Chemistry	3		3
	SCHP-446,447 Physical Chemistry Lab	1		1
	SCHB-702 Biochemistry '	3		
	ICSP-205 Computer Tech	3		
	SPSP-331 Electricity & Electronics	5		
	SCHO-432, 433 Organic Chemistry		2	2
	SCHO-436, 437 Organic Chemistry Lab		2	2
	SCHA-312 Anal. Chem - Separation Techniques			3
	SCHA-319 Anal. Chem. Separation Techniques Lab		/	1
	Science Elective		4	
	* General Studies Electives - Upper Division .,	5	5	5

‡ *See Pg. 27 for Policy on Physical Education.*
* *See Pg. 75 for General Studies requirements.*

Chemistry and Chemical Technology

Terence C. Morrill, Head

The Department of Chemistry offers programs leading to the AAS degree in chemical technology, the AS and BS degrees in chemistry, the BS 'degree in chemistry (biochemistry option), and the MS degree in chemistry.

Chemical Technology

The three-year terminal program in chemical technology leads to the AAS degree and is designed to integrate the component skills, knowledge, and attibutes necessary for the performance of industrial laboratory tasks. Emphasis is placed on laboratory experience centered around qualitative and quantitative analysis. Advanced laboratory work is designed to teach the student special laboratory techniques and the operation of modern instrumentation. Graduates of the chemical technology program are highly sought after as technical support personnel by industrial chemical laboratories.

Chemistry

The five-year cooperative program in chemistry leads to the bachelor of science degree and has been approved by the Committee on Professional Training of the American Chemical Society. The program prepares graduates for higher level positions in the 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 program provides students with the option of planning an elective concentration in complementary fields such as photoscience, business, graphic arts, computer science, physics or mathematics. Students may also elect to complete the BS degree requirements in a traditional (non-cooperative) four-year program.

Chemistry

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	SCHC-200 Chemical Safety	0		
	SCHC-230 Intro, to Coop Seminar		0	
	SCHC-211, 212 General Chemistry	3	3	
	SCHA-261, 262, 263 Intro, to Chemical Analysis	3	3	3
	SCHO-230 Intro, to Organic Chemistry			3
	SMAM-251, 252, 253 Calculus	4	4	4
	SCHC-201 Chemical Literature			2
	ICSP-205 Computer Techniques		3	
	* General Studies Electives	4	4	4
	‡ Physical Education Electives	0	0	0
Second Year		F or W		S orSR
	SCHA-311 Anal. Chem. Instr. Anal	3		
	SCHA-318 Anal. Chem. Instr. Anal. Lab	1		
	SCHA-312 Anal. Chem. Separation Techniques			3
	SCHA-319 Anal. Chem. Separation Techniques Lab			1
	SMAM-305 Calculus	4		
	SMAM-306 Differential Equations			4
	SPSP-31T, 312 University Physics	4		4
	SPSP-371, 372 University Physics Lab	1		1
	* General Studies	. 4		4
	‡ Physical Education Electives	0		0
Third Year AAS Degree		F or W		S orSR
	SCHP-340 Introduction to Physical Chemistry	3		
	SCHP-441 Physical Chemistry			3
	SCHP-445 Physical Chemistry Lab			1
	SCHO-431 Organic Chemistry			2
	SCHO-435 Organic Chemistry Lab			2
	SPSP-331 Electronics & Electricity	4		
	SMAM-431 Matrix Algebra	4		
	GLLC-421 German			4
	•General Studies	4		4
	Institute-wide Elective	3		
	‡ Physical Education Elective	0		
Fourth Year		F or W		S orSR
	SCHP-442, 443 Physical Chemistry	3		3
	SCHP-446, 447 Physical Chemistry Lab	1		1
	SCHO-432, 433 Organic Chemistry	2		2
	SCHO-436, 437 Organic Chem. Lab	2		2
	SCHC-402 Introduction to Research	0		
	Institute-wide Electives			3
	SCHI-762 Inorganic Chemistry			3
	GLLC-422 German	4		
	'General Studies	4		4
Fifth Year		' /	ForW	S
	SCHI-763 Inorganic Chemistry or SCHB-702 Biochemistry	3		
	SCHA-711 Instrumental Analysis	3		
	SCHA-720 Instrumental Analysis Lab	2		
	Chemistry Electives	3		6
	•General Studies	4		6
	Institute-wide Electives	3	r	6

‡ *See Pg. 27 for Policy on Physical Education.*
* *See Pg. 75 for General Studies requirements.*

Year	Chemical Technology	Quarter Credit Hours: Fall	Winter	Spring
First Year	SCHC-200 Chemical Safety	0		
	SCHC-230 Intro to Co-op Seminar	0		
	SCHT-241, 242 Chem. Tech I (General) & II (Analytical)	6		6
	SMAM-204 College Algebra	4		
	GLLC-220 English Composition	4		
	ICSP-205 Computer Techniques			3
	SCHC-201 Chemical Literature			2
	* General Studies Elective			4
	‡ Physical Education Elective	0,		0
Second Year		SR orF		WorS
	SCHT-243, 244 Chem. Tech III, IV (Organic)	6		6
	SMAM-214, 215 Intro to Calculus	3		3
	SPSP-211,213 College Physics	3		3
	SPSP-271, 273 College Physics Lab	1		1
	SCHC-402 Intro to Research	0		
	'SCHT-309 Glassblowing Techniques			2
	* General Studies Elective	4		
	‡ Physical Education Elective	0		
Third Year AAS Degree		SR orF		WorS
	SCHT-305, 306 Chemistry Specialty	4		4
	SCHT-307,308 Research Familarization	3		3
	SPSP-212 College Physics			3
	SPSP-272 College Physics Lab			1
	SPSP-331 Electricity & Electronics			4
	* General Studies Electives	8		

Year	Chemistry (Biochemistry Option)	Quarter Credit Hours: Fall	Winter	Spring
First Year	SCHC-200 Chemical Safety	0		
	SCHC-230 Intro, to Coop Seminar		0	
	SCHC-211, 212 General Chemistry	3	3	
	SCHA-261, 262, 263 Intro, to Chemical Analysis	3	3	3
	SCHO-230 Intro, to Organic Chemistry			3
	SMAM-251, 252, 253 Calculus	4	4	4
	SBIB-201, 202, 203 General Biology	3	3	3
	SBIB-205, 206, 207 General Biology Lab	1	1	1
	•General Studies Electives	4	4	4
	‡ Physical Education Electives	0	0	0
Second Year		F or W		SorSR
	SCHA-311 Anal. Chem. Instrumental Analysis	3		
	SCHA-318 Anal. Chem. Instr. Anal	1		
	SCHO-431 Organic Chemistry			2
	SCHO-435 Organic Chemistry Lab			2
	SMAM-305 Calculus	4		
	ICSP-205 Computer Techniques			3
	SPSP-311,312 University Physics	4		4
	SPSP-371,372 University Physics Lab	1		1
	or			
	SPSP-211,212 College Physics L	(3)		(3)
	SPSP-271, 272 College Physics Lab	(1)		(1)
	SCHC-201 Chemical Literature (W or S)	(2)		2
	•GeneralStudies Electives	4		4
	‡ Physical Education Electives	0		0
Third Year AS Degree		F or W		S orSR
	SCHO-432, 433 Organic Chemistry	2		2
	SCHO-436,437 Organic Chemistry Lab	2		2
	SPSP-331 Electronics and Electricity	4		
	SCHA-312 Anal. Chem. Separation Techniques			3
	SCHA-319 Anal. Chem. Separation Techniques Lab			1
	Science Elective			3
	* General Studies Electives	8		4
	‡ Physical Education Elective	0		
Fourth Year		F or W		S orSR
	SCHP-340 Intro, to Physical Chemistry	3		
	SCHP-441 Physical Chemistry			3
	SCHP-445 Physical Chemistry lab			1
	SCHB-702 Biochemistry	3		
	SCHB-704 Biochemistry - Molecular Biology			3
	SCHC-402 Introduction to Research	0		
	•General Studies Elective	8		4
	Science Electives	3-4		3-7
Fifth Year		F or W		S orSR
	SCHB-703 Biochemistry - Metabolism	3		
	SCHP-442,443 Physical Chemistry	3		3
	SCHP44 6,44 7 Physical Chemistry Lab	1		1
	* General Studies Electives	8		6
	Science Electives	3		6-8

Biochemistry Option
The biochemistry option of the chemistry program provides students with the opportunity to integrate substantial biology and biochemistry experience into the BS chemistry program. Graduates of this option will qualify for professional study in medicine and dentistry, as well as graduate work in Ph.D. programs in biochemistiy and molecular biology, and rewarding careers in the pharmaceutical and biochemistry industries.

Requirements for the AS and BS degrees in Chemistry and the AAS degree in Chemical Technology
The student must meet the minimum graduation requirements of the Institute as described on page 18 and in addition must complete the requirements contained in the particular program listed herein or its equivalent as determined and approved by the Chemistry Department.

As part of the BS requirements, students must pass a series of comprehensive chemistry exams that are offered during the senior year. 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 hours and 372 quality points.

‡ *See Pg. 27 for Policy on Physical Education.*
* *See Pg. 75 for General Studies requirements.*

Mathematics

George T. Georgantas, Head

Programs

The Department of Mathematics offers two types of programs: Applied Mathematics and Computational Mathematics. Each program is designed to lead to a bachelor of science degree in applied mathematics or computational mathematics, as the case may be. However, one may become eligible for the associate of science degree in applied mathematics upon successful completion of the first two years of the program.

Applied Mathematics

The Applied Mathematics Program has been specially designed to prepare students as applied mathematicians and analysts in high-technology industry and federal agencies, as well as in medical research units. Students in this program must select some mathematics-related area as their minor concentration. Possible minors include: applied statistics, physics, biology, business and economics, chemistry, computer science, electrical engineering, industrial engineering, mechanical engineering, operations research, photoscience.

Applied Mathematics

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	SMAM-210, 211 Freshman Seminar	1	1	
	SMAM-251, 252, 253 Calculus	4	4	4
	ICSP-220 FORTRAN	4		
	ICSP-208 Intro, to Programming PASCAL		4	
	SMAM-265 Foundations of Discrete Mathematics			4
		4	4	
	•"General Studies	4	4	'i
	Physical Education Elective	0	0	0
Second Year	SMAM-305 Calculus	4		
	SMAM-306 Differential Equations I		4	
	SMAM-307 Differential Equations II or SMAM-318 Solutions to Bdry Val Probs	/		4
	SM AM-351 Probability	4		
	SMAM-352 Applied Statistics I		4	
	SMAM-431 Matrix Algebra			4
	Elective	4	4	4
	General Studies	4	4	4
	General Studies		2	2
	Physical Education Elective	0	0	0
Third Year		F or W		SorSR
	SMAM-432 Linear Algebra	4		
	SM AM-361 Mathematical Modeling			4
	General Studies	4		4
	* Mathematics Elective	4		4
		4	J-	4
Fourth & Fifth Year	SMAM-531, 532 Abstract Algebra	4		4
	SM AM-411,412 Real Variables	4		4
	General Studies	8		10
	* Mathematics Elective	4		4
		12		12

NOTE: A detailed analysis of the above program is contained in a booklet prepared by the Department of Mathematics and is available upon request.

 # The primary objective of these unspecified electives is to fulfill the requirement of a minor concentration in one of the areas mentioned above. After that requirement is fulfilled, the electives become entirely free electives.

** See Mathematics Department for approved mathematics electives.*

**** If science sequence begins in the winter quarter, an extra General Studies course should be taken in the fall quarter of the first year, and no General Studies course taken in the fall quarter of the second year.*

Computational Mathematics

The Computational Mathematics Program prepares students for a career in applied mathematics and computers. It has been specially designed to incorporate a heavy concentration of computer science. Students are prepared to become mathematical analysts and scientific programmers. In this program, much emphasis is given to usage of the computer as a tool in solving physical problems which have been mathematically modelled.

Co-op

RITs co-operative education program, known as “co-op,” enables students to alternate periods in school (academic blocks) with jobs in their chosen field (work blocks) after the successful completion of the first two years of their program requirements. Co-op is optional for students, but nearly every student in the Department of Mathematics opts for it for the obvious reasons: good salary, experience in applying classroom knowledge to the “real world,” motivation, and enhancement of full-time job opportunities upon graduation.

Transfer Programs

Transfer programs are arranged on an individual basis.

Requirements for the AS and BS degrees:

The student must meet the minimum requirements of the Institute as descibed on page 18; in addition he/she must complete the requirements contained in one of the particular programs listed below, or its equivalent, as determined and approved by the Mathematics Department. In conjunction with a faculty advisor, individual student programs will be established to meet particular needs, interests, and goals. Additional information is available from the Department of Mathematics.

Course Descriptions:

For a complete outline of courses offered at RIT, please request the Course Description catalog from the Admissions Office.

Computational Mathematics

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	SMAM-210, 211 Freshman Seminar	1	1	1
	SMAM-251, 252, 253 Calculus	4	4	4
	SMAM-265 Foundations of Discrete Mathematics			4
	I CSS-220 FORTRAN	4		
	ICSP-208 Intro, to Programming PASCAL		4	
	ICSP-210 Prog. Des. and Val			4
	•"Science	4	4	4
	"•General Studies	i 4	4	
	Physical Education Elective		0	0
Second Year	SMAM-305 Calculus	4		
	SMAM-306 Differential Equations		4	
	SMAM-351 Probability	4		
	SMAM-352 Applied Statistics I		4	
	SMAM-410 Advanced Calculus			4
	SMAM-431 Matrix Algebra			4
	ICSP-305 Assembly Language Programming		4	
	ICSS-320 Data Structure Analysis			4
	General Studies	4	4	4
	General Studies	4	2	2
	Physical Education	0	0	0
Third Year		F or W	f'	S or SR
	SMAM-432 Linear Algebra	4		
	SMAM-365 Combinatorial Mathematics	4		
	SMAM-361 Math Modeling			4
	ICSS-315 Digital Computer Organization	4		
	General Studies	4		4
	* Mathematics Elective			4
	* Computer Science Elective			4
Fourth & Fifth Year	SMAM-511,512 Numberical Analysis	4		4
	SMAM-5J31, 532 Abstract Algebra	4		4
	* Mathematics Elective	4		4
	General Studies	8		10
	* Computer Science Elective	4		4
	Elective	3-4		3-4

NOTE: A detailed analysis of the above program is contained in a brochure prepared by the Department of Mathematics and is available upon request.

** See Mathematics Department for approved mathematics and computer science electives.*

****If science sequence begins in the winter quarter, an extra General Studies course should be taken in the fall quarter of the first year, and no General Studies course taken in the fall quarter of the second year.*

Physics

Arthur Z. Kovacs, Head

The Physics Department offers programs leading to the AS and BS degrees in physics.

The BS degree in physics is a five-year program with a cooperative work experience. Graduates with this degree find employment opportunities with industrial, academic, and government agencies, or continue their education in MS or Ph.D. programs in physics or physics-related areas, such as biophysics, atmospheric science, or industrial business administration.

Requirements for the AS and BS degrees in physics

The student must meet the minimum graduation requirements of the Institute as described on page 18 and in addition must complete the requirements contained in the particular program listed below or its equivalent as determined and approved by the Physics Department. 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 photo science is possible.

Course descriptions

For a complete outline of courses offered at RIT, please request the Course Description catalog from the Admissions Office.

Physics

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	SPSP-200 Physics Orientation	2		
	SPSP-311,312 University Physics I, II		4	4
	SPSP-371,372 University Physics Laboratory I, II		1	1
	SMAM-251, 252, 253 Calculus	4	4	4
	SCHC-211,212 General Chemistry	3	3	
	SCHG-205, 206 Chemical Principles Laboratory	1	1	
	ICSP-205 Computer Techniques	3		
	GLLC-220 English Composition	4		
	* General Studies Electives - Lower Division		4	4
	'Gneral Studies Electives - Lower Division			4
	+ Physical Education Electives	0	0	0
Second Year AS Degree	SPSP-313 University Physics II	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 Modem Physics Laboratory			1
	SMAM-305 Calculus	4		
	SMAM-306, 307 Differential Equations		4	4
	Technical Elective	3-4		
	Institute-wide Free Elective			3-4
	* General Studies Electives - Lower Division	4	4	4
	+ Physical Education Electives	0	0	0^
Third Year	SPSP-401,402 Intermediate Mechanics	4		4
	SPSP-421 Experimental Physics I	. 3		
	SPSP-431 Electronic Measurements I			4
	** SPSP-455 Optical Physics..	4		
	SPSP-480 Theoretical Physics 1			4
	* General Studies Electives	4		4
Fourth Year	SPSP-411,412 Electricity and Magnetism	4		4
	** SPSP-415 Thermal Physics	4		
	SPSP-522 Introduction to Quantum Mechanics			4
	Institute-wide Free Electives	3-4		3
	* General Studies Electives	4		4
	* General Studies Senior Form			2
Fifth Year BS Degree	SPSP-501 Theoretical Physics II, or SPSP-432 Electronic Measurements II	4		
	SPSP-531 Solid State Physics	4		
	SPSP-550 Physics Seminar	1		1
	Physics Electives (400-50(3 level)			4,4
	Institute-wide Free Electives	3-4		3-4
	* General Studies Electives	4		4

*** SPSP-455 and SPSP-415 given in alternate years.*
+ See Pg. 27 for Policy on Physical Education.
** See Pg. 75 for General Studies requirements.*

Biomedical Computing

RITs biomedical computing bachelor of science 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 and Technology because of the increasing use of computers in biomedical research and the health 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 use computers for the solution of clinical problems, laboratory analyses, medical information systems, and medical research.

Students are strongly encouraged to obtain experiential biomedical computing education by participation in the cooperative education program (co-op). The program spans five years to allow students to alternate quarters in school with quarters in paid employment during their last three years. Co-op allows students the opportunity to practice new skills in real-life situations and to test their chosen fields before making a lifelong commitment. The experiences they 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 program 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.

Biomedical Computing

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	ICSS-202 Intro, to Computer Science	4		
	ICSP-208 Intro, to Programming	4		
	ICSP-210 Program Design & Validation		4	
	ICSP-305 Assembly Language Prog			4
	SBIG-201 General Biology	3		
	SBIG-202, 203 General Biology		3	3
	SBIG-205 General Biology Lab	1		
	SBIG-206, 207 General Biology Lab		1	1
	SCHG-215, 216, 217 General & Analytical Chemistry	3	3	3
	SCHG-225, 226, 227 General & Analytical Chemistry Lab	1	1	2
	'General Studies		4	4
	‡ Physical Education Electives	0 •	0	0
Second Year	ICSP-220 FORTRAN ?.		4	
	ICSS-320 Data Structure Analysis	4		
	SBIO-305, 306 Physiology & Anatomy		4	4
	SMAM-251, 252, 253 Calculus	4 '	4	4
	SPSP-205, 206 General Physics		3	3
	SPSP-205, 206 General Physics		3	3
	SPSP-275, 276 General Physics Lab		. 1	1
	SCHO-431 Organic Chemistry			2
	'General Studies	8		4
	‡ Physical Education Electives	0	0	0
Third Year		F/W		S/Su
	SPSP-331 Electricity & Electronics	5		
	SCHO-432, 433 Organic Chemistry	2		2
	SCLG-301 Medical Terminology	3		
	SMAM-309 Statistics			4
	** Program Electives	2-4		6-7
	'General Studies	4		4
Fourth Year	SCLM-432 Biology Lab Techniques	4		
	** Program Electives	6-9		7-9
	* General Studies	4		8
Fifth Year	** Program Electives	11-13		5-8
	'GeneralStudies	4		10

‡ See *Pg. 27 for Policy on Physical Education.*
** See Pg. 75 for General Studies requirements*
***Program electives must be approved by the Biomedical computing advisor and can be used to concentrate in a science and computer science area. /*

Requirements for the BS in biomedical computing

The student must meet the minimum graduation requirements of the Institute as described on page 18 and in addition must complete the requirements contained in the particular program o& its equivalent as determined and approved by the Department of Clinical Sciences. Transfer students may be required to take additional course work, depending on the program they completed at their previous school. Specific requirements will be determined for each transfer student by the department.

Course Descriptions

For a complete outline of courses offered at RIT, please request the Course Description catalog from the Admissions Office.

Medical Technology Program

James C. Aumer, 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 which 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 enrolled in the medical technology program attend classes at RIT during the Fall, Winter and Spring quarters for three years. During the third year, students take a concentration of clinically-oriented courses which will 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 fourtti academic year at the hospital that accepts them as an intern for clinical training in medical technology. While at the. hospital the student will 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 afiliated with Rochester General Hospital and St. Mary's Hospital in Rochester and with Millard-Fillmore Hospital in Buffalo. Students may, however, seek admission to any approved hospital for their clinical experience.

Upon successful completion of the hospital experience, a bachelor of science is awarded. The student is then eligible to take a national registry examination for certification as a medical technologist.

Medical Technology (Typical Course Schedule)

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	SBIG-201, 202, 203 General Biology	3	3	3
	SBIG-205, 206, 207 General Analytical Chemistry	3	3	3
	SCHG-225, 226, 227 General Analytical Chemistry Lab.	1 V	1	2
	SMAM-221, 222, 223 College Math	4	4	4
	'GeneralStudies	4	4	4
	‡ Physical Education Elective	0	0	0
	SCHL-210 Medical Technology Seminar	1		
Second Y^ar	SBIO-305, 306 Physiology and Anatomy		4	4
	SCHO-231, 232, 233 Organic Chemistry	4	4	3
	SPSP-211, 212,331 College Physics & Electronics	3	3	5
	SPSP-271, 272 College Physics Lab	1	1	
	ICSP-205 Computer Techniques	3		
	SBIG-315 Medical Genetics		2	
	'General Studies *	4	4	4
	‡ Physical Education Elective	0	0	0
Third Year	SCLM-401 Hematology/Immunohematology			4
	SBIO-404 Microbiology	5		
	SCHB-234 Biochemistry [1]	4		
	SCLM-432, 433 Biology Laboratory Techniques		4	4
	SMAM-309 Statistics		4	
	SBIC-402 Immunology	3		
	SCLM-405 Diag. Bacteriology.:.		4	
	SBIO-412 Immunology Lab	1		
	* General Studies	4	4	4
	Elective	4	4	4

BS degree: the fourth year taken at an approved hospital lor training medical technologists,
t See Pg. 27 for Policy on Physical Education.
** See Pg. 75 tor General Studies requirements.*

Requirements for the BS degree in medical technology

The student must meet the minimum graduation requirements of the Institute as described on page 18 and in addition must complete the requirements contained in the particular program or its equivalent as determined and approved by the Department of Clinical Sciences. Transfer students usually 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.

Course descriptions

For a complete outline of courses offered at RIT, please request the Course Description catalog from the Admissisns Office.

Medical Imaging Technologies

Nuclear Medicine Technology Program

Judith Newell, Program Director

The program leading to the BS degree in nuclear medicine technology spans four years, the first three of which are spent on campus. The fourth year consists of clinical training at one or more approved hospitals.

Clinical training in nuclear medicine technology

The NMT clinical training begins in early June and ends in May of the following year. The first four 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 Rochester hospitals.

Most of the training is performed 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 four months in each. The teaching is done primarily by physicians and technologists on the hospital staffs. Student progress and performance is monitored by the RIT nuclear medicine technology coordinator who makes periodic visits to the hospital departments. Readings, problem assignments and project work are an integral part of the student's clinical training. Periodically during each four-month rotation, students return to the RIT campus for lectures and discussions.

The hospital training emphasizes the following areas: (a) radiation safety and protection; (b) patient positioning and nursing procedures; (c) radionuclide imaging and external monitoring; (d) nuclear medicine department administrative procedures.

The training also includes a substantial component of training in radioimmunoassay theory and practice. One week of classroom and laboratory work in RIA at RIT during the winter of the training year is followed by four weeks of radioimmunoassay clinical training at one of the affiliated hospitals

The RIT nuclear medicine technology program has affiliations with the following Upstate New York hospitals: Syracuse area—Community General Hospital; Crouse-Irving Memorial Hospital. Rochester area—The Genesee Hospital; Highland Hospital; Rochester General Hospital; Park-Ridge Hospital. Binghamton area—Our Lady of Lourdes Hospital; Charles Wilson Memorial Hospital. Canandaigua area—Frederick Ferris Thompson Hospital. Buffalo area—Sisters of Charity Hospital.

The RIT program is also affiliated with Veterans Administration Hospital, St. Louis, Missouri. Students who wish to intern at this hospital make application in the month of December preceding the start of the clinical year. Students selected for training there spend the entire year in St. Louis.

Requirements for the BS degree in nuclear medicine technology

The student must meet the minimum graduation requirements of the Institute as described on page 18 and in addition must complete the requirements contained in the particular program or its equivalent as determined and approved by the Department of Clinical Sciences. In conjunction with a faculty advisor, individual student programs will be established to meet particiJlar needs, interests, and goals. A planned elective concentration in another field such as biology, chemistry, mathematics, computer science, business or photo science is possible.

Accreditation

The nuclear medicine technology program has been accredited by the Committee on Allied Health Education and Accreditation (CAHEA) and the Joint Review Committee on Education Programs in NMT of the American Medical Association.

Nuclear Medicine Technology

Year		Quarter Credit Hours: Fall	Winter	Spring
First Year	SMAM-221, 222, 223 College Math	4	4	4
	SCHG-215, 216, 217 General & Analytical Chemistry	3	3	3
	SCHG-225, 226, 227 General & Analytical Chemistry Lab	1	1	2
	SBIG-201, 202, 203 General Biology	3	3	3
	SBIG-205, 206, 207 General Biology Lab	1	1	1
	* General Studies	4	4	4
	‡ Physical Education Elective	0	0	0
Second Year	SPSP-211,212, 213 College Physics	3	3	3
	SPSP-271, 272, 273 College Physics Lab	1	1	1
	SCHG-202 Organic Chemistry		3	
	SCHG-222 Organic Chemistry Lab		1	
	SCHG-203 Biochemistry			4
	SBIO-305,306 Physiology & Anatomy		4	4
	ICSP-205 Computer Techniques	3		
	•General Studies	8	4	4
	‡ Physical Education Elective	0	0	0
Third Year	SPSP-351, 352,353 Radiation Physics	5	5	5
	SBIT-430 Radiation Biology	4		
	SMAM-309 Statistics			4
	'General Studies Electives - Upper Division	4	4	4
	" Program Elective	4	4	
	Institute-wide Elective		4	4
Fourth Year Clinical Internships — Affiliated Hospitals	SCLN-401 Introduction to Clinical Nuclear Medicine	4		
	SCLN-402 Nuclear Medicine Procedures - Central Nervous System	1		
	SCLN-501 N.M. Procedures-ReticuloendothelialSystem	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 Systems		2	
	SCLN-512 N.M. Procedures - Cardiovascular System		2	
	SCLN-513 N.M. Procedures - Digestive System			1
	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 and Radiation Biology		1	
	SCLN-519 Radiation Health Safety			2
	SCLN-520 Radioimmunoassay			4
	SCLN-521 Review in Nuclear Medicine			2
	SCLN-522 Clinical Nuclear Medicine I	6		
	SCLN-523 Clinical Nuclear Medicine II		7	
	SCLN-524 Clinical Nuclear Medicine III			7

‡ See Pg. 27 for Policy on Physical Education.
** See Pg. 75 for General Studies requirements.*
***Program electives must be approved by the Nuclear Medicine Technology Program Director and can be used to concentrate in an area related to Nuclear Medicine.*

Medical Imaging Technologies

Ultrasound Technology Program

The Diagnostic Medical Sonography (Ultrasound) Program offers two options leading to the BS degree and a certificate.

The program aims at professional preparation of ultrasound technologists with specialty training in abdominal, obstetrical and gynecological ultrasonic techniques and procedures. Depending upon their background, professional experience and career goals, graduates may pursue staff, administrative, research, or teaching positions, or continue their education toward an advanced degree. Both program options will also allow allied health or nursing professionals to be trained in a second health specialty.

Requirements for the BS degree in ultrasound;
The student must meet the minimum graduation requirements of the Institute as described on page 18 and, in addition, must complete the requirements contained in the particular curriculum listed below or its equivalent as determined and approved by the Department of Clinical Sciences. The program is a two- or four- year effort, including the one-year clinical internship. Associate degree graduates and registered or certified practitioners from a related health field can earn a BS degree by entering the last two years of the program. Additional course work may be required, depending on the program completed at a previous school.

Requirements for the certificate option:
The student must meet the Institute as well as the specific requirements listed below. The certificate option is a one-year clinical internship that has a cross-seGtional anatomy prerequisite course requirement. It is available to associate and baccalaureate degree graduates who are licensed or certified practitioners with two years of experience in a related health field.

Clinical training in ultrasound technology:
The clinical internship for both the BS degree and certificate options will be conducted in a consortium of 13 affiliated hospitals in the major medical centers of Rochester, Buffalo, Syracuse and Binghamton. An intensive introduction to ultrasound will be taught during the first month of the internship. Students will then be assigned to rotate through 2 different hospital sites for their clinical training.

Both the certificate and BS degree programs will allow graduates to take the national certifying exam for specialization in abdominal, obstetrical and gynecological ultrasound procedures.

Ultrasound Technology Certificate Curriculum Outline

Year	Course Requirements	Quarter Credit Hours: Fall	Winter	Spring
	Prerequisite Course Requirement: SCLS-412 Ultrasonic Cross-Section Anatomy - 4 credits or equivalent			
One Academic Year	Clinical Internships - Affiliated Hospitals			
	SCLS-551 Intro, to Clinical Ultrasound	6		
	SCLS-552 Intro, to Obstetrical Ultrasound	5		
	SCLS-553 Intro, to Gynecologic Ultrasound	5		
	SCLS-554 Advanced Obstetrical Ultrasound		5	
	SCLS-555 Advanced Gynecologic Ultrasound		5	
	SCLS-556 Intro, to Abdominal Ultrasound I		6	
	SCLS-557 Intro, to Abdominal Ultrasound II			7
	SCLS-558 Advanced Abdominal Ultrasound			7
	SCLS-560 Seminar in Ultrasound		1	1

Ultrasound Technology Baccalaureate Curriculum Outline

Year		Quarter Credit Hours: Fall	Spring	Winter
First Year	SBIG-201, 202, 203 General Biology	3	3	3
	SBIG-205, 206, 207 General Biology Lab	1	1	1
	SMAM-221, 222, 223 College Math	4	4	4
	Chemistry Electives	4	4	4
	General Studies	4	4	4
	Physical Education Electives	0	0	0
Second Year	SPSP-211, 212, 213College Physics	3	3	3
	SPSP-271, 272, 273 College Physics Lab	1	1	1
	ICSS-202 Intro, to Computer Science or ICSP-205 Computer Techniques	4		
	SLCG-301 Medical Terminology	3		
	SBIO-305,306 Physiology & Anatomy		4	4
	SMAM-309 Statistics			4
	General Studies	4	4	4
	Physical Education Electives	0	0	0
Third Year	SCLS-411 Intro, to Diagnostic Ultrasound	2		
	SCLG-415 Pathophysiology			4
	SCLS-413 Ultrasound Instrumentation			4
	SCLS-412 Ultrasonic Cross-Section Anatomy*		4	
	SBIG-315 Medical Genetics		2	
	SPSP-361 Ultrasonic Physics	5		
	General Studies	4	4	4
	Program Electives	6	6	4
Fourth Year	Clinical Internships - Affiliated Hospitals			
	SCLS-551 Intro, to Clinical Ultrasound	6		
	SCLS-552 Intro, to Obstetrical Ultrasound	5		
	SCLS-553 Intro, to Gynecologic Ultrasound	5		
	SCLS-554 Advanced Obstetrical Ultrasound		5	
	SCLS-555 Advanced Gynecologic Ultrasound		5	
	SCLS-556 Intro, to Abdominal Ultrasound I		6	
	SCLS-557 Intro, to Abdominal Ultrasound II			7
	SCLS-558 Advanced Abdominal Ultrasound			7
	SCLS-560 Seminar in Ultrasound		1	1

Accreditation
The ultrasound technology program is designed to meet the Essentials of Accredited Educational Programs for the Diagnostic Medical Songrapher as set forth by the Committee on Allied Health Education Accreditation (CAHEA).

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalog from the Admissions Office.

National Technical Institute for the Deaf

William E. Castle, Director
Peter J. Pere, Dean

The National Technical Institute for the Deaf was created to provide deaf students with the technical training that will lead to meaningful employment in business, industry, govenment, and education. Public Law 89-36 authorized the establishment of NTID, and Rochester Institute of Technology was chosen as the sponsoring institution in late 1966 by the Department of Health, Education and Welfare. In the fall of 1968, a pilot group of 71 deaf students began their studies at NTID and for the academic year 1983-84 enrollment will be approximately 1,200.

The partnership: NTID at RIT

As one college in ten at RIT, NTID is governed by the RIT Board of Trustees.

The fact that NTID is located on a college campus designed primarily for hearing students is important'to the students' academic, personal, . social, and communication development. The NTID academic programs, designed for deaf students, lead to certificates, diplomas, and associate's degrees * from RIT. Most NTID students take some courses along with hearing students in the other colleges of RIT. Some NTID-sponsored students are full-time or part-time students in the associate's, bachelor's, and master's degree programs of the other colleges of RIT. Special educational support departments made up of NTID staff members help them in their studies in those other colleges.

Facilities

There is a modern complex of buildings on RIT's Rochester campus which was designed specifically to serve deaf students.

The Lyndon Baines Johnson Building is the main academic building. It has a theatre, laboratories, offices, speech and hearing areas, and classrooms.

Classrooms are designed to cut down on distractions. There are no windows, colors are soft, and seats are placed in a semicircle to allow the best possible vision from all parts of the room.

The theatre seats more than 500 people and has closed circuit television. A number of productions are offered each year using both voice and sign. There are also two well-equipped television studios, which are used to produce class and self-instruction videotapes and all captioning done at NTID.

The residence halls in this building complex contain dormitory rooms, recreation areas, student lounges, and study and conference areas. The residence halls are shared by deaf and hearing students. There are three residence halls: Mark Ellingson Hall, Peter N. Peterson Hall and Alexander Graham Bell Hall.

The Hettie L. Shumway Dining Comons consists of a large dining room and complete food service facilities.

Other special features for deaf students include a visual emergency system in the academic and residence halls. A sophisticated telecommunication system links all parts of the RIT campus.

Educational philosophy

The educational goal of NTID at RIT is to provide opportunities for qualified deaf students to prepare for successful careers in business, computer science, engineering, applied science, allied health, photography, printing, art, media or social services. Students may pursue training for semi-professional careers through the programs managed by NTID. NTID provides special support services which enable deaf students to pursue professional careers in any one of the other colleges of RIT. In addition to preparation in technical areas, NTID offers experiences which assit deaf students in developing needed personal, social, and communication competencies.

NTID also serves deaf persons throughout the world through educational outreach, publications, internships, and related services. NTID is interested as well in helping deaf adults add to their vocational and technical skills through continuing education.

NTID at RIT conducts research to better understand the role of deafness in education and employment and to develop creative teaching techniques. There are training activities for its faculty and staff and for other professionals working with deaf persons across the country.

Cross registration

Any qualified deaf student may enroll in programs offered by other RIT colleges or take selected courses. These students are called cross-registered.

An NTID student cross-registered in courses in any RIT college has the support services of interpreters, tutors, note-takers, speech and hearing specialists, and counselors available to them.

There are several ways to become a cross-registered student.

1. Deaf students may take selected courses in another RIT college.
2. After completing a program of study offered by NTID, students may wish to continue their education in another RIT college.
3. Deaf students may enroll directly from high school or transfer directly from another college into an RIT program.

To enroll in another college at RIT, NTID students discuss the possibility with their counselor, academic advisor and a member of the educational support department assigned to the college of their choice. The final decision as to whether the student is admitted is left to the college in which the student seeks enrollment.

Summer Vestibule Program

The Summer Vestibule Program is a series of educational experiences designed to prepare deaf students for further post secondary training, to determine their academic strengths and weaknesses and to provide an environment for developing program and career choices.

During the summer program, new students have the opportunity to explore and evaluate, through program sampling, the various programs of study available through NTID and the other colleges at RIT. Concurrently, the faculty has the opportunity to evaluate the student, offer counsel and plan for Fall Quarter.

The counseling staff helps students to more fully understand their abilities, interests and achievement levels through the interpretation and discussion of test data, background experiences, personal and work values. Aptitudes and interests are then related to available academic programs and possible occupations. This gives students the opportunity to select a program and career whch best suit their individualized needs.

The students are also guided through a series of specially designed living arrangements and self-governance experiences which assist them in making satisfactory adjustments to college life and developing interpersonal relationship skills. Formal course work is important in helping students make the transition to a college environment and plays a role in each student's SVP experience. The Summer Vestibule Program has proven invaluable in improving students' ability to take full advantage of opportunities at RIT.

Admission

To qualify for admission to RIT through NTID, students must meet certain standards agreed upon by RIT and the U.S. Department of Education.

1. A student should have attended a school or class for deaf students and/or have needed special help because of being deaf.
2. Students must have a hearing loss that seriously limits their chances of success in college without special support services. There is a general agreement that an average hearing loss of 60 decibels (ASA) or 70 decibels (ISO) or greater across the 500; 1,000; and 2,000 Hz range (unaided) in the better ear is a major handicap to education.
3. The NTID program at RIT is 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 the NTID program than by remaining in secondary school. Age and personal/social maturity are given special consideration in such a situation.
4. Students' educational background should show that they can probably succeed in a program of study at NTID or one of the other colleges of RIT. Students who are admitted should have an overall eighth grade achievement level or above. This means that the average score on an achievement test that includes reading, math and language should be at an eighth grade level.
5. Students must show that they are personally and socially mature enough to enter a program at NTID or one of the colleges of RIT. The information is provided through the student's personal references and performance in the Summer Vestibule Program (SVP).
6. A student must be a citizen or permanent resident of the United States.

Charges and fees

The cost of attending the National Technical Institute for the Deaf includes tuition, room, board and academic fees. For more specific information on admission, costs and programs, please consult RIT's ***Official Bulletin*** for NTID, available from NTID.

Special support services

Special support services are provided to NTID-sponsored students at RIT. Interpreting services are available upon request for any class in which one or more deaf students are in attendance. In many classes for baccalaureate programs, trained hearing RIT students take notes on special notetaking pads and give copies of them to deaf students. Tutorial services are provided to deaf students as needed.

Note taking allows the deaf student to watch the interpreter or teacher while the notetaker records classroom information.

In addition, counseling and speech and hearing services are conducted on an individual basis for each student. Services to assist in career development are an important part of the total NTID program. All special support services are geared toward helping the deaf student gain the maximum benefit from his or her educational experiences at RIT - experiences that will lead to successful employment in the mainstream of the work environment.

Complementary Education

Experiences set up to enrich and increase students' educational opportunities in personal/social, cultural and aesthetic areas are provided. Complementary education supports both academic classes and co-curricular activities in providing personal development skills. These experiences enable students to become successful professionals in their chosen careers by making them more well-rounded individuals.

Such activities as athletics, theatre, student newspaper, student government and clubs are not only fun but give many deaf students the opportunity to become creative and, experienced leaders.

In addition to intramural athletics, deaf students may also be members of RIT varsity teams in intercollegiate competition. Deaf athletes have helped RIT to winning seasons in hockey, track and swimming.

Employment Opportunities

Historically, more than 95 percent of NTID sponsored graduates who choose to enter the labor market have found jobs. Ninety-five percent of employed graduates are in jobs commensurate with the training they received at NTID. Many other RIT deaf graduates choose to continue their education through one of the other colleges at RIT or at other institutions.

Tiie high employment rate is largely the result of the fact that deaf graduates hold technical skills which seem to meet employers' needs. Also, NTID's highly individualized employment preparation program teaches students job search skills. Employment advisors help students develop strategies to find jobs and to maintain employment. They also help employers understand NTID and other programs at RIT, deafness, and graduates' technical and cdmmunication skills.

Employment advisors constantly monitor employment and economic trends in order to provide the most current information to students. They also maintain liaisons with employers in order to provide feedback to technical departments regarding employers' needs in terms of technical skills. This helps NTID monitor and update its educational programs to make students marketable in business and industry nationwide.

Programs of Study

Technical education at NTID prepares students for a variety of successful careers. These programs are designed to meet the increasing demand for technicians, semi-professionals and specialists for employment in industry, business, government, and the professions. NTID students can prepare for technical careers in seven major areas.

Business Careers Programs respond to the need in industry for people skilled in operating office equipment, keeping financial records, performing clerical duties, and using computers.

Computer Careers Programs provide opportunities through the Data Processing major, to work in Computer operations and in preparing computer programs.

Students selecting the Engineering Technologies Careers may choose between three areas. Construction technologies careers invdlve helping to design and participate in the construction of buildings, roads and bridges. Industrial technologies ' careers involve working with manufacturing systems and special equipment used in industry.

Electromechanical technology program involves work with systems and special equipment used in industry throughout the country.

Students who have an interest in science and who also like doing things to benefit people can combine both interests in the Applied Science/ Allied Health Careers. Three program majors are offered: Medical Laboratory, Medical Records and Optical Finishing.

Visual Communication Careers offers four program areas: applied art, printing production, applied photography, and media production. The NTID Art Department sponsors an In-House Co-op. In-House Co-op is a cooperative work program on campus where students get experiences with the real world of applied art.

All curricula at NTID include appropriate general education and communication courses. These encompass the common knowledges, skills and attitudes needed by each individual to be effective as a person, a member of a family, an employee, a consumer and a citizen.

Interpreting for the Deaf

The purpose of the AAS degree in interpreting is to develop skills for the delivery of interpreting and other services needed by deaf persons in educational and other settings. While the emphasis is on developing interpreting skills, additional skills related to assisting deaf students in “mainstream" programs - notably, tutoring and notetaking, are also included. It is anticipated that graduates of the program will be able to get jobs in educational and community settings and other positions requiring a combination of skills. The AAS may also serve as a starting point for more advanced educational degrees in other disciplines related to working with deaf persons.

All students must successfully complete the interpreting core courses (54 credit hours). Beyond this requirement, students will also select from one of three major concentrations of study: Tutoring/ Notetaking, Educational Programs, or Interdisciplinary Study.

Transfer credits from another institution may be accepted, and in some instances students have the option of credit by exam for some of the professional courses if they already possess the skills required. Transfer and credit by exam options are determined on an individual basis.

Two-Year Associate Degree in Interpreting

First Year	NITP-201, 202 Expressive Interp. I, II	3	3		
	NITP-211 Voice Interp. I			3	
	NITP-251, 252 Aspects & Issues of Deafness I, II	3		3	
	NITP-261, 262 Theory & Practice of Interpreting I, II	3	3		
	NITP-271 The Professional Interp. I			3	
	NITP-281 Interpreting Practicum I				5
	NITP-283 Interpreting Seminar I				1
	* General Studies Requirements	8	4	8	
	•Physical Education Elective-v	0	0	0	0
	NITP-391 Prin. of Tutoring/Notetaking		3		
Second Year	NITP-212, 213 Voice Interp. II, III	3	3		
	NITP-303 Expressive Interpreting III	3			
	NITP-331 Expressive Transliterating		3		
	NITP-341 Intro, to Specialized Interpreting Settings			3	
	NITP-372The Professional Inter. II	3			
	NITP-382 Interpreting Practicum II			5	
	NITP-384 Interpreting Seminar II			1	
	* GLLC-520 Vocabulary Building		5		
	* Contemporary Science Course		4		
	#*Technical Concentration Requirements		7	8	

** Courses may be offered/taken in quarters other than shown*
 # Technical requirements vary from 6-15 hours depending on the concentration; maximum is represented

Tutoring/Notetaking Concentration

NITP-391 Principles of Tutoring/ Notetaking
NITP-392 Tutoring/Notetaking Practicum
GLLC-547 Practical Writing
GLLC-402 Conference Techniques

Educational Programs:

NITP-391 Principles of Tutoring/ Notetaking
NITP-395 Mainstreaming: Educational Programs and Alternatives
GLLC-547 Practical Writing
GLLC-402 Conference Techniques

Interdisciplinary Study:

NITP-391 Principles of Tutoring/ Notetaking
NITP-395 Mainstreaming: Educational Programs and Alternatives

NTID Undergraduate Prog rams

	Certificate	Diploma	AAS
Applied Accounting		•	•
Business Occupations	•		
Office Practice & Procedures		•	•
Data Processing	•	•	•
Architectural Drafting		•	
Architectural Technology			•
Civil Technology			•
Industrial Drafting		•	
Industrial Drafting Technology			•
Manufacturing Processes		•	* *
Electromechanical Technology			•
Physician's Office Assistant	•		
Histological Assistant	•		
Hematology Assistant		•	
Microbiology Assistant		•	
Clinical Chemistry Assistant		•	
Medical Laboratory Technician			•
Medical Records Technician			•
Optical Finishing Technology	•	•	•
Applied Art	•	•	•
Media Production Technology		•	•
Applied Photography	•	•	•
Printing Production Technology	•	•	
Interpreting for the Hearing Impaired			•

ROTC

The general objective of the Reserve Officers' Training Corps is to produce junior officers who, by education, training, attitude, maturity and qualities, are suitable for continued development as officers in the United States Army. The intermediate objectives of the program are to develop in each student:

1. The fundamentals of self-discipline, integrity, and responsibility;
2. An appreciation of the role of a partcipating citizen in matters dealing with national defense;
3. The ability to evaluate situations, to make decisions, to understand people, and to practice those attributes considered essential in a leader.

Four-year program
The Army ROTC program at Rochester Institute of Technology is voluntary and open to all male and female students enrolled on a full-time basis.

Students are eligible to enroll in this program any time during their freshman or sophomore years. They may also disenroll at any time during these first two years **without obligation.** Upon completion of the sophomore year, the student may request enrollment in the Advanced ROTC Course for the junior year and senior years.

Two-year program
This program is offered to all qualified students with two school years remaining who did not previously participate in ROTC. Students in this program attend a six-week Basic Summer Camp between their sophomore and junior years, in lieu of the first two years of ROTC normally presented in the classroom. Upon successful completion of this basic camp, the student is enrolled in the Advanced Course for the last two years. It should be noted that interested students should begin processing applications for this program early in the sophomore year.

Commissioning
In both the two-year and four-year programs, the student must successfully complete all degree requirements. Additionally, each student attends a six-week Advanced Summer Camp, usually between the junior and senior year, prior to being commissioned as a second lieutenant on graduation day.

ROTC sponsors many extracurricular and hands-on type activities through which the cadet may find an opportunity to develop leadership potential, broaden overall cultural, civic and social backgrounds, and enjoy voluntary weekend outdoor events.

All courses receive full academic credit as free electives.

Scholarships
Full-tuition scholarships are available on a competitive basis to freshman, sophomores and juniors. Under this program, the Army pays for all tuition fees, lab fees, textbooks, and other required expenses, except room and board.'In addition, all students entering the Advanced Course receive $100 per month, with or without a scholarship, for ten months of each academic year. Throughout the entire program, the ROTC student is provided textbooks and related materials free of charge.

For further information
Additional information about ROTC may be obtained by visiting the unit's offices in the administration building or by calling 475-2881, 2882.

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalog from the Admissions Office.

ROTC Faculty

Professor of Military Science
Major Christopher B. Witt
BS Citadel
MA Sul Ross State University

Assistant Professors of Military Science

Captain Ronald Dyches
BA Sam Houston State University

Captain Andrew G. Ellis *
BS US Military Academy

Captain Joseph Ciprich •
BA, Villanova University

Sergeant Major
Samuel G. Tratt

Training Specialist
Sergeant First Class James Hughes

Supply Specialist
Staff Sergeant David L. Shed

Administrative NCO
Staff Sergeant (P) Major L. Redd

Military Personnel Clerk
Ms. Connie Nickel

Secretary
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Howard F. Carver*.
Former Chairman of the Board
The Gleason Works

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Chairman of the Executive
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Rochester Institute of Technology
President
Eastman Kodak Company

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Rapidac Machine Corporation

Hugh E. Cumming
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E. Kent Damon
Vice Chairman
Board of Trustees
Rochester Institute of Technology
Vice President and Secretary
Xerox Corporation

Robert H. Downie
Senior Vice President—Development
Moore Corporation, Limited

Francis! E. Drake, Jr.
Retired Chairman of the Board
Rochester Gas & Electric Corporation

Mrs. James C. Duffus
President
Women's Council
Rochester Institute of Technology

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Chairman Emeritus
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Rochester Institute of Technology
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R.H. Eisenhart Inc.

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Chief Executive Officer
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Women's Council
Rochester Institute of Technology

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Retired Chairman
B. Forman Company

Karl F. Fuchs*
President
Alliance Tool Corporation

Daniel E. Gill
President and Chief Executive Officer
Bausch & Lomb Inc.

James S. Gleason
President and Chief Executive Officer
The Gleason Works

Lawrence C. Gleason*
Former Chairman of the Board
The Gleason Works

Fred H. Gordon, Jr.*
Chairman, Executive Committee
Mixing Equipment Co. Inc.
(a unit of General Signal Corporation)

Lucius R. Gordon*
Chairman of the Board
Mixing Equipment Co. Inc.
(a unit of General Signal Corporation)

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Ezra A. Hale*
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Alexander D. Hargrave
Chairman of the Board and Chief
Executive Officer
Lincoln First Banks Inc.

James C. Henderson
President
Rochester Telephone Corporation

John E. Heselden
President
Gannett Newspaper Division
Gannett Co. Inc.

John D. Hostutler
President
Industrial Management Council

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Retired General Manager
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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: Presently open

College of Continuing Education

Frederick H. Minett Professorship in Continuing Education

Established: 1972

Donor: Mr. Minett by bequest

Purpose: To provide a permanent memorial for Mr. Minett and to recognize his interest in students who obtain their education through the evening division.

Held by: Dr. John D. Hromi

Paul A. Miller Distinguished Professorship in Continuing Education

Established: 1978

Donor: RIT Board of Trustees

Purpose: To honor Dr. Miller on the occasion of his retirement as President of the Institute and to give lasting recognition to his standing as an acknowledged authority in the field of continuing education.

Held by: Presently open

Russell C. McCarthy Chair

Established: 1979

Donors: Mr. Fred Gordon, Mr. Lucius Gordon, Mixing Equipment Company and General Railway Signal Company, units of General Signal Corporation, and other friends of Mr. McCarthy.

Purpose: To honor Mr. McCarthy as Manager of the Industrial Management Council for twenty years and his role as a champion of and an authority on industry and business. Mr. McCarthy has served RIT as a Trustee and Honorary Trustee since 1947.

Held by: Professor James Forman

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: Professor Ray C. Johnson

College of Fine And Applied Arts

Charlotte Fredericks Mowris Professorship in Contemporary Crafts *y*

Established: 1976

Donor: Mrs. Charles F. Mowris

Purpose: To perpetuate her interest in the School for American Craftsmen through the work of faculty and students as talented craftsmen.

Held by: Professor Hans Christensen

College of General Studies

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 those fields of study that have a humanistic perspective.

Held by: Dr. Lewis White Beck

'f *J*

College of Graphic Arts and Photography

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: Professor Herbert H. Johnson

James E. McGhee Professorship in Photographic Management

Established: 1967

Donor: Master Photodealers & Finishers Association and friends of Mr. McGhee

Purpose: To provide a permanent memorial for Mr. McGhee, a former vice president of the Eastman Kodak Company and lifelong friend of the photo finishing industry.

Held by: Presently open

Paul and Louise Miller Distinguished Professorship in Newspaper Production Management

Established: 1976

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 newspaper industry.

Held by: Professor Robert G. Hacker

All Institute

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 RIT Trustee from 1959 to 1964.

Held by: Presently open

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College of Applied Science and Technology

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National Technical Institute for the Deaf

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College of Applied Science and Technology

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Donna McDonough, BS, MS—Assistant to the Dean

Wiley R. McKinzie, BA, MS-Director, School of Computer Science and Technology; Associate Professor

Dennis C. Nystrom, BS, Ed.D., Dean—Professor

Harold J. Raphael, BS, MS, Ph.D - Director, Department of Packaging Science, Professor

Clinton J. Wallington, BA, Ph.D - Chairman, Department of Instructional Technology; Professor

School of Computer Science and Technology

Peter G. Anderson, Ph.D., BS, Massachusetts Institute of Technology—Professor

Rodger Baker, BM, BS, MS, University of Rochester—Associate Professor

Mehmet Baray, Ph.D., University of California, Berkeley—Associate Professor

John A. Biles, MS, BA, University of Kansas-Instructor

James R. Carbin, BS, SUNY at Albany; MS, Rensselaer Polytechnic Institute—Associate Professor

Warren Carithers, BS, MS, University of Kansas—Instructor

James A. Chmura, BS, MS, Rutgers University—Assistant Professor

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Lawrence Coon, AB, University of Rochester; MA, Oakland University; Ph.D., Ohio State University-Assistant Professor

Evelyn Culbertson, BS, State University of New York— Brockport; MS, Syracuse University—Associate Professor

Roy Czernikowski, BEE, Catholic University of America; ME, Ph.D., Rensselaer Polytechnic Institute-Associate Professor

Mary Ann Dvonch, BS, SUNY at Brockport—Instructor

John L. Ellis, Ph.D., MS, University of Toledo; MS, University of Oregon—Assistant Professor

Henry Etlinger, BS, University of Rochester; MS, Syracuse University—Assistant Professor

James Hammerton, MA, Cambridge University, MBA, New York University—Assistant Professor

Jack Hollingsworth, BS, BA, University of Kansas; MS, Ph.D., University of Wisconsin—Professor

Guy Johnson, BS, Pennsylvania State; MS, Syracuse—Associate Professor

Michael J. Lutz, BS, St. John Fisher College; MS, SUNY at Buffalo-Assistant Professor

Peter Lutz, BS, St. John Fisher College; MS, Ph.D., SUNY at Buffalo—Assistant Professor

Wiley R. McKinzie, BA, University of Wichita; MS, SUNY at Buffalo-Associate Professor

Rayno Niemi, BS, MS, Ph.D., Rennselaer Polytechnic Institute-Associate Professor

Kenneth Reek, B. Tech., MS, Rochester Institute of Technology-Assistant Professor

Margaret Reek, BT, MS, Rochester Institute of Technology—Instructor

William Stratton, BS, MS, Hunter College; MS, SUNY at Buffalo-Assistant Professor

Adjunct Faculty

Vishwas Abhyankar, Ph.D., University of Rochester

Lois Bennett, MS, Hunter College

Teiji Furugori, MS, University of Rochester; Ph.D., SUNY at Buffalo

Craig Haller, BS, MS, Boston University

Robert Keller, BA, Transylvania College; MS, Rochester Institute of Technology

Walter Maurer, BA, University of Wisconsin; MS, Rochester Institute of Technology

Michael Mino, BSEE, Rennselaer Polytechnic Institute; MBA, Rochester Institute of Technology

Patrick Moyer, BS, Kutztown State College; MS, Pennsylvania State University

Werner Schenk, BA, Los Angeles State College; MBA, University of Rochester

T.C. Soong, Ph.D., Stanford University

William Thiel, MS, Rochester Institute of Technology

School of Engineering Technology

John F. Adams, BEE, MSEE, Clarkson College-Professor

Ronald F. Amberger, BME, Rensselaer Polytechnic Institute; M. Eng., Penn State University; P.E.—Associate Professor

W. David Baker, BS, Monmouth College, MS, Rochester Institute of Technology—Director, School of Engineer Technology; Associate Professor

Thomas J. Dingman, AAS, Hudson Valley Community College; BSEE, MS (ET) Rochester Institute of Technology—Associate Professor

Robert H. Easton, BS, U.S. Military Academy; MSCE, Iowa State University—Assistant Professor

Kevin M. Foley, AAS, Monroe Community College; BS, SUNY College Environmental Science and Forestry, Syracuse University-Assistant Professor

Burton S. Garrell, BSME, Stevens Institute of Technology; MS, University of Michigan—Associate Professor

Louis B. Qennaro, MS, Northeastern University; BS, U.S. Military Academy—Chairman, Mechanical Engineering Technology; Assistant Professor

Joseph D. Greenfield, BEE, City College of New York; MSEE, Pennsylvania State—Professor

Alan C.H. Hu, BSCE, Ta Tung University Shanghai; MPH, Minnesota; Ph.D., Oklahoma-Professor

David G. Krispinsky, MSE, BE, Youngstown University—Assistant Professor

William C. Larsen, BS, MSCE, Dartmouth; P.E—Associate Professor

John C. Loos, BS, MS, Harvard University; PE—Chairman, Civil Engineering Technology, Assistant Professor

Carl A. Lundgren, BS, Renssalaer Polytechnic Institute; MBA, University of Rochester—Instructor

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

Robert A. Merrill, BS, Clarkson College; MS, Northeastern; P.E.—Associate Professor

Mark Piterman, MCE, Odessa Marine Engineers Institute—Assistant Professor

Charles G. Porter, BSIE, Columbia University, MBA, Rochester Institute of Technology—Assistant Professor

Venkitaswamy Raju, BS, MS, Madras University; MBA, Missouri State University; ME, Rochester Institute of Technology—Assistant Professor

James A. Reynolds, AAS, BS, Rochester Institute of Technology; MSEE, Illinois-Associate Professor

Carol A. Richardson, MSEE, Union; BSEE, University of Wyoming-Assistant Professor

John D. Sherrick, BEE, Clarkson; MSEE, Worcester Polytechnic; P.E.—Associate Professor

Martin J. Siebach, AAS, BS, Rochester Institute of Technology; MSEE, Illinois; P.E.—Associate Professor

John A. Stratton, AAS, BS, Rochester Institute of Technology; MS, Rennselaer Polytechnic Institute; P.E.—Chairman, Electrical Engineering Technology, Associate Professor

Thomas V. Young, BA, Hunter College; MS, New York University-Associate Professor

School of Engineering Technology Adjunct Faculty

Mark P. Allen, AAS, Suffolk County' Community College; BT, Rochester Institute of Technology; P.E.

Charles M. Buehler, BSEE, University of Wisconsin

Lloyd Merrill, ME, MME, Cornell University; P.E.

Christopher P. Noun, BSCE, University of Buffalo/Duke University; MBA, University of Buffalo

Joseph F. Santoro, BS, Oswego State; MA, Ohio State University

School of Food, Hotel and Tourism Management

George Alley, BA, MS, Rutgers-Director, School of Food, Hotel and Tourism Management; Professor

Frank A. Bucci, BS, New Hampshire; MBA, Boston College-Associate Professor

Francis M. Domoy, BS, MA, SUNY at Buffalo; Ph.D., Michigan State University—Associate Professor

Leila P. Hopkins, R.D., BS, Tennessee; MS, University of Iowa—Associate Professor

Dorothy C. Humm, R.D., BS, Drexel University; MBA, Rochester Institute of Technology—Assistant Professor

Richard Marecki, BA MA Ph.D., SUNY Buffalo-Associate Professor

Linda Underhill, R.D., BS, MS, Rochester Institute of Technology-Instructor

Carol Whitlock, R.D., BS, MS, Pennsylvania State University; Ph.D., University of Massachusetts-Associate Professor

Clinical Faculty

Jean Fox, Director of Dietetics, Rochester General Hospital

Jean Queale, Chief of Dietetic Service, The Veterans Administration Hospital, Canandaigua, New York

Instructional Technology

Clinton J. Wallington, BA, University of Missouri at Kansas City; Ph.D., University of Southern California-Professor

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

Packaging Science

A. Ray Chapman, MBA, Rochester Institute of Technology; BS, Michigan State University—Assistant Professor

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

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School of Business Administration and School of Retailing

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Henry J. Cassia, BS, MBA, New York University—Associate Professor

You-Keng Chiang, BA, Central University, Chunking; MA, Ph.D., University of Chicago-Professor

Dorothy Cotton, Fashion Specialist, Public Relations Consultant-Lecturer

Terry L. Dennis, BS, Clarkson College; MS, Ph.D., Purdue-Associate Professor

Stanley M. Dye, BA, Haverford College; C.P.A., New York-Distinguished Lecturer

Sally Fischbeck, BA, University of Rochester, MS, RIT—Lecturer

James C. Galloway, AB, Rochester; MBA, University of Pennsylvania; Ph.D., University of Virginia-Assistant Professor

Steven C. Gold, BA, BS, Rutgers; MA, Ph.S., SUNY at Binghamton-Assistant Professor

J. Kenneth Graham, Jr., BA, Brown; MBA, Ph.D., Union College and University—Assistant Professor

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Michael Hertzel, BA, MBA, MS, PHD., University of Rochester-Lecturer

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Thomas F. Pray, BS, MS, Clarkson College; Ph.D., Rensselaer Polytechnic Institute—Associate Professor

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John L. Roman, BS, MS, SUNY at Albany—Assistant Professor

Jose A. Rullan, BS, Western Carolina University; MS, Rochester Institute of Technology; C.P.A., New York—Instructor

Dean C. Siewers, BS, Marietta; MBA, Duke University; Ph.D., University of North Carolina-Assistant Professor

Patricia Sorce, BA, Kent State University; MS, Ph.D., University of Massachusetts—Assistant Professor

William Stevenson, BIE, MBA,-Ph.D., Syracuse—Associate Professor

George M. Sullivan, BS, St. Peter's College; JD, Seton Hall University; LL.M., New York University-Assistant Professor

Daniel D. Tessoni, BBA, St. John Fisher; MS, Clarkson College of Technology; C.P.A., New York-Instructor

Philip R. Tyler, BS, Rochester Institute of Technology; MBA, DBA, Michigan State University—Associate Professor

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James J. Wallace, BAA, MBA, Texas Christian University—Lecturer

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Thomas A. Williams, BS, Clarkson; MS, Ph.D., Rensselaer Polytechnic Institute—Professor

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Nathan B. Winstanley, BS, University of Massachusetts, MS, Ph.D., Purdue University—Lecturer

Lorraine P. Wolch, PA, Harpur College; MBA, Rochester Institute of Technology, CPA, New York-Lecturer

Julian E. Yudeison, BS, University of Pennsylvania; MBA, Emory University; Ph.D., Northwestern University-Associate Professor

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External Programs and Special Courses

Richard L. Harris, Ed.D., M.Ed., BA-Director of External Programs

Jessie M. James, BA, MS—Program Consultant, Instructor

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Helen i. Widrick, BS, MS-Program Consultant, Lecturer

Energy Education and Training Program

Dorothy K. Paynter, BA, M.Ed-Director

Thomas Forrester, BS, MS—Assistant Director

Frederick P. Frey, Jr., BS, MS-Assistant Director

Harriet G. Friedstein, BS, MS, CAS—Program Coordinator

Academic Areas

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Rolf Z. Zerges, BS, MA—Director, Chairperson Business Administration and Community Studies, Associate Professor

John H. Hickman, BA, JD-Chairperson, Management Studies, Associate Professor

Lynda Rummel, BS, MA, Ph.D-Chairperson, Management Development Program; Assistant Professor

Daniel Smialek, BS—Chairperson, Business Studies, Assistant Professor

William J. Walsh, CPA-Chairperson of Accounting, Lecturer

Humanistic Studies

Andrea C. Walter, BA, MA, Ed.D — Director, Chairperson, Humanities and Communications, Associate Professor

Walter R. Bieder, BA, MA-Chairperson, Behavioral Science, Assistant Professor

Frances Welles, MFA—Arts Manager, Chairperson, Crafts

Sue Rogers, BFA, MS—Chairperson, Arts Program

Technical Studies

Bernard A. Logan, BS, M.Ed.—Director, Technical Studies; Associate Professor

Lloyd B. Andrus-Lecturer

Charles DeRoller, BS, ME Chairperson, Manufacturing Engineering Technology—Associate Professor

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Frederick P. Frey, Jr., BS, MS-Chairperson, Mathematics, Associate Professor

Alfred C. Haacke, BS—Chairperson, Computer Systems, Physics and Electromechanical Technology, Associate Professor

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School of Applied Industrial Studies

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Kathleen L. Smith, Management Certificate—Arrangements Specialist

Janet Switzer, Management Diploma—Coordinator, Registration Services

Marianne Yarzinsky-Coordinator, Operational Services

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Betty M. Weatherhog-Administrative Assistant to the Dean

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Harvey Rhody, BSEE, MSEE, Ph.D-Department Head, Electrical Engineering; Professor

Richard Reeve, BS, MS, Ph.D.-Department Head, Industrial Engineering; Professor

Bhalchandra V. Karlekar, BEME, MSME, Ph.D., P.E—Department Head, Mechanical Engineering; Professor

Computer Engineering Department

Mehmet B. Baray, BS, MS, Middle East Technical University, Turkey; Ph.D., University of California (Berkley)—Associate Professor

George A. Brown, BSEE, Vanderbilt; MSEE, Rochester—Associate Professor

Roy S. Czernikowski, BEE, Catholic University of America; ME, Ph.D., Rensselaer Polytechnic Institute-Professor

V.C.V. Pratapa Reddy, BE.M. Tech., Osmania University, India; Ph.D., Indian Institute of Technology, Madras—Visiting Assistant Professor

Electrical Engineering Department

Robert C. Baker, BEE, MSEE, Cornell; P.E.—Associate Professor

George A. Brown, BSEE, Vanderbilt; MSEE, Rochester—Professor

John F. Carson, BS, MSEE, Massachusetts Institute of Technology—Associate Professor

RoyS. Czernikowski, BEE, Catholic University of America; ME, Ph.D., Rensselaer Polytechnic Institute-Professor

Soheil A. Dianat, BSEE, Aria-Mehr University, Iran; MSEE, Ph.D., George Washington University—Visiting Assistant Professor

Lynn F. Fuller, BS, MS, Rochester Institute of Technology; Ph.D., SUNY at Buffalo—Associate Professor

Roger E. Heintz, BSEE, Michigan Technological University, MSEE, Ph.D., Syracuse—Associate Professor

Robert A. Houde, BSEE, Northeastern University; MSEE, University of Rochester; Ph.D., University of Michigan—Visiting Associate Professor

Kenneth W. Hsu, BS, National Taiwan Normal University, China; MSEE, Ph.D., Marquette-Assistant Professor

Robert E. Lee, BS ME, MSEE, Ph.D., Rochester—Associate Professor

Swaminathan Madhu, MA, University of Madras; MSEE, Tennessee; Ph.D., Washington-Professor

Athimoottil V. Matthew, BEE. Jadavpur University, India; M. Tech, Indian Institute of Technology, India; Ph.D., Queens University, Canada-Visiting Professor

James E. Palmer, BSc, University of Western Ontario; MSEE, University of Pennsylvania; Ph.D., Case Institute of Technology—Professor

David Perlman, BS, MS, Cornell, Associate Professor

Sadasiva M. Rao, BSEE, Osmania University, India; MSEE, Indian Institute of Sciences; Ph.D., University of Mississippi—Visiting Assistant Professor

V.C.V. Pratapa Reddy, BE, M. Tech., Osmania University, India; Ph.D., Indian Institute of Technology, Madras—Visiting As istant Professor

Harvey Rhody, BSEE, Wisconsin; MSEE, Cincinnati; Ph.D., Syracuse-Professor

Edward R. Salem, BSEE, Pennsylvania State; MSEE, Catholic University of America; Ph.D., Buffalo-Associate Professor

Tapan K. Sarkar, B. Tech., Indian Institute of Technology, India; MScE, University of New Brunswick, Canada; MSEE, Ph.D., Syracuse; P.E.—Associate Professor

A. Chandra Sekar, BE, ME, Ph.D., Indian Institute of Technology, Madras—Visiting Associate Professor

Ronald B. Standler, B. Sc., University of Denver; M.Sc. Physics, Ph.D., New Mexico Institute of Mining and Technology—Assistant Professor

Fung-I Tseng, BSEE, Taiwan University; MSEE, Chiao-Tung University, Taiwan; Ph.D., Syracuse-Associate Professor

Raman M. Unnikrishnan, BSEE, University of Kerala, India; MSEE, South Dakota State University; Ph.D., Missouri—Associate Professor

Watson F. Walker, BSEE, Brooklyn Polytechnic Institute; Ph.D., Syracuse—Professor

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Laura Smith, AAS, Monroe Community College-Programmer

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Wendy Thompson, AAS, Monroe Community College—Systems Analyst

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Barbara King—Systems Programmer

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Linda Riches-Data Base Technician

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Gary Smith, BS, Ohio University; MS, Western Illinois University—Business Manager

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Daryl C. Sullivan, BS, Rochester Institute of Technology—Coordinator of Intramurals; (Assistant Professor)

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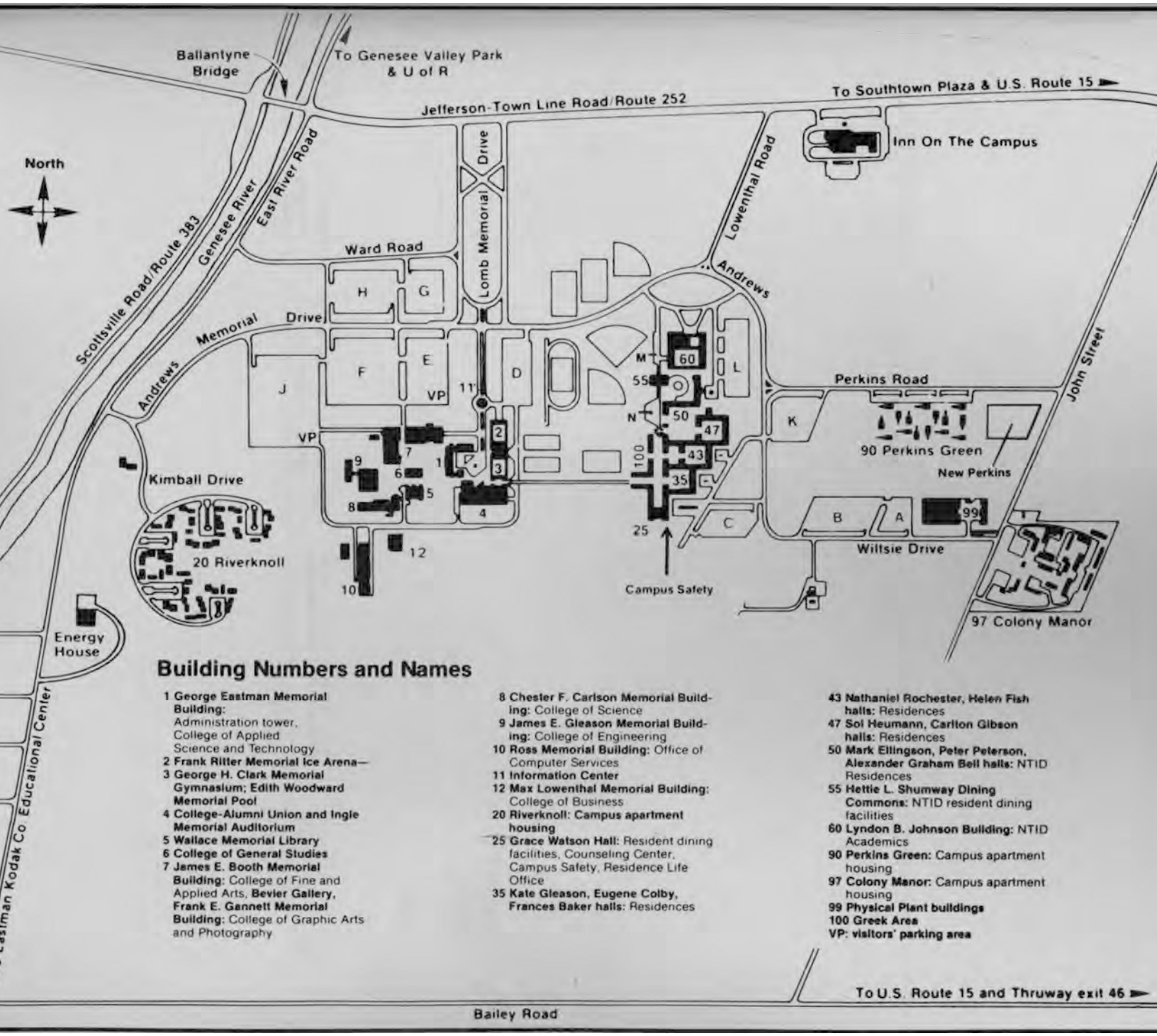

Building Numbers and Names

1 **George Eastman Memorial Building:** Administration tower, College of Applied Science and Technology
2 **Frank Ritter Memorial Ice Arena—**
3 **George H. Clark Memorial Gymnasium; Edith Woodward Memorial Pool**
4 **College-Alumni Union and Ingle Memorial Auditorium**
5 **Wallace Memorial Library**
6 **College of General Studies**
7 **James E. Booth Memorial Building:** College of Fine and Applied Arts, **Bevier Gallery, Frank E. Gannett Memorial Building:** College of Graphic Arts and Photography
8 **Chester F. Carlson Memorial Building:** College of Science
9 **James E. Gleason Memorial Building:** College of Engineering
10 **Ross Memorial Building:** Office of Computer Services
11 **Information Center**
12 **Max Lowenthal Memorial Building:** College of Business
20 **Riverknoll: Campus apartment housing**
25 **Grace Watson Hall:** Resident dining facilities, Counseling Center, Campus Safety, Residence Life Office
35 **Kate Gleason, Eugene Colby, Frances Baker halls:** Residences
43 **Nathaniel Rochester, Helen Fish halls:** Residences
47 **Sol Heumann, Carlton Gibson halls:** Residences
50 **Mark Ellingson, Peter Peterson, Alexander Graham Bell halls:** NTID Residences
55 **Hettie L. Shumway Dining Commons:** NTID resident dining facilities
60 **Lyndon B. Johnson Building:** NTID Academics
90 **Perkins Green:** Campus apartment housing
97 **Colony Manor:** Campus apartment housing
99 **Physical Plant buildings**
100 **Greek Area**
VP: **visitors' parking area**

Rochester Institute of Technology

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