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### 1977-1978 Graduate Bulletin

Rochester Institute of Technology

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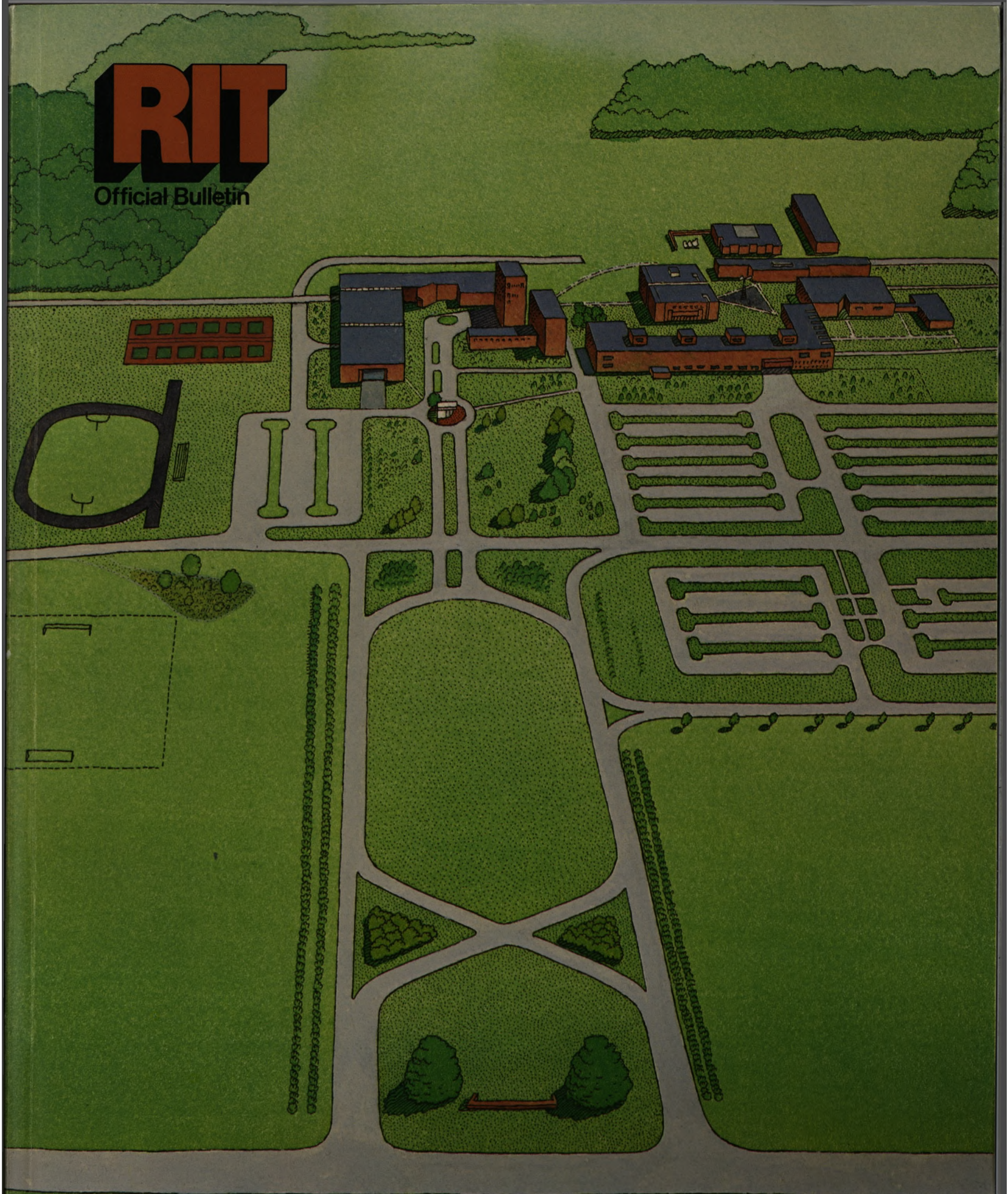
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# RIT

Official Bulletin



Undergraduate Programs 1977-78

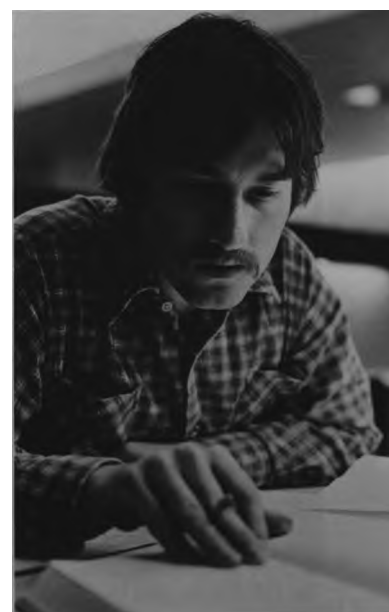
September 1977



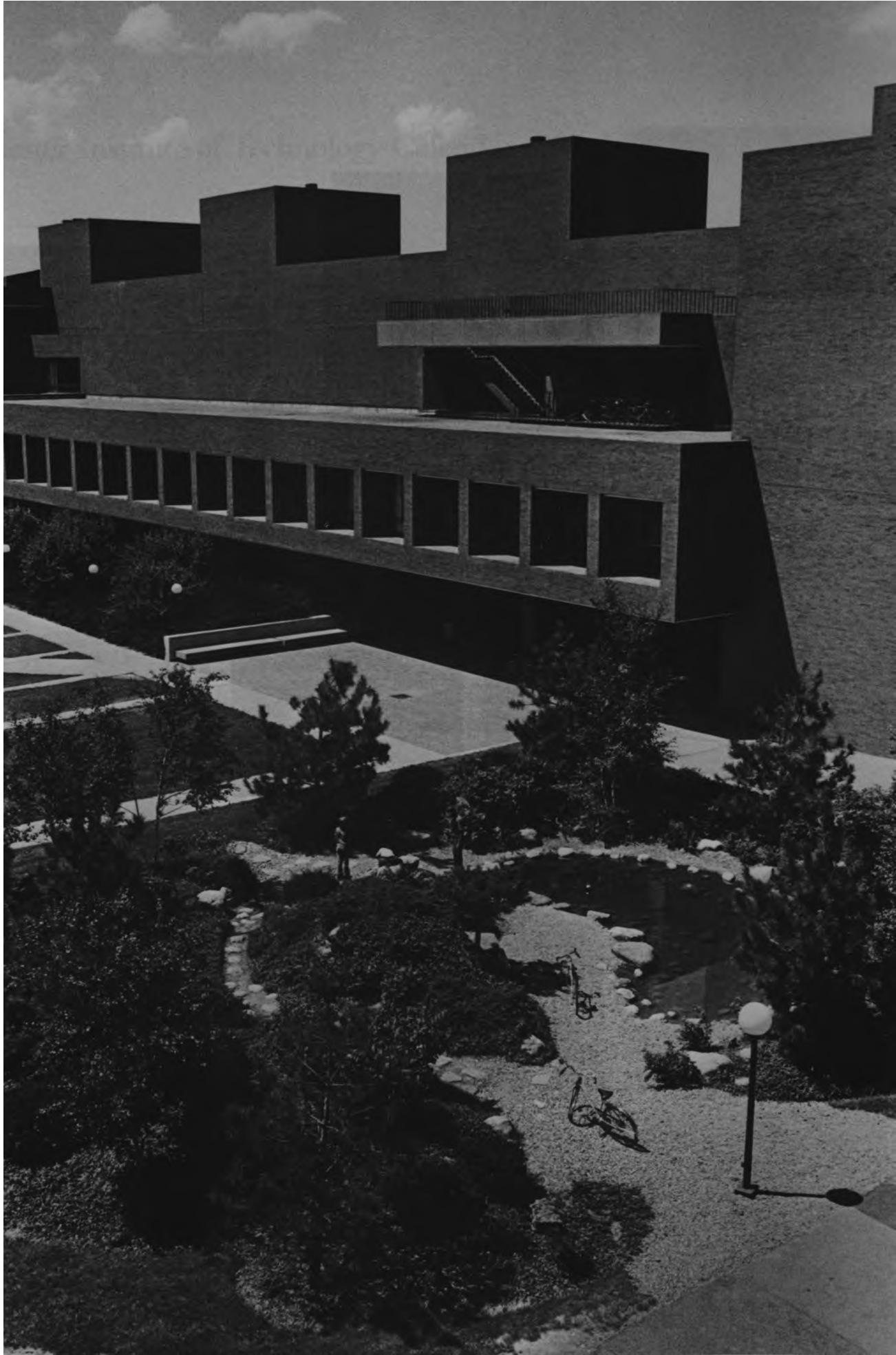
Rochester Institute of Technology Calendar 1977-78

	New Student Registration	Undergraduate and Graduate Registration	Non-Matriculated Student Registration	Classes Begin	Exam Week	Last Day of Quarter	No Classes
Fall Quarter, 1977	Sept. 9	Sept. 9, 10	Sept. 12	Sept. 12	Nov. 17, 18, 19, 21	Nov. 22	Nov. 23- Dec. 4
Winter Quarter, 1978		Dec. 5	Dec. 6	Dec. 6	March 1-4	March 4	Dec. 23- Jan. 9 Feb. 7 March 5-12
Spring Quarter, 1978		March 13	March 14	March 14	May 23-26	May 27	May 28- June 4

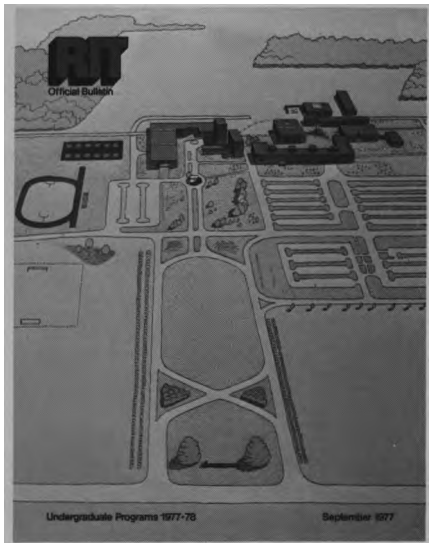
<div>JUNE1977</div> <div>SMTWTFs</div> <div>56789101112131415161718192021222324252627282930</div>	<div>JULY1977</div> <div>SMTWTFs</div> <div>345678910111213141516171819202122232425262728293031</div>	<div>AUGUST1977</div> <div>SMTWTFs</div> <div>78910111213141516171819202122232425262728293031</div>	<div>SEPTEMBER1977</div> <div>SMTwTFs</div> <div>456789101112131415161718192021222324252627282930</div>
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*The Frank E. Gannett Memorial Building housing the College of Graphic Arts and Photography, with the Tojo Memorial Garden in foreground.*



**The cover**

*The cover is an illustration by Harry Bliss, a well-known illustrator and former adjunct faculty member of the College of Continuing Education. The view is of the academic and residence complexes comprising part of the 1,300 acres of the suburban campus south of Rochester, New York.*

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.

**Undergraduate Study 1977/78**

**Produced by RIT  
Communications Group**

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

**Rochester Institute of Technology  
Admission Office  
One Lomb Memorial Drive  
Rochester, NY 14623  
(716) 464-6631  
after Dec. '77 475-6631**

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## RIT at a glance

### Location

In the town of Henrietta, New York, integral part of the Rochester metropolitan area of about 700,000 people

### 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, 1976 was 7,873 students

### 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)

### Programs:

#### Co-op Calendar

Colleges of Business, Engineering, and Science; School of Applied Science; School of Computer Science and Technology; School of Printing (optional); Department of Packaging Science (optional).



*The design of our newest building (above), completed in 1977, reflects the architecture of existing buildings (at left) constructed in the '60's.*

**Usual Calendar**  
College of Fine and Applied Arts;  
School of Photographic Arts and  
Sciences; College of General Studies  
(Social Work and Criminal Justice)

**Facilities**  
Recently completed \$130 million  
campus with complete academic and  
sports facilities; includes indoor ice rink  
and pool

**Housing**  
Residence halls for single students, with  
on-campus apartments and townhouses  
for married students

**Sports**  
Full intercollegiate sports schedule, as  
well as intramural and recreational  
programs

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

**Alumni**  
35,000 in all 50 states and worldwide

**Placement**  
The Institute makes every effort to help  
students find employment, both during  
school and after graduation. The  
Placement Office 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,  
senior and alumni placement.



## What's RIT?

"We seem to mean what we say when we speak of helping students prepare for meaningful careers in a technologic society," President Paul A. Miller said recently. "We know, better than most places, that what happens in the classroom must be tested and refreshed by real experience."

That's RIT.

Two years away from its 150th anniversary, Rochester Institute of Technology is a privately endowed, co-educational, non-sectarian major institution of higher education whose principal task is preparing students for technological competence in a world of change.

RIT is composed of nine colleges: Business, Continuing Education, Engineering, Fine and Applied Arts, General Studies, Graphic Arts and Photography, Science, the federally funded National Technical Institute for the Deaf, and Institute College (engineering technologies and other career fields).

As the chart on these pages shows, RIT offers a variety of master's, bachelor's and associate's degree programs, as well as certificate and diploma programs.

Some of these programs are unique or unusual: packaging science, nuclear medicine technology, printing, photographic science, management, and the programs of the School for American Craftsmen and the 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 epitomizes the Institute's "learn by doing" philosophy. During the past academic year, 1,800 students in business, engineering, science, applied science, printing and computer science and technology, alternated academic quarters with work quarters during their last two or three undergraduate years.

RIT's students reflect the diversity of its programs. They come from almost every state in the union and many foreign countries. Forty

per cent transfer from two-year colleges or other four-year institutions. Older and part-time students are comprising a greater and greater proportion of the total enrollment. The percentage of women also is increasing; today nearly a quarter 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 35,000 in every state and worldwide.

RIT's nine-year-old campus in Henrietta, south of 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 12 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



Programs										
</										





## Career education? It's a very old new idea at RIT

Our particular philosophy of education is called career education.

And today, a lot of institutions of higher education are trying to convince you it's the hottest—and newest—thing down the educational pike in a long time.

Nonsense.

An 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 workingmen who wanted to upgrade their skills in the booming post-Civil War economy. In 1891, Mechanics Institute and the Rochester Athenaeum consolidated,

and over the next decade developed and taught five three-year courses—mechanics, architecture, design, art and teaching. There were evening classes 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.” And over the years, we’ve developed that philosophy of career education into a science.

What’s career education?

In simplest terms, it’s an education that prepares a student to leave college and go to work doing what he or she wants to do.

At RIT, it’s an education in engineering or fine arts or science or social work or criminal justice or any of the other multitude of

programs offered through the nine day and evening colleges.

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—in the 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.

And it means we recognize that a lot of people already have careers—but want to further their knowledge. So we have programs and courses of study designed to accommodate these special needs.

Career education a new idea?

Maybe some places.

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

# RIT's history mirrors the history of the Rochester community

*From their origins 148 years ago, the Athenaeum, the Mechanics Institute and RIT have been closely linked with the community.*

*Professor Dane Gordon of the College of General Studies is writing the official history of the Institute. It will be published for the 150th anniversary year in 1979.*

*Professor Gordon recently talked about some materials from his work which exemplify the Institute's contribution to local, state, and national history.*

## **Contributions to general education in Rochester: the early years**

The Village of Rochesterville was only 12 years old when the Athenaeum was founded in 1829. A community whose population was rapidly growing as a result of the Erie Canal, it needed an educational structure. With Colonel Nathaniel Rochester as its first president, the Athenaeum met in the recently built Reynolds Arcade. The few who could afford \$5 a year had access to a library of 400 books and many papers and journals from Britain and America.

After Reynolds added Corinthian Hall to the rear of his arcade in 1849, overflow crowds gathered to hear such distinguished lecturers as Richard H. Dana, Horace Greeley, Ralph Waldo Emerson and Oliver Wendell Holmes, and singers such as Adelina Patti and Jenny Lind.

"The Athenaeum," says Gordon, "succeeded quite well in leading the intellectual life of Rochester."

## **The post-Civil War period**

The growing number of manufacturers in Rochester created the need for skilled workers trained by some means other than apprenticeship. On Oct. 21, 1885, the Mechanics Institute was organized to provide practical education to better prepare people for their lifetime occupations. Organizers of the Institute were mainly people from the business community, but there were also several prominent newsmen and men particularly interested in education.

The most loyal supporter and benefactor was Capt. Henry Lomb, the immigrant who had worked his way up to co-director of Bausch and



*The philosophy of career education and links with business and industry were firm from the beginning.*

Lomb. Interested in education at all levels, he started a kindergarten class as a branch of the Institute in 1887. The following year the Rochester Board of Education took it over and established kindergarten classes in all its elementary schools. Lomb also started homemaking

courses in the Rochester public schools by providing free cooking classes for 11th and 12th graders from 1898 to 1908.

The Mechanics Institute's fourth president, John A. Randall, noted in 1922 that one of every two families in Rochester were in some way



associated with the Institute. Almost 1,000 workers were studying there. Half the art teachers, many manual teachers, and 38 of 42 home economics teachers in the Rochester public schools were Mechanics Institute graduates.

"That's quite an achievement in 37 years," Gordon comments.

#### **World War I and its aftermath**

"The first world war had a long-term and damaging impact upon the Mechanics Institute," Gordon notes. The Institute supported the war effort with a total commitment. Beginning in 1917 the government sent 250 men to the Institute every 60 days for intensive practical training in such skills as building houses and machines, assembling and disassembling automobiles, occupational therapy, conservation of fuel, and cooking. The cabinet shops in the manual training building were changed to a lens grinding plant for war workers. Near the end of the war all students were placed on a war-time basis to help in farming.

After the war, a large number of handicapped men were sent by the U.S. Veterans Affairs Bureau to the Mechanics Institute for rehabilitation.

"It was extremely difficult for the Institute to resume its normal academic program," Gordon relates. Equipment needed updating and buildings repairs. Younger civilian students had been frightened away by the older and generally rougher returned soldiers. Certain programs, such as the School of Industrial Arts, had been destroyed by the war. Community support in the form of donations of money helped the Institute survive the post-war years.

#### **Links with business and industry**

The Mechanics Institute was founded to supply the needs of Rochester industries for skilled workers. Eventually that changed to professional employees, but the link with business and industry has remained a fundamental purpose.

The Institute was the second educational institution in the country to embrace the cooperative education plan in which students complement their classroom studies with periods of employment in their career fields. Co-op, which began here in 1912, remains an integral part of RIT's modern curricula.

In the 1930s the Institute became famous for its job charts, which identified job expectations, responsibilities, and promotional



*An early Co-op student works at the Davenport Machine Tool Company. Cooperative education started at the Mechanics Institute in 1912.*

prospects. The educational preparation for the jobs was adapted accordingly.

The Institute's philosophy of career preparation, firm from the beginning, was explicitly established in a declaration of a Conference on the Educational Needs of Rochester held in 1922: "The Institute must continuously pass the test of utility in the work lives of its students." Two years later a special commission was appointed by the board of directors to consider the place of the Institute in the educational future of the community.

#### **Granddaddy of the AAS degree in New York State**

In the 1940s New York State established a number of Institutes of Applied Arts and Sciences as its old 'ag and tech' institutions. After RIT (the name had been changed to Rochester Institute of Technology in 1944) in 1950 became the first institution in the state to receive approval to grant the associate in applied science degree, the state's assistant commissioner for higher education asked for someone from RIT to evaluate the state schools.

#### **The College of Continuing Education**

The Athenaeum began as an evening school, and the College of Continuing Education keeps up that tradition. From its earliest years the Institute accommodated students who took only a course or two at a time.

#### **The National Technical Institute for the Deaf**

In 1965 President Johnson signed a law creating a national advisory group to establish an institute for college-level technical training of deaf students in connection with an existing college or university. The following year RIT was selected as the site for the National Technical Institute for the Deaf. The Institute's new campus in Henrietta, its diversity of technical professional curricula, and its philosophy fit well with the purpose of NTID to determine means for incorporating deaf students into a non-deaf world.

"The purpose of RIT had long been to help any student relate better to his environment both professionally and socially," Gordon says. "It was the guiding principle in 1885, repeated and acted upon many times since."



*Free homemaking classes for Rochester public school students at the turn of the century were the start of home economics in the local public schools.*



*Photos courtesy of the Wallace Library Archives*

*In support of the World War I effort, the Mechanics Institute trained men in such practical skills as house building.*

## The Rochester community: a good place to live, a great place to go to school

Rochester is a good place to live and a great place to go to school.

The Greater Rochester area, city and immediate suburbs has a population of about 700,000. Rochester, widely known for its leadership in technology and science, is an ideal location for Rochester Institute of Technology.

An international photographic center and the largest producer of optical goods in the United States, Rochester manufactures electronic and communications systems, fine machine tools, signaling devices, dental equipment, and a variety of precision instruments. It is a food processing center, and its printing and lithographic houses are widely noted for quality work. These local industries, along with others throughout the nation, have contributed to the Institute's financial support; many have maintained cooperative employment; and all have provided a congenial and sympathetic community atmosphere for RIT.

Rochester is a noted cultural center where support of music, art, theater, libraries, and museums is a matter of civic pride. For students of the Institute, this cultural environment is an appreciable advantage.

RIT as an institution is very much involved with the city. So are many of its students and faculty. They use the appropriate people in business, government, and community action groups as resources to strengthen this involvement; they learn about the problems of the city and contribute ideas and talents to the solution of them. Recent examples of class projects are an exhibit interpreting plans for future transportation systems serving greater Rochester and a multi-media presentation aimed at



*A waterfall in Manhattan Square Park in downtown Rochester. The Marine Midland Bank Building is the background.*

developing public support for revitalizing the downtown business district.

### **Public Affairs provides a link with the community**

The Public Affairs Division at RIT is responsible for building bridges between campus and community. It keeps the community informed of significant programs and activities on campus and tells interested audiences—prospective students, donors, employers and others—what

they should know about RIT. There are continuing efforts to communicate to the special constituents of the National Technical Institute for the Deaf, the Development Department, and the College of Continuing Education.

The division as a whole, working with all the colleges and other staffs, tries to build a concept of the community as a classroom and to build on RIT's long standing reputation as an institution deeply devoted to and involved with the community of which it is a part.

## The Henrietta campus is a 1,300 acre suburban site

RIT's campus in the Rochester suburb of Henrietta, has received a variety of architectural awards, and been heralded as one of the most significant building accomplishments in the Monroe County area.

The main portion of the Henrietta campus was completed in 1968. An academic/residence complex to house facilities of the National Technical Institute for the Deaf was completed in 1974.

Valued at \$134 million, it now occupies some 400 acres of the 1,300-acre site.

The campus is located about five miles from downtown Rochester, on Jefferson Road (Route 252) near the Ballantyne Bridge. The Institute is only a short distance from shopping centers, motels, the New York State Thruway (Interchange 46), and Rochester's major expressways. There is regular public transit to the campus, and ample free parking is available.

RIT's Metropolitan Center, located in the heart of downtown Rochester at 50 W. Main Street, is easily reached by public transportation.

The campus as presently developed has an academic/administration complex of 12 buildings arranged as three adjacent quadrangles. The residential complex of 16 interconnected buildings is reached by a quarter-mile mall past the tennis courts and playing fields. Adjacent to this is the NTID academic/residence complex.

The main campus includes nearly 1,300 acres of land and will provide for the growth and development of the Institute for many years to come. Present buildings will enable the Institute to increase its combined enrollment in both day and evening divisions to about 20,000.

A campus map is located on the inside back cover.

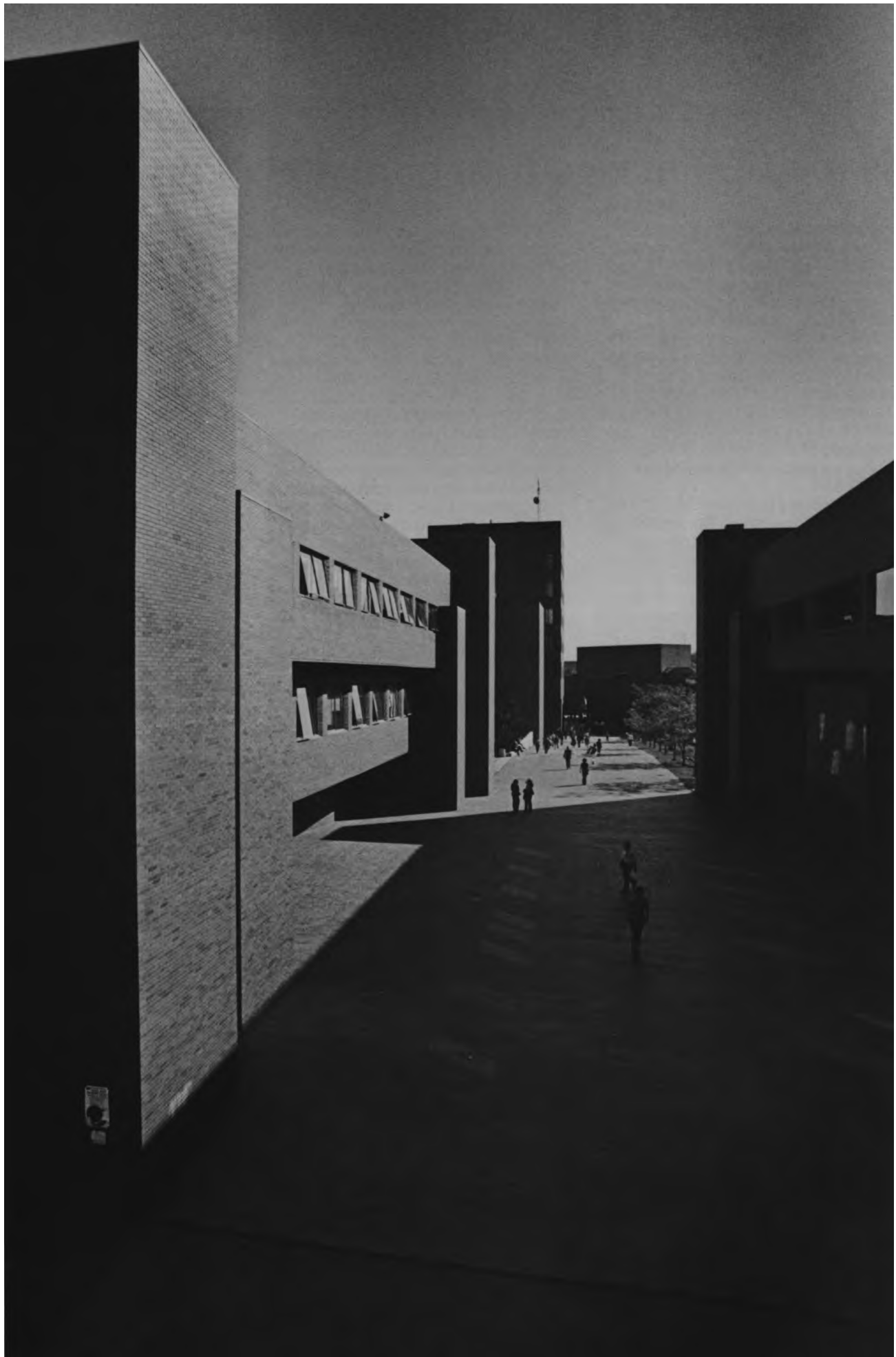


*RIT's Metropolitan Center at SO West Main St.*



*An aerial view looking west over the Henrietta campus. The College-Alumni Union and athletic facilities are in the foreground; the academic quadrangle is in the rear.*







*Jose de Rivera has become partly deaf hammering and welding stainless steel loops like this one framed between the Wallace Library and the College of General Studies. His abstract form is based on the Mobius strip discovered by 19th century German mathematician August Ferdinand Mobius. The strip consists of a band that has been given a half twist before joining the ends together. The result is a look of one continuous edge and one plane. The sculpture revolves slowly on its highly polished black granite pedestal in front of the College of Engineering. A similar sculpture is in front of the Smithsonian Institution's Museum of History and Technology.*

## Art on campus is “tribute to RIT’s historic interest”

“We have reached the place in our project where it is physically impossible for everyone to decide everything, and for that reason I urge that you go ahead. .

These were the words that set in motion the major decisions on art works for the RIT campus.

They were written by Dr. Mark Ellingson, former RIT president, in the midst of those hectic, energy-absorbing days of building the present RIT campus in the 1960’s.

Arthur L. Stern, then chairman of the Board of Trustees; his wife, Molly; and Mrs. Vanderbilt Webb, chairperson of the American Crafts Council and a member of the Honorary Board of Trustees, accepted the responsibility for choosing the 17 major art works on campus. They were aided by Harold

J. Brennan, then dean of the College of Fine and Applied Arts, and Harris Prior, past director of the Rochester Memorial Art Gallery.

Working with a budget that was set at one per cent of the total cost of building the campus, they selected an impressive collection, including creations by several RIT alumni and faculty.

Some works, like the brick wall murals in the College of Science by noted artist Josef Albers, became inextricable parts of the buildings they enhance. Others, like the bronze sculpture by Henry Moore, have been moved from their original locations to fresh viewing places.

In addition to the major collection, there are about 600 art works acquired over the years by the Institute, including portraits of founders and benefactors, prints,

paintings, and drawings by faculty, students and others, and even a Walt Disney original cartoon.

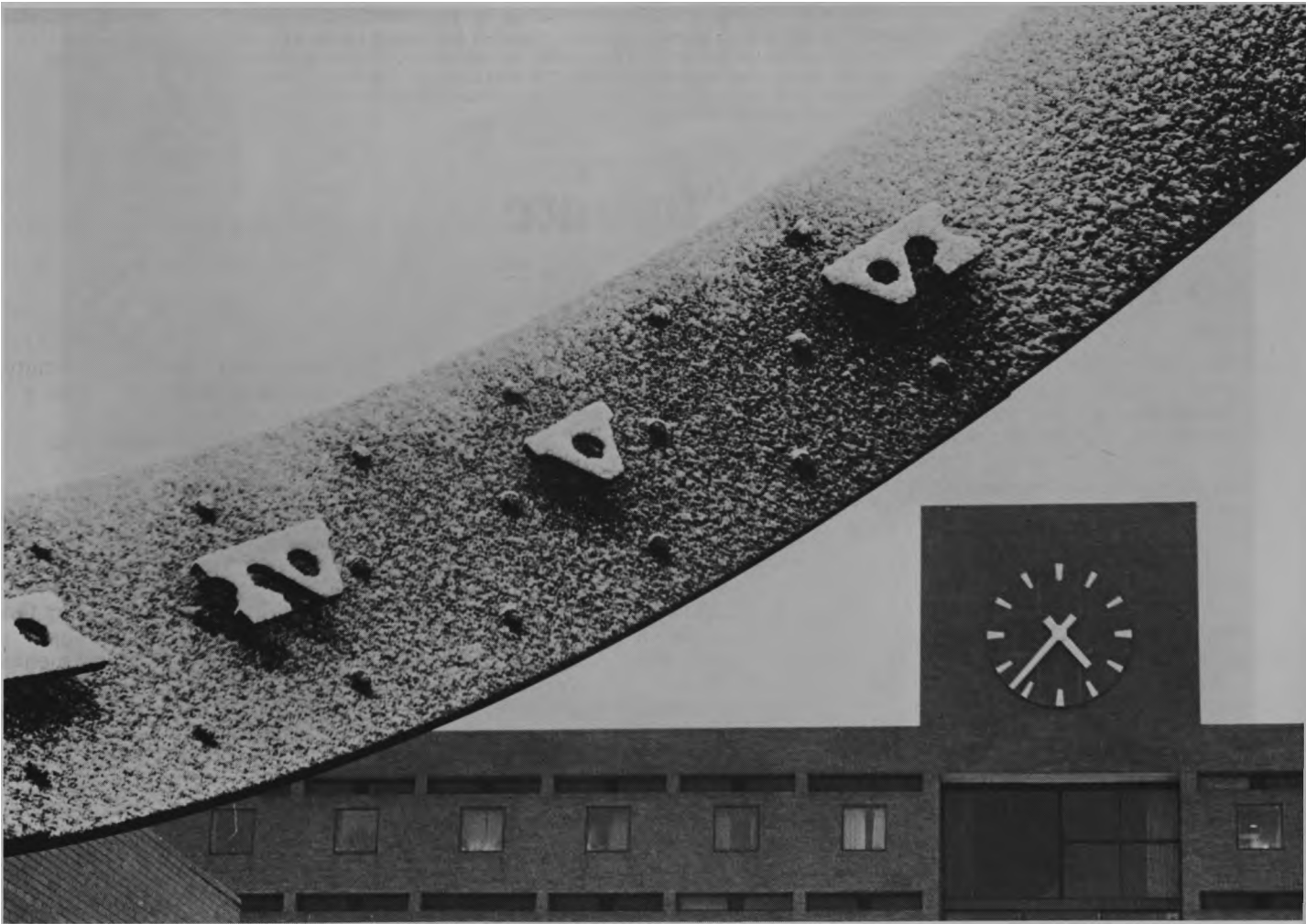
Many of these can be found throughout campus in offices, reception areas, and meeting rooms. Unfortunately, some portion of these are kept in storage in the College of Fine and Applied Arts, available for viewing only upon request. Although these works tend to be of less value, most people who know about them wish means could be found to display them.

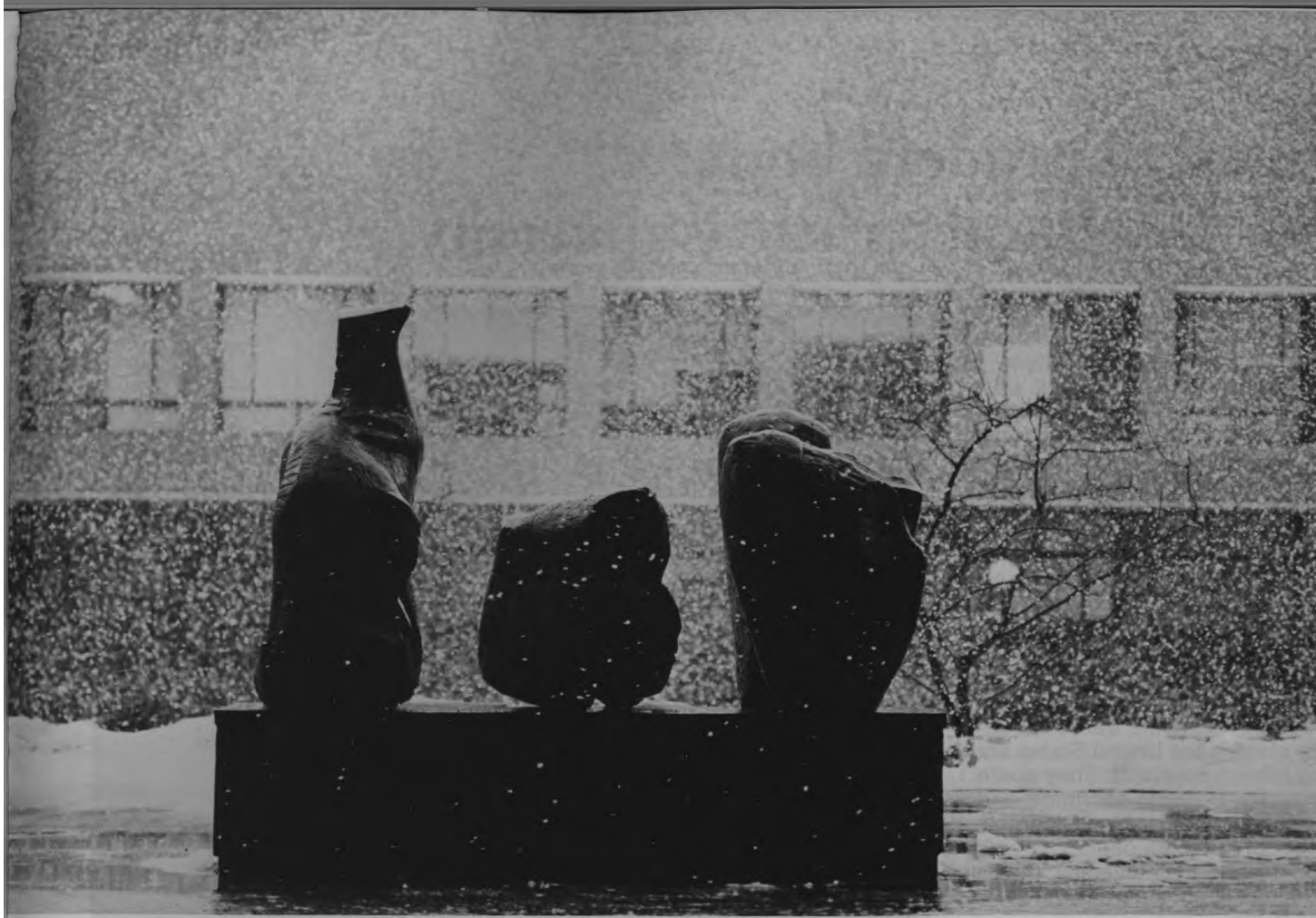
People on campus are collectors, too, and private offices and desks show everything from a Dr. Seuss drawing to Etruscan vases.

All in all, this institution, begun almost 150 years ago as a cultural center, pays ample tribute to its historic interests in the arts.

*Frans Wildenhain's "Allegory of a Landscape" (right) is one of those works of art that couldn't have been done before the age of flight. Capturing Wildenhain's impressions of this region from the air, the stoneware mural is a curving facade at the entrance to Ingle Auditorium. Wildenhain, professor emeritus of the School for American Craftsmen, hopes the ceiling and wall surrounding the earth-hued mural eventually will be painted a complementing color of blue or purple. But even lacking a bolder border, the mural is a delightful transmutation of fields and streams as seen on Wildenhain's flights between New York City and Rochester.*

*The D'Amanda clock atop Kate Gleason Hall with a portion of the RIT sundial in the foreground (below). The sundial, created by sculptor Alistair Bevington and reported-at 4 1/2 tons-to be the largest sundial in the country, is 18 feet high and 25 feet across. It was completed and placed at RIT in 1968.*





17



Henry Moore, world-renowned sculptor, is reported to have said, "My sculpture needs open air-sky, clouds, trees and changes of weather." Like an ancient pitted rock, his RIT sculpture (above) looks best in the rain, when its gouged surface glistens. The three-piece sculpture is one of seven bronzes, cast from the same mold, and represents one of his consistent themes-the reclining figure. It is located on the southern edge of the academic quadrangle next to the College of General Studies

There were "words" over the monumental wall murals (left) originally conceived by Bauhaus artist Josef Albers in oranges and yellows. The Administration Building's interior designer wanted them in tones of gray. And gray they were for a few weeks, to the displeasure of just about everyone who saw them. In the end Albers had his way, and though already in his eighties, came back to personally supervise their repainting. They cover the expansive north and south walls of the Administration Building entrance, and, like two sentinel suns, greet hundreds of campus people and visitors each week.



## The RIT student body: its only characteristic is diversity

There is no typical RIT student.

And if the student body could be characterized, 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 artists of almost every persuasion go to school with accounting majors; where those interested in a career in social work study with those interested in mechanical engineering.

Our students come from almost every state in the United States and many foreign countries. They come from widely differing economic and social backgrounds. A considerable number of them are deaf.

Yet, despite their diversity, they all have ideas about where they're going in life.

The latest survey of incoming freshmen and transfers showed that despite their diversity, most RIT students had one thing in common: they wanted an education oriented toward a professional/technical career. This is what RIT is all about. Long before the word "career" suddenly became a popular expression, RIT stood squarely behind the idea that education for work-for a job-was worthwhile and sound. And over the years it 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 can make up lost time with the minimum problems of adjustment. Many programs at the Institute help him deal with the machinery of the Veterans' Administration and with the opportunities the government gives him.

Study at RIT is approved under PL89-358 (Readjustment, 1966) PL815 or PL894 (Rehab) and PL634 (War Orphans). For benefits, a veteran may obtain an application for the Certificate of Eligibility from the Veteran's Affairs Office, located on the first floor of the administration building.



V.A. Form 21E-1995 "Request for Change of Program or School" is used when the veteran wishes to transfer schools.

### Transfer students

About 40 percent of all full-time students attending RIT transferred from another two-year or four-year college. RIT doesn't simply absorb them and ignore their previous experience. We think it's valuable. So 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 44.

### Deaf students

The 840 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, they 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. And hearing students 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 148.

## Office fills veterans' needs on campus



Sue Bisky

"Before a veteran starts school at RIT, he or she should feel free to visit our office. We try to make it a place where a vet can stop not just once a quarter for a tuition deferment card but anytime for a friendly chat," says Sue Bisky, coordinator of Veterans Affairs.

Sue, her secretary, and a group of veterans enrolled in work-study programs staff the office created to assist RIT's 1,300 veteran students.

"With both vets and non-vets on our staff, we can empathize with a veteran student's problems and maintain the perspective necessary to help solve them," Sue says.

In a typical week, Sue and her staff process requests for Veterans Administration (VA) benefits, answer many questions about eligibility, and provide personal and academic counseling. The office is open until 7 p.m. Monday through Thursday to accommodate students who hold full-time jobs during the day.

The office also steers veteran students toward other assistance. Two "vet reps" on campus help with benefit payment problems;

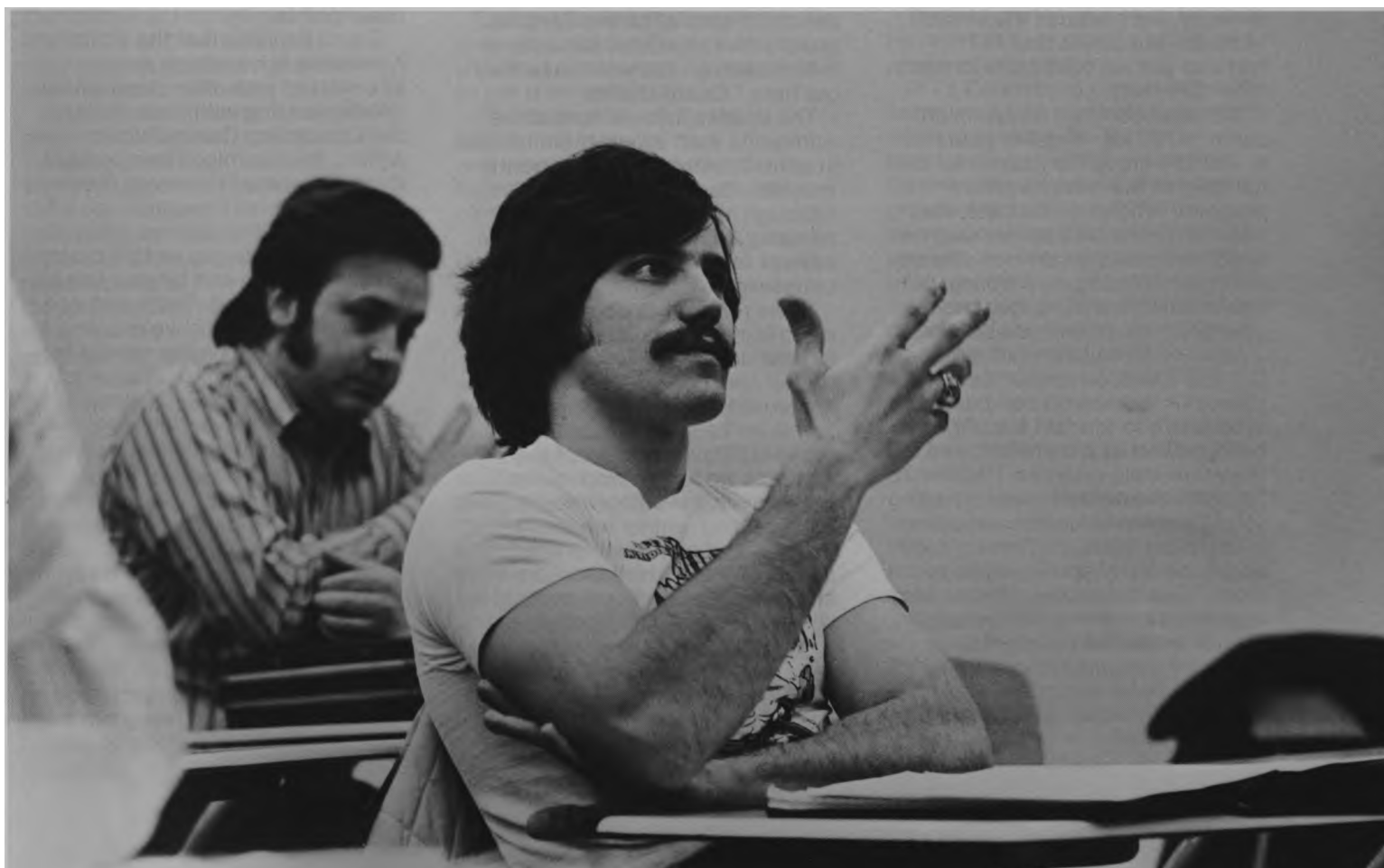
Outreach is an information service for the veteran community; and Project AHEAD offers career-oriented education to persons on active duty.

"Many children of disabled veterans don't realize they too may be eligible for certain benefits, so we try to identify these people and inform them," Sue says.

The Office of Veteran Affairs publishes a newsletter and maintains a bulletin board of job opportunities, changes in VA benefits, and other information of interest to veterans.

"We are usually apprised immediately of changes in benefits and are always willing to explain them," Sue says.

Sue joined the Institute last year after working in Rochester as an elementary school teacher and as director of recreation at the Association for the Blind. She received a BA from Nazareth College in 1972 and has been taking graduate-level courses at RIT.



## RIT tries to make “life and learning easier” for students

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

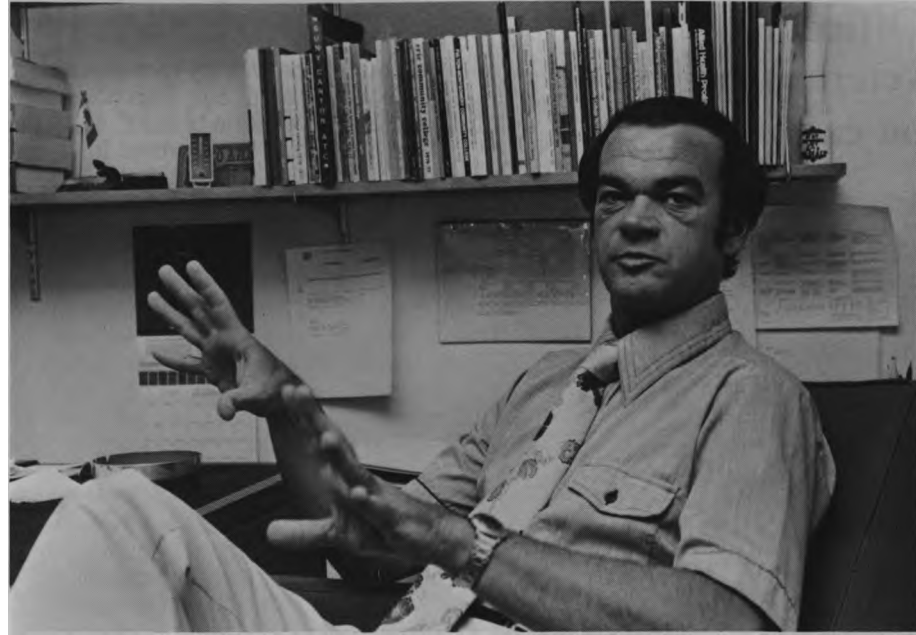
Foreign students, veterans, older students, women, minorities, commuters, handicapped students, all are viewed by Admission Director E. Louis Guard as groups with individual needs that require support from RIT's student services.

“Each of our eight professional Admission staff members is assigned a particular group of students who may have special problems,” he says. “In addition to their daily counseling and recruiting responsibilities, each counselor acts as special advisor and program coordinator for a different group on campus.

“Paul Buntich, our associate director, keeps in constant contact with the foreign students on campus, who are here from as far away as Algeria and Taiwan. There's been an increasing emphasis on attracting foreign students to RIT, not only because they add to RIT's diversity, but because the kind of technical education that RIT features just isn't available in many other countries.

“An engineer from Kenya might come to RIT for refresher courses, or a whole group may come for the 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.”

Another Admission staff member, Dorothy Lowe, 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 is involved in encouraging young women to undertake careers in technical fields, and telling them about the many options open to them,” Guard explains. “We've also organized a Women's Information Center within the Office of



*E. Louis Guard*

Admission, to help the woman student locate services she may need on campus—in child care, or counseling, or career development assistance.”

Then there's Admission Counselor Barbara Bell, whose special concern is minority students. “Barbara actively recruits minority students, conducts special career days for prospective students, and acts as their liaison and advisor once they get here,” Guard relates.

The intense involvement of the Admission 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 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 we hire to work with us part-time in the office—they're great for providing regular feedback.”

The actual admission procedure is another way in which the Admission staff maintains personal contact with students. A prospective

student can expect the admission counselor 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 application as he or she progresses to each of the checkpoints.

Guard explains that the Office of Admission is becoming more interrelated with other departments. “We're working with Financial Aid, the Counseling Center, Public Affairs, the Learning Development Center, Central Placement, Records and Institutional Research, the NTID Admission Office, alumni, and with each of the colleges so that better communication can be maintained all the way around. That's just one of the ways in which we're trying to make life—and learning—easier for incoming and enrolled students.”

Guard has been at RIT since 1964. A native of Geneva, New York, he is a graduate of the University of Buffalo.

## Commuter office helps students get involved

When students go off to college, they go to dormitories and dining halls as well as lectures and the library.

Or so goes the popular notion.

Half of RIT's students, however, do not return to the residence halls for dinner and a good night's sleep when the day's classes are over.

They go home to parents or spouses or to apartments off campus.

Since the Office of Commuter Affairs was created five years ago, Ann Hayes, coordinator of commuter and married students affairs, and a few students have been chipping away at some of the commuters' problems.

RIT now has an active Commuter Organization and a Married Student Organization (married students make up one-third of the commuter population) which have achieved some gains in improving the situation for their constituents. A Commuter Advisory Board and Married Students Coordinating Committee act as liaisons between the Office of Commuter Affairs, student organizations, and other administrative offices.

Student committees are exploring academic concerns, social activities, resident-commuter relations, transportation, and communications.

During the 1974 orientation, commuters for the first time were invited to a three-day live-in in the residence halls. Eighty per cent of the singles commuting from home accepted the invitation and commented favorably afterward.

A special parents orientation program attracted families of many commuters.

After commuters pointed out a need for better bus service between downtown Rochester and RIT, Regional Transit Service was persuaded to increase its daily runs from two trips to six.

The Commuter Organization keeps a map to help commuters who want to coordinate car pools.

If commuters want to stay on campus for just one or two nights, there are guest rooms in Greek houses to accommodate them.



Ann Hayes

Quarter contracts are available for the commuter who wants to experience dormitory living.

An off-campus apartment listing in the Office of Commuter Affairs helps commuters in search of a place to live.

The Commuter Organization publishes a quarterly newsletter.

Lockers have been installed in the lower level of the College-Alumni Union so commuters have a place to put their belongings.

The College Union Board is scheduling lectures, rock groups, and other activities during the day hours when commuters are on campus.

Married students living in on-campus apartments receive *News and Events*, the Institute newsletter, and *Reporter*, the student newsmagazine.

The Talisman Film Festival has scheduled special Saturday afternoon matinees for children of married students.

A commuter-married student lounge was created a year ago and is located in the lower level of the College-Alumni Union.

Many of the activities for residents and commuters aim to bring the two groups together.

"Each group can give something to the other," believes Ms. Hayes. "The commuter student knows the city and can invite the resident into a home occasionally. The resident student may know the campus better." A commuter host program

has started to encourage commuters to invite residents to their homes during holidays and quarter breaks.

The resident student, Ms. Hayes has observed, usually makes a break from home and develops an independent personality sooner than the commuter.

The commuter, she says, tends to be more serious about studies and preparing for careers.

RIT's Counseling Center serves about an equal number of residents and commuters. Dr. Richard Marchand, one of the counselors, believes the problems of the two groups are similar, but the commuters' are exacerbated by the tension of living with parents or being married.

There seem to be positive aspects to being a commuter. Ms. Hayes says commuters often find study easier in the quiet of their homes. Marchand believes commuters might mature faster than residents because they're coping with more situations.

Recognizing that the situations of commuters aren't unique to RIT, Ms. Hayes doesn't expect the difficulties to be resolved completely.

"I hope to lessen the barriers by encouraging more interaction between commuters and residents," she says. "Commuters will never be as integrated as resident students unless they become more involved in campus activities."



## Co-op might extend your education right out of the classroom into a paying job

Co-op: it means that for a lot of our students, the classroom gets extended right off campus into a job—a job that can help students meet expenses while they learn right in the field about their chosen career.

Now, not every Co-op job is the dream of a lifetime, but a lot of our students find their experience close to the ideal for cooperative work-study education.

Students who are aggressive in pursuing Co-op opportunities may find what they're looking for: work which provides learning experience in their chosen fields and a chance to crystallize career goals, to get a headstart in finding a post-graduation job, and to make money.

Through RIT's Co-op program, students in science, engineering, business, applied science, and computer science and technology alternate academic quarters with industrial work quarters during their last two or three undergraduate years.

Co-op salaries generally fall between \$150 and \$190 a week, depending on whether the student is starting or completing a Co-op program, and on the judgement of the employer, according to RIT's Central Placement Services.

The total number of students in Co-op programs this academic year approaches 1,800. Most job opportunities are developed through Central Placement Services and faculty contacts, but the students must compete for these positions themselves.

RIT was a pioneer in establishing the Co-op plan of education in 1912. This experience, with its several benefits, has been of significant importance to many of our students.

As followed in the **College of Engineering** (electrical, industrial, mechanical, or computer engineering); the **College of Business** (accounting, business administration, food services administration, hotel/tourist industries management, or retailing); the **College of Science** (biology, chemistry, mathematics or physics)



students spend their first two years in full-time study. As they enter their third year, they spend alternate quarters in full-time study and full-time work in an occupation that will further their career goals. (Bachelor's degree programs in the Colleges of Engineering and Science take five years to complete, while those in the College of Business are four-year cooperative programs.) **Chemistry** majors spend their first year on campus (three quarters) and then spend alternate quarters in full-time study and full-time work in chemically related Co-op positions.

School of Health Related Professions students in **Medical Technology** and **Nuclear Medicine Technology** have three years full-time study at RIT and then one year

of full-time hospital internship. Students in **Respiratory Therapy** have one year of part-time study at RIT, and one year of part-time study in a clinical facility for respiratory therapy.

The **Chemical Technology** program is a three-year program leading to an AAS degree. After spending the first quarter in full-time academic study, students alternate quarters of attending classes and working in industrial organizations.

The **School of Computer Science and Technology** of Institute College offers bachelor's degree cooperative programs for those entering as freshmen, with the first two years in full-time study. Transfers with an associate's degree in data processing, mathematics, science, business or equivalent

enter as third year students. All follow the alternate Co-op programs.

The upper-level **School of Applied Science** (engineering technology) in Institute College follows the same cooperative plan as the College of Engineering for its students who enter with the associate's degree. This takes three years to complete.

The College of General Studies, in its programs in **Social Work** and in **Criminal Justice**, uses field experience assignments in much the same way as the cooperative plans just described.

The **School of Printing** and the **Department of Packaging Science** offer the cooperative plan as an option to students, which extends the time required for a degree.





*Dr. Tom Plough*

## **Student Affairs mixes academics, social and cultural programs for students**

In everything from the first days of Student Orientation to Commencement, a big part of the work done by the Division of Student Affairs is to try to "integrate academic programming and social programming" says associate vice president for student affairs, Dr. Tom Plough.

"Most of our students are very career oriented ... and we find that instead of having to worry about how to keep them studying, we have to worry about how to get them out of the academic buildings at night."

"I'd say that this kind of intensity is a real characteristic of our students. They seem to be reluctant to get involved out of the classroom," Plough says. "Our challenge in the Student Affairs Division is to make it convenient and stimulating for our students to explore other complementary activities which may be helpful in developing their professional competence, such as exploring leisure time activities and career options as well as attending various informal seminars on such topics as consumer education, assertiveness training, composition skills, and others."



Plough wears several different hats at RIT.

As an administrator in the Student Affairs Division, he works with students and other administrators coordinating programs for service areas like the Learning Development Center, the Counseling Center, the Student Health Center, and others.

In addition, he teaches sociology courses at both the undergraduate

and graduate level through the College of General Studies.

And, he coordinates the Institute's academic advising system.

Plough, 37, holds a BA, (social sciences), an MS (student personnel administration), and a Ph.D. (higher education administration) from Michigan State University.



## Student services will help in and out of the 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 all the services provided to students during their years at college.

The Division includes these departments: Physical Education and Athletics, Residence Halls, Student Health Services, College-Alumni Union, Religious Activities and the Chaplaincy, Counseling Center, Learning Development Center, Central Placement Services, Higher Education Opportunity Program (HEOP), Commuter Affairs and Student Activities.

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, initiate social programs, regulate the use of recreational facilities. A wide variety of athletic, social and professional activities is available for all students.

### **Complementary Education**

Beyond the specific professional concentration, and the broadening courses in General Studies, Complementary Education—a developing third component of an RIT education—will attempt to stimulate, coordinate, and experiment with efforts leading to enrichment of your life at RIT.

The goals of Complementary Education are: (a) to provide means for preparing you for the civic, aesthetic, personal, and social areas

of life; of helping you to understand, as reflective and sensitive human beings, the meaning and value of what you do; and of providing learning opportunities that feature the usefulness and implications of technology as they apply to human needs and resources; (b) to meet your educational and developmental needs and interests which are not currently being met; (c) to define and emphasize the educational dimensions of programs with supportive learning opportunities; (d) to enhance the quality of your educational experience generally and your career preparation specifically; (e) to foster the affective dimensions of learning and development; and (f) to enhance faculty and staff effectiveness and sensitivity to your needs.

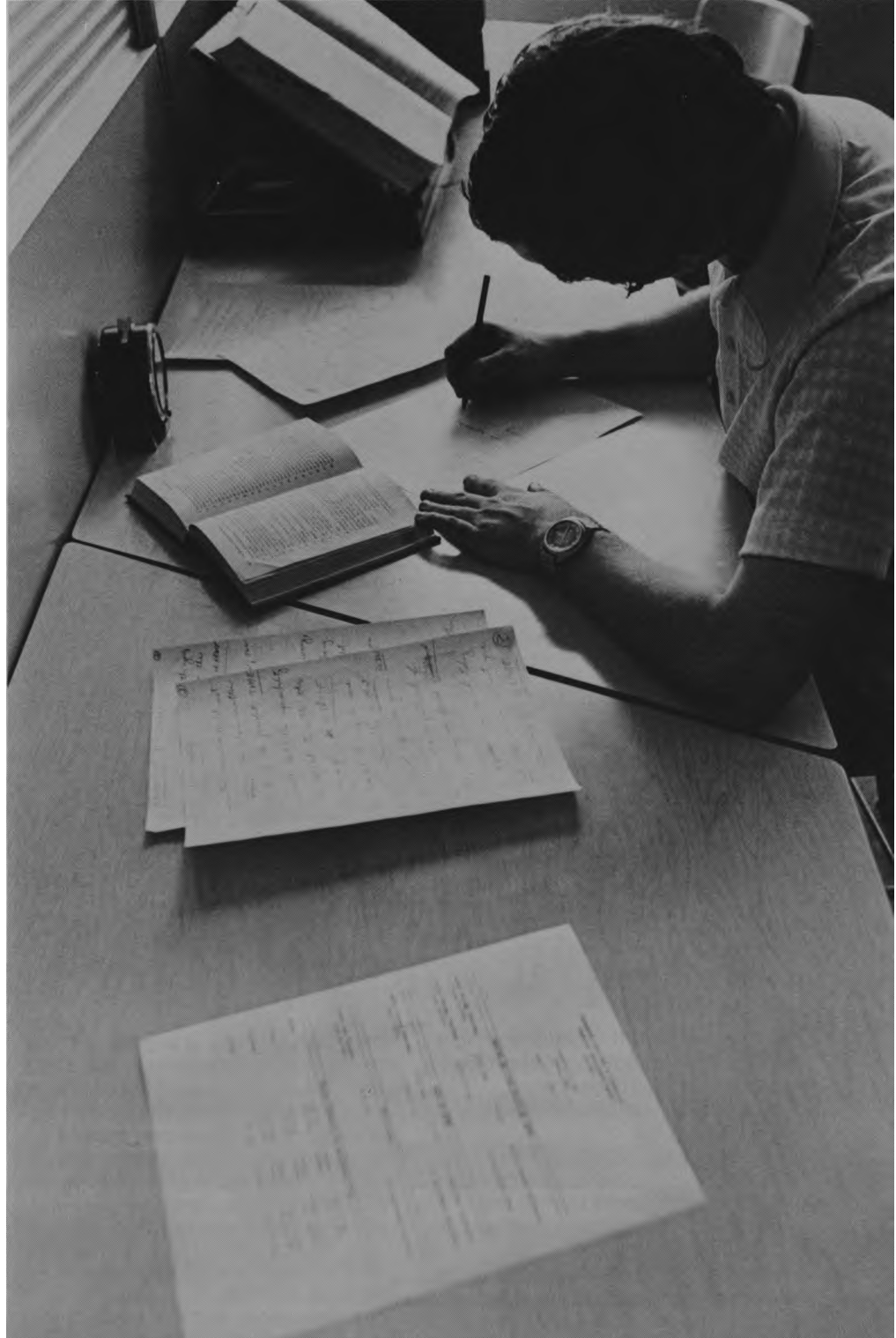


**The Learning Development Center**

RIT students have a unique opportunity to improve their reading efficiency, study techniques, vocabulary mastery, effective listening and critical thinking abilities, mathematical understandings, computational skills, writing competence, and general facility in the uses of the English language through individual or group instruction provided by the Center. In cooperation with the Counseling Center, the Learning Development Center also provides counsel, diagnosis, and corrective developmental background instruction for students not working up to capacity or whose achievement records are unsatisfactory because of needs in basic academic areas.

In addition to these programs, the Center provides individual tutoring in most college-level courses, a College Restoration Program (described in a later section) for RIT students on probation or liable to dismissal for academic reasons, and special programs for student groups and clubs.

Consultation, testing, and instructional services are free to all RIT students.



*Students can improve a variety of study skills through work in the Learning Development Center.*



Paul Kazmierski

## A place for students to learn how to learn

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

"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 & Study Clinic, the center officially adopted its new name in July 1974.

"Our subject here really is 'learning about learning' and we wanted our name to reflect that scope," explains Dr. Kazmierski. Faculty, staff and students pondered the name change for nine

months. "We think we have found a name that gets away from the associations of illness connoted in the word 'clinic' and better represents what we are doing," says 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 1950's, RIT was just moving toward offering more 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. But in the future, LDC hopes to see more interfacing with faculty to improve instruction.

"We will be spending more time on process education," predicts Dr. Kazmierski. (Process education includes the skills, systems and methods of learning, exclusive of specific content.) Already a training program in learning has been developed for the College of Science, College of Business and College of Graphic Arts and Photography.

During the 1976-77 school year, the Learning Development Center saw more than 2,000 RIT students and also helped nearly 600 community people. The current LDC staff consists of nine full-time members and 33 part-time instructors. The center also trains students to assist a number of programs. In the thick of the school year, there are as many as 60 people involved in instruction.

"We run a variety of different courses in reading, writing, math, and listening skills, plus some special workshops built around student requests," says Dr. Kazmierski. Two of the most popular mini courses in the past have been "How to Write a \$25,000 Resume" and "How to Psych-Out Your Prof and Cheat Legally on Examinations." These courses draw large numbers of students and both will be retained next year.

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.

But the student who isn't making it presents a special concern to the center.

"These students are struggling so hard to keep their heads above water that it is very difficult to get them to take the necessary time to work on underdeveloped skills," says Dr. Harvey Edwards, a member of the staff.

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

Although the majority of LDC's work is centered on the RIT campus, it is well known in the Rochester community. Several community agencies refer clients to the RIT facility for diagnostic evaluation or specific course work.



Judy Vollmer

## Placement can help find the right job before graduation

Judy Vollmer, director of Central Placement, says her office offers "a continuum of career direction."

"We encourage students to come in even before they enroll. Or a student's first acquaintance may be as a freshman, when looking for help in finding a part-time job on campus or a summer job."

"We see most students for the first time when they're ready for a Co-op job, since many of RIT's schools and colleges require that kind of experience for graduation."

Looking for a Co-op job can be excellent preparation for the real thing. The Placement Office provides leads, shows students how to write a resume and to use the office's resource library, and trains them in interviewing techniques. And the office refers students directly to companies who have requested students to work on a Co-op basis.

Placement helps students find positions which are geared to their academic level, so they can utilize their course work on the job. As the student advances, the Placement Office aids the employers in developing more complex and challenging tasks for each successive Co-op assignment.

But Ms. Vollmer stresses the fact that the effort is a joint responsibility. "Placement doesn't 'place' people," she explains. "Our function is to provide guidance and information for planning a career."

The student has to do just as much work as we do—probably much more—to land a job."

The same is true when it comes to looking for a permanent position during the senior year. The Placement Office provides the same kind of guidance, including individual counseling, to any student who seeks it. "We also have a job bank, and invite recruiters to interview seniors right here on campus. And things are looking up. During the 1976-77 academic year, 230 companies came to RIT, and conducted roughly 5,000 interviews."

But then, RIT has an edge on the competition, according to Ms. Vollmer. "It's a known fact that employers are actively seeking RIT grads, for a number of reasons. They're career-oriented, and their education has been developed around current needs of business and industry. And they're more aware of their career objectives. Usually they've chosen a field before they even come to RIT, and have had a chance to narrow it down to a specific type of position during their Co-op experience."

"So even in difficult economic times, when opportunities shrink, ours shrink less."

Placement's continuum goes on after a student graduates. Alumni are welcome to use the Placement Office. And the guidance and training that a student receives during his or her school years will also serve when it's time for a job change.

"Five years from now, there won't be anyone right there to help," Ms. Vollmer says. "If a student makes

optimum use of our service while he or she is here, it will make future job hunts easier."

Ms. Vollmer's responsibilities include managing a staff of 14, coordinating the four different functions (part-time and summer work, cooperative employment, senior counseling and alumni placement), and counseling students herself. "I think it's critical for me to keep in contact with students, so that I can keep abreast of their expectations, goals, and competencies."

"And all of us are involved daily with contacts in business and industry, in order to maintain RIT's visibility and market RIT graduates."

A native of Pennsylvania, Ms. Vollmer holds a BA from Duquesne University and an MBA from RIT. She has been with RIT's Central Placement Services since 1971, as assistant director, associate director and as director since 1976.

### Central Placement Services

The function of Central Placement Services is to aid students in making appropriate contacts with part-time, Co-op, and full-time employers and to provide career counseling. The services offered are essentially the same for all students but vary in degree according to individual needs. They fall into the three major categories of counseling, instructional and administrative services.

Counseling Services assist in assessing general career interests and abilities, identifying specific employment options, implementing the job search, and evaluating the individual's success to date.

Instructional Services are provided through group sessions which allow the Placement staff an opportunity to discuss with students, specific topics related to career planning; employer forums which help students obtain first-hand information on employment opportunities and what is expected of them on the job; and the resource library which is a source of information about specific organizations.

Administrative Services include on-campus interviews, which are arranged and monitored by the Placement Office; job development, accomplished by having counselors visit employers at their places of business; job listings, which make students and alumni aware of existing openings; and coordination of work experience programs such as Co-op and summer internships. The staff and facilities of Central Placement Services are available to

students Monday through Friday, 8:30 a.m. to 4:30 p.m. CPS is located on the second floor wing of the George Eastman Memorial Building.

#### Counseling Center

RIT makes available its extensive counseling and testing facilities to all students registered in day or evening regular sessions at no additional charge. Any student may see a counselor promptly for assistance in solving a personal problem or in clarifying career plans.

The Counseling Center, located in Grace Watson Hall, offers these services:

**Counseling:** Concerns with academic adjustment, career choice, interpersonal relationships, personal-emotional adjustments, drug or alcohol abuse, and marriage may be discussed individually with a counselor or in a group on a confidential basis. When appropriate, tests may be used to

obtain more information about interests, abilities, aptitudes, and personality characteristics.

**Approaches to Self and Others Series:** Throughout the academic year the Counseling Center offers a series of workshops, seminars, and non-credit courses in aspects of personal development.

Announcements and descriptions of specific programs are printed in a pamphlet distributed under the title "Approaches" at the beginning of each quarter.

**Resource Center:** The center is staffed by student counselor assistants Monday through Thursday evenings. The center contains vocational and educational reference books, college catalogs, and audio and visual cassette materials on topics related to sexuality, personal growth, interpersonal relations, and careers.

**Career Decision Program:** See page 51.

#### Higher Education Opportunity Program

RIT, like many other colleges, endeavors to make education beyond high school more widely available. Students who previously couldn't afford college, or whose schools never thought of preparing them for college, have increasing opportunities. Higher Education Opportunity Program (HEOP) at RIT gives disadvantaged students both economic assistance and counseling and tutoring. (See also page 50.)

#### Student Health

It is of the utmost value to a physician to have detailed information concerning the past and present physical and emotional health of a patient. This must be provided on the medical form sent to all accepted undergraduate students. The form is to be returned to the Student Health Office before registration.

All medical information is strictly confidential between the student and Student Health Service, and will not be released in whole or in part without the former's consent. Exception is made only when reports are required by public health laws, or when basic information must be provided to substantiate insurance claims.

Two physicians, three nurses and a medical nurse-practitioner oriented to the care of the deaf provide routine out-patient and emergency care at the Student Health Service from 8:30 a.m. to 4:30 p.m., Monday through Friday. From 4:30 to midnight, Monday-Friday, emergency care is provided in the residence halls by a registered emergency medical technician. At other times transportation to the emergency room of a local hospital will be provided as necessary. A consulting gynecologist is at the Student Health Service two days a week, and part-time psychiatrists are also available.

#### 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 it is imperative that they be covered by some sort of 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 written refusal and proof of alternate insurance is provided to the bursar.







*The Bookstore, in the College-Alumni Union, supplies campus and community residents with a variety of items ranging from textbooks to T-shirts.*

### **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 ages 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, Rochester Institute of Technology, Rochester, NY 14623, (716) 328-6320.

### **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, 464-2125.

All I.D. cards must be validated quarterly. Replacement of lost cards is \$5.00.

### **Automobile registration**

Those students having automobiles on campus will register these vehicles with the Protective Services 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 \$20.00 fine for initial parking infraction. Fines are \$10.00 and \$20.00, and if unpaid or not otherwise reconciled, are automatically charged to students' accounts.

### **Protective Services 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, fire-fighting, or law enforcement attention, call emergency telephone number 464-3333. For routine matters call extension 464-2853.

### **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 39.)



An aerial view of the residence halls area, looking south, with the NTID academic building in the foreground.

Your living arrangements are a  
“substantial ingredient” in your education

For single students  
RIT considers the living arrangements of its students to be a substantial ingredient in their total college education. More than one-half the full-time day student enrollment lives in Institute-operated residence halls. Present Institute policy states that all single students in their first, second and third academic years, who are not living with their parents, are required to live in the Institute’s residence halls unless they have been previously released by the Residence Halls Office. Resident students enrolled in cooperative employment programs are charged only for the period of occupancy.

For married students  
For married students, a number of Institute-owned apartments located on the campus are available. The Riverknoll apartment and townhouse group permits consideration of fourth and fifth year single students for application. A brochure describing Riverknoll, Colony Manor and Perkins Green apartments is available from the Married Student Housing Office, 113 Kimball Drive, Rochester, NY 14623, (716) 328-6455.



An area of the residence halls, as seen from the athletic fields

#### The residence halls

The residence halls provide a living environment for up to 3,300 students.

The Department of Residence Halls, as an integral 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 tremendous effect the residence hall environment has on the social, academic, educational, and total human development of a student. The aim of the Residence Halls Department is to create an environment through our professional and student staff that promotes this development.

All first-, second-, and third-year students are required to live in the residence halls, except those who live with their families and commute. Each student is required to sign a Room Request and Assignment Form, which you will receive with your housing information mailing.

The large majority of residents live in double rooms in coeducational residence areas. RIT realizes that the student body is not homogeneous and that students exhibit diversity in interests,



Resident students dine in Grace Watson Hall.

background, experience, needs and maturity. In recognition of this, a variety of living options is available. Once you're on campus, you'll be able to evaluate each area and find one that's compatible with your interests when space is available.

Each entering student is furnished information on housing

arrangements by the Residence Halls Office when he or she is accepted.

All residents participate in one of the Institute board plans. The charges for residency and meals are included in the section on student expenses.



No matter which residence hall you're in, the rooms are all pretty much the same at the start. But RIT students are inventive, and room interiors quickly take on the personality of their occupants.





#### Student activities will keep you busy...

##### New student orientation

All new students (freshmen and transfers) are required to pay the Orientation Fee of \$15. Orientation is a 4-6 day schedule designed to welcome the new student to the RIT community and its services. Orientation includes department meetings, registration, tours, seminars, lectures and various social events.

##### Student Association

The Student Association is the governing body for students. It consists of three branches: an executive body composed of the President of the Student Association and the President's Cabinet; the Student Senate, which unites the student body toward the formulation and expression of student opinion; and the Student Judiciary, which provides for the self-discipline of the student body.

All full-time undergraduate students become members of the RIT Student Association through payment of the Student Association Fee. Part-time, non-matriculated, or graduate students may become members of the Student Association, if they wish to participate in student-sponsored activities, by paying the Student Association 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 full-time 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 cocurricular activities, features the 525-seat Ingle Auditorium; a self-service bookstore; a complete game room area for bowling, billiards, table tennis; candy & tobacco shop; three separate dining areas which include a snack bar, a cafeteria, and a table service dining room; meeting rooms; lounges; and a music room. In addition to offices for the union staff, there are the offices of Student Financial Aid, Student Affairs, chaplains, the Coordinator of Clubs and Organizations, and most student organizations (College Union Board, Student Association, WITR radio, Techmila, Reporter and Commuter Organization.)

##### The College Union Board

The College Union Board, composed of students, faculty, and College Union staff representatives, is responsible for providing a balanced program of activities that reflect and enhance the special social, cultural, and recreational needs of the campus community.

##### Social Events

Major social events on the activities calendar include Fall Weekend, Homecoming, Winter Weekend, and Spring Weekend. Many other dances, parties, speakers, and events are sponsored by the College Union Board, the Residence Hall Associations, 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, Phi Gamma Nu, and Sigma Pi Sigma. Alpha Phi Omega service fraternity has an active chapter. Two national sororities and eight national fraternities offer social activities and promote high scholastic and social standards among members.



from orientation to graduation

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 common 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 Association 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 staffs—artists, photographers, writers, managers, and printers—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 Association, and the Student Christian Movement, have local branches on campus, and other religious organizations are welcome to 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 greater understanding among black students at RIT. Each year the Committee sponsors various social and cultural programs which are designed to achieve these objectives.

## Physical Education and Athletics: they can help you maintain good health for life

**Bruce Proper**, Director—Physical Education, Recreation and Intramurals

**Bill Carey**, Director—Athletics

The physical education program at RIT provides diversified physical and mental activities presented in a wholesome atmosphere leading toward physical, mental, and social development. Through exercise, care and protection of the body, an individual can maintain good health and physical fitness by using his or her body efficiently and effectively during work, play, and rest, throughout life.

The physical education program consists of a variety of individual, dual, and team activities designed to meet the needs and interests of all college students. The program is designed to allow each student to choose activities he or she will enjoy.





Courses available include the following:

Archery  
Baseball Coaching Seminar  
Basketball  
Bicycling  
Body Building  
Bowling  
Conditioning  
Dance (Ballroom, Folk, Modern)  
Diving  
First Aid (Beginner's, Advanced)  
Fishing  
Football (Touch)  
Golf  
Gymnastics  
Horseback Riding (English, Western)  
Hunting  
Ice Hockey  
Ice Skating (Figure)  
Jogging  
Judo (Beginner's, Advanced)  
Karate  
Lacrosse  
Life Saving  
Outdoor Living  
Rifle  
Roller Skating  
Scuba Diving (Beginner's, Advanced)  
Skiing  
Softball  
Swimming  
Table Tennis  
Tennis  
Trap & Skeet (Beginner's, Advanced)  
Ultimate Frisbee  
Volleyball  
Water Polo  
Water Safety Instruction  
Weight Lifting  
Yoga

Note: courses listed above represent those offered during the school year. Not all courses are offered every quarter. Consult the Physical Education Office for quarterly courses.

#### Requirements for degrees

**For the baccalaureate degree**  
All candidates for the baccalaureate degree enrolled through the day colleges must successfully complete six quarters, or the equivalent of two years, of physical education. This requirement is normally met during the first and second year of matriculation, but may be done at any time.

**For the associate's degree**  
All candidates for the associate's degree enrolled through the day colleges are required to successfully complete three quarters, or the equivalent of one year, of physical education. This requirement is normally met during the first year of matriculation, but may be done anytime.

**Transfer students**  
All students who transfer to RIT from any other college or university also must comply with the physical education requirements for the associate's and baccalaureate degree, either at RIT or as transferable credit.

Transfer students who have earned an associate's degree from another institution, and who are required to complete a cooperative work-study assignment, are required to complete only three quarters, or the equivalent of one year, of physical education at RIT or as transferable credit.

#### Athletics

The intercollegiate schedule at RIT includes cross country, soccer, football, basketball, hockey, wrestling, swimming, baseball, golf, lacrosse, tennis and track.

In addition, bowling, fencing, rifle trap and Skeet and ultimate frisbee teams compete on a club basis.

Women's intercollegiate competition has expanded to include bowling, ice hockey, tennis and volleyball. And with the increased emphasis on women's intercollegiate activities, additional sports could be added to the competitive program.

For those interested in competing, but not at the intercollegiate level, five sports are offered on an intramural basis. These include touch football, basketball, hockey, softball and coed volleyball.

The Institute offers excellent facilities in the physical education and athletics complex. Available to all RIT personnel, the complex houses the George H. Clark Memorial Gymnasium, Frank Ritter Memorial Ice Arena, Edith Woodward Memorial Swimming Pool, fencing, universal wrestling and Olympic weight rooms. Outdoor facilities include 12 tennis courts, all-weather track and numerous athletic fields.

The Tigers are members of the National Collegiate Athletic Association (NCAA), Eastern College Athletic Conference (ECAC), Independent College Athletic Conference (ICAC), United States Intercollegiate Lacrosse Association (USILA) and New York State Association of Intercollegiate Athletics for Women (NYSIAIW).

The athletic program is financed in part by an athletic fee which every full-time undergraduate student pays. Part-time, special and graduate students also pay this fee if they desire to attend athletic contests and participate in the program.

Locker facilities are available and can be rented upon payment of a locker gym pass fee.

#### Athletic eligibility

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





## And after graduation, there's the Alumni Association

The RIT Alumni Association is an organization of more than 35,000 graduates and former students of the Institute. All graduates are automatically members.

Its objectives are to advance the growth and development of RIT through individual and group endeavor within industry and the community; 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; a monthly publication for alumni; free use of the library and athletic facilities (with ID card); help from the Central Placement 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 admission, placement, and alumni-student interaction programs. Alumni in many metropolitan areas throughout the country are participating 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.

Through the direction of the Development Office, the Alumni Association provides the organization through which alumni may assist the financial development of the Institute. The aid is channeled through the Alumni Annual Fund, which provides support for the 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 affairs of the association, and serves as the communications center and clearing house for all alumni activities. Alumni are always welcome at this office.

# What’s it cost?

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 be dropped from classes. Payments sent by mail should be made by check, payable to Rochester Institute of Technology. Due dates for the 1977-78 school year are as follows:

Fall Qtr.	Aug. 19, 1977
Winter Qtr.	Nov. 14, 1977
Spring Qtr.	Feb. 20, 1978
Summer Qtr.	May 15, 1978

The student should receive the Estimated Quarterly Billing Packet approximately one month 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.

Student's 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 distributed for the 1977-78 school year as follows:

Fall Qtr.	Mailed to student's permanent address
Winter Qtr.	Placed in student's departmental folder
Spring Qtr.	Placed in student's departmental folder
Summer Qtr.	Mailed to student's permanent address

Students on Co-op will be mailed the Estimated Bill throughout the school year.

**Additional 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. Detailed tables of charges for tuition and fees for upperclass years are found on the following pages.

**Books and supplies**  
These vary widely with the program followed, and to some extent with electives chosen. Those having minimal expenses (e.g. sciences, business) will average \$130-\$150; in the arts or crafts, this may be in the neighborhood of \$250-\$275; in photographic illustration or professional photography, a realistic allowance is \$600 in addition to cameras (but in photographic science and photo finishing, expenses are minimal).

**Other fees**  
Students enrolled in chemistry laboratory classes must purchase Breakage Deposit Cards at \$5.00 each. In most cases the total will not exceed \$15.00 for the year. This requirement applies to students of all departments who are enrolled in chemistry courses.

Students enrolled in courses requiring the use of the photography chemistry laboratories are required to make a \$10.00 locker key deposit.

A Residence Halls Association Fee, currently \$7.00 is established by the student governing bodies to be used for the benefit of students in residence. With the first bill, there is also a Security Deposit, explained in the Housing Office information.

**Deferred payment plan**  
For those students who are not able to pay the amount due by the designated due date, RIT has made arrangements for deferred payment through a local bank. For further information regarding this plan call the RIT Bursar's Office at (716) 464-6186.

**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 grade reports, transcripts, or other forms of recognition or recommendation from the Institute.

The Institute reserves the right to change its prices without prior notice.

Based on three academic quarters, as resident students†

Department or Major	Tuition	Fees*	Room†† and Board	Total**
Electrical, Industrial and Mechanical Engineering .	\$3096	\$42	\$1875	\$5010
Business Administration, Retailing.....	3021	42	1875	4935
Food Administration.....	3021	42	1875	4935
Art and Design .....	3096	42	1875	5010
School for American Craftsmen.....	3096	42	1875	5010
Printing .....	3096	42	1875	5010
Photography (including Photographic Science) ...	3096	42	1875	5010
Biology, Chemistry, Math, Medical Technology				
Nuclear Medicine Technology, Physics, Respiratory Therapy Technician .....	3096	42	1875	5010
Chemical Technology (2 Quarters) .....	2064	28	1248	3340
Computer Science & Technology .....	3096	42	1875	5010
Social Work, Criminal Justice.....	3096	42	1875	5010
Career Decision Program.....	3096	42	1875	5010
Packaging Science.....	3096	42	1875	5010

† Rochester area students who live at home and commute to campus should substitute their own estimates for room and board.  
\* Does not include \$46.05 Orientation Fee.  
\*\* It is estimated that an additional \$500 should be allowed for clothing, recreation, travel and incidentals, †† Double Room and Board (20 meals per week).

## What's it cost: at a glance

### Cooperative programs

College or School	Department	Year	Tuition Per Year	Fees†	Total Per Year	Quarterly Payments*		
						1st, Qtr.	2nd, Qtr.	3rd, Qtr.
<b>Engineering</b>	Electrical, Industrial, or Mechanical	1 & 2	\$3096	\$42	\$3138	\$1046	\$1046	\$1046
		3,4 5	2064	28	2092	1046	1046	
<b>Business</b>	Bus. Admin., Food Admin., or Retailing	1	3021	42	3063	1021	1021	1021
		2**	3021	42	3063	1021	1021	1021
		3	2014	28	2042	1021	1021	1021
		4	3021	42	3063	1021	1021	1021
<b>Science</b>	Biology, Mathematics, or Physics	1 & 2	3096	42	3138	1046	1046	1046
		3,4 5	2064	28	2092	1046	1046	
	Chemistry	1	3096	42	3138	1046	1046	1046
		2-5	2064	28	2092	1046	1046	
	Chemical Technology	1,2,3	2064	28	2092	1046	1046	
	Respiratory Therapy Technician	1	3096	42	3138	1046	1046	1046
<b>Institute College</b>	Computer Science and Technology	1 & 2	3096	42	3138	1046	1046	1046
		3,4,5	2064	28	2092			
	School of Applied Science	1 & 2	(Completion of 2 years at another college)					
		3,4 5	2064	28	2092	1046	1046	
<b>General Studies</b>	Criminal Justice Social Work	Each Year	3096	42	3138	1046	1046	1046

### Other programs

College or School	Department	Year	Tuition Per Year	Fees*	Total Per Year			
						1st, Qtr.	2nd, Qtr.	3rd, Qtr.
<b>Fine &amp; Applied Arts</b>	Art & Design Sch. for American Craftsmen	Each Year	\$3096	\$42	\$3138	\$1046	\$1046	\$1046
<b>Graphic Arts &amp; Photography</b>	Photographic Arts and Sciences Printing	Each Year	3096	42	3138	1046	1046	1046
<b>Business</b>	Photographic Marketing	Each Year	3021	42	3065	1021	1021	1021
<b>Science</b>	Medical Technology, Nuclear Medicine Technology	1,2,3,	3096	42	3138	1046	1046	1046
		4	(Full-time internship in approved hospital)					
<b>Counseling Center</b>	Career Decision	2 Only	3096	42	3138	1046	1046	1046
<b>Institute College</b>	Packaging Science	Each Year	3096	42	3138	1046	1046	1046
	Audiovisual Communications	1 & 2	(Completion of 2 years at another college)					
		3,4	3096	42	3138	1046	1046	1046

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

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.

† Does not include \$46.05 Orientation Fee

\* 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.

Any undergraduate carrying over 18 quarter credit hours will be charged regular tuition plus \$88 for each quarter credit hour over 18.

Tuition for part-time undergraduate students (carrying fewer than 12 quarter credit hours) and special students is at the rate of \$88 per quarter credit hour. Student Activity Fee not assessed.

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.



#### If you want a refund

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 refund  
A partial refund will be made during a quarter if withdrawal 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.

##### Tuition refunds

Tuition will be refunded according to the following schedule:

#### Withdrawal

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 Refund

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

#### 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

##### 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

\*A specific rate schedule is available in the Housing Office.

#### Full- to part-time status

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 official 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

Fees are not refundable.



# Paying for it: student financial aid

There are a variety of scholarship, loan, grant, fellowship 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 students) and their parents plan for and meet the costs of attending RIT.

While students and parents are expected to contribute to college expenses as their resources permit, RIT's Student Aid Office can be of special assistance to students whose resources are insufficient to meet the entire cost of attending RIT.

It is RIT's intent that qualified 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 such as New York State Tuition Assistance Program Awards and Regents Scholarships or other state awards. The RIT Scholarship Committee bases its award on scholastic achievement as well as need. The full range of Veterans Administration benefits are available.

RIT's cooperative programs offer participating students an opportunity to make a very significant contribution to their total college expenses—from 40% to 60% during Co-op years—in addition to the valuable experience gained on the job.

Additionally, through the Central Placement Office, there are many part-time positions available where this is needed 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.

## Scholarships

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

Scholarships from these sources may vary in size from \$100 to \$3096. The amount of the scholarship and the recipients are determined on the basis of entrance examination data, high school record and the need for financial aid. These scholarships are awarded for one year only. Students receiving scholarship aid may apply for renewal of their scholarship as upperclassmen. Entering freshmen may be eligible for awards if they rank in the upper 20 per cent of their high school graduating class, while eligibility for enrolled students and transfers is contingent upon a cumulative grade point average of 3.00 through the Winter Quarter of the year preceding 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 \$4,000.

## 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.

## To apply for aid

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

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

Students are urged to submit all required admission data to the RIT Admission Office and file a Financial Aid Form with College Scholarship Service no later than January 1 of the year prior to entrance. Copies of these forms must be received in the Student Financial Aid Office no later than March 1; applications received after March 1, will receive secondary consideration.

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 financial aid available 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 the College Scholarship Service, Box 176, Princeton, New Jersey 08540. (You are encouraged to complete and mail this form to Princeton for analysis at the same time you apply for admission.)

Notification of awards can be expected two to four weeks after arrival of the necessary financial aid analysis and your admission acceptance.

## 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 to \$ 1,000 per year.	N.Y.S. Higher Education Services Corp., Tower Bldg. Empire State Plaza Albany, N.Y. 12223
Tuition Assistance Program (New York State)	New York State residents who show ability to pursue full-time programs.	\$100 to \$1,500 per year.	N.Y.S. Higher Education Services Corp., Tower Bldg. Empire State Plaza Albany, N.Y. 12223
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., Tower Bldg. Empire State Plaza Albany, N.Y. 12223
War Service Scholarship	New York State veterans who qualify through examination in the summer.	\$350 per year	N.Y.S. Higher Education Services Corp., Tower Bldg. Empire State Plaza Albany, N.Y. 12223
Basic Educational Opportunity Grants (Federal)	Undergraduate students who are pursuing their first bachelor's degree, in financial need, attending post-secondary institutions.	\$226 to \$1,400 per year	Applications available at colleges, schools, and libraries.
Supplemental Educational Opportunity Grants (Federal)	Students of academic promise who are accepted for college study and who are in financial need.	\$200 to \$1,500 per year or one-half of total aid provided by institution-whichever is less.	Through RIT at time of application for admission by use of the confidential statement.
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 confidential statement by Jan. 1 (prior to the next year of attendance).
Higher Educational 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.	Consult your state's education department.

### Student Loans

New York State Higher Education Services Corporation Student Loans	New York State residents in full-and part-time degree programs.	Undergraduates, up to \$2,000 per year, depending on level of study. Graduates, up to \$5,000 per year for master's.	Most banks in New York State and N.Y.S. Higher Ed. Services Corp., Tower Bldg. Empire State Plaza Albany, N.Y. 12223
Other State Loans	Eligibility varies.	Usually \$1,000 to \$2,000 per year.	Consult your state's education department.
National Direct Student Loans	College students in full- and part-time degree programs in financial need.	Up to \$2,500 for first 2 years of undergraduate study. Maximum of \$5,000 for 4 years of undergraduate study; \$5,000 for graduate study.	Through RIT at time of application for admission by use of the confidential statement.
Law Enforcement Education Program (LEEP)	In-service law enforcement personnel and preservice students who are prior recipients and are studying criminal justice.	\$250 to \$2,950 per year depending on tuition.	Through RIT prior to the beginning of each academic year.

### 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 \$2.30 to \$3.50 per hour.	Through RIT at time of admission. Application by use of the confidential statement and through the Central Placement Office.
Other college part-time work	Considerable variation in kinds of positions, hours, and wages.		Consult other RIT publications and RIT Central Placement Office.

# To apply for admission

## General information

Specific entrance data for each college is listed in a chart at the beginning of each college section in this bulletin.

For each program, we have indicated the (1) required high school subjects, and (2) desirable elective subjects and other factors considered by the Admission Committee. We have also indicated minimum grade point averages required of students who are transferring from another college. Your high school or previous college record is usually the best predictor of success. If your high school rank is substantially below the 50th percentile for your program choice, 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, (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.

Indeed, the wide range of class ranks and test scores is indicative of how other factors are considered in making RIT admission decisions. Those at the lower end of the reported ranges were admitted on the basis of information other than school records and test scores.

When applying for admission to RIT, one seeks to register in a degree program of 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.

There will be Career Seminars in all fields in the fall.

## To apply as a freshman student

To apply as a freshman student, you must submit your completed undergraduate application and non-refundable \$25 fee, official high school transcript and examination scores. Applicants are required to have results of the Scholastic

Aptitude Test of the College Entrance Examination Board or the ACT Assessment scores of the American College Testing Program submitted to the Admission 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 168, Iowa City, Iowa.

## To apply as a transfer student

RIT welcomes transfer students. Currently, more than 40 percent of our students began their college education at another college.

To apply as a transfer student, you should request an undergraduate application by sending in the card at the back of this bulletin. The application, along with the non-refundable \$25 application fee, should be returned to the Admission Office.

In addition, the following rules apply to transfers:

1. If you've already earned 16 or more college credits, submission of test scores is optional.
2. You do need to submit official transcripts of all college study completed.
3. Provide us with a list of the courses you are now taking and any others you expect to complete prior to coming to RIT.
4. If you've completed two or more years of college before RIT, you do not need to submit your high school transcript.
5. If your earlier study was outside New York State, send descriptive catalog(s) of previous study to our Admission Office with your name on inside cover(s), so we may give you full credit.

All transfer applicants are responsible for insuring that required official transcripts and test scores have been received by the RIT Admission Office.

## Transfer credit

If you've completed study 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 if you've earned an associate's degree (AAS, AS, and AA) or

equivalent in programs comparable to the RIT program you choose. A cumulative average of "C" or better is normally required.

We'll admit you to transfer adjustment study in the summer term if needed to facilitate your transfer, particularly if you'll be majoring in electrical engineering, art 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 on an evaluation of individual courses in which you earned a "C" grade or better. Your admission will be based on our best judgment of your probable success in your RIT program with your earlier grades being only part of the criteria we use.

## 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 communications.
- 3) To serve as a sounding board within the Institute, and elsewhere, to identify the implications of RIT-community/junior college relations. The purpose of this objective, again, is to help insure two-year college students of a smooth transfer to RIT.
- 4) To aid in the development and evaluation of research activities relating to two-year colleges.

Membership of the council includes the dean, or the dean's appointed representative, of each of the colleges. In addition, Student Affairs, ROTC, Financial Aid, Admission, Records, the Office of Provost, 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 our director of Admission for procedures.

#### **Action on applications**

RIT employs "rolling admissions," with most students entering in September. Major exceptions are freshmen and transfers in the College of Business and the School of Printing, and transfers in most of the other colleges. 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. When vacancies occur, those judged to be the strongest candidates are selected from the waiting list. The probability of vacancies 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.

Rochester Institute of Technology admits men and women of any race, color and national or ethnic origin.

#### **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**

The \$100 non-refundable admission deposit reserves a place in your class and is credited to your first quarter's tuition. The due date will be indicated in your acceptance letter. For students entering in September, this is May 1, or within two weeks after acceptance, whichever is later.

#### **Visit to campus**

Although not required, we encourage campus visits and personal interviews in order that you may see firsthand our modern 1,300 acre campus and be provided answers to questions you may have. A personal visit will hopefully further overall student understanding of the Institute, what it has to offer academically and the many services that are available.

To arrange for a tour or counselor interview, simply call the Admission Office, (716) 464-6631, Monday through Friday between 9 a.m. and 4:30 p.m.



#### Foreign students

Students from countries outside the United States are extended a cordial welcome to study at RIT. The Admission Office maintains an International Services office to assist students from other lands with some of the normal difficulties they are apt to face and to help students whenever possible in adjusting to the new scholastic setting.

The international community is well represented at RIT, with approximately 70 faculty and 150 students from more than 60 countries.

The basic requirement for admission is the satisfactory completion of secondary school, which may vary from country to country, but generally represents 12 years of study.

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

The admission procedures above apply in full. In addition, applicants whose native tongue is not English are required to submit scores from the Test of English as a Foreign Language (T.O.E.F.L.) administered around the world by ETS, Princeton, New Jersey, U.S.A.

If not in English, all documents submitted must be accompanied by certified English translations.

If admitted and the financial statement is satisfactory, the student will be sent Form I-20 for presentation to the American Consul in application for a "Non-Immigrant, 'F' Student Visa." Foreign applicants completing their applications after April 1 seldom have enough time to finish all the necessary details in time for enrollment in September.

#### Foreign study opportunity

Through a special arrangement with the government of Israel, RIT students may spend their junior year studying tuition free at a university in that country while enrolled at RIT. Registration for this program normally must be made during the student's freshman year. Details are available from the Admission Office.

#### Women's opportunities

The Women's Information Center, housed in the Admission Office, provides prospective women students of all ages, career information and opportunities available at RIT.

Whether you're 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 Women's Information Center is prepared to draw upon the various Institute resources and support services ranging from child care to vocational testing; from counseling services for those just beginning to explore the world of work to placement services for those ready to begin the job search. Through this assistance and referral, the center can give you a better insight into the opportunities and challenges at RIT.

Anyone interested in learning more about RIT's career programs and support services can contact the Women's Information Center in the Admission Office, at (716)464-6631.



# Registration and student records... keeping track of you and your courses

The Department of Records and Institutional Research operates the systems in which courses are scheduled, students register and student academic records are maintained.

## **The scheduling process**

The development of a quarterly master schedule of courses is coordinated by the Registrar's Office in conjunction with the academic departments. The goal is to produce a schedule that fulfills the curriculum requirements and the interests of the student body.

## **Pre-registration and registration process**

To be registered, a student must (1) be scheduled into courses and (2) make a financial commitment with the Bursar.

Approximately six 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. Preregistration is conducted in the student's academic department. For each quarter the Bursar's Office establishes a due date for payment. The due dates for the 1977-78 academic year are Fall Quarter—8/19/77, Winter Quarter—11/14/77, Spring Quarter—2/20/78, Summer Quarter—5/15/78. A student who preschedules *and* makes satisfactory financial arrangements by the specified due date is considered registered and will receive a listing of his or her scheduled courses (a program notice) in the mail before open registration. These students will also appear on the first day class lists.

## **Open registration**

Any student who does not receive a program notice in the mail or who wishes to add and/or drop courses listed on his or her program notice must come to 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 successfully completed the registration process by the billing due date will be on the first day class lists. 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.

## **Late and non-matriculated 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 registrants are subject to a \$10.00 processing fee. There will be instructions on how to complete non-matriculated/late registration at the start of that registration.

## **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.

## **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 and all grades received to date will be shown on the transcript.

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 \$1.00.

In most cases, the Family Rights and Privacy Act prohibits the release of information without the specific written consent of the student.

### *Grade reports*

Grade reports are prepared prior to the beginning of a quarter. For Fall and Winter Quarters, day college, undergraduate students will receive their grade reports through their department mail folders. All others will be sent to the student's permanent address.

## These degrees are offered

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 Institute for the Deaf. For information on these programs please refer to the individual college's catalog. In addition, the College of Science offers a certificate in respiratory therapy.

### Associate 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.

Two associate's degree programs are designed as terminal degrees. Biomedical Photography/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—Business, Engineering, Fine and Applied Arts, General Studies, Graphic Arts and Photography, Science, and Institute College—offer four- or five-year programs leading to the BS, BFA or B.Tech degrees, depending upon the curriculum. In all, about thirty different majors are offered in these colleges. For full description see the following sections grouped by colleges. For bachelor's degree programs in the College of Continuing Education please refer to its separate catalog.

### Graduate degree programs

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

A master's degree may be obtained in: accountancy, chemistry, engineering, electrical engineering, mechanical engineering, business administration, art education, fine and applied arts, applied and mathematical statistics, photographic science and instrumentation, photography, printing technology, printing education, instructional technologies, engineering technology or business technology for community college faculty, career information, and computer science and technology.

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)
- T Transfer
- 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.

### Quality Points

Each course has a 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, T, X and I grades are not used in computing G.P.A.

The grade point average is computed by the following formula:

G.P.A. =  $\frac{\text{Total quality points earned}}{\text{Total quarter credit hours for which registered}}$

Total quarter credit hours  
for which registered

### Academic probation and suspension

Students whose program grade point average for any quarter is below 2.00 (a "C" average), are placed on scholastic probation for the following quarter.

Any student whose program grade point average falls below a 2.00 for two consecutive quarters will be Continued On Probation.

Any student whose program grade point average falls below a 2.00 for three consecutive quarters will become eligible for suspension from RIT for a period of one school year (three academic quarters).

Any student who has been Continued On Probation, been removed from probation for achievement of a 2.00 grade point average and again falls below a 2.00 grade point average will be granted one quarter to be removed from probation or become eligible for suspension from RIT for a period of one school year (three academic quarters).

A student admitted in September will normally be allowed to continue in the program for the school year, September through August, with the following exceptions:

1. Any student whose grade point average falls below 1.00 becomes eligible for suspension from RIT.

2. Any student who has been readmitted after having been suspended, and then goes on probation for any quarter, becomes eligible for suspension from RIT.

When the student is suspended and when there is evidence that the student's scholastic problems are the result of inappropriate program choice, the suspension may be waived if it is: (1) recommended by the Counseling Center, (2) approved by the dean of the original college and (3) approved by the dean of the new college. In connection with fulfilling its evaluation function, the Counseling Center requests that the student's original department forward the student's folder to the Counseling Center. The Counseling Center will consider the case and forward a recommendation to the department in which the student wishes to enroll.

A student may apply to the dean of Admission for readmission at the end of the period of suspension. Readmission must be approved by the dean of the college the student wishes to attend upon returning. This may be to the 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 programs. 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 student's responsibility to make individual arrangements in advance of missing class due to a religious holiday in order that they may observe their religious 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

to graduate

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 baccalaureate 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 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 credit hours in residence he or she may petition the dean to study 15 credit hours in absentia in the

final year of the degree; a minimum 30 of the final 45 credit hours are to be completed in residence.

4. A grade point average of 2.00

5. Minimum 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

#### For the master's degree

See separate Graduate Bulletin, available from the Admission Office.

#### Accreditation

The Institute is chartered by the legislature of the State of New York and accredited by the Middle States Association of Colleges and Secondary 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.



## Special programs aimed at special needs



Kristin Alexander

### 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."

Kristin Alexander speaks with pride about RIT's Higher Education Opportunity Program, of which she is director.

"The students in the program not only have financial difficulty, but also have not excelled in school," she 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. And professors are rarely aware that a student is in HEOP.

"We're kind of a mini-student services department," Ms. Alexander says. "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."

The HEOP personnel, which consists of Ms. Alexander, an assistant director, two counselors and a remedial specialist, maintains an open-door policy. "We have to be especially sensitive to the needs and problems of the disadvantaged student," stresses Ms. Alexander, who holds a master's degree in counseling. "Each student is assigned a counselor for the duration of their years at RIT. That counselor gets to know each student on a personal level, to be really conversant with the student's problems. And the counselors are always available should an academic or social difficulty arise."

Each student who is admitted to the program as a freshman must enter a five-week pre-freshman program conducted each summer. "They take math and remedial reading as necessary. But everyone has to take Introduction to Psychology, which prepares them for the real thing. 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. They learn to use the library, organize a paper, 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 seven years of its existence, HEOP has graduated 75 students, many of whom have landed excellent jobs. Graduates in technical fields have the highest success rate, according to Ms. Alexander. "It's not quite as easy for

a social worker right now. But the fact that these students have graduated from college, considering their initial academic weaknesses, is a tremendous accomplishment."

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, 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.

Ms. Alexander, a graduate of the State University College at Brockport, has been with RIT's HEOP since 1973.

### College Restoration: helping the student come back

The College Restoration Program is a specialized program of instruction for students who have been dismissed from college or put on probation for academic reasons. After having been accepted into the program, the student is classified for one academic quarter as a special student of RIT's College of General Studies, and pursues an individualized program designed in cooperation with the Counseling Center and the Learning Development Center.

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.

A student is offered acceptance to the program on the basis of a series of tests, including aptitude, personality and achievement. Once it has been determined that the College Restoration Program can be helpful, an individual program is planned for each student. The content of the program depends upon the student's needs and rate of progress during the program, but it usually includes the following areas;

**College Course:** Each student in the College Restoration Program may enroll in one or more courses chosen from the Institute's regular offerings. Selection of the courses is under the strict guidance of the Learning Development Center.

**Counseling:** Weekly sessions with an academic advisor provide the student with an opportunity to clarify directions and goals, to discuss the relationship of his or her skills courses to the general studies courses, and to review progress in the student's academic program.

Counseling Center sessions give the student a chance to discuss problems, their causes and effects, with an RIT counselor.

**Learning Development Instruction:** As defined by particular needs, the student is also enrolled in a block of laboratories, classes, workshops and tutorials in reading, writing, study skills and mathematics.

Every student is asked to sign a contract with the College Restoration Program, in which he or she agrees to attend all scheduled classes, labs, tutorials and workshops, as well as meetings with the academic counselor. In addition, the student agrees to keep a daily journal, which serves to help the student to evaluate his or her own study skills and strategies, to incorporate suggestions for new strategies, and to react to the effectiveness of these new strategies in light of identified needs and goals.

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 program does provide recommendations and resumes of student achievement in the program to colleges upon request by the student or college.

## **Career Decision Program: help with a career choice**

RIT has always offered unique opportunities for beginning specialized professional studies in the early part of a student's college program. In the Career Decision Program a student who is not yet certain of his or her college major takes special courses for career exploration and at the same time gets career counseling.



Students in this program explore one or more specialized career fields, at the same time obtain a year of college credit, receive individualized professional career guidance, and keep several career options open.

The basic objective of the Career Decision Program is to enable a student to make a sound career choice by the end of his or her first year of college.

### **The program**

A student enrolls in one, two or three general studies courses, such as Modern American History, English Composition, or Introduction to Psychology. In addition, each student enrolls in specialized course work in any of the colleges of RIT including the College of Continuing

Education, in one or more of the following fields:

- Accounting
- Art
- Biology
- Business
- Chemistry
- Computer Science
- Computer Technology
- Criminal Justice
- Engineering
- Food Administration
- Mathematics
- Medical Technology
- Nuclear Medicine Technology
- Packaging Science
- Photographic Marketing
- Photographic Processing
- Physics
- Printing
- Retailing
- Social Work

With the guidance of his or her assigned counselor in the Counseling Center, each student is required to complete a written study of his or her tentatively chosen career field. At the end of the first, second, or third quarter the student applies for admission to one of RIT's specialized departments or to some other college. Acceptance into that chosen program, of course, depends upon the student's meeting the requirements and standards of that program, and upon availability of space in that program. In some instances, completion of a bachelor's degree program under this plan may require additional time, but the program provides a unique combination of opportunities for career exploration and intensive individual guidance. By special permission, a student may enroll for portions of this program on a part-time basis.

Special Services:  
support for students  
with special needs

Special Services, a federally funded Health, Education and Welfare (Office of Education) program, is designed to assist undergraduate students who are academically underprepared, of low income, or physically handicapped remain in and complete college. These students are also encouraged to pursue graduate education upon completion of college. The program provides support services to assist students in maximizing their chances of completing college. The services provided include: individual and group counseling, tutoring, academic skill development, academic

advisement, career development, academic recognition program, leadership development seminar, and cultural enrichment activities.

Special Services staff and students have initiated a number of special activities during the past 3½ years of operation. A career development program, an academic recognition awards program and a leadership development seminar have been the major special activities.

"Forum on Careers" is a program featuring workshops on different aspects of many careers. During the past two years, the Forum included such workshops as: "Job Problems Minorities Encounter," "Women in Male-Dominated Fields: Engineering and Business," "The Role of a Professional Craftsman," "Careers in Retailing," "Social Work as a Career," and other topics.

Out of the many activities and programs offered to the students, there is one particular program, the awards program, that is evaluated by the students as being an incentive to all to achieve academic success. At the conclusion of the academic year, Special Services provides a dinner, keynote speaker and a program honoring its graduating seniors and awarding certificates of recognition to those who have achieved a grade point average of 2.8 or above.

Another activity which has added an exciting, stimulating and educationally rewarding dimension to the program is the "Student Leadership Summer Seminar." This is a four-week seminar designed to enhance and develop selected Special Services students' leadership potential. Other RIT students may participate in this seminar as well. The students are involved in training workshops and develop programs of their own. Topics covered in the workshops include:

- a) ethics of student leadership,
- b) community agencies as leaders,
- c) identifying various leadership styles and characteristics,
- d) personal and group awareness and communications training,
- e) process of program development,
- f) how to write a proposal and budget, and many more topics.

For more information about Special Services, contact Cynthia McGill, program coordinator, at 464-2261 (Grace Watson Hall).



## Educational Support and Development seeks to improve the quality of learning

The Educational Support and Development Division is made up of three areas whose goal is to improve the quality and effectiveness of learning and instruction at RIT by providing a full scope of media-related resources.

Special functions of the areas include: planning, designing, and evaluating instructional packages and delivery techniques (Instructional Development Office); producing instructional materials using various media (Media Production Center); and selecting and distributing existing instructional materials (Wallace Memorial Library and Audiovisual Services.)

### **Instructional Development studies the process of instruction**

**Lawrence W. Belle, Director**

Instructional Development's primary goal is to search out and implement ways of improving the overall process of instruction at RIT. This is approached through cooperative planning, design, implementation, and evaluation of a variety of learning systems appropriate to the Institute.

Through the Institute's Committee on Projects Relating to Productivity, Instructional Development provides support for all approved projects designed to improve the quality of

undergraduate instruction. Part of this support includes helping applicants prepare projects before they are funded and assisting in their implementation.

Instructional Development works closely with the colleges and departments within the Institute to extend learning off campus. The office also helps academic deans, the dean of Records and Institutional Research, and others to identify RIT's priorities for improving the quality and cost of instruction.





In support of the Committee for Effective Teaching, Instructional Development participates in faculty development programs and also provides academic counseling at the personal request of a faculty member. The office also provides individual consultation to faculty members interested in such areas as: the specification of course objectives, test measurement, evaluation techniques, and visualized instruction.

**Media Production Center  
helps faculty develop mediated  
instruction**

**William F. Lehman**, Director

The Media Production Center includes a design and production area for the graphic and photographic media and a television facility. Both support the faculty in the development and production of educational programs. The center is located on the ground level of the Wallace Memorial Library.

**Television**

The Television Center offers faculty the opportunity to provide flexibility in class scheduling through the use of televised instruction. A professional staff of producer/directors along with graphic artists and engineers exists to aid the individual instructor in the development of complete courses or modules for use within a course. The center has a wide variety of video cameras and recorders available including the small one-camera portable units, a two-camera unit for use in remote location programs, and fully equipped color studios. Thus, flexibility is available to meet the instructional needs of the Institute. All standard video tape formats are available, from two-inch broadcast to half-inch and video cassette.

The Television Center provides distribution of programming over a cable television system that reaches all academic, administrative and residence areas. An Instructional Television Fixed Service (ITFS) transmitting facility links the Institute to other locations, both academic and governmental, throughout the country via micro-wave. A master antenna (MATV) system is operated in conjunction with the closed circuit cable to provide local broadcast stations (television and FM radio) to faculty and students.



The Television Center maintains a large library of video tapes on a wide variety of subjects and has access to video tape libraries throughout the country.

**Media Design**

The Media Design Center provides the faculty services in the design, development, production and evaluation of mediated visual and audio materials for instruction. The professional staff of producers, directors, photographers, and artists also acts as advisors to the faculty in developing innovative, more

effective instructional strategies.

The Media Design Center and Television Center provide two levels of services:

1. General services to meet the daily routine needs of the Institute faculty, 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.



## Wallace Library: a true multi-media learning center

Information comes in many forms other than printed pages bound between two covers.

When a student wants to research a topic in RIT's Wallace Memorial library, he or she may find a number of resources indexed in the catalog: printed matter in miniature on microfilm and microfiche, videocassettes, motion pictures, slides, filmstrips, sound/filmstrips, slidetapes, Super 8 cartridges with audiocassettes, and the traditional books and magazines.

RIT has the largest microfilm collection and the greatest use of non-print media of any area college library, reports Gary MacMillan, library director.

The library is a true multi-media learning center with expanded services and innovative procedures to increase its usefulness.

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 pamphlets, material in the form of microfilm, microfiche, films and recordings. 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 over 900 student study stations, including individual study carrels and group study rooms with closed circuit TV sets.

During the year student work in art and photography is exhibited in the second floor display gallery. Outstanding student art work is permanently displayed within the building. Two music listening rooms are located on the third floor, and there are several lounge areas 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. Supplementing the main library is the Graduate Chemistry Library.

The Media Resource Center located just inside the library entrance on the main floor contains a variety of non-print media and audiovisual equipment for individual student use. In addition, the center contains an outstanding collection of over 70,000 slides as well as viewing facilities for the collection of approximately 400 motion pictures.

The Audiovisual Services Department located on the library's lower level provides materials, equipment, and assistance for classroom use. Research assistance is also available for selecting and retrieving audiovisual materials from a large variety of producers and distributors.





Gary MacMillan

## A library “isn’t just books anymore,” says director

“We’re a pretty advanced library, technologically speaking,” Wallace Memorial Library Director Gary MacMillan says.

“Books are losing some of their importance and other media are taking over. . .there’s a growing awareness here that there are other ways to get information than from the printed word,” he says.

And so, Wallace Library has phased out the traditional clumsy card catalog in favor of a microfiche system. “The entire card catalog,” MacMillan says, “can be held in a notebook.”

Other technological advances are evident throughout the three-story air-conditioned Wallace Library. The Media Resource Center on the first floor offers a wide range of instructional audiovisual materials such as videotapes and motion pictures for student use in the building.

MacMillan came to RIT in December, 1970, fresh from a job at the University of Liberia in West Africa, where he was working in a joint United States government-Cornell University program.

A native of Alpena, Michigan, and a graduate of Kalamazoo College (psychology/sociology) and



University of Michigan (library science), MacMillan is 44.

“A library doesn’t mean just books anymore,” he says. “It’s a collection of information kept in the way that’s easiest to retrieve.”



## College of Business offers programs of lasting value in the changing business world

**Edward A. Johnson, Dean**

The College of Business is composed of the School of Business Administration, the School of Retailing, and the Department of Food Administration and Tourist Industries Management. The programs reflect the world of business, which has become increasingly complex, and 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.

Faculty members in the College of Business bring a combination of professional education and sound practical experience to their course work. The faculty has a personal interest in the progress of individual students and in assisting each student to achieve maximum benefit from his or her program of study. Freshmen students are assigned to faculty advisers who provide friendly counsel during this period of adjustment.

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 fabric collections, films, professional speakers, and field trips, applicable to the various fields of study.



Dean Edward A. Johnson

### Business program allows options, great flexibility

RIT's curricula in the College of Business have been significantly improved under the leadership of Dean Edward A. Johnson.

RIT's business programs now allow greater flexibility. There are many more elective courses from which a student can choose.

The College of Business has 1,000 undergraduates, 600 graduate students, and 45 faculty members.

Besides the upgrading of the curricula, Dr. Johnson is pleased with other developments during his deanship.

There have been significant moves to revitalize the retailing and food-tourism programs.

Finally, Dr. Johnson is pleased with developments toward establishing a good learning center in the college.

At the same time as he has been taking those new directions, Dr. Johnson is maintaining the college's

commitment to focus on the applied aspects of business subject matter rather than the theoretical only.

What does he plan to emphasize in the future?

He wants to explore program options that will provide the student with opportunities for managerial and executive positions in both the private and the not-for-profit sectors.

"Our programs should cover all types of institutions," Dr. Johnson feels. "We should design and develop programs to provide the student with managerial and executive experience in a variety of institutions, public or private."

There are great opportunities in the public sector for business graduates, Dr. Johnson says.

What does he believe a business career offers a person?

"The possibilities for a student to grow into a highly creative, innovative person, to deal with exceptionally complex and complicated social, economic, and business problems, and to earn a good salary, are as good in business as in most other fields."

Admission: at a glance  
College of Business programs'

The majors 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 public accounting option meet candidacy requirements for the C.P.A. examination. There is a general accounting option for students who desire a broader and more flexible range of accounting and business electives. Degrees granted: AAS-2 year; BS-4 year.

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

**Food Service Administration-Prepares** graduates for managerial positions in restaurants and food service operations such as hotels, schools, business firms, and governmental agencies. Degrees granted: AAS-2 year; BS-4 year.

**Hotel and Tourist Industries Management-**Develops comprehensive managerial skills for the rapidly expanding field of tourism. 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.

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

**Photographic Marketing-Designed** to provide students with knowledge of the photographic process in combination with the economic, financial, and marketing principles necessary to establish and maintain a photographic wholesale or retail business. Degrees granted: AAS-2 year; 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
Accounting	Elem. Algebra; Inter. Algebra; 1 year any science	Additional Mathematics and science	Accounting or equivalent	2.0
Business Administration	Elem. Algebra; Inter. Algebra; 1 year any science	Biology; additional mathematics	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.	2.0
Food Administration and Tourist Industries Management	Elem. Algebra; Inter. Algebra; 1 year chemistry preferred	Additional mathematics and science	Food service administration; hotel-motel management or equivalent.	2.0
Dietetics	Elem. Algebra; Inter. Algebra; 1 year chemistry preferred	Biology; additional mathematics	Hospital dietetics or equivalent.	2.0
Retailing	Elem. Algebra; Inter. Algebra; 1 year any science	Business; art and speech courses	Retailing; retail merchandising or equivalent.	2.0
Photographic Marketing	Elem. Algebra; Inter. Algebra; 1 year chemistry preferred	Additional mathematics and science	Business administration; marketing or equivalent.	2.0

<sup>1</sup>One third of the courses in each program consist of electives in social science, literature, and humanities.  
<sup>\*</sup>Four years of English is required in all programs, except where state requirements differ.

### 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.

Graduates who earn a BS degree with a major in general dietetics in the Department of Food Administration and Tourist Industries Management are qualified to apply for American Dietetics Association internships. Graduates of the coordinated dietetics program meet both the academic and clinical requirements for membership in the American Dietetic Association.

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. Programs in the Department of Food Administration are recognized by the American Dietetic Association. 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-depth 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 cooperative education of the college, each student obtains four quarters of practical work experience in varied phases of his or her field of interest, not limited to the local area. Every effort is made to help students find a position that will further their career goals. Since this work experience is related to the student's total career objective, the students gain more stimulation from class work and are prepared to assume some increased responsibility during successive work periods. The students also develop judgment and initiative, keener understanding of their major field and the special phases which interest them, and greater possibility of moving more rapidly toward their goals after graduation.

### The cooperative plan

Cooperative employment arrangements for students in BS degree programs are made prior to the summer quarter of the second year. Students are then assigned to A and B Sections; students in Section A work on their cooperative jobs in the Summer Quarter while those in Section B attend classes. The two sections interchange at the beginning of the Fall Quarter of the third year when students in Section A attend classes and those in Section B are cooperatively employed. This interchange of study-work periods continues until the Summer Quarter of the fourth year when both groups attend classes. The study-work section to which the student is assigned is designated by the director of cooperative education, College of Business.

For more information about Co-op at RIT, see page 22.

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

### Graduation requirements

The minimum academic requirements for the bachelor of science degree 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 four quarters of supervised field education assignments as approved by the director of cooperative education, College of Business.

### Transfer programs

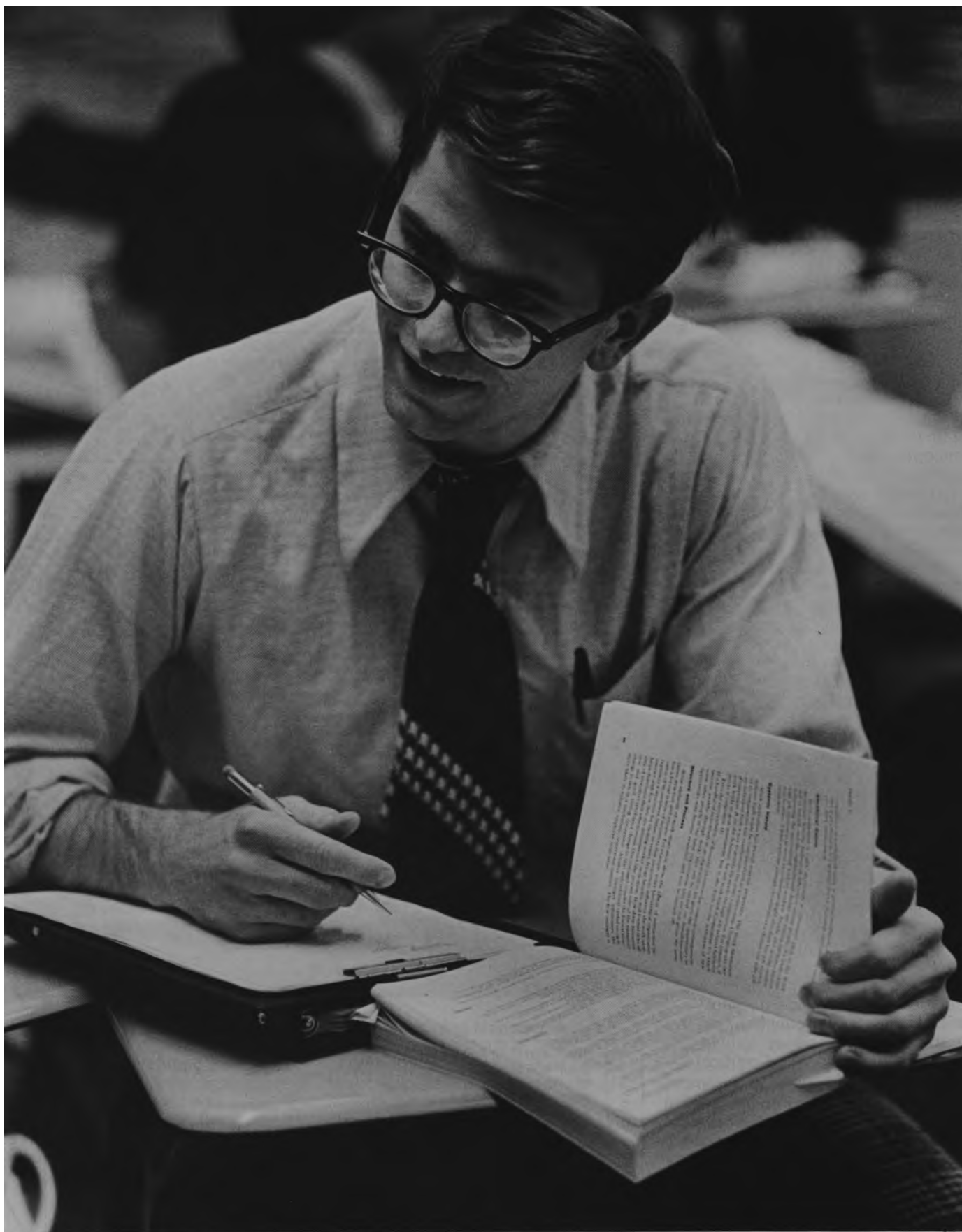
Junior standing will be granted to qualified students from accredited institutions who possess an associate's degree or its equivalent and who wish to continue their education for the baccalaureate degree. Students interested in business administration, retailing, or food management may complete all requirements for the BS degree in two years, which includes six academic quarters and two quarters of cooperative employment.

A transfer student must (1) complete a minimum of 102 quarter credit hours with an earned minimum grade point average of 2.0 in the departmentally approved program, and (2) complete two quarters of approved cooperative education assignments.

Due to the special requirements of the accounting program and the

### Cooperative education plan

	Fall	Winter	Spring	Summer
1st year	RIT	RIT	RIT	Vacation
2nd year	RIT	RIT	RIT	RIT
				"A" Work
3rd year	"B" Work	RIT	"B" Work	RIT
	RIT	"A" Work	RIT	"A" Work
4th year	"B" Work	RIT	"B" Work	RIT
	RIT	"A" Work	RIT	RIT



dietetics program, the amount of transferable credit and the estimated time to complete work for these degrees must be determined by evaluation of each individual's record. In every instance, however, it is the policy of the college to recognize as fully as possible past academic accomplishments of each student.

#### **Graduate programs**

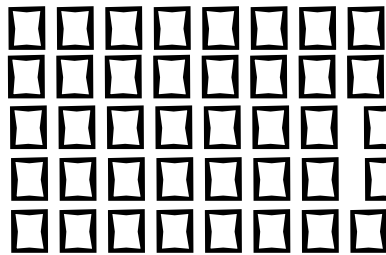
The College of Business offers master's degree programs in business administration and accounting on a part-time and full-time basis.

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 Admission Office.

#### **Course descriptions**

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



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 accounting major has two options: the public accounting option and a general accounting option. The public accounting major has been registered with the State Education Department of New York, which means that graduates meet the requirements for candidacy for the Certified Public Accountant examination.

The general accounting option has been designed for students with varied interests. Not only has the curriculum been designed to help prepare students for the Certificate in Management Accounting examination as administered by the Institute of Management Accounting of the National Association of Accountants, but also the student has the opportunity to gain a more indepth knowledge in taxation, international accounting, and accounting for non-profit organizations by electing courses in a seminar series.

Accounting programs (common curriculum, first two years)				
Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	BBUA-210 Financial Accounting .....		4	
	BBUA-211 Managerial Accounting .....			4
	BBUB-201 Management Concepts .....	4		
	BBUQ-251, 252 Math I & II .....	4	4	
	GSEE-301, 302 Economics I & II .....	4	4	
	ICSS-200 Survey of Computer Science .....			4
	*General Studies Electives—Lower Division .....	4	4	8
	‡Physical Education Elective .....	0	0	0
Second Year †	BBUA-308, 309, 310 Inter. Accounting I, II, III .....	4	4	4
	BBUA-301 Business Law I .....			4
	BBUB-401 Behavioral Science in Management .....	4		
	BBUM-263 Marketing Principles .....	4		
	BBUQ-351, 352 Statistics I, II .....		4	4
	Science Electives .....		4	4
	*General Studies Electives—Lower Division .....	4	4	
	‡Physical Education Elective .....	0	0	0

†Upon successful completion of the second year, the associate in applied science degree is awarded.  
\*See p. 98 for General Studies requirements.  
‡See p. 37 for policy on Physical Education.

Certified Public Accounting major				
Year		Quarter Credit Hours		
		Su/Fall	Wtr/Spr	Summer
Third Year	BBUA-420 Cost Accounting .....	4		
	BBUA-422 Tax Accounting .....		4	
	BBUB-302 Business Law II .....	4		
	BBUF-441 Financial Management .....		4	
	*General Studies Electives—Upper Division .....	5	10	
Fourth Year	BBUA-504 Auditing .....	4		
	BBUA-505, 506 Advanced Accounting I, II .....		4	4
	BBUB-404 Administrative Policy .....			4
	BBUB-407 Legal Environment of Business Activity .....			4
	BBUB-434- Operations Management .....	4		
	BBUE-405/406 Micro/Macro Economics .....		4	
	GLLC-402 Conference Techniques .....	4		
	Business Electives .....		4	
	General Studies Electives—Upper Division .....	5	5	5

\*See p. 98 for General Studies requirements.

General Accounting major**				
Year		Quarter Credit Hours		
		Su/Fall	Wtr/Spr	Summer
Third Year	BBUA-420 Cost Accounting .....	4		
	BBUF-405 Micro Economics .....	4		
	BBUF-441 Financial Management .....	4		
	BBUF-503 Financial Problems .....		4	
	Accounting Elective .....		4	
	Business Elective .....		4	
	*General Studies Electives—Upper Division .....	5	5	
Fourth Year	BBUB-404 Administrative Policy .....			4
	BBUB-407 Legal Environment of Business Activity .....			4
	BBUB-434 Operations Management .....	4		
	GLLC-402 Conference Techniques .....		4	
	Accounting Elective .....	4		
	Business Electives .....	4	4	4
	General Studies Electives—Upper Division .....	5	10	5

\*See p. 98 for General Studies requirements.  
\*\*Students interested in the Certificate of Management Accounting should include BBUA-554 and BBUB-536 in their electives.





#### Business Administration

The curriculum is designed to provide an understanding and competency of essential business management principles and techniques. Additionally, the student may elect a concentration in accounting, consumer services, finance, management or marketing.

#### Photo Marketing Management

This program of study in photographic marketing is designed to provide students with a thorough knowledge of the photographic process in order that they may have an understanding of how their products work. At the same time, they will be involved in learning the economic, financial and marketing principles necessary to successfully establish and maintain a prosperous photographic wholesale or retail business.

This four-year baccalaureate program is directed towards marketing, merchandising, promotion and personnel management in the photographic dealer industry; however, those choosing to terminate after two years are awarded an AAS degree and should qualify for a store manager's position.



**Business electives**  
(Each gives 4 Quarter Credit Hours)

<b>Accounting</b>	
BBUA-420	Cost Accounting
BBUA-422	Tax Accounting
BBUA-423	C.P.A. Problems
BBUA-504	Auditing
BBUA-505, 506	Advanced Accounting I, II
BBUA-554	Seminar in Accounting

<b>Economics</b>	
BBUE-407	Managerial Economics
BBUE-408	Business Cycles and Forecasting
BBUE-443	Recent Economic Policies
BBUE-509	Advanced Money and Banking
BBUE-530	Labor Economics
BBUE-554	Seminar in Economics

<b>Finance</b>	
BBUF-502	Money and Capital Markets
BBUF-503	Financial Problems
BBUF-504	International Finance
BBUF-507	Security Analysis
BBUF-508	Portfolio Management
BBUF-510	Financial Institutions
BBUF-554	Seminar in Finance

<b>Management and Quantitative Methods</b>	
BBUB-450	Multinational Management
BBUB-531	Labor Relations
BBUB-534	Purchasing
BBUB-535	Planning and Decision Making
BBUB-536	Organization Theory <
BBUB-554	Seminar in Management
BBUQ-353	Statistics III
BBUQ-481	Mathematics

<b>Marketing</b>	
BBUM-510	Consumer Services Analysis
BBUM-511	Consumer Services Seminar
BBUM-550	Marketing Management Problems
BBUM-551	Marketing Research
BBUM-552	Advertising
BBUM-553	Sales Management
BBUM-554	Seminar in Marketing
BBUM-555	International Marketing
BBUM-556	Marketing Logistics
BBUM-557	Comparative Marketing

Business Administration major				
Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	BBUA-210 Financial Accounting.....	4		
	BBUA-211 Managerial Accounting.....		4	
	BBUB-201 Management Concepts.....			4
	BBUQ-291, 292 Mathematics .....	4	4	
	GSSE-301, 302 Economics 1, II.....		4	4
	ICSS-200 Survey of Computer Science.....			4
	*General Studies Electives-Lower Division.....	8	4	4
	‡Physical Education Elective.....	0	0	0
Second Year †	BBUQ-351, 352 Statistics I, II.....		4	4
	BBUB-401 Behavioral Science.....			4
	BBUE-381 Money and Banking.....	4		
	BBUM-263 Marketing Principles.....	4		
	Business Electives.....		4	8
	*General Studies Electives-Lower Division.....	4	4	
	Science Electives.....	4	4	
	‡Physical Education Elective.....	0	0	0
Third Year	BBUB-434 Operations Management.....	SR or F		W or S
	BBUE-405, 406 Micro or Macroeconomics.....	4		
	BBUF-411 Financial Management.....			4
	Business Electives.....	4		8
	*General Studies Electives.....	5		5
Fourth Year	BBUB-404 Administrative Policy.....	SR or F	W or S	SR
	BBUB-407 Legal Environment of Business Activity.....		4	4
	Business Electives.....	4	8	8
	*General Studies Electives.....	10	5	5
	GLLC-402 Conference Techniques.....	4		

†Upon successful completion of the second year, the associate in applied science degree is awarded.  
\*See p. 98 for General Studies requirements.  
‡See p. 37 for policy on Physical Education.

Two-year transfer program: Business Administration  
(for associate's degree graduates in business)

A minimum of 102 quarter credit hours must be completed at RIT in order to qualify for the BS degree.

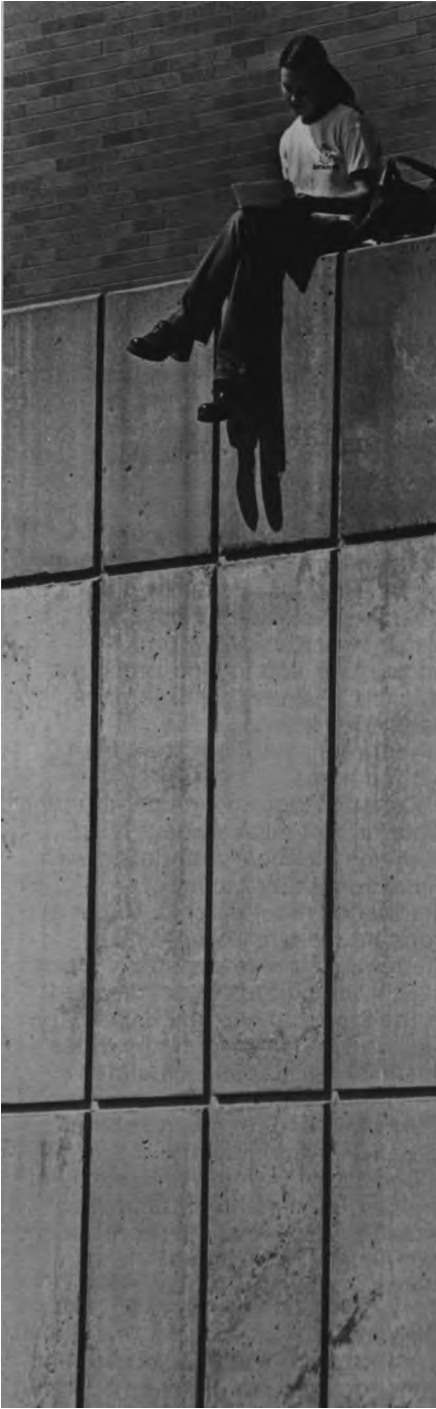
Year		Quarter Credit Hours		
		Fall	Winter	Spring
Third Year	BBUE-405, 406 Micro or Macro Economics.....			4
	BBUF-441 Financial Management.....			4
	BBUQ-410, 411 Quantitative Methods I, II.....	4	4	
	Business Electives.....	4	4	4
	*General Studies Electives-Upper Division.....	5	5	5
	Science Electives.....	4	4	
	‡Physical Education Elective.....	0	0	0
Fourth Year	BBUB-404 Administrative Policy.....	SR or F	WorS	SR 4
	BBUB-407 Legal Environment of Business Activity.....		4	
	BBUB-434 Operations Management.....	4		
	Business Electives.....	4	8	8
	*General Studies Electives-Upper Division.....	5	5	5
	GLLC-402 Conference Techniques.....	4		

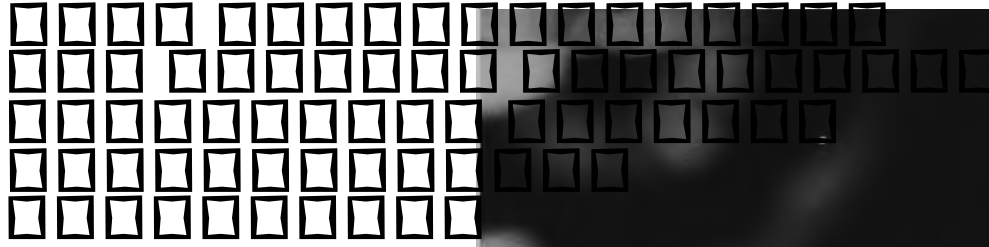
‡See p. 37 for policy on Physical Education.  
\*A minimum of six upper level general studies courses (30 quarter credit hours) must be taken at RIT.  
Note: A minimum of eight quarter credit hours of science must be earned. If science transfer credit is allowed, student must take a comparable number of hours in either business or general studies.  
Transfer students with insufficient background in accounting, economics, management and/or marketing will be required to take the following courses in place of business electives: Financial Accounting: BBUA-210, 211; Economics: GSSE-301 and/or 302; Management: BBUB-401; Marketing: BBUM-263.

Photographic Marketing Management major

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	PPHM-201, 202, 203 Basic Principles of Photography	4	4	4
	BBUB-201 Management Concepts .....	4		
	BBUQ-291, 292 Math .....	4	4	
	BBUA-210 Financial Accounting .....		4	
	BBUA-211 Managerial Accounting.....			4
	ICSS-200 Survey of Computer Science .....			4
	General Studies (Lower Division) .....	4	4	4
	Physical Education Elective .....	0	0	0
Second Year †	BRER-211 Retail Org/Mgmt.....	4		4
	BRER-212 Principles of Merchandising.....		4	
	BRER-410 Retail Sales Promotion .....			
		4		
	GSSE-301, 302 Economics I & II.....	4	4	
	BBUM-263 Marketing .....			4
	PPHM-320, 321 Mechanics of Hardware I & II .....		4	4
	General Studies (Lower Division).....	4	4	4
Third Year	Physical Education Electives .....	0	0	0
	BBUQ-351, 352 Statistics I & II .....	4	4	
	BBUE-405, or 406 Micro/Macro Economics.....	4		
	BBUM-420 Consumer Behavior .....		4	
	BBUE-381 Money & Banking .....		4	
	BBUF-441 Financial Management .....			4
	PPHM-310 Survey of Production Processing and Finishing .....			2
	Professional Electives .....	4		4
Fourth Year	General Studies (Upper Division).....	5	5	5
	BBUB-434 Operations Management .....	4		
	BBUM-552 Advertising .....		4	
	BBUM-553 Sales Management.....			4
	BBUB-407 Technical Society & Legal Environment .....	4		
	BBUB-404 Administrative Policy.....			4
	Professional Electives .....	4	8	4
	General Studies (Upper Division).....	5	5	5

\*See p. 98 for General Studies requirements.  
‡See p. 37 for policy on Physical Education.  
†Upon successful completion of second year, the associate of applied science degree is awarded.  
Total of 196 quarter credit hours is required for the BS degree.  
It is recommended that students seeking the baccalaureate degree spend the summer of their junior year in a work block-type program.  
Professional electives may be selected from either the College of Business or School of Photographic Arts and Sciences, in consultation with advisor.  
Refer to School of Photographic Arts and Sciences for descriptions of photography courses.





**George T. Alley, Director**

RIT's Department of Food Administration and Tourist Industries 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 department dictates that each student must combine practical experience with classroom theory to meet graduation requirements. Under a cooperative employment plan, students alternate periods of study at RIT with periods of employment in the food and hospitality industry. The work-study program provides financial assistance, stimulates classroom experience and serves as a preview for determining career direction in the industry.

Consistent with the philosophy of merging theory and practice, the faculty possesses both professional experience in the industry and strong academic credentials.

**Objectives**

It is the mission of the Department of Food Administration and Tourist Industries Management 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.



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.

Course descriptions

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

Programs of study

The Food Service Administration program is designed to prepare persons for managerial positions in restaurants and food service operations of differing types of institutions such as hotels, schools, business firms, and governmental agencies.

The hotel and tourist industries management program option is aimed at developing comprehensive managerial skills for the rapidly expanding and complex field of tourism.

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.

Two-year transfer program

Students who possess an associate's degree or its equivalent in related fields from accredited institutions and are interested in continuing their education for the baccalaureate degree in food administration and tourist industries may enter with junior standing and complete the BS degree in two years.

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.

Hotel and Tourist Industries Management option

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	BFAM-215 Food Principles .....	5		
	SCHG-201 General Chemistry .....	4		
	BFAM-210 Introduction to Food Management/ Tourist Industries .....	3		
	BFAM-220 Career Seminar .....	1		
	BBUQ-291 Mathematics.....		4	
	SCHG-202 Organic Chemistry .....		4	
	BBUB-201 Management Concepts .....		4	
	BFAD-213 Nutritional Principles.....			4
	BBUA-210 Financial Accounting.....			4
	ICSS-200 Survey of Computer Science .....			4
	General Studies Electives-Lower Division .....	4	4	4
	†Physical Education Elective .....	0	0	0
Second Year	BFAM-321 Food & Beverage Merchandising .....	2		
	SBIG-210 Human Biology I (microbiology in health & disease).....	4		
	BBUQ-351, 352 Statistics I, II.....	4	4	
	BFAM-331, 332 Food Production Management I, II .....		5	4
	GSSE-301, 302 Economics I, II .....		4	4
	BBUM-263 Marketing Principles.....			4
	General Studies Electives-Lower Division .....	4	4	4
	†Physical Education Elective .....	0	0	0
Third Year	BFAM-423 Management Systems for Lodging and Tourist Industry .....	SR/F	W/S	SR
	BBUB-434 Operations Management .....	4		
	Food/Business Elective .....	4		
	BBUB-401 Behavioral Science .....		4	
	GLLC-402 Conference Techniques.....		4	
	*General Studies Electives-Upper Division.....	5	10	
Fourth Year	BFAM-450 Marketing for Hotel & Tourist Industries .....		4	
	BBUB-407 Legal Environment of Business Activity .....	4		
	BFAM-554 Seminar in Tourist Industries.....		4	
	BFAM-511 Advanced Food Service Operations .....		4	
	BBUB-404 Administrative Policy .....			4
	Food/Business Electives .....	8		8
	*General Studies Electives-Upper Division .....	5	5	5

\*See p. 98 for General Studies requirements.  
†See p. 37 for policy on Physical Education.

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 record.

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.

Coordinated undergraduate program in general dietetics

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 students with the necessary preprofessional (first and second-year) courses 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.



### General Dietetics

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 and local-and in the growing field of community nutrition. Numerically, the principal employment for the dietetics graduate is in hospitals and nursing homes as a member of the health-care team.

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.

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.

### Food Service Administration

The hospitality service industries employ more people than any other industry in the nation. These industries cover the wide scope of public feeding, lodging and tourism. During the first two years, emphasis in the program is upon basic course work which is common to food and tourist industries and is directed at those aspiring to managerial positions in restaurants, hotels, motor lodges, resorts, clubs, airlines, colleges and schools, and other types of accommodation businesses. In the third and fourth years, students may elect either the Food Service Administration or Hotel and Tourist Management option according to their career directions.

### Food Service Administration

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	BFAM-215 Food Principles .....	5		
	SCHG-201 General Chemistry .....	4		
	BFAM-210 Introduction to Food Management/Tourist Industries .....	3		
	BFAM-220 Career Seminar .....	1		
	BBUQ-291 Mathematics.....		4	
	SCHG-202 Organic Chemistry .....		4	
	BBUB-201 Management Concepts .....		4	
	BFAD-213 Nutritional Principles.....			4
	BBUA-210 Financial Accounting .....			4
	ICSS-200 Survey of Computer Science .....			4
	General Studies Electives—Lower Division .....	4	4	4
Second Year	Physical Education Elective .....	0	0	0
	BFAM-321 Food & Beverage Merchandising .....	2		
	SBIG-210 Human Biology I (microbiology in health & disease).....	4		
	BBUQ-351, 352 Statistics I, II .....	4	4	
	BFAM-331, 332 Food Production Management I, II.....		5	4
	GSSE-301, 302 Economics I, II .....		4	4
	BBUM-263 Marketing Principles.....			4
	General Studies—Lower Division.....	4	4	4
	Physical Education Elective .....	0	0	0
	BFAM-415 Food Science I.....	SR/F	w/s	SR
	BBUB-434 Operations Management .....	4		
Third Year	BBUB-401 Behavioral Science .....		4	
	BBUB-531 Labor Relations .....		4	
	GLLC-402 Conference Techniques.....		4	
	Food/Business Electives .....	4		
	General Studies Electives—Upper Division .....	5	5	
	BBUB-407 Legal Environment of Business Activity .....	SR/F	w/s	SR
Fourth Year	BFAM-511 Advanced Food Service Operations.....	4	4	
	BBUB-404 Administrative Policy.....			4
	Food/Business Electives .....	8	8	4
	*General Studies Electives—Upper Division .....	5	5	10

\*See p. 98 for General Studies requirements.

‡See p. 37 for policy on Physical Education.

### Dietetics and Nutritional Care programs (common curriculum, first two years)

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	BFAM-215 Food Principles .....	5		
	SCHG-201 General Chemistry .....	4		
	BFAM-210 Introduction To Food Management/Tourist Industries .....	3		
	BFAM-220 Career Seminar .....	1		
	BBUQ-291 Mathematics .....		4	
	SCHG-202 Organic Chemistry .....		4	
	BBUB-201 Management Concepts .....		4	
	SCHG-203 Biochemistry .....			4
	BFAD-213 Nutritional Principles.....			4
	ICSS-200 Survey of Computer Science .....			4
	General Studies—Lower Division.....	4	4	4
Second Year	Physical Education Elective .....	0	0	0
	BBUA-210 Financial Accounting .....	4		
	BFAM-321 Food & Beverage Merchandising .....	2		
	SBIG-210 Human Biology I (Microbiology in health & disease) .....	4		
	SCHG-204 Biochemistry .....	4		
	BBUQ-351, 352 Statistics I, II .....		4	4
	GSSE-301, 302 Economics I, II .....		4	4
	SBIG-211, 212 Human Biology II, III (Anatomy & Physiology) .....		4	4
	*General Studies—Lower Division.....	4	4	4
	Physical Education Elective .....	0	0	0

\*See p. 98 for General Studies requirements.

‡See p. 37 for policy on Physical Education.



- Professional electives
- BFAM-310 Mankind in Search of Food
  - BFAM-314 Sanitation and Safety in Food Operations
  - BFAM-517 Ethnic Foods
  - BFAM-555 Research Problems
  - BFAM-599 Independent Study
  - BBUA-211 Managerial Accounting
  - BBUA-331, Cost Accounting I & II
  - BBUB-450 Multinational Management
  - BBUB-536 Organization Theory
  - BBUB-503 Financial Problems
  - BBUM-510 Consumer Services Analysis
  - BBUM-511 Consumer Services Seminar
  - BBUM-552 Advertising
  - BBUM-553 Sales Management
  - BBUM-555 International Marketing

Additional electives may be chosen from the School of Business Administration or approved electives from other colleges of the Institute.

General Dietetics and Nutritional Care program

Year		Quarter Credit Hours		
		Fall	Winter	Spring
Third Year	BFAM-415, 416 Food Science I, II.....		4	4
	BFAM-331, 332 Food Production Management I, II.....		5	4
	BBUB-401 Behavioral Science.....		4	
	*General Studies Electives-Upper Division.....		5	5
	BFAD-519 Educational Principles.....			4
**Note: Normally dietetic majors will have their first Co-op work study period during the Fall Quarter				
Fourth Year	BFAD-525, 526 Advanced Nutrition/Diet Therapy I, II.....	Su/Fa	W/Spr	Su
	BBUB-407 Legal Environment of Business Activity..	4	4	
	BBUB-434 Operations Management.....	4		
	BFAM-511 Advanced Food Service Operations.....		4	
	BFAD-550 Community Nutrition.....		4	
	BBUB-404 Administrative Policy.....			4
	Food/Business Electives.....			4
	*General Studies Electives-Upper Division.....	5	5	10

\*See p. 98 for General Studies requirements.

Coordinated Dietetics option

Year		Quarter Credit Hours		
		Fall	Winter	Spring
Third Year	BBUB-401 Behavioral Science.....	4		
	BBUB-407 Legal Environment of Business Activity..		4	
	†BFAD-314 Sanitation & Safety in Hospitals.....			4
	†BFAD-402 Dietetic Environment.....	4		
	†BFAD-520 Communication & Instruction Tech.....			4
	†BFAD-551 Management of Food Systems.....			4
	†BFAM-331, 332 Food Production Management I, II.....		5	4
	†BFAM-415, 416 Food Science I, II.....	4	4	
Fourth Year	*General Studies Electives-Upper Division.....	5	5	
	BBUB-404 Administrative Policy.....			4
	†BFAD-550 Community Nutrition.....			4
	†BFAD-560, 561 Clinical Dietetics I, II.....	8	8	
	†BFAM-511 Advanced Food Service Operations.....			4
	Professional Elective.....		4	
	General Studies Electives-Upper Division.....	10	5	5

\*See p. 98 for General Studies requirements.

†Professional courses in clinical facilities.

## **School of Retailing: dynamic education for a dynamic career field**

The major objective of the School of Retailing is to educate young men and women for retail business management competence in order that their education will help them to achieve middle- and upper-middle management positions after some years of on-the-job experience, as well as to provide a base for beginning management positions.

To achieve this major objective, the student should have a basic understanding of the major functional areas of business—accounting, finance, personnel and marketing; depth of knowledge of the marketing process for the retail industry; a broad background in natural and social sciences and in the humanities; an understanding of the tools common to most management functions; and an awareness of the need for life-long learning.

The dynamic nature of retailing and retail institutions creates an ever expanding number of career opportunities. Retail organizations offer highly rewarding and challenging positions in five broad areas: merchandising, operations, finance, personnel, and sales promotion. Merchandising covers selection, buying and selling; operations covers the general operation of the company's physical plant as well as customer services; finance includes accounting, credit sales, collection, statistical and internal audit; personnel is responsible for selection, training, placing, advancement, and welfare of all employees; sales promotion is responsible for advertising, display, and publicity.



*Susan Chandler, a retailing student, suggests sculpture placement to a client of the interior design shop she works at during her Co-op assignment.*

## Program

The retailing program is designed to provide the student with a basic and comprehensive foundation of theory and practice in the management of retail institutions. In addition to the required core of retail and business subjects, the student may elect concentrations in the following areas:

*Fashion Merchandising* is a group of selected courses in history and trends of fashion; fashion apparel and accessories; buying, promotion and coordination of fashion merchandise. A wide range of employment opportunities as assistant buyers, buyers and fashion coordinators exists in the fashion merchandising field.

*Interior Design* is a well developed sequence of courses covering topics of basic and advanced color and design principles; planning and creating home and commercial interiors; and historical design trends. Employment opportunities are in home and office furnishing design, display, store layout and design, and commercial contract design departments.

*Management* is the core retail program with elective courses in business administration providing strong academic preparation for a variety of managerial positions in store management.

The cooperative employment component of the program provides the needed balance between classroom and experience. Co-op plays an integral part in the total education of the retail student. See page 22 for details.

### Two-year transfer program

**Two-year transfer program.** Junior standing will be granted to qualified students with an associate's degree or equivalent in a related field from accredited institutions. The bachelor of science degree will be awarded in two years, which includes six academic and two quarters of cooperative field education. The student's program is determined on a basis of his or her previous education and field interest.

## Retailing major

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	BBUA-210 Financial Accounting.....	4		
	BBUB-201 Management Concepts.....	4		
	BBUQ-291 Math I .....		4	
	BRER-211 Retail Organization & Management .....	4		
	BRER-212 Principles of Merchandising.....			4
	GSSE-301, 302 Economics I, II .....		4	4
	General Studies Electives.....	4	4	4
	Science Electives .....		4	4
Physical Education Electives .....				
Second Year	BBUB-401 Behavioral Science .....	4		
	BBUM-263 Marketing Principles.....		4	
	BBUM-552 Advertising .....			4
	BBUQ-351, 352 Statistics I, II .....		4	4
	BRER-300 Retail Career Seminar.....	1		
	BRER-410 Retail Sales Promotion .....		4	
	ICSS-200 Survey of Computer Science .....	4		
	General Studies Electives .....	4	4	4
	Retail Electives .....	4		4
Physical Education Electives .....				
Third Year	BBUB-434 Operations Management .....	SR/F	W/S	SR
	BBUM-420 Consumer Behavior.....	4		
	BBUF-441 Financial Management .....		4	
	General Studies Electives.....	5	5	
	Retail/Business Electives .....	8	4	
Fourth Year	BBUB-407 Legal Environment of Business Activity.....	4		
	GLLC-402 Conference Techniques.....	4		
	BBUB-404 Administrative Policy.....			4
	BRER-425 Advanced Merchandising.....	4		
	Retail/Business Electives .....		8	8
	General Studies Electives-Upper Division .....	5	10	5

\*See p. 98 for General Studies requirements.  
 ‡See p. 37 for policy on Physical Education.

**Retailing Professional Electives**  
(Each carries 4 Quarter Credit Hours)

BRER-511 Textiles (Basic)  
BRER-521 Fashion (History)  
BRER-524 Fashion (Accessories)  
BRER-523 Fashion (Current)  
BRER-531 Interior Design (Basic)  
BRER-532 Interior Design I  
BRER-533 Interior Design II  
BRER-534 Interior Design  
(History)  
BRER-535 Interior Design  
(Advanced)  
BRER-545 Color and Design  
(Display)  
BRER-554 Seminar in Retailing

Additional electives may be chosen from the School of Business Administration or approved electives from other colleges of the Institute.

## Course descriptions

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

## The College of Continuing Education

adapts RIT to varying community needs

Harold Alford, Dean

Continuing education has always been a part of the philosophy of Rochester Institute of Technology. Since its inception, the Institute has been concerned with adult learners who wish to develop themselves personally or to enhance their occupational competencies.

For many people the College of Continuing Education (CCE) provides an alternative to full-time study inasmuch as personal commitments, work schedules or other obligations are accommodated through part-time study at night, on weekends or during the day. Working closely with the other eight colleges of the Institute, as well as with industry and the community, the College of Continuing Education develops convenient educational opportunities for continuing learners. Class hours and course offerings are scheduled to meet the specific needs of employers, employees and non-working people alike. As a result, many people have been able to attain educational goals not otherwise available.

The college aims to provide higher educational experiences for all who desire them. Under the CCE Open Admission Policy, students are free to take any course or to pursue any degree for which they have sufficient background. Academic advisors are available throughout the year to answer questions regarding course or program choices.

For students who choose to follow a specific program of study, a variety of options is available in fields as diverse as management and photography, machine tool and general education.

The college confers the diploma of the Institute in seventeen programs, as well as a certificate in management.

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





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

For graduate students the master of science degree is offered in applied and mathematical statistics.

In addition to credit courses, the college offers workshops, seminars, and short courses to meet specific needs of community groups,

professional organizations, agencies, industries, business and government. 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 CCE is the RIT Summer Session. Along with the opportunity for RIT students to continue work in chosen academic programs, RIT's unique summer 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.

There's much more to the College of Continuing Education. If you'd like information about courses, programs, Summer Session and special events, write or phone:  
Rochester Institute of Technology  
College of Continuing Education  
One Lomb Memorial Drive  
Rochester, New York 14623  
(716) 464-2234



# The College of Engineering program is strong in fundamentals, leads to later specialization

**Richard A. Kenyon, Dean**

## The College of Engineering program is strong in fundamentals

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 four five-year cooperative programs leading to the bachelor of science degree with majors in electrical, computer, industrial and mechanical 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 program in computer engineering, offered jointly by the Department of Electrical Engineering and the School of Computer Science and Technology, utilizes the facilities of both departments and the RIT computer facility.

## Course descriptions

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



Dean Richard A. Kenyon

## Never a greater need for engineers, says Dean Kenyon

"Perhaps never in the history of society, certainly not in the history of this country, has there been a greater need for people trained in the engineering professions—those who have engineering skill plus awareness and concern for larger social problems," says Dr. Richard A. Kenyon, dean of the College of Engineering.

"Never has there been a greater opportunity for engineers and other technically trained people to work with experts of all other disciplines on the solution of complex, multi-faceted, people-oriented problems.

"You may have heard or read about the 'difficulty' of obtaining engineering jobs during the early 70s. Although they may have experienced some greater difficulty than in previous years, engineering graduates were among the first to obtain jobs and in many cases were the only graduates for whom any significant number of openings were available.

"Indicative of the demand for new engineering talent is the continually increasing starting salary. For the 1976 graduate, the average starting salary was nearly \$14,000.

"The RIT College of Engineering is perhaps unique in New York State in that it provides integrated

cooperative work experience for all its students. The graduate of RIT's five-year engineering program has not only a bachelor of science degree and the academic training it connotes, but also more than a year of engineering work experience in a real world setting. RIT's engineering programs, like its other undergraduate programs, prepare the graduate to earn a living and to live a life.

"Besides being well-prepared for immediate careers in engineering, an increasing number of RIT alumni enter the top graduate schools in the country for advanced study leading to careers in such diverse areas as research, teaching, management, medicine, law and public service.

"Although RIT is a large and growing technical multiversity, its engineering school, with approximately 1000 students, is sufficiently small and close knit to maintain a very intimate student-teacher relationship.

"RIT's engineering faculty is widely recognized for its involvement in research and professional activity, but its fundamental role is undergraduate teaching.

"Perhaps RIT's combination of theory with practice offered in the setting of a 150-year-old school on a brand new campus is just the place you have been seeking to pursue the next step in your career path."

Admission: at a glance

#### College of Engineering programs

Four five-year cooperative programs leading to the BS degree are offered. The four majors are: electrical, computer, industrial and mechanical 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 Engineer's Council for Professional Development.

Electrical Engineering<sup>1</sup>-Students first develop proficiency in mathematics, science, and engineering fundamentals. Fundamental electrical studies include: electromagnetics, energy conversion, circuit theory, and electronics. Degrees granted: AAS-2 year; BS-5 year.

Computer Engineering<sup>1</sup>-This program, jointly sponsored by the Department of Electrical Engineering and the Department of Computer Science and Technology, offers a blend of computer science and electrical engineering which is designed to enable the graduates to intelligently incorporate computers within engineering design, or to begin design of computer processors or peripherals. Degree granted: BS-5 year.

Industrial Engineering<sup>1</sup>-Students learn design improvement and installation of integrated systems of men, materials, and equipment. Students also develop specialized knowledge in mathematics and physical science with methods of engineering analysis and design. Degrees granted: AAS-2 year; BS-5 year.

Mechanical Engineering<sup>1</sup>-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. Degrees granted: AAS-2 year; BS-5 year.

Electrical Engineering Transfer Adjustment Schedule-This is a specialized program that provides a clearly defined route to the bachelor of science degree 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

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).	2.5
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).	2.5
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).	2.5
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).	2.5
Electrical Engineering Transfer Adjustment Schedule			Electrical technology.	3.0

\*Four years of English is required in all subjects, except where state requirements differ.

<sup>1</sup>About 20 per cent of the program consists of electives in social sciences, literature, and humanities. A substantial number of professional and free electives are also available.

**Cooperative Education plan**

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

**The cooperative plan**

As described on page 22, 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 above illustrates the cooperative program as offered by the College of Engineering.

**Transfer programs**

The College of Engineering at RIT has for many years admitted graduates from two-year engineering science and technology 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, graduates of the two-year engineering science programs are able to enter the regular third year program in any of RIT's four engineering programs.

For those students who have completed programs in electrical or electronics technology with a high scholastic average, there is a three-year Transfer Adjustment Schedule leading to a bachelor of science degree in electrical engineering. Qualified graduates of mechanical technology programs desirous of earning a bachelor of science degree in mechanical engineering take an individualized transfer program that best suits their particular background and meets their career objectives. Two year 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 Applied Science.

Transfer students can normally expect to complete the BS program, including cooperative work experience, in a total elapsed time of five years beyond high school graduation.

**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 foundation for the applied sciences and engineering subjects which are scheduled later in the programs. All seniors are advised to take the advanced engineering test of the Graduate Record Examination and the Intern Examination for the Professional Engineering License prior to graduation.

**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. An increasing number 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 Engineers' Council for Professional Development. The college is a member institution of the American Society for Engineering Education.

**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.

For further information on graduate programs in the College of Engineering, request the Graduate Bulletin or contact the director of Graduate Programs, College of Engineering.

**Course descriptions**

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

## Diversity of training in Electrical Engineering Department

James E. Palmer, 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. Individual study plans may range from intense specialization to broad general coverage with ample opportunity for interdisciplinary activity in all cases. An integrated cooperative work/study program adds to this flexibility to produce a mature graduate with well-developed academic and industrial perspective.

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 ground work 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.

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.

### 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 37 for policy on physical education.



### Electrical Technology transfer program (TAS)

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 program for these students is available in our Transfer Adjustment Schedule (TAS) presented below. 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 TAS student. This 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 initial summer quarter, the TAS student follows a cooperative work/study 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.

Professional electives in Electrical Engineering	Quarter Credit Hours	
EEEE-532 Electrical Machines . . . . .	4	EEEE-670 Introduction to Microelectronics .. 4
EEEE-535 Introduction to Power Conditioning . . . . .	4	EEEE-671 Hybrid Microelectronics Design . . . . . 4
EEEE-536 Motor Application and Control . . . . .	4	EEEE-673 Applied Electronic Design . . . . . 4
EEEE-614 Control Synthesis . . . . .	4	EEEE-675 Analog/Hybrid Computation..... 4
EEEE-621 Transmission Propagation and Waves . . . . .	4	EEEE-679 Active and Passive Filters . . . . . 4
EEEE-645 Special Semiconductor Devices . . . . .	4	EEEE-687 Power Systems Analysis . . . . . 4
EEEE-650 Introduction to Logic and Switching..... 4		EEEE-693 Digital Data Communications . . . . . 4
EEEE-665 Digital Computer Workshop . . . . .	4	EEEE-695 Introduction to Audio Engineering..... 4
		EEEE-696 Communication Circuit Design..... 4

### BS degree in Electrical Engineering

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	EENG-201, 202 Introduction to Engineering I, II.....	4	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†	EEEE-351 Circuit Analysis I . . . . .			4
	EMEM-331, 332 Mechanics I, II . . . . .	4		4
	SMAM-305 Calculus IV.....	4		
	SMAM-306 Elementary Differential Equations.....		4	
	SMAM-308 Engineering Mathematics.....			4
	SPSG-207 General Physics III.....	4		
	SPSP-314, 315 Introduction to Modern Physics I, II.....		4	4
	General Studies-Lower Division.....	4	4	
	ICSP-220 Advanced Programming Techniques . . . . .		4	
Third Year	‡Physical Education Elective.....	0	0	0
	EEEE-352, 353 Circuit Analysis II, III.....	F/W		S/SR
	EEEE-430 Linear Systems.....	4		4
	EEEE-441, 442 Electronics I, II.....	4		4
	SMAM-351 Probability and Statistics.....			4
	SMAM-420 Complex Variables.....	4		
Fourth Year	General Studies-Lower Division.....	4		
	EEEE-531 Energy Conversion.....	4		
	EEEE-471, 472 Electric and Magnetic Fields I, II.....	4		4
	EMEM-431 Thermodynamics . . . . .			4
	EEEE-643 Electronics III.....	4		
	EEEE-634 Intro, to Communication Systems.....	4		
Fifth Year	EEEE-613 Intro, to Classical Controls.....			4
	General Studies-Upper Division.....			5
	Professional Elective.....	4		4
	Professional Elective.....	4		4
	Free Elective.....	3-5		3-5
	General Studies-Upper Division.....	5		5

\*See p. 98 for General Studies requirements.

‡See p. 37 for policy on Physical Education.

†Upon successful completion of the second year, the associate in applied science degree is awarded.



**BS degree in Electrical Engineering  
Transfer Adjustment Schedule (TAS)**

Year		Quarter Credit Hours		
		Winter	Spring	Summer
A representative summer program				
Summer prior to third year	EEEE-351 Circuit Analysis I.....			4
	SMAM-305 Calculus IV.....			4
	*General Studies.....			4
	ICSP-220 Advanced Programming Techniques.....			4
Third Year	EEEE-352, 353 Circuit Analysis II, III .....	4		4
	EEEE-441, 442 Electronics I, II .....	4		4
	EMEM-331, 332 Mechanics I, II.....	4		4
	SMAM-306 Differential Equations .....	4		
	SMAM-308 Engineering Mathematics.....			4
Fourth Year	EEEE-430 Linear Systems.....			4
	EEEE-531 Energy Conversion.....	4		
	EEEE-471, 472 Electric & Magnetic Fields I, II.....	4		4
	SMAM-351 Probability & Statistics.....			4
	SMAM-420 Complex Variables.....	4		
Fifth Year	General Studies.....	4		5
	EMEM-431 Thermodynamics .....		4	
	SPSP-314 Modern Physics.....	4		
	Professional Elective .....	4	4	
	Professional Elective .....	4	4	
	General Studies.....	5	5	

*All TAS students will be required to take a minimum of 115 quarter credit hours at RIT, minus applicable transfer credits*  
*TAS Students have Co-op during Fall and Spring Quarters*  
*\*See p. 98 for General Studies requirements.*  
*See p. 37 for policy on Physical Education.*

Computer Engineering

Roy S. Czernikowski, Program Coordinator

The computer engineering program is jointly offered by the Department of Electrical Engineering and the School of Computer Science and Technology. The program is designed to prepare the graduate to participate in each of the two areas normally associated with hardware aspects of computer engineering.

A study of the circuits and devices used in large scale digital systems and a grounding in the mathematical theories of their description permit the graduate to engage in the design and construction of these systems.

In addition, a comprehensive background in electrical engineering subjects, advanced programming techniques, and real-time computation techniques allows the graduate to work in the expanding area of the applications of digital computers, especially minicomputers and microprocessors, to the control of engineering systems.

The cooperative work/study program of the final three years enables the student to apply the principles and techniques of computer engineering to real industrial problems and thus complete the preparation for a challenging career in this expanding field.

Industrial Engineering Department: concerned with things and people in society

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 sciences, together with the principles and methods of engineering analysis and design.

The industrial engineering curriculum covers the principal concepts of human performance, quantitative methods, management systems, and manufacturing processes. The curriculum emphasizes balance rather than specialization.

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 current 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

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
	SCHG-208, 209 General Chemistry for Engineers I, II.....	4		4
	SPSP-205, 206 General Physics I, II.....		4	4
	EENG-202 Introduction to Engineering II (EE).....		4	
	*General Studies, Lower Division.....	4	4	
	ICSS-202 Introduction to Computer Science.....	4		
	ICSP-215 Programming Language-FORTRAN.....			4
	‡Physical Education Elective.....	0	0	0
Second Year	SMAM-305 Calculus IV.....	4		
	SMAM-306 Differential Equations.....		4	
	ICSS-430 Numerical Methods.....			4
	SPSP-207 General Physics III.....	4		
	SPSP-314 Modern Physics I.....		4	
	EEEE-351 Circuit Analysis I.....			4
	EMEM-331, 332 Mechanics I, II.....	4		4
	ICSP-305 Assembly Language.....		4	4
Third Year	*General Studies, Lower Division.....	4	4	4
	‡Physical Education Elective.....	0	0	0
	EEEE-441, 442 Electronics I, II.....	F/W		S/SR
	EEEE-352, 353 Circuits Analysis II, III.....	4		4
	ICSS-320 Data Structure Analysis.....	4		
	**General Studies, Lower Division.....	4		
	SMAM 351 Probability & Statistics .....			4
	EEEE-430 Linear Systems.....			4
Fourth Year	EEEE-643 Electronics III.....	4		
	EEEE-471 Electric & Magnetic Fields I.....	4		
	EEEE-613 Introduction to Classical Controls.....			4
	EEEE-531 Energy Conversion.....	4		
	EEEE-650 Introduction to Logic and Switching.....			4
	ICSS 620 Computer Architecture.....	4		
	ICSS-440 Operating Systems.....			4
	*General Studies, Upper Division.....			5
Fifth Year	*General Studies, Upper Division.....	5		5
	ICSS-545 Microprogramming .....	4		
	Math/Science Elective.....	4		4
	Professional Elective.....			4
	Restricted Elective (**). .....	4		
	EEEE-693 Digital Data Communications.....			4

\*See p. 98 for General Studies requirements.  
‡See p. 37 for policy on Physical Education.  
(\*\*)Either ICSS-655 Real Time Computation or EEEE-675 Analog/Hybrid Computation.

2. Manufacturing industries
- a. product lffe studies
  - b. layout of new and existing work areas
  - 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 programing related 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

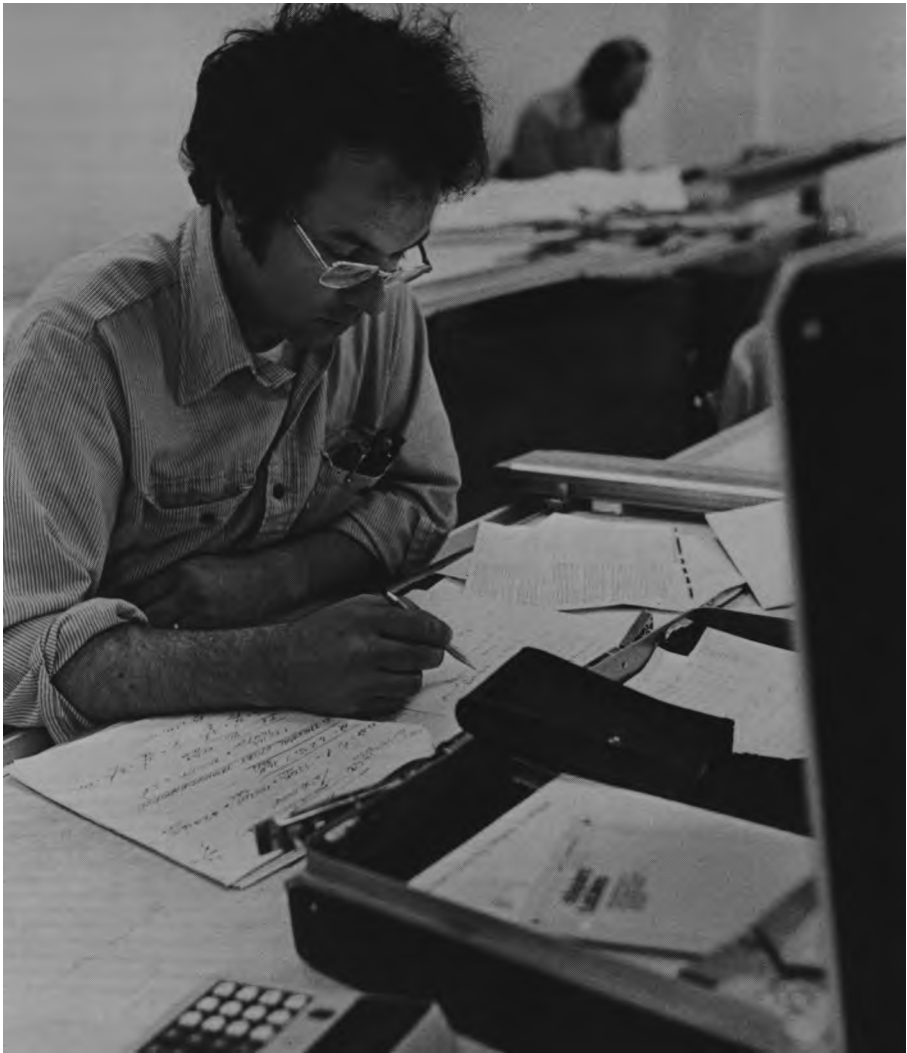
The previous cooperative assignments are spread over a wide range of companies. Industrial engineering students currently Co-op with such companies as Rochester General Hospital, Eastman Kodak, Canandaigua Wine, Addison Tool, General Motors, Sylvania, Airborne Instruments, Xerox, Bethlehem Steel, Sybron, Gleason, Burroughs, Hospital Association of New York State, Anaconda, and many others.

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.



BS degree in Industrial Engineering

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	EENG-201, 202 Introduction to Engineering I, II.....	4	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 Generai 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	
Third Year	General Studies-Lower Division.....	4	4	4
	Physical Education Elective.....	0	0	0
	EIEI-420 Work Measurement & Analysis I.....	F/W 4	S/SR	
	EIEI-520 Engineering Economy.....	4		
	EIEI-481 Management Theory & Practice.....	4		
	SMAM-351, 352, Introduction to Probability & Statistics.....	4	4	
Fourth Year	EI EI -415 Human Factors I.....		4	
	EIEI-401 Introduction to Operations Research I.....		4	
	EIEI-422 Systems & Facilities Planning.....		4	
	EIEI-510, 511 Applied Statistics I, II.....	4	4	
	EIEI-402 Introduction to Operations Research II.....	4		
	EIEI-503 Simulation.....		4	
Fifth Year	EIEI-516 Human Factors II.....	4		
	**Professional Electives.....	4	4	
	General Studies-Upper Division.....		5	
	**Professional Electives.....	8	8	
	General Studies-Upper Division.....	5	5	
	Free Elective.....	4	4	

*\*Upon successful completion of the second year, the associate in applied science degree is awarded.  
\*\*At least one professional elective must be selected from the following courses: EMEM-431 Thermo-  
dynamics; EMEM-415 Fluid Mechanics I; EEEE-461, 462 Electrical Engineering 1,11.*





## Mechanical Engineering provides comprehensive training in a spectrum of professional activity

**Robert M. Desmond, 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 machine tools. 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 technologist—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 discipline.

In the fourth and fifth years, the mechanical engineering student selects one of two options for intensive study. These areas of concentration are in the two traditional branches of mechanical engineering; namely, applied mechanics and thermal fluid science. Both options offer a core of three courses and a number of additional electives.

Students may use a total of four professional and free electives to extend their educational experience in their options. They may also use courses from other option and graduate level as professional and free electives. Such flexibility permits each individual to prepare for employment or graduate school in his or her specific area of interest.

### Transfer programs

An increasing number of students choose to pursue their studies leading to the bachelor of science degree in mechanical engineering by first completing the two-year associate in applied science program at a community college or technical college, often within commuting distance of their homes. Many will anticipate transfer to an engineering college and will pursue the engineering science program which represents the equivalent of the first two years in the average four-year engineering program. Others, for various reasons, will elect to follow a mechanical technology program for the first two years.

The Mechanical Engineering Department at RIT has a long-standing tradition of admitting graduates from these two-year programs and very quickly integrating them into the BS program in engineering. 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 AAS 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 achievement should seriously consider transfer to a BS program in mechanical engineering as one alternative for continuing formal education. Because the basic philosophy underlying the technology programs and the engineering programs is 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 applicant is given a 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.

### Combined five-year BS/MS degree program

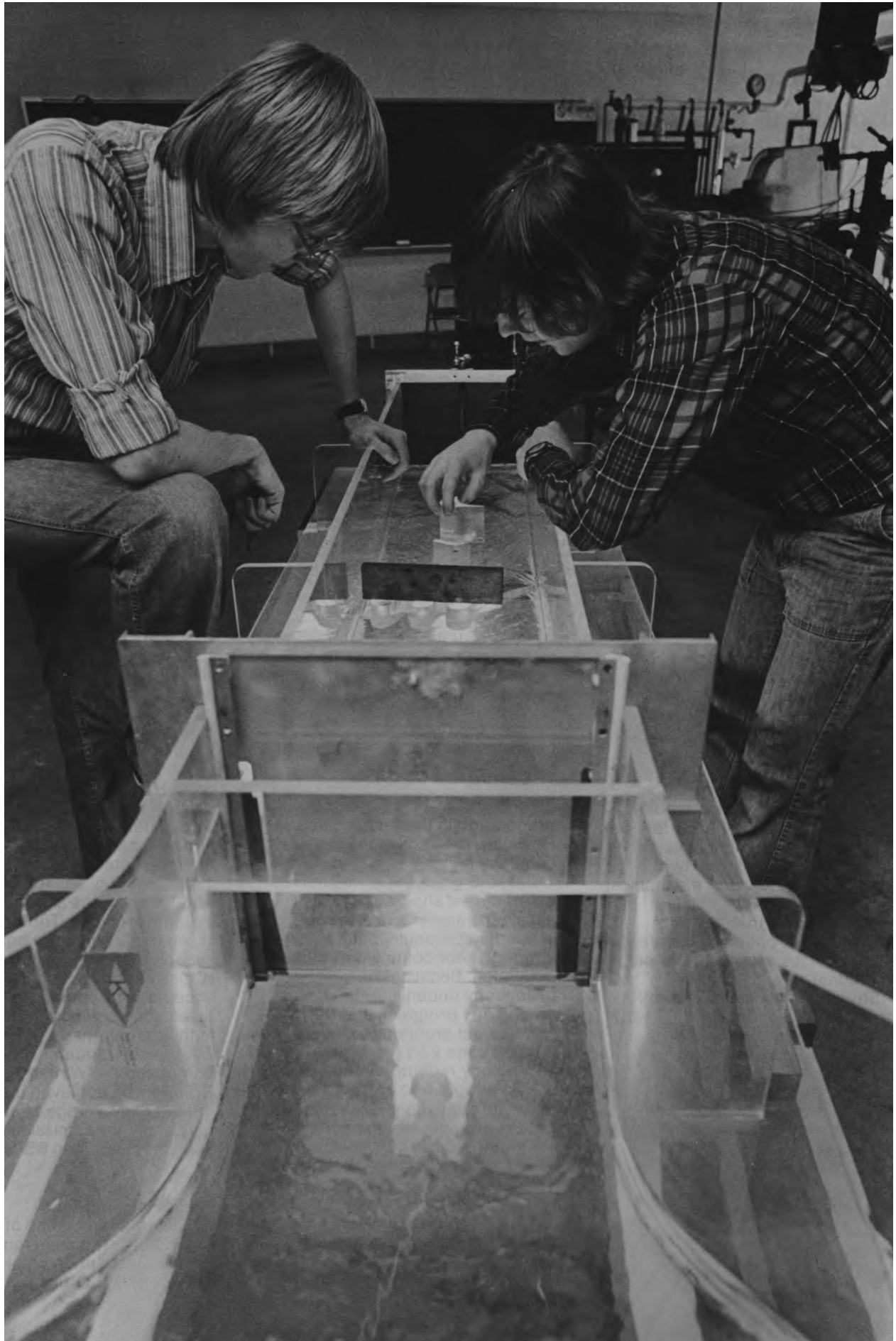
In addition to the bachelor of science and master of science degree programs described under the section entitled "College of Engineering," a combined BS/MS degree program is also available for the mechanical engineering student. Admission into the program is based on the student's cumulative grade point average, which must be at least 3.0, letters of recommendation from the faculty, and a personal interview by a departmental committee. Application for admission into the program is normally made in the Winter Quarter of the second year. However, in exceptional cases, admission may be possible as late as the Spring Quarter of the third year. Students who are admitted into the program in their second year are expected to start their cooperative work experience in the summer quarter of that year. 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.

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.

A transfer student who has completed the Winter Quarter at RIT and who 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 descriptions

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



Mechanical Engineering options  
(4 Credits each)

Option A: Applied Mechanics

- Required Courses
- EMEM-632 Advanced Mechanical Systems Design
  - EMEM-672 Selected Machine Elements
  - EMEM-694 Stress Analysis

- Electives:
- EMEM-664 Engineering Acoustics and Noise Control
  - EMEM-670 Thermal Stresses
  - EMEM-676 Kinematic Analysis of Mechanisms
  - EMEM-679 Dynamics of Physical Systems II
  - EMEM-685 Advanced Strength of Materials
  - EMEM-689 Patent Law and Protection
  - Selected Graduate Level Courses

Option B: Thermal Fluid Science

- Required Courses:
- EMEM-635 Industrial Heat Transfer
  - EMEM-652 Fluid Mechanics of Turbomachinery
  - EMEM-660 Refrigeration and Air Conditioning

- Electives:
- EMEM-601 Alternate Energy Sources
  - EMEM-650 Gas Dynamics
  - EMEM-651 Viscous Flow
  - EMEM-667 Introduction to Air Pollution
  - EMEM-669 Introduction to Water Pollution
  - EMEM-677 Modern Energy Conversion
  - EMEM-680 Advanced Thermodynamics
  - EMEM-690 Environment and the Engineer
  - EMEM-695 Solid Waste Management
  - EMEM-696 Nuclear Power
  - Selected Graduate Level Courses

BS degree in Mechanical Engineering

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	SMAM-251, 252, 253 Calculus .....	4	4	4
	SCHG-208, 209 General Chemistry for Engineers.....	4		4
	EENG-201, 202 Introduction to Engineering I, II.....	4	4	
	SPSG-205, 206 General Physics.....		4	4
	*General Studies-Lower Division.....	4	4	4
	‡Physical Education Elective.....	0	0	0
Second Year†	EMEM-336 Statics.....	4		
	EMEM-337, 338 Strength of Materials I, II.....		4	4
	General Studies-Lower Division.....	4		4
	SPSG-207 General Physics III.....	4		
	SMAM-305 Calculus .....	4		
	SPSP-314 Modern Physics.....		4	
	EMEM-343 Materials Processing.....		4	
	SMAM-306 Differential Equations.....		4	
	EMEM-344 Materials Science.....			4
	SMAM-308 Engineering Mathematics.....			4
Third Year	‡Physical Education Elective.....	0	0	0
	EMEM-413, 414 Thermodynamics I, II.....	F/W		S/SR
	EEEE-461, 462 Electrical Eng. I, II .....	4		4
	EMEM-437 Introduction to Machine Design .....	4		4
	EMEM-415 Fluid Mechanics I .....			4
	EMEM-439 Dynamics .....			4
	General Studies—Lower Division.....	4		
Fourth Year	EMEM-501 Mechanical Engineering Lab I .....	4		
	EMEM-514 Heat Transfer.....	4		
	EMEM-543 Mechanical Vibrations¹ .....	4		
	EMEM-516 Fluid Mechanics II.....			4
	EMEM-544 Dynamics of Physical Systems I.....			4
	General Studies—Upper Division .....	5		5
	Mechanical Engineering Option A or B.....			4
Fifth Year	Professional Electives.....	F/W		S
	General Studies-Upper Division.....	4		4
	Mechanical Engineering Option A or B.....	4		4
	Free Elective.....	4		4
	EMEM-502 Mechanical Engineering Lab II.....	4		

See p. 98 for General Studies requirements.  
†Upon successful completion of the second year, the associate in applied science degree is awarded.  
\*Successful completion of this course is required to enter Option A.  
‡See p. 37 for policy on Physical Education.

# Competence is basis for creativity in the 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 communication design, environmental 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 Rochester Society for the Communicating Arts maintains a close relationship with the school, sponsoring a yearly student project. Professional designers, 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 and craftspeople. They have been broadly educated in Europe and the United States, and are well acquainted with contemporary practice in their art 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 the 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.

## 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 ten 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 in teaching 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. Among the programs offered for the master of science in teaching 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.

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 Admission Office.

## **“We have a heck of a faculty here,” says Dean Johnston**

One of only four Ph.D. paleo-ceramists in the world, Dr. Robert Johnston, dean of the College of Fine and Applied Arts, thinks remaining active and visible in your professional area is a valuable asset as an educator.

“The faculty in this college are involved in their own work as well as in teaching,” he comments. “All have gained regional recognition and some have achieved international reputations,” he notes. He starts mentioning the names one by one, people like furniture design professor William Keyser whose work traveled throughout the U.S. in the Johnson & Johnson “Objects

U.S.A.” show; James Thomas whose sculpture was exhibited recently in two Paris shows; Hans Christensen whose silver pieces are owned by three European royal families; and Toby Thompson who designs for international industrial fairs.

“We have a heck of a faculty here,” Johnston says. “They could be taken anywhere in the world and you’d have a superb school.”

As a paleo-ceramist, Dr. Johnston stays active in his own field. After a day at the college he typically spends four hours a night in his lab at home. Paleo-ceramists use scientific and technical procedures to date and analyze ceramic and glass pieces taken from archeological “digs.”

Through 1985, Dr. Johnston will be working summers as the ceramic expert on excavations of Old Carthage in Tunisia and in Jordan.

“At the Jordan site we are excavating the ‘five cities of the plain,’ one of which could be the Biblical Sodom,” he says.

Dean Johnston made porcelain objects in his spare hours until a year ago and is now learning to play the banjo using a method called “trailing” developed by Appalachian mountain people.

“I think I’ll play at our gallery shows and save the college money,” he jokes.

Johnston believes there is something uniquely advantageous for art students studying in the midst of an institute of technology.

“The beauty of this location is that the artist and the technically-oriented student are brought into close contact,” he says. Interaction of students with business and the community-at-large is another factor that he thinks makes the RIT education different.

The college’s design students, for instance, have worked with several Rochester corporations and social agencies on projects. A student-designed system to place informational kiosks in downtown Rochester is currently being implemented by the city.

“Our students aren’t surprised by the pressures on the outside once they graduate because they’ve worked with those pressures while they’re here,” he explains.

Students in the college’s School for American Craftsmen have their own mode of education. Their program combines an apprenticeship in one of five craft studios with a college academic program. Although Johnston describes the college as “totally committed to employable skills,” a fine arts component attracts students who want to major in printmaking, painting, or medical illustration.

“A high appreciation and concern for mankind should be reflected in all of the arts,” comments Johnston in evaluating the philosophic link among the college’s programs.



Dr. Robert Johnston



**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 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 development 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.

**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.

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 and craftsmen. Students learn by working in studios equipped with excellent facilities. Most graduates earn their living utilizing their RIT background.

**Communication Design**—Prepares students to convey and interchange thoughts, concepts, options, and information. Career fields include applied art, designing for industry, art agencies, government, social, or non-profit organizations. Graduates can serve as creative members of problem solving teams. Degrees granted: AAS-2 year; BFA-4 year.



**Fine Arts**-Students may concentrate in printmaking, painting or medical illustration and take other art electives. They prepare as professional artists and have exploratory potential for late careers in teaching. Degrees granted: AAS-2 year; BFA-4 year.

**Environmental Design**-Prepares students to design effectively for social, industrial and environmental conditions. Interior and exterior space, and product design are relevant to the designer. Concern is given to future forecasting and emphasizes the humanistic and larger environments. 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, 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, forming, planishing, enameling, design of jewelry, flatware, holloware. Degrees granted: AAS-2 year; BFA-4 year.

**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, power 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.

Freshman Admission Requirements			Transfer Admission with junior standing	
Program <sup>1</sup>	Required High School Subjects*	Desirable Elective Subjects	Two-Year College Programs	Desirable minimum grade-point average
Communication 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
Fine Arts	1 year any mathematics; 1 year any science; 2 years science for medical illustration	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
Environmental 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 work required	Transfer as a junior is uncommon, as comparable programs are not generally available at other colleges. Space in these programs at RIT is very limited.	
Glass	1 year any mathematics; 1 year any science	Art or industrial courses; portfolio of original work required	Transfer as a junior is uncommon as comparable programs are not generally available at other colleges.	
Metalcrafts and Jewelry	1 year any mathematics; 1 year any science	Art or industrial courses; portfolio of original work required	Transfer as a junior is uncommon as comparable programs are not generally available at other colleges. Space in these programs at RIT is very limited.	
Weaving and Textile Design	1 year any mathematics; 1 year any science	Art or industrial courses; portfolio of original work required	Transfer as a junior is uncommon, as comparable programs are not generally available at other colleges. Space in these programs at RIT is very limited.	
Woodworking and Furniture Design	1 year any mathematics; 1 year any science	Art or industrial courses; portfolio of original work required	Transfer as a junior is uncommon, as comparable programs are not generally available at other colleges. Space in these programs at RIT is very limited.	

<sup>1</sup>About one-third of the courses in each program consist of electives in social science, literature and humanities.  
<sup>\*</sup>Four years of English is required in all programs (except where state requirements differ).  
<sup>‡</sup>Data is for the 5th, 50th, 95th percentile of a recent class of freshmen.  
Those with lower scores or rank were admitted because of other indications of success.



In the College of Fine and Applied Arts the schools use their facilities to broaden and deepen the art interests of the students. Seminars, lectures, exhibitions, and motion pictures draw the students in the colleges together by providing stimulating experiences that serve to indicate that the arts have a common character as well as a divergence of aim and service. Purely social activities, as well as educational ones, also serve to unify the interests of the students.

#### **Transfer program**

The College of Fine and Applied Arts offers a summer transfer program for art majors. Successful completion of this program qualifies students for second year standing in the following options: communication design, environmental 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 of 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.

#### **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 not 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 instructors. Failure to attend classes, and to complete assignments, will be taken into consideration in grading.





**Philip Bornarth**, Chairperson, Fine Arts

**Craig McArt**, Chairperson,  
Environmental 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 and environmental design.

## Programs

agriculture, government, education, and religion. This designer utilizes typography, symbols or photography to create images for a client. The program in environmental design prepares students to design effectively for the social, industrial and environmental condition. The curriculum concerns itself with the preparation for future forecasting, with an emphasis upon the humanistic and larger environment. Interior and exterior space designed to serve people and product design is studied.

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.

**Communication Design, Fine Arts, Environmental Design majors**

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	FADF-230, 231, 232 Two-Dimensional Design.....	3	3	3
	FADF-240, 241, 242 Three-Dimensional Design .....	3	3	3
	FADF-205, 206, 207 Creative Sources.....	2	2	2
	FADF-210, 211, 212 Drawing.....	4	4	4
	*GeneralStudies-LowerDivision .....	4	4	4
	‡Physical Education Elective .....	0	0	0
Second Year †	FSCF-225, 226, 227 Art and Civilization .....	3	3	3
	*General Studies-Lower Division .....	4	4	4
	‡Physical Education Elective .....	0	0	0
	□□□□□□□□□□ (must have three studios each quarter-one which must be the core in which you are going to major .....	9	9	9
	***FADC-301, 302, 303 Communication Design.....			
	***FADE-301, 302, 303 Environmental Design .....			
Third Year	***FADP-301, 302, 303 Advanced Drawing.....			
	FSCF-325, 326 American Art.....	3	3	
	FSCF-327 Contemporary Tendencies in Art .....			3
	*General Studies—Upper Division .....	5	5	5
	□□□□□□□□□□ .....			
	FADR-401, 402, 403 Printmaking .....	6	6	6
	FADC-401, 402, 403 Communication Design.....			
	FADP-401, 402, 403 Drawing and Painting .....			
Fourth Year	FADE-401, 402, 403 Environmental Design .....			
	□□□□□□□□□□□□□□□□ .....	3	3	3
	*General Studies—Upper Division .....	5	5	5
	□□□□□□□□□□ .....			
	FADR-501, 502, 503 .....	9	9	9
	FADC-501, 502, 503 Communication Design.....			
	FADP-501, 502, 503 Drawing and Painting.....			
	FADE-501, 502, 503 Environmental Design .....			
	□□□□□□□□□□□□□□□□ .....	3	3	3
	Electives - (3 credits per quarter)			
	FADS-411, 412, 413 Sculpture .....			
	FADE-320 Graphic Visualization.....			
	FADE-411, 412, 413 Design Applications.....			
	PPRT-201, 202, 203 Typographic Composition.....			
	PPHG-207, 208, 209 Still Photography.....			
	PPHF-207, 208 Introduction to Filmmaking .....			
	PPHF-209 Introduction to TV .....			
	FADR-411, 412, 413 Printmaking .....			
	FADP-411, 412, 413 Drawing and Painting.....			
	FADC-411, 412, 413 Communication Design.....			
	FADE-411, 412, 413 Design Applications.....			
	FSCC-251, 152, 253 Ceramics I .....			
	FSCM-251, 252, 253 Metalcrafts I .....			
	FSCT-251, 252, 253 Textiles I .....			
	FSCW-251, 252, 253 Woodworking I .....			
	FSCG-251, 252, 253 Glass.....			
	FADR-511, 512, 513 Printmaking .....			
	FADP-511, 512, 513 Painting.....			
FADC-511, 512, 513 Communication Design.....				
FADE-511, 512, 513 Design Applications.....				

*\*\*\*Core Electives—Introductory courses that are prerequisite to the respective third year major: FADC-301, 302, 303, required for entrance into Communication Design major; FADE-301, 302, 303 for Environmental Design major; FADP-301, 302, 303, for Printing and Painting major. However, all three Core Electives are available as elective choices.*





**Medical Illustration option**

(CFAA portfolio and additional 6 drawings of natural forms required for admission.)

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	FADF-230, 231, 232 Two-Dimensional Design.....	3	3	3
	FADF-240, 241, 242 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-Lower Division.....	4	4	4
	‡Physical Education Elective.....	0	0	0
Second Year†	FSCF-225, 226, 227 Art and Civilization.....	3	3	3
	*General Studies-Lower Division.....	4	4	4
	‡Physical Education Elective.....	0	0	0
	***FADP-301, 302 Advanced Drawing.....	3	3	
	***FADP-313 Medical Illustration.....			3
	SBIG-201, 202, 203 General Biology.....	4	4	4
	****Photography (A&D) for three quarters: PPHG-207 Still Photography.....	3		
	PPHF-207 Introduction to Filmmaking.....		3	
Third Year	PPHF-209 Introduction to TV.....			3
	*General Studies-Upper Division.....	5	5	5
	FADP-421, 422, 423 Medical Illustration Applications.....	5	8	8
	Gross Anatomy (U of R)t .....	7		
Fourth Year	**Art Elective.....		3	3
	*General Studies-Upper Division.....	5	5	5
	FADP-531, 532, 533 Advanced Medical Illustration.....	6	6	6
	Select One: FADE-511,512, 513 Design Applications.....	3	3	3
	FADC-511, 512, 513 Communication Design.....	3	3	3
	**Art Elective.....	3	3	3

\*See p. 98 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.

**Course descriptions**

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

## The School for American Craftsmen: one-of- a-kind education in the crafts

**Dr. Robert Johnston**, Director

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,



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 degree is awarded.

### **Course descriptions**

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



Crafts Majors

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	FADF-201, 202, 203 Design.....	4	4	4
	FADF-205, 206, 207 Creative Sources .....	2	2	2
	FADF-261, 262, 263 Drawing.....	2	2	2
	##FSCW-241, 242, 243 Mechanical Drawing .....	1	1	1
	*General Studies Electives—Lower Division .....	4	4	4
	Materials and Processes (one)			
	FSCC-200 Ceramics .....			
	FSCG-200 Glass.....			
	FSCM-200 Metalcrafts .....	5	5	5
	FSCT-200 Textiles.....			
Second Year †	FSCW-200 Woodworking.....			
	‡Physical Education Elective .....	0	0	0
	FSCF-225, 226, 227 Art and Civilization .....	3	3	3
	*General Studies Electives—Lower Division .....	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.....			
Third Year	ELECTIVES (ONE).....	3	3	3
	‡Physical Education Elective .....	0	0	0
	FSCF-325, 326 American Art.....	3	3	
	FSCF-327 Contemporary Tendencies in Art .....			3
	*General Studies Electives—Upper Division .....	5	5	5
	Materials and Processes (one)			
	FSCC-400 Ceramics.....			
	FSCG-400 Glass.....			
	FSCM-400 Metalcrafts .....	5	5	5
	FSCT-400 Textiles.....			
Fourth Year	FSCW-400 Woodworking.....			
	**ELECTIVES (ONE)	3	3	3
	*General Studies Electives—Upper.....	5	5	5
	Techniques and Thesis (one)			
	FSCC-500 Ceramics .....			
	FSCG-500 Glass.....			
	FSCM-500 Metalcrafts .....	8	8	8
	FSCT-500 Textiles.....			
	FSCW-500 Woodworking.....			
	**ELECTIVES (ONE).....	3	3	3
	Electives - (3 credits per quarter)			
	FADE-411, 412, 413 Design Applications.....			
	FADP-411, 412, 413 Printmaking .....			
	FADC-411, 412, 413 Communication Design.....			
	FADP-411, 412, 413 Drawing and Painting.....			
	FADS-251 Sculpture.....			
	FSCC-251, 252, 253 Ceramics .....			
	FSCM-251, 252, 253 Metalcrafts .....			
	FSCT 251, 252, 253 Textiles .....			
	FSCW-251, 252, 253 Woodworking.....			
	FSCG-251, 252, 253 Glass.....			
	PPHG-207, 208, 209 Still Photography.....			
	FADR-511, 512, 513 Printmaking .....			
	FADP-511, 512, 513 Drawing and Painting.....			
	FADC-511, 512, 513 Communication Design.....			
	FADE-511, 512, 513 Design Applications.....			

##Woodworking and Furniture Design only.  
†Upon satisfactory completion of the second year, the associate in applied science degree is granted.  
\*See p. 98 for General Studies requirements. ‡See p. 37 for policy on Physical Education.  
\*\*Additional intercollege studio courses are available by recommendation of the academic advisor and assistant dean. Electives are registered on a space available basis and subject to change without prior notice. Consult the advisor when planning programs.  
Craft students elect in a studio other than their major concentration.

## College of General Studies helps students with the human side of a career

Mary Sullivan, Dean

It is an Institute conviction that the graduate who is technically trained only is only partly trained.

Professionally, an engineer, business manager or computer scientist will not go far if unable to relate his or her professional training to the wider context of other human interests.

Socially, the professionally trained person must be sensitive to the effect of what he or she does in a professional capacity upon society.

Personally, an awareness of what there is in life to know and reflect upon beyond the requirements of a professional career is essential to an intellectually alive and healthy life.

Through its courses in English literature, the social sciences, natural sciences, fine arts, history and philosophy the College of General Studies endeavors to stimulate the thinking and the imagination of the RIT student.

The Institute is committed to a complete education so that the graduate will be equipped as far as possible to deal with life as a whole person.

Included in the college are degree programs in criminal justice and social work, which are described on the following pages. The close involvement of these programs 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 inter-relation of one subject with another.

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.



Admission: at a glance  
College of General Studies programs

Two programs leading to the BS degree are offered. They are criminal justice and social work.

Also, the college offers a wide variety of liberal arts electives for students enrolled in other RIT programs. The purpose is to help students develop an awareness of the humanistic world in which they live. Students, therefore, can complement their technological knowledge with courses in language, literature, social science, science, and humanities.

**Social Work**—Encourages students to respond to major social issues of today-an opportunity to professionally represent the needs of individuals and communities in our urbanized society. A full-time, 20-week field experience in a social work agency provides the student with an opportunity to relate academic learning to relevant individual, group, family, and community problems. Degree granted: BS-4 year.

**Criminal Justice**—The program is designed to prepare students for responsible positions in criminal justice and 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 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	Elem. Algebra; Inter. Algebra; 1 year any science	Social sciences; humanities	Blanket credit for the first two years offered for an AA or AAS degree.	□ □ □
Criminal Justice	Elem. Algebra; Inter. Algebra; 1 year any science	Social sciences; humanities.	Blanket credit for the first two years is offered for an AA or an AAS degree in appropriate major (police science, criminology). Holders of liberal arts or other two year degrees will be granted credit for first two years, except for required professional courses.	□ □ □

\*Four years of English is required in all programs, except where state requirements differ.





### Plan of education

The courses of the College of General Studies are available to students registered in one of the colleges of the Institute\* The basic curriculum of the college requires the student to take 24 quarter credit hours of lower division core courses followed by 30 quarter credit hours of upper division electives. Because of particular needs or requirements, some exceptions to this basic curriculum may be found. The program outlines of each school or department list the general studies requirements by year of study.

During the first two years the student will take four-credit hour courses which will involve him or her in basic studies in language, literature, history, the behavioral sciences, and critical approaches to art or science.

During the final two years the student will have the opportunity to deepen his or her knowledge in areas of particular interest. The student will elect six five-credit hour courses from a broad range of possibilities in three discipline areas-Language and Literature, Science and Humanities, and Social Science.

It should be noted that all lower division courses carry four quarter hours of credit and all upper division courses carry five quarter hours of credit. Further, all courses in the lower division and upper division meet three scheduled class hours each week. The discrepancy between credit hours and class hours is offset by carefully planned and extensive out-of-class assignments and projects. The purpose of this plan is to provide the student with opportunities for extended responsibility beyond those normally found in a regular class situation.

The College of General Studies will accept special students who are not currently degree candidates. Individual programs will be developed for each student.

Diploma courses will not normally be counted toward the completion of a degree in social work or criminal justice, and cannot normally be used toward the completion of general studies requirements.

### Curriculum

Language and Literature Area	Social Science Area	Science and Humanities Area
Disciplines: Language (prefix GLLC) Literature (prefix GLLL)	Disciplines: Anthropology (prefix GSSA) Economics (prefix GSSE) Political Science (prefix GSSM) Psychology (prefix GSSP) Sociology (prefix GSSS)	Disciplines: Fine Arts (prefix GSHF) History (prefix GSHH) Natural Science (prefix GSHN) Philosophy (prefix GSHP)

#### Lower division requirement

Students must have two courses from each of the above areas: Language and Literature, Social Science, Science and Humanities.

Students may not repeat a discipline within an area-even though the courses in a particular discipline are quite different, only one course in, for instance, psychology may be taken to meet lower division requirements.

Each quarter, students should contact their advisor for the choice of electives, which may be restricted to a given area: Language and Literature, Social Science, Science and Humanities.

#### Upper division requirement

Students may select any six courses at the upper division level.

#### 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 continuing growth in their scholarly fields and provision for rich and meaningful learning experiences for the student.

#### Resources

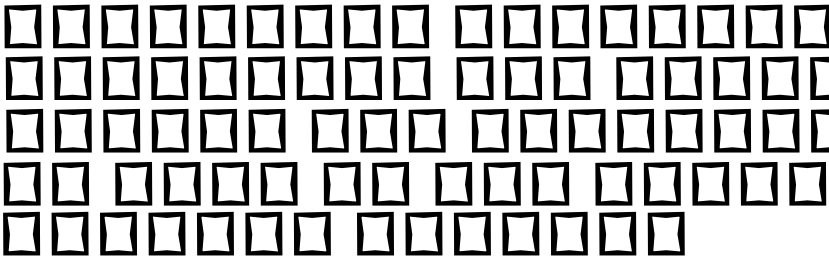
The college is fortunate in having a wide variety of resources both within the Institute and in the community. At RIT the Bevier Gallery, Wallace Memorial Library, and an extensive record collection are supplemented by audiovisual material and visiting discussion leaders.

Community resources include the Rochester Public Library, and the libraries of several local companies. The RIT library will arrange interlibrary loans with state or company libraries upon request. Advantage is also taken of such other resources as the George Eastman House of Photography, the Rochester Museum of Arts and Sciences, the Memorial Art Gallery, Kilbourn Hall, and the Eastman Theatre.

#### 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 catalog from the Admission Office.

\*Degree programs in social work and criminal justice are available to students through the College of General Studies, and are described on later pages of this section.



**John O. Ballard, Director**

The ultimate goal of the criminal justice program at RIT is to prepare students for professional careers within the criminal justice system, as well as provide continuing education for professionals currently employed by criminal justice agencies.

The President's Commission on Law Enforcement and the Administration of Justice in 1967 strongly indicated the need for additional qualified personnel in the areas of police, courts and corrections, and urged the academic community to begin to fulfill this need. RIT, with a long tradition of service to the community, took the initiative to create a curriculum oriented towards this objective. Curricula in all areas of endeavor at RIT are designed to prepare graduates to adapt to change and to work for the betterment of society. Innovative programs, with an orientation towards career development, have long characterized the history of RIT.

The curriculum is designed to provide the opportunity for required as well as for elective professional courses. At the same time, the opportunity is provided for the student to select liberal education courses from among the regular general studies curricular offerings in the social sciences, sciences and humanities, and languages and literature.

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. It should be emphasized that in both the professional courses and the general education courses, students will be able to develop their own 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.

#### Field experience

In keeping with the long standing tradition of RIT, field experience provides criminal justice students the opportunity to witness and participate in the concrete situations of an ongoing criminal justice agency. As an integral part of the criminal justice curriculum, field experience was designed to allow students to experience, in an

on-the-job setting, the realities of working within the criminal justice system. Students, during their junior year at RIT, spend 20 weeks working in the respective agencies of the criminal justice system.

The objectives of field experience are concerned with providing the student with an educational and practical work experience in the criminal justice field, as well as to demonstrate to those responsible for the administration of criminal justice the importance of career education and the advantages of joining in partnership with academic institutions for the furtherance of mutual goals.

### Criminal Justice

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	GCJC-203 Introduction to Criminology.....	4		
	GCJC-201 Fundamentals of the Criminal Justice System....		4	
	GCJC-207 Fundamentals of Corrections.....			4
	GCJC-204 Introduction to Public Administration.....		4	
	GSSS-201 Fundamentals of Sociology.....	4		
	GSSP-210 Introduction to Psychology.....		4	
	*Other General Studies (Electives) Lower Division.....	8	4	8
	Open Elective.....			4
Second Year	Physical Education Elective.....	0	0	0
	GCJC-301 Fundamental Concepts and Patterns of Criminal Law.....	4		
	GCJC-303 Law Enforcement & Society: The Police Function.		4	
	GCJC-304 The Judicial Process.....			4
	GCJC-309 Juvenile Justice .....			5
	Professional Elective <sup>3</sup> .....		4	4
	GSSP-203 The Psychology of Childhood and Adolescence..		4	
	GSSP-503 The Abnormal Personality.....			5
Third Year	Science Elective (College of Science) <sup>1</sup> .....	4	4	
	*Other General Studies (Electives)-Lower Division.....	8		
	Physical Education Elective.....	0	0	0
	GCJC-411 Issues in Corrections.....	4		
Fourth Year	GCJC-401 Scientific Methodology.....	4		
	GCJC-403, 404 Field Experience and Seminar <sup>2</sup> .....		9	9
	*General Studies Elective-Upper Division.....	10		
	GCJC-526 Issues in Law Enforcement.....	4		
Fourth Year	GCJC-528 Etiology of Crime.....		4	
	GCJC-514 Planning and Change in Criminal Justice.....			4
	Professional Elective <sup>3</sup> .....	4	4	4
	GSSS-502 Contemporary Social Problems.....	5		
	*General Studies Electives-Upper Division.....	5	10	5
	Open Elective.....			4

\*See p. 98 for the General Studies requirements. Students in criminal justice are required to take one additional lower division course, which may be chosen from any of the three General Studies areas listed.

<sup>1</sup> Computer science or math courses may be taken in place of the science electives.

<sup>2</sup>In-service students will be required to take two professional electives per quarter, for a total of 16 credit hours—this will satisfy the 18 hours of credit required for Field Experience.

<sup>3</sup>Professional electives are designed to allow the student to concentrate on a particular discipline(s) of criminal justice. Courses in other disciplines may be taken with permission.

#### Employment opportunities

Placement of criminal justice personnel is varied and embraces all of the professional functions of crime prevention, apprehension, the court system, corrections, and rehabilitation.

Some of the traditional positions, ones that students might be exposed to during the field experience (internship) program, include: law enforcement (federal, state, and local); probation and parole; institutional security; corrections (federal, state, and local); rehabilitation.

In addition to these positions, there are new positions and criminal justice tasks constantly being created. Because criminal justice is a changing, expanding field, graduates may anticipate finding positions in newly created jobs.

Additional employment opportunities exist in industrial security, narcotics control, customs and immigration work, and federal and state revenue control.

#### Transferability

Blanket credit for the first two years is offered for an AAS degree in an appropriate major. Holders of liberal arts or other two-year degrees will be granted credit for the first two years except for required professional courses.

All transfer students must, however, demonstrate competency in professional courses required in the first and second years, or must take these courses in place of professional electives or in addition to the stated curriculum. Field experience for qualified transfer students will begin Fall Quarter of their senior year, rather than the Winter Quarter of their junior year.



Just realizing the  
need for trained  
professionals, says  
police veteran

For 26 years, she worked the streets, the bars, and the hangouts in the city of Schenectady, N.Y.

For 26 years she helped neglected children, found and counseled delinquent children, and worked with others to make sure children weren't victims of violent crimes.

The lady was a cop.

Patricia Carter was appointed as Schenectady's first female police officer in 1948, and given the responsibility for establishing, within the department, a Juvenile Aid Bureau. She rose through the ranks and retired in 1974 as a Captain in command of a patrol division. While a police officer, Ms. Carter obtained a master's degree in criminal justice; she has since completed course requirements for a Ph.D. and has studied comparative criminal justice practices overseas.

Now a member of the faculty of RIT's School of Criminal Justice, Ms. Carter teaches Criminology and the Alternatives to Incarceration.

When she left the force, she had just been promoted to captain.

"But being an administrator I found I was supervising other people's work," she recalled. "I wasn't in contact with the people anymore." She determined she could "be contributing more" by teaching.

She is soft-spoken, and almost petite. She is her own best example of what she calls the "change in caliber" of the police and others in the criminal justice system.

The criminal justice system—from the police on the street to the courts and the penal institution—is undergoing a substantial change, she believes.

"It's really a new field . . . we're just beginning to realize the need for trained professionals in police positions. We're just beginning to realize the importance of not having just a guard in prison, but of having a corrections officer who can counsel and in other ways help the inmate."

The Attica prison riots several years ago had a major affect on the criminal justice system, she says. "Until things like Attica, the average person had no contact with the system of criminal justice. But those riots—and others like them—made the conditions in the institutions

much more visible. And because of them we've seen improvement in the criminal justice system in many states."

RIT's program in criminal justice is, in part, a response to that need for a broad-based program that studies the whole criminal justice system, she believes.

"Everyone on this staff has a very broad education in the whole system of justice—the police, the district attorney, the courts, the prisons—they're all a part of the system but the only thing they really have in common is the criminal—the person who gets caught up in the system and goes all the way through."

"I think our program realizes the need for a criminal justice professional who understands the total system."

The goal of a police department should be prevention of crime, rather than apprehension, she believes. And the police officer of the future "will be much more interested in community resources—in knowing how to refer people for help outside the regular criminal procedures."

"Some of the students we have in class today will be in jobs we aren't even aware of today," she predicts.

"The emphasis in corrections is going to be on community-based programs," she says, "to the extent that use of the maximum security prison as we know it will be cutback."

"Sure, there are people who for society's protection—and in some cases their own protection—have to be in maximum security prisons. But we know there are a lot of others who don't need to be there. And we're disillusioned with what's happening to the offender who spends years in jail."

## Social Work program is a response to the needs of urban communities

**Leonard Gravitz**, Director

Since its inception in 1829, Rochester Institute of Technology has had a long tradition of community service. Its program in social work is the latest response to the needs of urban communities, and is viewed as a continuing step in RIT's urban commitment.

It is conceived as a broad generic major to prepare baccalaureate-level social workers and is designed to respond to the trend in 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.

### Transfer students

Blanket credit for the first two years is offered for an AA or AAS degree. RIT has long maintained a close relationship with community and two-year colleges in curriculum articulation.

### Curriculum

The curriculum leading to the baccalaureate degree in social work rests on the following general areas of content:

#### 1. A continuum of social welfare courses

This would include articulated material on social welfare as a modern social institution, the origins of social welfare, sources of social conflict, the involvement of government in social welfare, decision making, economic factors involving poverty, employment levels, guaranteed annual income, 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.

Further, a generic methods course will be offered before and concurrently with field instruction. Emphasis will be placed on the differential use of common principles in a diversity of situations suggesting social work intervention.

And, finally, a senior project and seminar will give the student an opportunity to study a particular aspect of social welfare practice,

and the occasion to reflect on his or her social work study and experience, and focus on future professional and humanitarian goals.

#### 2. A broad spectrum of foundation courses in the social sciences and humanities

Through these liberal opportunities it is hoped to assist students in their intellectual, aesthetic, and social development, stimulate their curiosity, and sharpen their ability to engage in independent inquiry. The work in this area is designed to help students become aware of alternative approaches to human problems, and to see their role in a wider philosophical and historical perspective.



Implicit in this statement is the desire to promote a greater awareness of social, political, and economic issues so that the student's professional training in social work is completed in a context of involvement and commitment. In addition, these academic opportunities will be used to help students develop those techniques indispensable to good written and oral communication and the pursuit of a vigorous intellectual independence.

### 3. Field observation, volunteer opportunities, and field instruction

A continuous range of experiential learning opportunities will be provided throughout the curriculum through required experiences or elected situations. Beginning with observation and volunteer work in a social, governmental, or educational institution in the first year, one additional opportunity will be offered in the sophomore year prior to two successive full-time agency field instructions. Further opportunities in this area will be available in the fourth year in connection with the senior project and seminar course. All work in this area will be under the supervision of RIT faculty.

### Accreditation

The bachelor of science degree program in social work is fully 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 human services.

Graduates of the RIT social work program are employed in agencies providing services to the following types of clientele: drug abusers; delinquents; unwed mothers; those on probation and parole; those in family court situations; mentally ill; mentally retarded; senior citizens.

Employment is also available in agencies that provide such special services as community planning, metropolitan planning, hospital work, correctional institutional work, school work, day care center work.

### Transferability

Blanket credit for the first two years is offered for an AA or AAS degree.

### Course descriptions

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

### Social Work

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	GSWS-301 Intro, to the Field of Social Work.....	4		
	GSSE-210 Intro, to Psychology.....	4		
	SBIG-210, 211 Biological Concepts I, II.....		4	4
	GSSP-203 Psych, of Childhood & Adolescence.....		4	
	GSWS 305 Social Work Field Study.....		2	
	GSSS-210 Intro, to Sociology.....			4
	Five General Studies Electives (Lower Div.) <sup>1</sup> .....	8	8	4
	One Professional Elective ..... Physical Education <sup>3</sup> .....	0	0	4 0
Second Year	GSWS-302 Social Welfare: History.....	4		
	GSSE-210 Intro, to Economics.....	4		
	GSHH-547 History of Social Discrimination..... or	5		
	GSSM-514 Theories of Political Systems ..... GLLC-431, 432 Spanish I, II .....	5	4	4
	or			
	GSWS-430 Hispanic Culture for Social Workers.....		4	4
	GSWS-520 Social Work from a Pan Afrikan Perspective . . .		4	4
	GSSE-503 Personal Finance..... or		5	
	GSSP-515 Psych, of Human Adjustment .....			4
	GSWS-531 Research Methods.....			4
	GSWS-411 Methods of Social Work I & Lab <sup>4</sup> .....	4	4	4
Third Year	Three Professional Electives .....			
	One General Studies Elective (Lower Div.) <sup>1</sup> ..... Physical Education <sup>3</sup> .....	4 0	4 0	4 0
Fourth Year	GSWS-421, 422 Field Instruction I, II <sup>5</sup> .....	5	5	
	GSWS-412, 413 Methods of Social Work II, III.....	4	4	
	GSWS-304 Social Welfare: Organization & Systems.....			4
	GLLC-402 Conference Techniques.....			4
	Two General Studies Electives (Upper Div.).....			10
Fourth year	GSWS-535 Seminar & Project.....		4	
	GSWS-303 Social Welfare: Profession & Issues.....			4
	Three Professional Electives <sup>2</sup> .....	4	4	4
	Three Open Electives/Independent Study <sup>6</sup> .....	4	5	5
	Four General Studies Electives (Upper Div.).....	10	5	5

<sup>1</sup>See p. 98 for General Studies requirements.

<sup>3</sup>See p. 37 for Physical Education.

<sup>4</sup>Includes part-time placement in social work agency.

<sup>5</sup>Full-time field placement in social work agency.

<sup>6</sup>I.S. Independent Study may be academic or at a social agency.

### Social Work program for transfer students with AA or AAS degree

Year		Quarter Credit Hours		
		Fall	Winter	Spring
Third Year	GSWS-301 Intro, to the Field of Social Work..... or	4		
	GLLC-402 Conference Techniques.....	4		
	GSWS-531 Research Methods.....	4		
	GSWS-411 Methods of Social Work I & Lab <sup>4</sup> .....	4		
	GSWS-412, 413 Methods of Social Work II, III.....		4	4
	GSWS 302 Social Welfare: History..... GSWS-421, 422 Field Instruction I, II <sup>5</sup> .....	4	5	5
Fourth Year	GSWS-535 Seminar & Project.....	4		
	GSWS-303 Social Welfare: Profession & Issues.....		4	
	GSWS-304 Social Welfare: Organization & Systems.....			4
	Three Professional Electives <sup>2</sup> .....	4	4	4
	Six G.S. Electives (Upper Division) <sup>1</sup> ..... Physical Education <sup>3</sup> .....	10 0	10 0	10 0

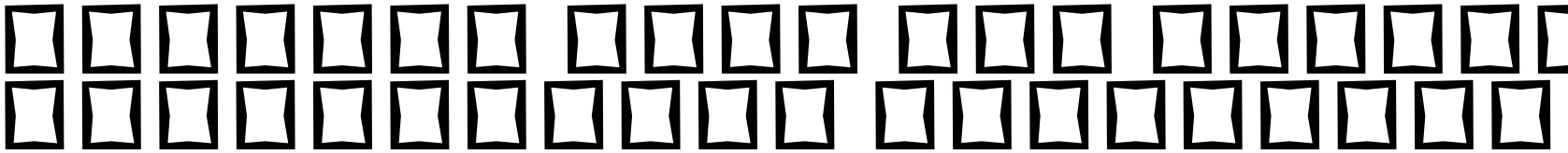
<sup>1</sup>See p. 98 for General Studies requirements.

<sup>3</sup>See p. 37 for Physical Education.

<sup>4</sup>Includes part-time placement in social work agency.

<sup>5</sup>Full-time field placement in social work agency.

<sup>6</sup>I.S. Independent Study may be academic or at a social agency.



**Lothar K. Engelmann, Dean**

The College of Graphic Arts and Photography encompasses the School of Photographic Arts and Sciences, the School of Printing, and the Graphic Arts Research Center.

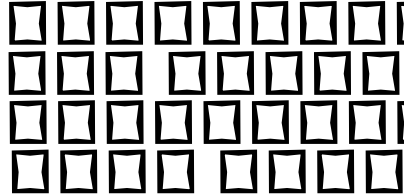
The School of Photographic Arts and Sciences was established in 1930 with a two-year course for the training of technicians for the photographic industry. It now offers undergraduate programs leading to a BS degree in photographic science and instrumentation, a BS degree in professional photography, and a BFA degree in photographic illustration. A program in photographic management and marketing—given jointly by the School of Photographic Arts and Sciences and the College of Business—leads to the BS degree. A program in biomedical photography/communications leading to AAS and BS degrees is also offered. Graduate programs lead to an MS degree in photographic science and instrumentation, and to an MFA degree in photography. More than 900 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. It also offers programs leading to the MS degree in printing technology and printing education. Over 500 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 Graphic Arts Research Center, with its own full-time staff, conducts research in various fields of the graphic arts. It also conducts short, highly specialized courses for men and women engaged professionally in the graphic arts.



Dean Lothar K. Engelmann



Dr. Lothar K. Engelmann heads RIT's College of Graphic Arts and Photography, which includes the School of Printing, School of Photographic Arts and Sciences and the Graphic Arts Research Center.

He considers his position as dean of that college "a unique opportunity to combine my scientific and managerial background with my interests in the arts and humanities and with my hobbies, particularly photography." Programs offered by the college cover a broad spectrum, from sophisticated printing technology to fine arts photography.

Born in Germany, Dr. Engelmann earned a master's degree in chemistry and a doctorate in the natural sciences at the University of Frankfurt. His industry experience in the graphic arts began with a German photo manufacturing company and he eventually became head of its photo paper department.

After moving to the U.S., Dr. Engelmann worked at a company

specializing in chemicals for the printing industry and obtained several patents in this field.

Returning to the photo industry, Dr. Engelmann went to Polaroid Corporation where he was involved in emulsion development for color film, and then to 3M Company where he worked in silver halide research and production control of photographic materials. He came to RIT as dean of the college in 1969.

What's in the future for education in photography and printing?

"As our society becomes more visually oriented," says Dr. Engelmann, "the photographer will be expected to take an intermediary role in various disciplines. He will need to be able to understand and communicate with professionals in other fields."

"At the same time, growing automation—particularly in photo processing and finishing—will deemphasize the need for laboratory proficiency and it may well be possible to replace some technically-oriented courses or parts of courses with study in areas which will widen the photographer's scope as a visual communicator."

"I also foresee more emphasis in such areas as film making and television and photography applied to sciences and engineering as in our biomedical photography program."



Printing is continuing its evolution from an industry based on crafts to one based on science and engineering and programs in the School of Printing are changing to keep pace with the new technologies. According to Dr. Engelmann, there is and will be increased emphasis on courses in computer technology, electronics, chemistry and other sciences, as well as on management and leadership training.

"Our goal," says Dr. Engelmann, "is to teach the principles of sophisticated technical processes to potential managers. With a thorough understanding of the fundamentals involved, today's RIT graduate is well-prepared to adjust to future technological changes."

To insure that its educational programs will meet the immediate and future needs of the printing industry, the School of Printing works with an industry advisory committee whose 25 members represent leading printing, supply and equipment firms throughout the U.S. and Canada.

Enrollment in the School of Printing is expected to increase from its present 550 students to over 700 students during the next five years.

#### 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 two distinguished professorships highlights this qualification of the college's teaching staff. The Melbert B. Cary, Jr., professorship emphasizes the School of Printing's involvement in typography and design generally, while the James E. McGhee professorship highlights the School of Photographic Arts and Sciences' interest in the 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 lecturers, 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 Graphic Arts Research Center Library and the Cary Library. The latter contains the Melbert B. Cary, Jr., Graphic Arts Collection, with over 2,500 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 to 12 weeks in length. Many classes are available during the summer.

Most programs of the college, except printing, include a senior thesis as a requirement for the bachelor's degree. This involves independent study and research on a subject chosen by the student and approved by his or her advisor. 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.

### Transfers

With the growth of community, junior, and two-year technical colleges throughout the country, many young 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, and they must also complete satisfactory thesis work.

Requirements for the MS degree in photographic science and instrumentation, printing technology, and printing education, and for the MFA degree in photography are to be found in the Graduate Bulletin.

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 and have a minimum number of quality points equal to at least 2.0 times the number of quarter hours required.

### 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, teletype composition, Linotype-Intertype maintenance, and similar subjects.

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.

### Graphic Arts Research Center

GARC serves the printing and graphic communications industry through research, continuing education, and the dissemination of information. It acts as an interface between RIT's academic programs and the commercial world of production and research. GARC's professional staff has been recruited from industry and research organizations. This experienced staff provides realistic counsel when lecturing or acting as undergraduate and graduate thesis advisors in the field of printing as well as in the field of photographic science. GARC's facilities are used in conjunction with lectures,

seminars, and demonstrations for special students. GARC information is made available to students in such publications as "Graphic Arts Literature Abstracts," "Graphic Arts Patent Abstracts" and GARC reports of research efforts.

The Science and Technology section consists of fundamental research programs in color theory, color measurement and specification, paper technology, image evaluation, screenless lithography, study methods for gray balance determination, and photometric measurement of dot area.

The Physical Testing Laboratory, which emphasizes color reproduction, conducts industry-supported programs for testing paper, ink, and other printing products. Its facilities also accommodate test runs for the Science and Technology section. And many of the continuing education programs (seminars in Web Offset Newspaper Training, Paper-Ink-Press, Compositions Systems, and Color Reproduction) use the lab facilities, including the four-unit perfecting web offset press.

The Information Services library houses an extensive international collection of literature relevant to the graphic arts. From its extensive holdings it offers the following services to both the educational and industrial communities:

#### Graphic Arts Literature Abstracts (GALA)

-Formerly called Graphic Arts Index, GALA represents a new and expanded effort into current awareness and retrospective retrieval efforts within the graphic arts. GALA, published monthly on a subscription basis, offers subject categorized, fully indexed informative abstracts of the graphic arts literature as gleaned from the timely scanning of over 200 international publications, periodicals and conference proceedings.

#### Graphic Arts Patent Abstracts (GAPA)

-A companion publication to GALA, GAPA, also available monthly on a subscription basis, offers categorized and indexed entry into the U.S. Patent Literature, as selected weekly from the Official Gazette of the U.S. Patent Office.

Other services available are customized graphic arts information systems and publications design, customized literature searches and bibliographies, and document procurement services.

## Admission: at a glance

### College of Graphic Arts and Photography

The School of Photographic Arts and Sciences, the School of Printing, and the Graphic Arts Research Center 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.

#### **Photographic Science and instrumentation<sup>1</sup>**

Students learn of the application of physics, chemistry, and mathematics to photography; of the materials and processes of 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; MS-5 year.

**Photographic Illustration<sup>1</sup>** - Students use photography to solve visual communication problems leading to vocations in studio, mass media, and museum practices. 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.

**Professional Photography<sup>1</sup>** - Students learn skills in business as well as photography to enable them to seek employment in fields of their choice. Demands a high degree of application of students' evolving abilities to obtain professional competence. Degrees granted: AAS-2 year; BS-4 year.

**Photographic Processing and Finishing Management<sup>1</sup>**-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.

**Biomedical Photography/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 qualify as a Registered Biological Photographer. Degrees granted: AAS-2 year; BS-4 year.

**Printing<sup>1</sup>** - Prepares students for careers in printing production 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.

#### 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
<b>Photographic Science and Instrumentation</b>	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
<b>Photographic Illustration</b>	1 year any mathematics; 1 year any science	Art courses	Total of 93 quarter credits including 48 quarter credits in photography, 24 quarter credits in general studies. "C" grade in RIT Summer PPHG-200 and PPHG-210 may be substituted for 18 credit hours of the photography. Opportunities for transfer are limited.	2.2
<b>Professional Photography</b>	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
<b>Photographic Processing and Finishing Management</b>	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 end of two years is readily accomplished.	2.2
<b>**Biomedical Photography/ Biomedical Photographic Communications</b>	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
<b>Printing</b>	Elem. Algebra; Plane Geom. or Inter. Algebra; 1 year any science	Printing courses or experience with school publication; chemistry; physics; interest in printing; additional mathematics	Associate's degree in graphic arts or a wide range of combinations of 24 credits in general studies, a year of college mathematics, a year of any college science, and courses in business, management, data processing, and others.	2.0

<sup>1</sup>About one-third of program consists of electives in social science, literature, and humanities.

There are also many professional electives available.

\*Four years of English is 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.





# School of Photographic Arts and Sciences trains visual problem solvers

**David A. Engdahl**, Acting 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 and BS students in professional photography are required to have their own hand-held small or medium format camera and a professional exposure meter. All upperclass professional photography students are required to have their own view camera and allied equipment.

Speakers and field trips broaden the student's viewpoint. Participation in the spring field trip and summer study courses in Europe are encouraged.

## **Faculty**

The School of Photographic Arts and Sciences faculty represents a remarkable cross section of various photographic fields. Many faculty members possess not only formal degrees but recognition from professional societies in the form of honors and titles indicating professional excellence.

## **Programs of study**

The School of Photographic Arts and Sciences offers an undergraduate (BS) in photographic science and instrumentation; an undergraduate (BFA) program in photographic illustration; an undergraduate (BS) program in professional photography; an undergraduate (BS) program in photographic processing and finishing management; an undergraduate (BS) program in biomedical photography/biomedical photographic communications.

## **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 Admission 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, American 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.

All applicants, except those transferring from other colleges and universities, must take entrance examinations.

## **Photographic Science and Instrumentation**

Applicants for admission 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 a reasonable chance of success.

## **Photographic Illustration**

Applicants for admission to photographic illustration must have had one year of mathematics and one year of science. Art courses are recommended.

## **Professional Photography**

Applicants for professional photography should have had two years of high school mathematics, including either intermediate algebra or plane geometry, and one year of science.

## **Biomedical Photography/ 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.

## **Photographic Processing and Finishing Management**

Applicants for admission in this program should have had two years of high school mathematics, elementary and intermediate algebra, and chemistry. Additional science is recommended.

## **Course descriptions**

For a complete outline of courses offered at RIT, please request the Course Description catalog from the Admission 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 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 applicable 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 photography or photographic illustration) 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.

#### **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 students 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.

#### **Requirements for admission to second year\*\***

##### **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 each, plus a "C" grade or higher in summer course \*PPHS-200 (Fundamentals of Photographic Science) prior to admission to the second year.

##### **Photographic Illustration**

A total of 30 quarter credits, including 12 acceptable credits in general studies and six acceptable credits in studio courses in drawing and design, plus a "C" grade or better in summer course \*PPHG-200 (Photography) and PPHG-210 (Materials and Processes of Photography).

##### **Professional Photography**

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) 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 (six quarter credits) and 16 quarter credits in a combination of business and management, plus a "C" grade or higher in summer course \*PPHS-200 (Photographic Science I).

#### **Requirements for admission to third year**

##### **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 course, plus a "C" grade or higher in summer course \*PPHS-200 and PPHS-210 (Fundamentals of Photographic Science I and II) prior to admission to the third year.

##### **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. (A candidate lacking some of these credits will be expected to make them up before graduation.) Forty-eight credit hours of photography are required. If there are insufficient photography studio courses the applicant will be required to take PPHG-200 and PPHG-210 during the summer.

##### **Professional Photography**

A total of 96 quarter credits including 24 acceptable quarter credits in general studies, a satisfactory course in college algebra and design and 57 quarter credits in any combination of drawing, design or photography, of which 48 credits must be equivalent to PPHG-201, 202, 203, PPHP-301, 302, 303, and PPHP-311, 312 and 313.

\*These are summer courses required by those persons who do not have a sufficient photographic background. Maximum of 24 students accepted.  
\*\*There is a limit of approximately 100 students in each of the second years of photographic illustration and professional photography.

## Improvement of photographic materials and processes is goal of Photographic Science and Instrumentation

**Ronald Francis**, Staff Chairperson

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 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.

### 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 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

Course 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 Admission 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 ten 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 of Graduate Studies and is under the direction of the graduate coordinator. See Graduate Bulletin for particulars.

### 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	0
Second Year†	PPHS-301 Applied Processing.....	4		
	PPHS-302 Advanced Sensitometry, Black-and-White Photographic Materials .....		4	
	PPHS-303 Photographic Instrumentation.....			4
	SMAM-305 Calculus .....	4		
	SMAM-306 Differential Equations I .....		4	
	ICSP-205 Computer Techniques .....			3
	SPSP-311, 312, 313 University Physics.....	5	5	5
	General Studies Electives—Lower Division .....	4	4	4
	†Physical Education Elective .....	0	0	0
Third Year	PPHS-401 Radiometry .....	5		
	PPHS-402 Image Microstructure .....		5	
	PPHS-403 Principles of Color Photography.....			5
	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.....	5	5	5
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 under- graduate credit to 184		
	General Studies Electives—Upper Division.....	5	5	5
Fourth Year BS/MS	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 Optics .....	3	3	3
	PPHS-741, 742, 743 Analysis and Evaluation of Imaging Systems.....	3	4	3
	PPHS-890 Research and Thesis Guidance.....	9 minimum To bring graduate quarter credit to 45		
	Professional Electives (selected from graduate elective list) ..			

†Upon successful completion of the second year, the associate in applied science degree is awarded.

### Photographic Science and Instrumentation

#### Recommended undergraduate electives

EEEE-441 Electronics I  
EEEE-461, 462 Electrical Engineering

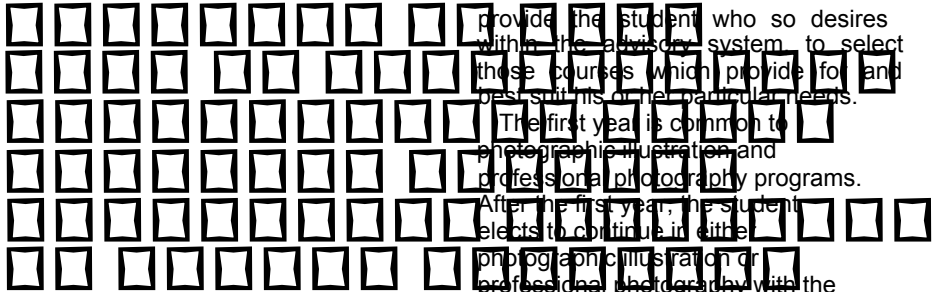
I, II  
PPHS-421, 422, 423 Photographic Chemistry  
PPHS-511, 512, 513 Optical Instrumentation  
PPHS-531, 532, 533 Theory of the Photographic Process  
PPHS-599 Independent Study  
PPRT-591 Reproduction Photography  
PPRT-592 Printing Plates  
PPRT-593 Printing Presses  
SCHA-311, 312 Analytical Chemistry  
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 chairperson.

#### 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 Non Parametric 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-511, 512 Instrumental Analysis  
SMAM-611 Engineering Mathematics  
SMAM-612 Engineering Mathematics  
Others to be selected in consultation and with approval of graduate coordinator. Undergraduates with proper prerequisites may take graduate electives for undergraduate credit upon approval of advisors and staff chairperson.







**Illustration Photography**  
**Film Making**  
**Photojournalism**  
**Photography as a Fine Art**

**David J. Robertson**, Staff Chairman

The curriculum leading to a bachelor of fine arts degree in photographic illustration is planned to prepare the student for those areas of photography which require the solving of visual communication problems. 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.

The photo students who elect the BFA program may produce advertising photography for magazines, direct mail pieces, posters, billboards, and packages. He or she may produce editorial photography, magazine illustrations, picture essays, and book illustrations. He or she may illustrate brochures, annual reports, and other visual materials for business, government, and educational institutions. They may make educational, entertainment business films and TV commercials. They are qualified to teach photography and visual communications and to cooperate in the making of audiovisual materials. They are qualified to function as artists using photography as a principal means of expression. They may become scholars, photohistorians, photojournalists, or museum curators.

The bachelor of fine arts program is subdivided into four major 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 within the advisory system to select those courses which provide for and best suit his or her particular needs.

The first year is common to photographic illustration and professional photography programs.

After the first year, the student elects to continue in either photographic illustration or professional photography with the approval of the staff chairperson. This is based on educational background and availability of faculty and facility.

**Major photographic electives**  
Film Making  
Illustration Photography  
Photojournalism  
Photography as a Fine Art  
(All BFA students must select one of these electives as a two-year involvement)

**Bachelor of Fine Arts professional electives**  
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-401, 402, 403 Photography as a Fine Art I  
PPHL-431, 432, 433 Illustration Photography I  
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 staff chairperson.

**Bachelor of Fine Arts in Photographic Illustration**

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 Year†	FADF-321, 322, 323 Design.....	2	2	2
	General Studies Electives-Lower Division.....	4	4	4
	PPHL-302, 302, 303 History and Aesthetics of Photography. . .	3	3	3
	PPHL-311, 312, 313 B.F.A. Photography II.....	6	6	6
	Physical Education Elective.....	0	0	0
<b>Major Photographic Electives:</b> Illustration Photography Photography as a Fine Art Photojournalism Film Making (All BFA students must select one of these electives as a two-year involvement)				
Third Year	FSCF-225, 226, 227 Art and Civilization.....	3	3	3
	General Studies Electives-Upper Division.....	5	5	5
	Major Photo Elective.....	4	4	4
	Professional Electives (selected from BFA elective list).....	4	4	4
Fourth Year	FSCF-325, 326 American Art.....	3	3	
	FSCF-327 Contemporary Tendencies in Art.....			3
	General Studies Electives-Upper Division.....	5	5	5
	Major Photo Elective.....	4	4	4
	Professional Electives (selected from BFA elective list).....	4	4	4

(†)Upon successful completion of the second year, the associate in applied science degree is awarded.



## Student learns full range of skills in Bachelor of Science in Professional Photography

**Donald L. Bruening**, Staff Chairperson

The professional photography curriculum is a challenging and rewarding program which prepares the student for a career in the business of visual communication and related fields. The student learns from professionals, men and women who have come from the profession and who have established their marks in fields ranging from advertising illustration, through commercial, industrial photography, portraiture, color processing and special laboratory techniques, to research and sales. The student can specialize in any of these fields, or get a very broad background for future growth and specialization.

The first two years the student acquires a broad base of knowledge and skills, both in the aesthetic, art based aspects of image making and in the technical areas of photography which support creative efforts. In the third and fourth years each student plans, with the help of his or her advisor, an advanced program, selecting from a number of elective courses, based on the field of interest. These elective courses include offerings in: advertising photography, advanced color techniques and dye transfer, audiovisual, color photography, corporate publications, engineering and instrumentation, film making, illustration photography, industrial photography, nature photography, photojournalism, portraiture, process control, reproduction techniques, sensitometry, television

production and portfolio preparation. A student can concentrate his or her efforts and achieve a high degree of competence in any of these areas. In the professional photography program, the student can also prepare for a career in photo-related areas such as that of studio management, technical representation, and similar professions.

Upperclass students with high grade point standings can "work with a master" on a one-to-one basis through independent studies. At the student's initiative off-campus work-study may be arranged to give on-the-job experience. Profession related courses may be taken in RIT's School of Art and Design or School of Printing. Emphasis is also placed on business skills and the realities of current and projected trends, both within the profession, and in the socio-economic environment of which the graduate expects to become a part.

Broadly stated, this preparation involves studies and experiences in both technical and creative aspects of visual problem solving. The curriculum is planned to give students skills in business as well as photography, to qualify to seek employment in the field of their choice.

### Science option electives (second year)

SMAM-201, 202, 203 College Algebra and Trigonometry  
SCHG-281, 282, 283 General Chemistry  
SSEG-201, 202, 203, 204 Contemporary Science  
SBIG-201, 202, 203 General Biology  
SPSG-211, 212, 213 College Physics

And also the following may be considered if all necessary prerequisites have been met, and with approval of the staff chairperson.  
SCHG-205, 206, 207 Chemical Principles  
SCHC-211, 212, 213 General Chemistry

### Bachelor of Science professional electives

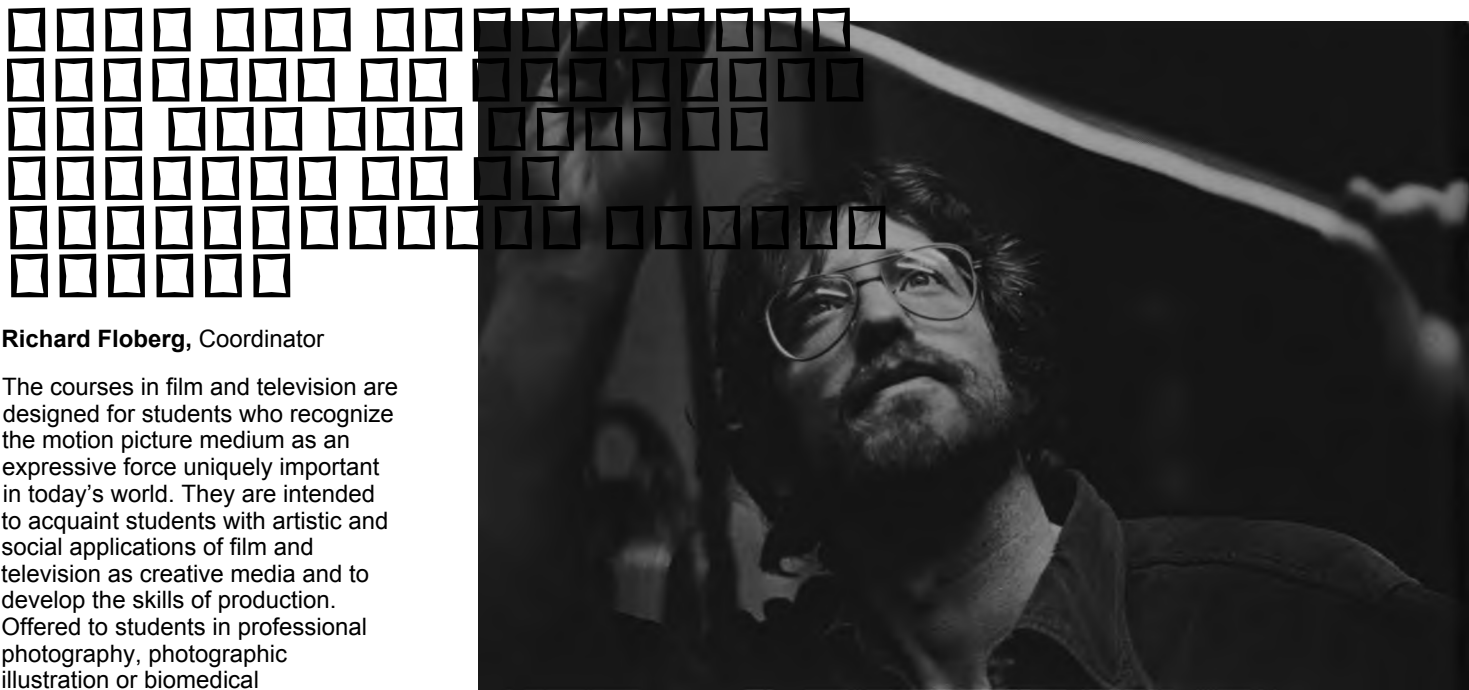
PPHF-401, 402, 403 Film Making I  
PPHF-407, 408, 409 History and Aesthetics of Film  
PPHF-421, 422 Scriptwriting  
PPHF-501, 502, 503 Film Making II  
PPHF-507, 508, 509 Introduction to TV Production  
PPHL-411, 412, 413 Photojournalism I  
PPHL-421, 422, 423 Nature Photography  
PPHL-511, 512, 513 Photojournalism II  
PPHM-301, 302, 303 Machine Processing  
PPHP-407 AV Preparation and Presentations  
PPHP-408 Scientific and Technical Applications of Photography  
PPHP-409 Corporate and Special Interest Publications  
PPHP-411, 412, 413 Sensitometry  
PPHP-421, 422, 423 Advertising Photography  
PPHP-431 Forensic Photography  
PPHP-441, 442, 443 Advanced Color Printing  
PPHP-501, 502, 503 Industrial Photography Seminar  
PPHP-511, 512, 513 Photographic Process Control  
PPHP-521, 522, 523 Advanced Color Seminar  
PPHP-541, 542, 543 Portrait Photography  
PPHP-551, 552, 553 Special Topics  
PPHP-599 Independent Study  
PPRT-591, 592, 593 Reproduction Photography, Offset Platemaking, Offset Presswork  
Others to be selected in consultation with advisor and staff chairperson.



Professional Photography

		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 Year†	Science Option Elective.....	3	3	3
	General Studies Electives.....	4	4	4
	PPHP-301, 302, 303 Photography II.....	6	6	6
	PPHP-311, 312, 313 Basic Color.....	3	3	3
	Physical Education Elective.....	0	0	0
Third Year	BBUB-245 Business Management or BBUB-263 Marketing. . .	4	4	
	BBUA-215 Survey of Accounting.....			4
	General Studies Electives-Upper Division.....	5	5	5
	Professional Electives (Elect 2 Selected from B.S. Elective List).....	8	8	8
Fourth Year	Business Electives.....	4	4	4
	General Studies Electives-Upper Division.....	5	5	5
	Professional Electives (Elect 2 Selected from B.S. Elective List).....			
		8	8	8

(†) Upon successful completion of the second year, the associate in applied science degree is awarded.



**Richard Floberg**, Coordinator

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 artistic and social applications of film and television as creative media and to develop the skills of production. Offered to students in professional photography, photographic illustration or biomedical photography/biomedical photographic communications, these courses are structured as lecture-laboratory courses, designed to develop individual skills in communicating with moving images, the sensitivities and practicalities of the medium and the aesthetic principles governing film as a form of art. Other Institute students, with a basic knowledge of photography, may enroll if they are given permission by the course instructor. Each student produces 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 projects are often designed by the individual student; they receive individualized instruction as they bring purposeful expression to the screen in a wide variety of styles.

Film Making and Television				
Courses	Quarter Credit Hours			
	Fall	Winter	Spring	
PPHF-207, 208, 209 Introduction to Film Making and Television .....	3	3	3*	
Prerequisite: Elective to all Art and Design students except freshmen				
PPHF-401 Introduction to Film Making and Conceptual Film Production.....	4			
Prerequisite: Elective to all undergraduate 3rd and 4th year Photographic Illustration or Professional Photography students, and other students by special permission				
PPHF-402 Introduction to Non-Fiction Film Production		4		
Prerequisite: PPHF-401				
PPHF-403 Introduction to Fiction and Dramatic Documentary Film Production.....			4	
Prerequisite: PPHF-402				
PPHF-501 Visualization and Commercial Film Production . ..	4			
Prerequisite: PPHF-403 or permission of instructor				
PPHF-502 Film Planning and Studio Operations.....		4		
Prerequisite: PPHF-501				
PPHF-503 Film Project with Synchronous Sound.....			4	
Prerequisite: PPHF-502				
PPHF-407 Film History (Fiction Feature).....	3			
Prerequisite: Elective to all RIT undergraduate and graduate students				
PPHF-408 Film History (Documentary).....		3		
Prerequisite: None				
PPHF-409 Film History (Experimental and Animation).....			3	
Prerequisite: None				
PPHF-421, 422 Scriptwriting.....		3	3	
Prerequisite: None				
PPHF-507, 508, 509 Introduction to Television Production ..	4	4	4	
Prerequisite: Elective to all undergraduate 3rd and 4th year Photographic Illustration and Professional Photography students, and other students by special permission				
PPHF-730 Seminar, Advanced Film Making.....	4	4	4	
Prerequisite: M F A. film majors, and other students by permission of instructor				

\*Television in the Spring Quarter



Photo Management  
program trains  
industry managers

James E. McMillion, Jr., Coordinator

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 promoting 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

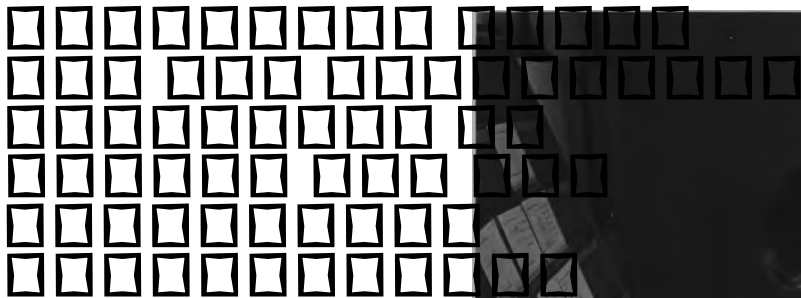
- Professional electives**  
BBUA-331, 332 Accounting I, II (Cost)  
BBUB-301 Business Law  
BBUB-404 Management (Business Policy)  
BBUF-281 Money and Banking  
BBUF-441 Finance (Financial Management)  
GLLC-402 Conference Techniques  
GLLC-501 Effective Speaking  
PPHM-511, 512, 513 Advanced Machine Processing  
PPHM-599 Independent Study  
PPHP-411, 412, 413 Sensitometry  
PPHP-441, 442, 443 Advanced Color Printing  
PPHS-301, 302, 303 Principles of Photographic Systems I  
SCHG-205, 206, 207 Chemical Principles  
Others to be selected in consultation with advisors.



Photographic Processing and Finishing Management majors

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	PPHS-201, 202, 203 Photography for Scientists and Engineers .....	4	4	4
	SMAM-201, 202 College Algebra and Trigonometry.....	3	3	
	BBUB-201 Management.....	4		
	BBUA-210 Accounting (Financial) .....		4	
	BBUA-211 Accounting (Managerial) .....			4
	ICSS-200 Survey of Computer Science .....			4
	*General Studies (Lower Division).....	4	4	4
Second Year†	‡Physical Education .....	0	0	0
	PPHM-301, 302, 303 Production Processing and Finishing .....	4	4	4
	PPHP-311, 312, 313 Basic Color.....	3	3	3
	ITEE-310 Electricity.....	4		
	ITEE-311,312 Electronics I & II.....		4	4
	*General Studies (Lower Division).....	4	4	4
	‡Physical Education.....	0	0	0
Third Year	PPHM-410, 411, 412 Training and Supervision .....	4	4	4
	PPHM-401, 402, 403 Photographic Process Control .....	4	4	4
	PPRM-503, 504 Statistics of Quality Control I & II.....		4	4
	BBUB-401 Behavioral Science .....	4		
	*General Studies Electives (Upper Division) .....	5	5	5
Fourth Year	GSSE-301, 302 Economics I and II.....	4	4	
	BBUM-263 Marketing .....			4
	EIEI-482 Production Control I.....	4		
	**Professional Electives .....	4	8	
	*General Studies Electives (Upper Division).....	5	5	

\*See p. 98 for General Studies requirements.  
†See p. 37 for policy on Physical Education.  
\*\*Professional elective must be chosen in consultation with the student's academic advisor. Recommended professional electives are PPHM-501, 502, 503; and PPHM-511, 512, 513.  
†Upon successful completion of second year, the associate of applied science degree is awarded.  
It is recommended that students seeking the baccalaureate degree spend the summer of their junior year in a work-block type program.



Nile R. Root, R.B.P., Coordinator

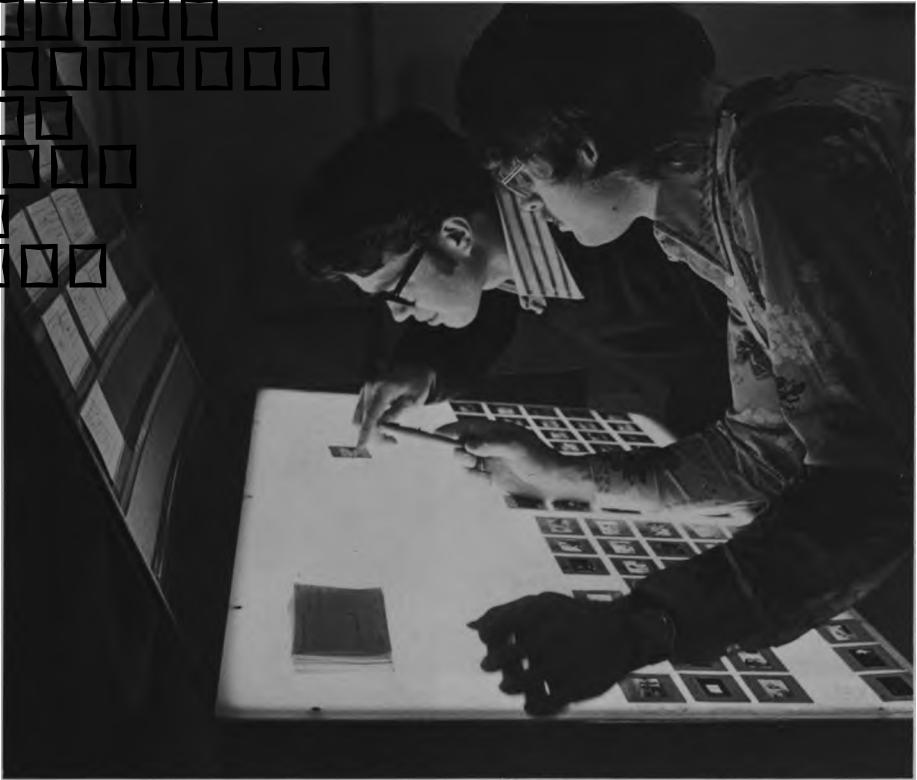
The biomedical photography/ biomedical photographic communications curriculum is an undergraduate program to prepare the student to be involved in advanced techniques of media production used in medicine and research. The junior and senior years' curricula include electives in film making, television and advanced color printing, which can be selected in consultation with the advisor.

The curriculum provides the graduate with preparation to be an entering professional in biomedical communications, audiovisual and educational resource departments in medical schools, research centers and private hospitals, as well as other scientific facilities.

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 biomedical photography/ 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 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 Photography/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.....	4	4	4
	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 Year	PPHB-301, 302, 303 Biomedical Photography II.....	5	5	5
	PPHP-311, 312, 313 Basic Color.....	3	3	3
	PPHB-331, 332, 333 Preparation of Biomedical Visuals	3	3	3
	General Studies Electives-Lower Division.....	4	4	4
	Physical Education Elective.....	0	0	0
Third Year	**Professional Elective.....	4	4	4
	General Studies Electives-Upper Division.....	5	5	5
	Business Elective.....	4	4	4
	Science Elective.....	4	4	4
Summer Internship (Optional)				
Fourth Year	PPHB-501, 502, 503 Senior Thesis Project.....	4	4	4
	General Studies Electives-Upper Division.....	5	5	5
	**Professional Electives.....	8	8	8

†Associate's degree awarded upon successful completion of second year.  
\*\*Possible recommended professional electives:  
PPHF-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.

Technology, management and aesthetics

important in the School of Printing

Mark F. Guldin, Director

The School of Printing at Rochester Institute of Technology is one of the relatively few educational institutions in the United States that offers major degree programs in printing. It is the largest degree-granting school in its field in the country, and enjoys a position of leadership because of its extensive laboratory facilities, its up-to-date programs of study, and its competent faculty.

The primary objective of the School of Printing is to prepare students—both men and women—for successful careers in the printing, men and women for successful careers in the 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 in management at all levels in the graphic arts industry, in selling, in supervision, in design, and in research among others.

These occupational objectives involve certain educational objectives. These are to help the student to develop the following: a broad understanding of the procedures involved in the major important printing processes; an appreciation of the aesthetic qualities of good printing; an understanding of the applications of science and engineering in the graphic arts; a knowledge of theory and practice in the various aspects of management; skills in communication, and an understanding of the student’s professional and general environment as a means of developing personally as a well-rounded individual and a responsible citizen.

Career opportunities

The graduate with a BS degree in printing has available a variety of career choices. The printing industry is one of the country’s largest, employing not only persons skilled in its own special technologies but also chemists, physicists, engineers, accountants, printing educators, marketing specialists, designers, artists, photographers, copy editors, computer specialists, production and traffic managers, and the closely-related packaging specialist. RIT has all of these programs within its nine colleges—men and women in the School of Printing have this unique opportunity to elect courses that give them a breadth in preparation for a career of their own choosing in this growing field.



**Special requirements for admission**

General 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, 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 or plane geometry and one year of science as specific prerequisites, preference is given to applicants who have had some additional work in mathematics, physics, or chemistry.

**Scholarships and financial aids**

Scholarships available to students in the School of Printing number approximately 55, and range in value from \$100 to \$2,649. Some of these awards may be continued beyond one year depending upon the records made.

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

For information regarding scholarships administered by the Institute, write to the Financial Aid Office.

**Program of study**

The School of Printing offers a four-year course of study that leads to the bachelor of science degree. The degree of associate in applied science is offered upon successful completion of the first two years. Continuation beyond the second year depends upon the satisfactory completion of the first two years and a grade point average of at least 2.0.

The four-year program prepares graduates for a wide variety of technical and management positions in the printing and related industries. Among these are positions in administration and general management, production management, production and quality control, sales and sales management, 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 are available to graduates, as are positions in the book, newspaper, and magazine publishing industries.

The cooperative plan of education is available in the School of Printing for those choosing this option.

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 an assistant in such classifications as estimating, production control, specification writing, purchasing, copy preparation, typography and layout, and sales.

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 printing program includes a group, or core, of basic required courses that is indicated in the following program outline. Students have the opportunity to expand their own areas of interest by selecting course combinations, or developing individual program sequences from approved elective courses.

**Two-year programs for college graduates**

Many college graduates with baccalaureate degrees may complete the professional requirements for the bachelor of science degree in printing in two years of concentrated study. This is because they have already satisfied many requirements in general studies, mathematics, and science elsewhere. Upon admission, such students are given the equivalent of two years of credit. Those who have taken courses which parallel those required in their chosen majors in the School of Printing normally are given additional transfer credit, if grades are "C" or better.

**Cooperative program**

The cooperative program in printing is a flexible and voluntary program which will be available to printing students who have successfully completed the first two years of the required printing program and to printing transfer students accepted at the junior-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 will have a wide variety of graphic arts work experiences available to them. This cooperative program in printing will require up to five years for completing BS degree requirements.

**Graduate program**

The School of Printing also offers a graduate program leading to the master of science degree, described in the separate Graduate Bulletin. Information concerning this program is available from the Admission Office.

**Organization**

For purposes of program administration, planning, supervision, and student counseling, the School of Printing is organized into four divisions: Design-Composition, Photography-Plate-Press, Management, and Graduate.

While each student is expected to use initiative in selecting elective courses, each division administers program sequences which may be developed from professional elective courses.



## Design-Composition Division

**Archibald D. Provan**, Staff  
Chairperson

It is necessary for most people in the graphic arts to have an appreciation for good design and typography because much of their time will be spent evaluating the printed word from the standpoint of design and production. Many printing firms have organized their own design and composition facilities in order to offer a complete service to their customers and, in turn, have a need for employing well-qualified people in these areas. In addition, the needs of inplant, 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**

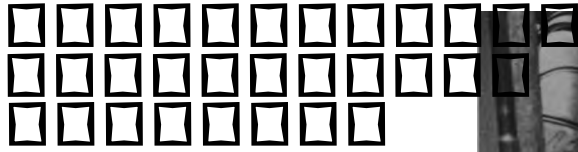
A sequence designed to prepare students to fill a variety of positions in the book publishing and book manufacturing industries. Although particularly oriented for those interested in book design, this flexible program can be altered to fit the specific needs of others interested in the wide range of opportunities the publishing industry has to offer.

### **Design and typography**

A program for those students with a basic interest in the aesthetics of printing. The student is given a broad range of courses, calligraphy to typography, design to copy preparation, which are important for entering the field of design, typography, or any of the other creative fields of the printing industry.

### **Composing room procedures**

A sequence giving printing students an overview of typesetting techniques and the handling of materials as they are related to layout and design. The diversity and challenges in this field are reflected through a series of courses ranging from electronics in computerized typesetting through estimating and other management areas related to the composing room.



**Edward A. Brabant, Staff Chairman**

The production segment of the industry is the core area of most printing facilities. Every manager in the industry from design through sales and from personnel through finance must have a firm grasp of this core area if their decisions are to be valuable ones. 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 operations and materials in camerawork, stripping, platemaking, presswork, inks, substrates and finishing.

This division administers sequences in various production areas such as:

**Lithographic technology**

This program gives the student an 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.

**Packaging 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 program 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.









**Walter A. Campbell**, Staff  
Chairperson

To facilitate a high level, decision making process, it is necessary for most management personnel in the graphic arts 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 the other divisions, the Management Division provides the “topping” for shaping future managers in the graphic arts. In collaboration with the other divisions, the five full-time faculty members and two part-time specialists in this division, all of whom have significant work experience in the printing industry, offer sequences of courses in the following areas:

**Estimating**  
Estimating is at the very 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 commercial 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 the more involved specialized applications in typesetting and optical character reading devices. This sequence is designed to provide the student with a basic understanding of computers and of their potential in production management.

**Newspaper production management**  
A program 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 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**  
This sequence introduces the student to basic concepts of personnel management from a behavioral science standpoint. Drawing heavily on courses in the College of General Studies, the sequence prepares persons 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.

**Sales-marketing**  
This program prepares students for positions in printing sales and marketing, printing equipment sales, and typographic sales as well as positions as technical representatives for graphic arts supply firms. Students are also prepared for sales positions in allied industries such as ink, paper, and packaging, and for positions as printing buyers and brokers.

### Electives

The following electives supplement required courses. Each student elects courses to suit his or her individual interests and objectives, and to meet the credit requirements of the printing program. Selection is subject to prerequisite requirements and availability of courses.

#### General Studies electives

In general, the program requires that the student take one course per quarter from this area which includes subjects such as economics, psychology, language communications, literature and fine arts appreciation. See page 98 for more specific details regarding distribution requirements.

#### Math/Science electives

Each student must take nine credits in mathematics appropriate to his or her previous accomplishments.

The second-year science sequence must be Chemistry, SCHG-281, 282, 283, or Physics, SPSP-214, 215, 216, or Chemical Principles, SCHG-205, 206, 207. The third-year science sequence can be chemistry or physics, advanced chemistry, advanced physics, contemporary science; calculus, computers, or Photography for Scientists and Engineers, PPHS-201, 202, 203.

#### Professional electives

These are usually selected from the printing management and technology electives listed below but may also include courses from the Colleges of Business or Engineering or other colleges in the Institute for which the subject matter is approved as being relevant to the student's individual needs.

#### Course descriptions

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

#### 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-504 Statistics of Quality Control II (Cr-4)  
PPRM-506 Business Law (Cr-3)  
PPRM-507 Estimating Workshop (Cr-4)  
PPRM-509 Economics of Production Management (Cr-4)  
PPRM-510 Personnel Relations II (Cr-4)

### School of Printing

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	PPRT-201 Typography I .....	3		
	PPRT-202 Composition Technology .....	3		
	PPRT-203 Layout and Printing Design .....	3		
	PPRT-204 Relief Press .....		3	
	PPRT-205 Gravure Printing .....		3	
	PPRT-206 Reproduction Photography .....		3	
	PPRT-207 Printing Plates.....			3
	PPRT-208 Lithographic Press.....			3
	PPRT-209 Screen Printing .....			3
	Mathematics Option.....	3	3	3
Second Year†	*General Studies Electives-Lower Division .....	4	4	4
	‡Physical Education Elective .....	0	0	0
	PPRT-302 Composition Systems.....	3		
	PPRT-311 Imposition and Finishing.....		3	
	PPRT-402 Applications of Electronics to Graphic Arts.....			3
	PPRM-201 Introduction to Technical Writing.....	3		
	PPRM-302 Personnel Relations.....		3	
	**Science Option.....	4	4	4
	Professional Electives.....		4	4
	*General Studies Electives-Lower Division .....	4	4	4
Third Year	‡Physical Education Elective.....	0	0	0
	PPRT-410 Introduction to Paper.....	3		
	PPRM-301 Applications of Computers to Graphic Arts.....			3
	PPRM-401 Estimating I.....		4	
	PPRM-403 Printing Production Management I.....	3		
	**Science Option.....	4	4	4
	Professional Electives.....		4	4
	*General Studies Electives-Upper Division .....	5	5	5
	PPRM-501 Financial Controls.....			3
	PPRM-503 Statistics of Quality Control.....		4	
Fourth Year	PPRM-590 Senior Seminar.....	2		
	Professional Electives.....	8	8	8
	*General Studies Electives-Upper Division .....	5	5	5

\*See p. 98 for the General Studies requirements.

\*\*Approved three-quarter sequences are listed under Science Electives.

†Upon completion of the second year, the associate in applied science degree is awarded.

‡See p. 37 for policy on Physical Education.

PPRM-511 Labor Relations in Graphic Arts (Cr-4)  
PPRM-512 Collective Bargaining in the Graphic Arts (Cr-3)  
PPRM-513 Sales Management (Cr-4)  
PPRM-514 Newspaper Management (Cr-4)  
PPRM-515 Legal Problems of Publishing (Cr-4)  
PPRM-516 Marketing in the Graphic Arts (Cr-4)  
PPRM-599 Independent Study (Cr-Arranged)

#### Printing Technology

PPRT-200 Introduction to Printing (Cr-3)  
PPRT-301 Typography II (Cr-4)  
PPRT-303 Layout and Printing Design (Cr-4)  
PPRT-304 Advanced Relief Press (Cr-4)  
PPRT-305 Gravure (Cr-3)  
PPRT-306 Tone Reproduction Photography (Cr-3)  
PPRT-307 Lithographic Plates (Cr-3)  
PPRT-308 Lithographic Press Problems (Cr-4)  
PPRT-309 Screen Printing (Cr-3)  
PPRT-310 Relief and Gravure Platemaking (Cr-3)  
PPRT-312 Stripping (Cr-3)

PPRT-313 Copy Preparation (Cr-4)  
PPRT-314 Flexography (Cr-4)  
PPRT-315 Ink and Color (Cr-4)  
PPRT-316 Production for Book Publishing (Cr-3)  
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-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)  
PPRT-591 Reproduction Photography (Cr-3)  
PPRT-592 Printing Plates (Cr-3)  
PPRT-593 Printing Presses (Cr-3)  
Other electives to be selected in consultation with advisors.

Institute	College	provides	students
with tailor-made programs of study			
Roy I. Satre, Jr., Dean			
Organized in 1973, Institute College is the ninth college within the administrative framework of Rochester Institute of Technology. It incorporates the previously existing School of Applied Science, the School of Computer Science and Technology, the Department of Packaging Science, the Center for Community/Junior College Relations and the Department of Instructional Technology.		developed curriculum is representative of the areas of knowledge that are basic to the packaging science industry.	Acceptance of the associate's degree
In 1968, the Center for Community College Faculty Development was formed, its primary function being the training of faculty for the two-year college career programs. In 1970, a new School of Applied Science evolved from the Center offering upper-division baccalaureate programs, to graduates of civil, electrical, and mechanical engineering technology curricula from the two-year colleges.		Computer Science and Technology -an existing program since 1971 — became a department of Institute College 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 offerings the freshmen and sophomore years.	The School of Applied Science functions as an upper-division unit 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 programs if they enroll in an upper-division curriculum leading to the bachelor of technology degree in engineering technology (B. Tech). As members of the junior (or third year) class, they may complete the baccalaureate degree in three years as Co-op students.
In 1972, the name of the Center was changed to Center for Community/Junior College Relations. This Center now incorporates Faculty Development and Community/Junior College Articulation. Major emphasis is on closer relationships with two-year colleges as they relate to upper-division transfer to RIT.		The Department of Instructional Technology was established in June of 1974 to offer both upper-division work in audiovisual communications and graduate programs in instructional technology. The audiovisual curriculum serves graduates of the two-year colleges and upon completion of an additional two years leads to the bachelor of science degree.	The School of Computer Science and Technology and the Department of Packaging Science admit students into the upper-division years and accept the associate's degree at full value. They also conduct a four-year curriculum into which high school graduates are admitted.
Both the School of Applied Science and the Center for Community/Junior College Relations 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.		Resources	Faculty
Also in 1972, the Department of Packaging Science was established to offer courses leading to the bachelor of science degree in packaging science and technology. This department became functional in September 1973.		Since Institute College is geared toward programs of practical application, it is necessary that well-planned laboratory and shop facilities be made available to students in upper-division and graduate courses.	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.
The Department of Packaging Science draws heavily upon courses offered in other schools and colleges of the Institute. With the addition of several packaging science courses, the broadly-		Institute College utilizes some of the finest facilities and equipment available. The new packaging science laboratories, the computer science facilities and equipment, and the new instructional technology laboratory have all seen additional equipment installed. The School of Applied Science's sharing of facilities with the College of Engineering allows the use of the most modern and sophisticated equipment in the engineering technology curricula. The added availability of remote terminals feeding into the Sigma 9 computer (and others) gives the student a maximum opportunity to utilize computers in his or her curriculum.	Program planning
		Memberships	Each student in Institute College is considered individually when his or her program is planned. The diversity of subject backgrounds 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.
		Institute College holds institutional membership in the American Association of Community and Junior Colleges, and the New York State Association of Junior Colleges.	Course descriptions
			For a complete outline of courses offered at RIT, please request the Course Description catalog from the Admission Office.



**“We have few educational inhibitions,” says Dean Satre**

“This is the most invigorating environment I’ve ever experienced in higher education,” says Dr. Roy I. Satre, dean of Institute College.

Institute College, begun in 1972, is RIT’s newest college and one its dean calls the “growingist.” Originally designed to provide an administrative structure for RIT’s Center for Community/Junior College Relations and the School of Applied Science, the college has since added the School of Computer Science and Technology, the Department of Packaging Science, and the Department of Instructional Technology.

“We’ve more than doubled our enrollment and budget in the last four years,” states Satre, who thinks Institute College’s lack of tradition is one of its strong points.

“If someone—a faculty member, administrator, or student—has a good idea it’s much more likely to be aired here at RIT than in many other educational institutions,” he says.

Satre was the first dean of Niagara County Community College and the founding president of the Community College of the Finger Lakes prior to joining RIT. Educated as a botanist and bio-ecologist before the term ecology was popularized, he taught college courses in conservation for several years.

Satre rates the Institute College faculty highly and believes the college’s system of advisory committees from industry also help keep the programs current and industry-oriented.

“I think we attract a good faculty because we have few educational inhibitions and tabus at RIT; faculty members appreciate not having to go through endless red tape in order to try a creative idea,” concludes the dean.



*Dean Roy I. Satre*

Admission: at a glance

Institute College Programs

This college includes the Department of Instructional Technology, the School of Applied Science, the School of Computer Science and Technology, and the Department of Packaging Science.

Programs offered by this college further reflect RIT's concern to provide students with relevant, career-oriented programs that lead to rewarding employment.

The Institute College prepares its students for a world of rapidly expanding technological applications.

**Applied Software Science:** 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.

**Computer Science:** General computer science, prepares graduates to enter employment as research programmers or enter graduate schools for specialized training. Degrees granted: AAS-2 year; BS-4-5 year.

**Computer Systems:** Oriented to prepare management, systems analysts, information systems designers, and business applications programmers. Systems application area is selected from the other RIT programs. Degrees granted: AAS-2 year; B.Tech.-4-5 year.

**Systems Software Science:** 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.

**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 2 options—environmental controls, and construction. The environmental option places emphasis on water and wastewater treatment. The construction option is oriented toward the building industry. Degree granted: B. Tech-3 year with Co-op.\*

**Electrical Engineering Technology:** Early emphasis in this program is on further mastery in 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 or mechanical design. The practical and applied are emphasized. Degree granted: B. Tech-3 year with Co-op.\*

**Audiovisual Communications:** Prepares students with production/design abilities in using various media. The graduate is a communications specialist, an innovator, an advisor to the general teaching faculty and/or a manager in a two-year college or other educational enterprise. Degree granted: BS-2 year.\*

\* Upper Division only.

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 or business.	2.0
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	Design and Management options; Elem. Algebra; Inter. Algebra 1 year any science Technical option; Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry	Additional mathematics, Science, printing, and art	Business administration, marketing management, art, graphic arts, engineering science, liberal arts with a math/science option and others within the broad areas of management, design, and technology.	2.0
Civil Engineering Technology	First two years available at many two-year colleges.		Civil or construction technology, or equivalent.	2.0
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.	2.0
Mechanical Engineering Technology	First two years available at many two-year colleges and RIT's College of Continuing Education.		Mechanical technology, drafting and design, industrial technology, or equivalent.	2.0
Audiovisual Communications	First two years available at some two-year colleges.		Audiovisual technology, television production, communications electronics, or comparable programs.	2.0

<sup>1</sup>All options include electives in social science, literature and humanities.  
\*Four years of English is required in all programs, except where state requirements differ.



## School of Applied Science programs designed to build on a student's previous knowledge

**James D. Forman**, 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. The School of Applied Science was established to offer upper-division (junior and senior) level work in civil engineering technology (environmental and construction options), electrical engineering technology, and mechanical engineering technology.

The School of Applied Science upper-division engineering technology programs are designed specifically to accept only graduates of associate's degree programs in similar 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 the liberal education, mathematics, and on-the-job experience.

Each student is considered individually when his or her program is planned. Through the selection of technical electives which are available in the senior year, 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 technology in the design fabrication, 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 exam. Requirements differ in other states.

### Cooperative work plan

An integral and significant part of each School of Applied Science program 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 latest developments in a given field of engineering technology. 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 effect 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 educational expenses.

In the School of Applied Science, each student is assisted in finding work which is related to specific career goals, however, as is the case with any employment situation, the major impetus must come from the individual student.

In all School of Applied Science programs except the construction option, 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 Applied Science accepts only transfer students. Admission to the bachelor of technology degree programs in the School of Applied Science is open to persons holding an associate's degree in civil or construction

technology, electrical technology, mechanical technology, a comparable associate's degree program, or an acceptable equivalent. Students holding what are deemed "inappropriate" associate's degrees often are able to establish the necessary equivalent by taking additional courses—typically at a two-year college.

RIT's College of Engineering which accepts engineering science associate's degree graduates into the junior year, also is able to accept engineering technology associate's degree graduates, however, additional work is required, depending upon the specific program and the student's past scholastic performance.

### Program requirements

School of Applied Science students are required to successfully complete the prescribed program including Co-op experience. Students are required to complete a total of 39 quarter credit hours of general studies for the B. Tech degree (associate's degree program plus RIT course work). The quantity of general studies to be completed at RIT is, therefore, 39 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 (see policy statement on page 37).

### 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) A 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 option), electrical engineering technology, and mechanical engineering technology, are all ECPD (Engineer's Council for Professional Development) accredited engineering technology programs. The School of Applied Science is a member institution of the American Society for Engineering Education.

Civil Engineering Technology,  
upper-division baccalaureate  
program

Robert E. McGrath, Jr., Staff  
Chairperson

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

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

All students enter this program at the third-year level, having already received an associate's degree in civil or construction technology or an acceptable equivalent.

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 path of studies should find wide-ranging employment opportunities.

**Cooperative education plan**

Experience gained in the cooperative education plan is especially valuable. A large number of students work in their Co-op jobs for consulting engineers as construction inspectors, members of survey crews, and drafters. Several Co-op students work in water and wastewater treatment plants, operating control panels, performing laboratory tests and doing routine maintenance work. (It is possible to obtain an operator's license while on this type of assignment.) Other students work for town engineering departments, state agencies, construction companies, and industrial construction departments.

Graduates of this program could expect to find employment with consulting engineers, in supervisory positions of pollution control facilities, construction companies, industrial firms, and the engineering departments of various federal, state and local governmental agencies. Also, several graduates have successfully completed master's degrees in civil and environmental engineering at other schools of engineering.

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-year college			
Third Year	I ITEC-420 Hydraulics.....	4		
	ITEC-428 Report Writing .....	2		
	SCHG-271 Chemistry of Water I.....	3		
	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		
	ITEC-430 Water Supply & Distribution.....			3
	SCHG-272 Chemistry of Water II .....			3
	SBIG-440 Environmental Microbiology.....			4
	SMAT-422 Solution of Engineering Problems II.....			4
	*SMAT-421 Solution of Engineering Problems I .....			(4)
Fourth Year	General Studies Elective (Lower Division).....			4
	‡Physical Education Elective .....			0
	ITEC-434 Environmental Pollution.....	3		
	ITEC-436 Design of Sanitary & Stormwater Drainage Systems.....	3		
	ITEC-438 Principles of Treatment of Water and Sewage.....	4		
	ITEM-404 Applied Mechanics of Materials.....	3		
	ITEE-414 Basic Electrical Principles.....	4		
	*SMAT-422 Solution of Engineering Problems II.....	(4)		
	‡Physical Education Elective .....	0		
	ITEC-514 Land Planning.....			2
	ITEC-516 Structural Analysis & Design I (concrete).....			4
	ICSP-205 Computer Techniques .....			3
Fifth Year	ITEC-510 Design of Water Treatment Facilities.....			3
	General Studies Elective (Upper Division).....			5
	ITEC-513 Computer Techniques in Civil Engineering.....	1		
	ITEC-527 Soil Mechanics.....	4		
	ITEC-520 Design of Wastewater Treatment Facilities .....	4		
	Technical Elective.....	4		
	General Studies Elective (Upper Division).....	5		
	**ITEC-544 Contracts and Specifications .....			3
	**ITEC-546 Professional Principles and Practices.....			1
	Technical Elective.....			4
	Free Elective.....			4
	General Studies Elective (Upper Division).....			5

\*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 p. 37 for policy on Physical Education.

Environmental option cooperative education schedule

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

Students following this program will observe the schedule of cooperative education shown above. All students, whether Block I or II, have the opportunity for one summer of employment, and one 6-month long employment session.



**Technical electives**  
ITEC-549 Environmental Engineering Project . . . 4 credits  
ITEC-550 Construction Practices ..... 4 credits  
ITEC-552 Structural Analysis & Design II (structural steel)..... 4 credits  
CETM-560 Legal and Ethical Responsibilities of the Field Engineer (Evening course) ..... 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.

**Mechanical Engineering Technology upper-division baccalaureate program**

**Ronald F. Amberger, Staff Chairperson**

This program is specifically designed for students who have an associate's degree in mechanical technology or a minimum of 90 quarter hours of appropriate college work. The mechanical engineering technology program at RIT is an ECPD accredited engineering technology program. It is operated on the cooperative work-study plan.

The first four quarters of this program are devoted to expanding the student's knowledge and skills in areas essential to professional success; i.e., mechanics, mathematics, materials, thermodynamics, and fluid mechanics. A student generally concentrates course work in either manufacturing or machine design during the final two quarters. The curriculum includes a substantial measure of laboratory work designed to reenforce theoretical concepts, provide experience in laboratory work, and enhance the student's communication skills.

Graduates of this program are prepared to occupy positions in product design, field service engineering, application engineering, marketing engineering, manufacturing engineering, and production.

**Civil Engineering Technology, B. Tech degree - Construction Option**

Year	Quarter Credit Hours			
	Winter	Spring	Summer	Fall
1, 2	Completion of an appropriate associate's degree at a two-year college			
Third Year	ITEC-420 Hydraulics.....	4		
	ITEC-422 Elements of Building Construction.....	4		
	ITEC-428 Report Writing .....	2		
	SMAT-421 Solution of Engineering Problems I .....	4		
	*SMAT-420 Introduction to Solutions of Engineering Problems I.....	(4)		
	General Studies Elective (Lower Division).....	4		
	‡Physical Education Elective .....	0		
	ITEC-444 Mechanical Equipment for Buildings.....		3	
	ITEC-450 Construction Management .....		4	
	ICSP-205 Computer Techniques .....		3	
	SMAT-422 Solution of Engineering Problems II.....		4	
	*SMAT-421 Solution of Engineering Problems I .....		(4)	
	General Studies Elective (Lower Division).....		4	
Fourth Year	‡Physical Education Elective .....		0	
	ITEC-500 Labor Relations .....		3	
	ITEC-505 Construction Safety .....		3	
	ITEC-508 Cost Estimates.....		3	
	ITEC-516 Structural Analysis & Design I (concrete).....		4	
	General Studies Elective (Upper Division).....		5	
	ITEC-460 Construction Equipment .....	3		
	ITEC-470 Timber Design and Construction .....	4		
	ITEE-414 Basic Electrical Principles.....	4		
	*SMAT-422 Solution of Engineering Problems II.....	(4)		
Fifth Year	SCHG-271 Chemistry of Water I.....	3		
	BBUB-245 Business Management .....	4		
	‡Physical Education Elective .....	0		
	ITEC-527 Soil Mechanics.....	4		
	ITEM-436 Engineering Economics.....	4		
	Technical Elective.....	4		
	General Studies Elective (Upper Division).....	5		
	ITEC-544 Contracts and Specifications .....		3	
	ITEC-546 Professional Principles and Practices .....		1	
	Technical Elective.....		4	
	Free Elective.....		4	
	General Studies Elective (Upper Division).....		5	

*\*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).*  
*‡See p. 37 for policy on Physical Education.*

**Construction option cooperative education schedule**

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

Machine Design electives  
ITEM-406 Dynamics of Machinery  
ITEM-451 Vibration and Noise  
ITEM-507 Design Practice  
ITEM-508 Special Topics in Machine Design  
ITEM-535 Analog Control Systems  
ITEM-540 Thermal Technology  
ITEM-599 Independent Study

Manufacturing electives  
ITEM-425 Statistical Quality Control  
ITEM-431 Production Management  
ITEM-470 Numerical Control Applications  
ITEM-472 Tool Engineering  
ITEM-480 Methods Analysis  
ITEM-490 Production Planning  
ITEM-491 Material Control  
ITEM-514 Special Topics in Material Forming  
ITEM-599 Independent Study

Other electives may be taken in Institute College, College of Continuing Education, College of Engineering and College of Science with the approval of the appropriate department and the student's academic advisor.  
Courses are scheduled with the work-study program in mind.  
Entering students are divided into two sections (A or B), with work and academic assignments alternating as shown in the table below.



Mechanical 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	ITEM-407 Mechanical Engineering Technology Laboratory	4			
	ICSP-205 Computer Techniques.....	3			
	*SMAT-420 Introduction to Solution of Engineering Problems..	4			
	*SMAT-421 Solution of Engineering Problems I.....	4			
	ITEM-404 Applied Mechanics of Materials.....	3			
	ITEM-414 Materials Technology I	3			
	‡Physical Education Elective (As required)	0			4
	*SMAT-421 Solution of Engineering Problems I.....				4
	*SMAT-422 Solution of Engineering Problems II.....				4
	ITEM-405 Applied Dynamics ...				4
	ITEM-415 Materials Technology II .....				4
	General Studies Elective (Lower Division).....				4
Fourth Year	‡Physical Education Elective (As required).....				0
	Technical Elective.....	4			
	*SMAT-422 Solution of Engineering Problems II.....	4			
	ITEM-411 Thermodynamics and Heat Transfer.....	4			
	ITEE-411 Electrical Principles for Design I.....	4			
	General Studies Elective (Lower Division).....	4			
	‡Physical Education Elective (As required).....	0			4
	ITEM-460 Applied Fluid Mechanics.....				4
	ITEM-506 Machine Design .....				4
	ITEE-412 Electrical Principles for Design II.....				4
Fifth Year	General Studies Elective (Upper Division).....				5
	‡Physical Education Elective (As required).....				0
	ITEM-521 Logic Control Systems.....	4			
	Technical Electives.....	8			
	General Studies Elective (Upper Division).....	5			
	‡Physical Education Elective (As required).....	0			4
	ITEM-437 Cost and Value Analysis.....				4
	Technical Elective.....				4
	Free Elective .....				4
	General Studies Elective (Upper Division).....				5
	‡Physical Education Elective (As required).....				0

\*Entering students will take SMAT-420 or 421 depending on an evaluation of their mathematics background  
Those students assigned to SMAT-420 will be taking a 3 course sequence in Solutions of Engineering Problems and will substitute this course for a technical elective in the fourth year  
‡See page 37 for policy on Physical Education.

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	-

Electrical Engineering Technology,  
upper-division baccalaureate  
program

John F. Adams, Staff Chairperson

The bachelor of technology degree in electrical engineering technology is an ECPD accredited engineering technology program. 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. All students enter the program at the third year or junior level as transfers from existing two-year associate's degree electrical technology programs.

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. 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.

The curriculum also includes one year of cooperative work experience 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 schedule shown. Note that half of the entering students will begin their program of studies at RIT by working on their Co-op job.

Technical electives  
(each carries 4 quarter credit hours)

ITEE-538 Digital Computer Design I  
ITEE-539 Digital Computer Design II  
ITEE-544 I.C. Theory and Applications  
ITEE-524 Microwave Systems  
ITEE-534 Communication Systems I  
ITEE-535 Communication Systems II  
ITEE-536 Control Systems II  
ITEE-521 Electromagnetic Fields and Antennas  
ITEE-545 Applications of Linear I.C.'s

ITEE-546 Industrial Electronics  
ITEE-550 Power Systems  
ITEE-551 Protective Relaying  
ITEE-552 Power System Stability  
ITEE-548 DC and AC Machine Design  
ITEE-526 Semi-Conductor Physics  
ITEE-554 Electronic Optic Devices  
ITEE-556 Transmission Lines and Filters  
ITEE-580 Senior Project  
ITEM-425 Statistical Quality Control  
ITEM-550 Topics in Machine Design for Electrical Majors

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	□

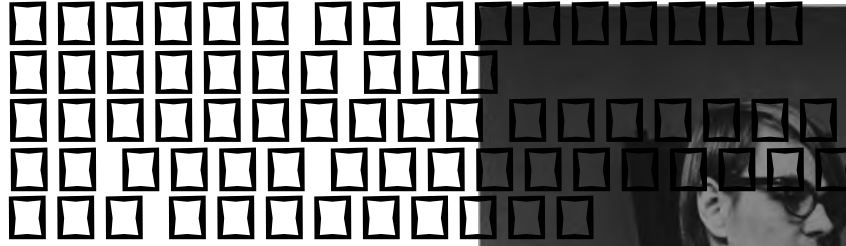
Electrical Engineering Technology, B. Tech degree

Year		Quarter Credit Hours			
		Fall	Winter	Spring	Summer
1,2	Completion of an appropriate associate's degree at a two-year college				
Third Year	ITEE-401 Circuit Theory I .....	5			
	ITEE-424 Logic & Digital Devices.....	4			
	*SMAT-420 Introduction to Solutions of Engineering Problems .....	4			
	SMAT-421 Solutions to Engineering Problems I .....	4			
	General Studies Electives (Lower Division).....	4			
	‡Physical Education Elective.....	0			
	ITEE-402 Circuit Theory II .....				4
	ITEE-428 Linear Amplifier Design.....				4
	*SMAT-421 Solution of Engineering Problems I .....				4
	SMAT-422 Solution of Engineering Problems II .....				4
	ICSP-302 Computer Applications in Engineering Problems I.....				1
	General Studies Elective (Lower Division).....				4
Fourth Year	‡Physical Education Elective .....				0
	*SMAT-422 Solutions to Engineering Problems II.....	4			
	ITEE-404 Control Systems I.....	4			
	ITEM-408 Statics and Strength of Materials.....	4			
	ITEE-532 Power Amplifier Design.....	4			
	General Studies Elective (Upper Division).....	5			
	‡Physical Education Elective .....	0			
	ITEE-520 Electrostatic and Magnetic Fields .....				4
	ITEM-411 Engineering Materials I.....				4
	ITEE-540 Pulse Circuits .....				4
Fifth Year	† ITEE-544 I.C. Theory and Applications .....				4
	General Studies Elective (Upper Division).....				5
	Technical Specialization Option (Communications I, Power Systems I, Digital Design I).....	4			
	Technical Elective.....	8			
	Free Elective.....	3-5			
	ITEM-436 Engineering Economics.....				4
	Technical Electives.....				8
	General Studies Elective (Upper Division).....				5

\*Entering students will take SMAT-420 or SMAT-421 depending on the 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 one fourth year general studies elective until their fifth year thus reducing the elective choices by one course.  
†Students desiring the computer design elective sequence are advised to take ITEE-544 in their 4th year and defer their general studies until the 5th year.  
‡See p. 37 for policy on Physical Education.







**Richard T. Cheng, 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 demand 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 may be specialized in areas such as computing theory, scientific computing, data processing, systems software, numerical analysis, operating systems, information processing, 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 specialties for employment.





### Programs

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

1. A bachelor of science (BS) degree program with options in *Computer Science* and *Applied Software Science*
  2. A bachelor of technology (B. Tech) degree program with options in *Computer Systems* and *System Software Science*
  3. A bachelor of science (BS) degree program in computer engineering 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 credits for courses they have taken (except computer engineering). Transfer students will have one year to change options without losing credits. 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 (4 quarters) of Co-op work experience before graduation.

### Bachelor of Science degree program

**Richard T. Cheng**, Acting staff chairperson

The bachelor of 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.

The computer science option is designed for students who are not sure which specialty 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

**Guy Johnson**, Coordinator

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.

### Computer Science option, BS degree

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	ICSS-202 Introduction to Computer Science .....	4		
	ICSS-230 Discrete Structure.....	4		
	ICSP-215 Programming Language - FORTRAN .....		4	
	ICSP-305 Assembly Language Programming .....			4
	SMAM-251, 252, 253 Calculus .....	4	4	4
	SPSP-205, 206 Physics.....		4	4
	General Studies Electives (Lower Division).....	4	4	4
	Physical Education Elective .....	0	0	0
Second Year	ICSS-315 Digital Computer Organization.....	4		
	ICSS-320 Data Structure Analysis .....		4	
	SMAM-305 Calculus and Math Elective.....	4	4	
	Computer Science Elective.....		4	
	Science Elective .....	4		8
	General Studies Electives (Lower Division) .....	4	4	4
	Physical Education Elective .....	0	0	0
Upper Division Years	ICSS-340 Finite State Machine and Automata.....	4		
	ICSS-400 Logical Design.....	4		
	ICSS-440 Operating Systems .....	4		
	ICSS-480 Formal Languages.....	4		
	ICSS-525 Assembler, Interpreters, & Compilers .....	4		
	ICSS-575 Minicomputer Systems and Applications.....	4		
	ICSS-545 Microprogramming .....	4		
	ICSS-550 Review of Computer Science .....	4		
	SMAM-511,512 Numerical Analysis or Math Elective.....	8		
	Computer Science Elective .....	16		
	Science Elective.....	8		
	General Studies Elective (Upper Division).....	30		
	Free Elective.....	8		
	Co-op (4 Quarters) .....			



Applied Software Science option  
Rodger Baker, Coordinator

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 systems analyst in any of the above fields.

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

Bachelor of Technology degree program  
Wiley R. McKinzie, Staff Chairperson

The bachelor of 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. Typically, the professional electives are 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., Modern Algebra, Introduction to Calculus, and Statistics) give these students the necessary mathematical background to deal with many problems in computer science and 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.

Applied Software Science option, BS degree

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	ICSS-202 Introduction to Computer Science.....	4		
	ICSS-230 Discrete Structure .....		4	
	ICSP-215 Programming Language - FORTRAN ....		4	
	ICSP-305 Assembly Language Programming.....			4
	SMAM-251, 252, 253 Calculus .....	4	4	4
	General Studies Electives (Lower Division).....	8	4	4
Second Year		0	0	0
	ICSS-315 Digital Computer Organization.....	4		
	ICSS-320 Data Structure Analysis .....		4	
	SMAM-305 Calculus and Math Elective.....	4	4	
	General Studies Electives (Lower Division).....	4	4	8
	Physical Education Elective .....	4	4	4
Upper Division Years		0	0	0
	ICSS-430 Numerical Methods.....	4		
	ICSS-440 Operating Systems .....	4		
	ICSS-575 Minicomputer Systems & Applications ..	4		
	ICSS-545 Microprogramming .....	4		
	ICSS-550 Review of Computer Science.....	4		
	Computer Science Electives.....	26-28		
	Math or Science Electives.....	12		
	General Studies (Upper Division).....	30		
	Free Electives.....	8		
	Co-op (4 Quarters) .....			

Finally, 6 quarters of physical education and 4 quarters of Co-op work experience are required. 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 bachelor of 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  
James R. Carbin, Coordinator

This program is designed to provide students with a broad background in computing with an emphasis in data processing applications. Graduates from this program are qualified to enter positions such as information systems designer and business applications programmer with ultimate career goals of management systems analyst or lead applications programmer. These positions not only require a strong computing background, but also a sound foundation in analytical and business skills. A student may choose an area of concentration in a supportive discipline such as business, mathematics, engineering, or other relevant curriculum at RIT, for professional electives. The computer systems curriculum is designed to facilitate transfer for graduates of two-year degree programs in data processing or business.

Systems Software Science option  
Wiley R. McKinzie, Coordinator

This program is designed to provide students with a broad background in computer systems software and competence in systems software programming. Systems software is a system of programs which extends the power and flexibility of the computer to make it a more viable problem solving tool for the applications programming areas such as data processing and scientific computing. Systems software programming is concerned with the design, implementation, modification, and maintenance of systems software (e.g., compilers, operating systems, system utilities etc.). Therefore, students are required to obtain a firm understanding of computer systems software and computer systems hardware concepts. Students will develop a high degree of competence in assembly language programming which, by in large, is the media for system software programming. Graduates are prepared to enter employment as systems programmers or systems software specialists. Any relevant curriculum at RIT may be chosen for professional electives.

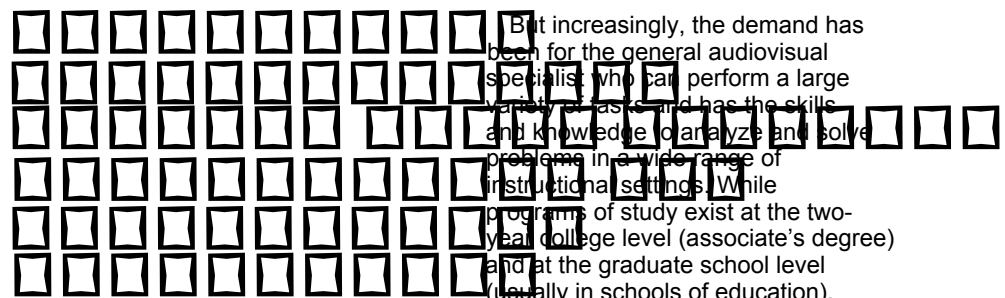
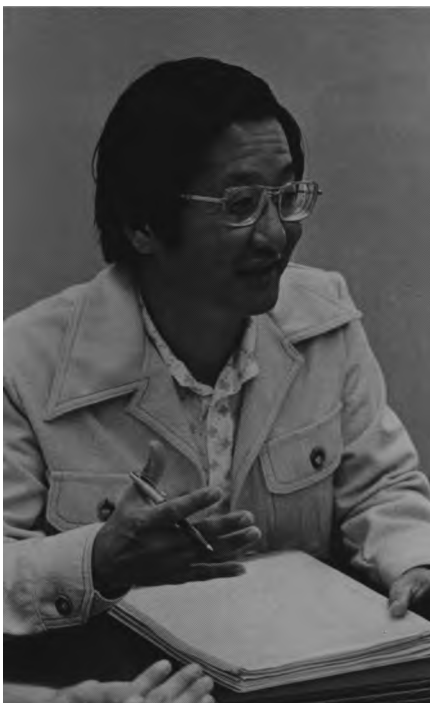
Computer Systems option, B. Tech degree

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	ICSS-202 Introduction to Computer Science .....	4		
	ICSS-230 Discrete Structure .....	4		
	ICSP-209 Introduction to Data Systems .....		4	
	ICSP-215 Programming Language - FORTRAN ....		4	
	ICSP-301 COBOL Programming .....			4
	SMAM-204 Modern Algebra .....	4		
	SMAM-214 Introductory Calculus .....		3	
	SMAM-309 Statistics .....			4
	General Studies Electives (Lower Division) .....	4	4	8
Second Year	Physical Education Electives .....	0	0	0
	ICSP-305 Assembly Language Programming.....	4		
	ICSS-310 Information Systems Design.....		4	
	ICSS-320 Data Structure Analysis .....		4	
	ICSS-321 Sorting & Searching Techniques .....			4
	Computer Science Electives.....	4		4
	Professional Electives .....		4	4
	General Studies Electives (Lower Division).....	8	4	4
	Physical Education Electives .....	0	0	0
Upper Division Years	ICSP-304 Advanced COBOL.....		4	
	ICSS-311 Information Systems Analysis.....		4	
	ICSS-525 Assemblers, Interpreters & Compilers.....		4	
	ICSS-420 Data Communication Systems.....		4	
	ICSS-450 Computing Management.....		4	
	ICSS-550 Review of Computer Science .....		4	
	Computer Science Electives .....		24	
	Professional Electives .....		36	
	General Studies Electives (Upper Division).....		15	
	Co-op (4 quarters).....			

Systems Software Science option, B.Tech degree

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	ICSS-202 Introduction to Computer Science.....	4		
	ICSS-230 Discrete Structure.....	4		
	ICSP-215 Programming Language - FORTRAN.....		4	
	ICSP-305 Assembly Language Programming.....			4
	SMAM-204 Modern Algebra.....	4		
	SMAM-214 Introductory Calculus.....		3	
	SMAM-309 Statistics.....			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		
	ICSP-306 Advanced Assembly Language.....		4	
	ICSS-321 Sorting & Searching Techniques .....			4
	Computer Science Electives.....		4	4
	Professional Electives .....	4	4	4
	General Studies Electives (Lower Division).....	4	4	4
Upper Division Years	Physical Education Electives .....	0	0	0
	ICSS-440 Operating Systems .....		4	
	ICSS-525 Assemblers, Interpreters & Compilers.....		4	
	ICSS-545 Microprogramming .....		4	
	ICSS-575 Minicomputer Systems & Applications...		4	
	ICSS-580 Systems Programming .....		4	
	ICSS-585 Systems Programming Laboratory.....		4	
	ICSS-550 Review of Computer Science .....		4	
	Computer Science Electives.....		24	
	Professional Electives .....		32	
	General Studies Electives (Upper Division).....		15	
	Co-op (4 quarters).....			





## **Bachelor of Science in Audiovisual Communications**

### **Background**

What does the word audiovisual mean to you? Who are AV people and what do they do? Where are they found? The field which we label AV is so broad and diversified that each of you will probably provide a different answer to these questions. The reason is that AV people perform so many different jobs in such a variety of settings.

Because of this diversity, training for this profession has taken many different forms. On the one hand, training is needed for specialists in the various media areas such as filmmaking, photography, television, educational psychology, and media utilization and distribution. Existing programs generally address this need.

But increasingly, the demand has been for the general audiovisual specialist who can perform a large variety of tasks and has the skills and knowledge to analyze and solve problems in a wide range of instructional settings. While programs of study exist at the two-year college level (associate's degree) and at the graduate school level (usually in schools of education), there was a major gap at the four-year college level (bachelor's degree). To earn a bachelor's degree, the graduate from a two-year college had to transfer into a program that was not in audiovisual communications.

Now RIT's audiovisual communications program in the Department of Instructional Technology is specifically designed to fill this need. 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 thus an important steppingstone to better job

opportunities or to further graduate study in this exciting and dynamic field. It is also 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 to make the curriculum up-to-date and relevant.

**Curriculum**

The curriculum concentrates on three major areas: audiovisual program design, audiovisual management, and production skills. The major 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 products in specific training situations. By requiring core courses in each of the three areas, 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.

**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**

ICAV-460 Selection, Storage and Dissemination of Media Resources  
ICAV-502 Practicum in Audiovisual Management  
ICAV-560 Media Facilities Design

Other electives may be taken in the College of Business and the College of Continuing Education with the approval of the appropriate department and the student's academic advisor.

**Audiovisual Program Design elective**

ICAV-501 Practicum in Audiovisual Program Design

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

**Audiovisual Production electives**

ICAV-485 Electronics in AV  
ICAV-490 Audio Techniques  
ICAV-503 Practicum in Production  
ICAV-570 Survey of AV Hardware  
ICAV-580 Producing Multimedia Presentations

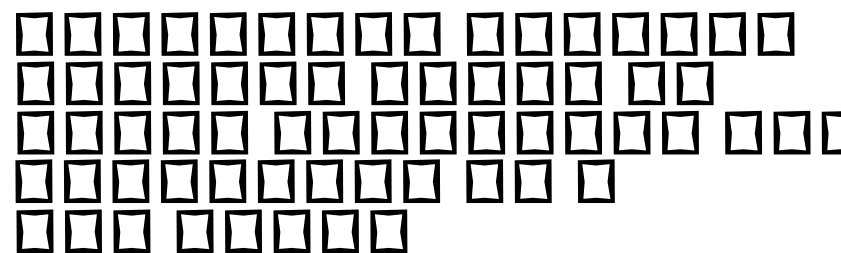
Other electives may be taken in the College of Continuing Education, the School of Applied Science, and the School of Photographic Arts and Sciences, with permission of the appropriate department and the student's academic advisor.

**Course descriptions**

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

General Education, required courses		Quarter hours
General Studies-Upper Division.....		25
GLLC-402 Conference Techniques .....		4
SSEG-201, 202, 203 Contemporary Science .....		12
Elective.....		4
		Total 45
Free Electives .....		5
Audiovisual Communications, required courses		
ICAV-440 Audiovisual Program Design I .....		4
ICAV-450 Audiovisual Program Design II.....		4
ICAV-550 Management of Audiovisual Programs .....		4
Audiovisual Management Elective.....		4
Audiovisual Production Electives.....		8
ICAV-401 Message Design .....		4
ICAV-510 Writing for Audiovisual Programs .....		4
ICAV-405 Audiovisual Seminar .....		2
ICAV-595, 596 Senior Project .....		4
		38
Audiovisual electives.....		8
*Physical Education electives (as required).....		0
Total credit for BS (plus associate's degree).....		96

*\*See p. 37 for policy on Physical Education.*



**Harold J. Raphael, Director**

The packaging science program, first of its scope leading to the bachelor of science degree, is broadly interdisciplinary, providing educational opportunities for young men and women seeking careers in the multi-faceted packaging industry. Graduates are prepared for initial employment in such areas as management, sales, marketing, purchasing, creative design, structural design, product development, environmental/ecological considerations, and the technical and engineering phases of production.

Packaging is a \$45 billion industry exhibiting dynamic growth and providing employment for many thousands of men and women with wide-ranging skills and expertise.

Until a few years ago, on-the-job training had seemed sufficient. Growth and diversity now have created a need for specifically qualified personnel that is acute and critical. The RIT program has been established to meet this need at the college level.

The degree program in packaging developed because of a close and well-established relationship between the packaging industry and Rochester Institute of Technology over many years. The School of Printing, the School of Photographic Arts and Sciences, the Graphic Arts Research Center, the School of Art and Design and the College of Continuing Education have provided many courses and seminars in various aspects of packaging as well as undertaking research projects to extend technical knowledge and applications.

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 graphic arts, 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.

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 the cooperative plan, used widely in other RIT programs.

Admission requirements

The four-year BS degree program considers for admission high school graduates who meet the following requirements: English, 4 years; mathematics, elementary algebra and either plane geometry or intermediate algebra; science, 1 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.

Program requirements

Since the packaging science programs are interdisciplinary and provide great individual flexibility, it seems best at this time to indicate requirements by totals in the several disciplines rather than by year and quarter.

BS degree in Packaging Science

Management option

Courses Required	Quarter Hour Credits	
Packaging Science		
Principles	4	
Methods of Evaluation	2	
Materials I	3	
Materials II	3	
Packaging Production Systems	4	
Packaging for Distribution	4	
Packaging for Marketing	4	
Packaging Management	4	
Packaging Economics	4	
Packaging and the Environment	4	35
*General Studies Electives		54
Management and Marketing		
Economics	8	
Accounting	8	
Management Principles	4	
Marketing Concepts	4	
Human Relations	4	
Plus two required electives	8	36
Printing		
Printing Processes	3	
Layout and Printing Design	3	
Technical Writing	3	9
Engineering Graphics		3
Mathematics - Science		
Algebra	3	
Contemporary Science	12	
Computer Science	7	
Statistical Quality Control	26	
Free Electives		24
**Physical Education		0
		187

Technical option

Courses Required	Quarter Hour Credits	
Packaging Science		
See Management option above		35
*General Studies Electives		54
Mathematics - Science		
Algebra	4	
Calculus	6	
General Chemistry	8	
Organic Chemistry	8	
Physics	12	
Statistical Quality Control	4	
Computer Science	7	49
Printing		
Printing Processes	3	
Layout and Printing Design	3	
Technical Writing	3	9
Engineering Graphics		3
Management and Marketing		
Management Concepts	4	
Marketing Principles	4	8
Free Electives		29
**Physical Education		0
		187

Design option

Courses Required	Quarter Hour Credits	
Packaging Science		
See Management option above		35
*General Studies Elctives		44
Art and Design		
Drawing	12	
2D and 3D Design	18	
Introduction to Communication Design	9	
Communication Design	18	
Design Applications	9	66
Engineering Graphics		3
Printing		
Printing Processes	3	
Reproduction		
Photography	3	
Technical Writing	3	9
Mathematics - Science		
Algebra	3	
Contemporary Science	12	
Computer Science	3	18
Marketing Principles		4
Free Electives		8
**Physical Education		0
		187

\*See p. 98 for General Studies requirements.  
\*\*See p. 37 for policy on Physical Education.



Individuals who work in packaging are people who were interested in art, science, business, or mathematics when they were in high school.

#### **Packaging: A Career for the Future**

Maybe you don't remember a time before milk cartons, pre-packaged meats, butter tubs, tape cassettes, film cartridges, and recloseable bottles. But, we haven't always had the products we use packaged this way.

Milk, for instance, used to come in glass bottles, and years before that it was ladled into tin milk containers from a large milk can.

Probably ninety per cent of the things you buy come in some sort of protective package. Have you ever stopped to think how each package was designed and produced?

Actually, packaging is a multi-billion dollar industry that depends on a variety of trained professionals.

Most of them got some additional training on the job or in college; however, full-blown college level packaging programs are a relatively new phenomenon. There are only five universities in the country that offer a degree in packaging.

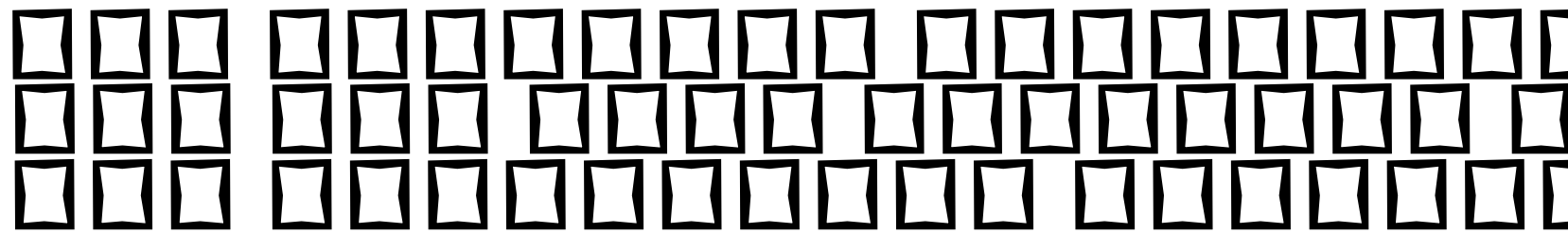
But let's get back to what people in packaging do on the job. For those talented in art, there is a continuing need for package designers. These are the people who create the "pow" colors, supergraphics, and unusual package features of many contemporary packages. They are also the people who have developed features such as child-proof medicine caps and convenient zip-openings. Frequently, designers work with advertising and marketing specialists.

For those people who lean toward science and mathematics, the technology of packaging may be

most interesting. Packaging engineers scientifically test packages for durability, strength, and other important qualities. Trips to the moon would never have been possible without the technological know-how that helped design compact, protective packaging for instruments, food and other items. Development of mass-production machines and special printing techniques also fall into the realm of packaging technologists.

Because packaging is an expanding industry, it has plenty of room for people with a business background. Management, purchasing, selling, and marketing are just some of the ways people with a management degree in packaging can function.

Today, and in the future, the challenge of our highly industrialized nation to produce effective, economical, and environmentally sound packages will require well-trained men and women.



**William E. Castle, Dean and Director**

The National Technical Institute for the Deaf was created to provide deaf students with the technological training that will lead to meaningful employment in business, industry, government 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 70 deaf students began their studies at NTID and for the academic year 1977-78 enrollment will be 875.

**Relationship of NTID to RIT**

While NTID is a national institution, it also is an integral part of RIT as one of its nine colleges, and is governed by the RIT Board of Trustees. It is the first large-scale effort to educate deaf students on a college campus planned primarily for hearing students.

The fact that NTID is located on a regular college campus is seen as an important factor in the development of personal, social and communication competence of deaf students. Educational opportunities are available for deaf students through programs that lead to certificates, diplomas and associate's degrees. Many deaf students take RIT courses or are cross-registered full-time or part-time into the associate's, baccalaureate and master's degree programs of RIT.

**Cross-registration**

An NTID student cross-registered in courses in any RIT college has the support services of interpreters, tutors, notetakers, speech pathologists, audiologists, and counselors available to him or her.

To enroll in the program of another college at RIT, NTID students discuss the possibility with their counselor, academic advisor, and with the NTID educational specialist in the college of their choice. They review academic progress, aptitudes and interests. A

recommendation is made and the final decision is left to the college in which the student seeks enrollment.

**Benefits of interaction**

The varied educational opportunities enable the deaf and hearing to learn together. The interaction of hearing and deaf extends to housing, sports and other social and community activities. Residence halls are available for single students, with on-campus apartments and

townhouses for married students. There is a full intercollegiate sports schedule as well as intramural and recreational programs. Fraternities and sororities are active on campus along with professional and honorary societies, special interest clubs and service organizations.

The entire educational program for NTID students is designed to help deaf students develop the technical, personal/social, and communication skills necessary to compete in the hearing world of work.







### Facilities and services

A new three-building complex is the site of the National Technical Institute for the Deaf. It is built on the campus of Rochester Institute of Technology. Deaf and hearing students share facilities on campus.

The largest structure is an academic building. In it are classrooms, laboratories and shops, administrative offices, faculty and staff offices, a research and training center, a theater, a speech and hearing center and a student development area.

The residence hall contains dormitory rooms, recreation areas, student lounges, laundry rooms, baggage and storage areas, project areas, study areas and conference rooms.

The dining hall/commons building has a dining room and all the other facilities needed to provide food service. It also contains a mailroom and lounge.

All the buildings were designed for convenience and educational values to students. The new complex enables NTID to make the classroom and housing area an environment that provides a combined living/learning experience.

### Educational philosophy

The major objective of NTID is to provide qualified deaf students with technical education in science, business, engineering, and applied arts which will lead to well-paying and satisfying jobs.

Special support services at NTID are intended to help deaf students achieve personal, social and cultural growth and adjustment.

NTID also strives to learn as much as possible about methods of teaching the deaf. It is exploring new educational technologies which may help all deaf persons. Special training programs are designed to develop skilled instructors and other professionals to work with the deaf and to give NTID employees the opportunity to learn all methods of communication.

### 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 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. Concurrently, the faculty has the opportunity to evaluate the students' abilities and interests and to offer counsel and planning for the 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, 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 which best suits their individualized needs. The staff is also available for assisting students to make satisfactory adjustments to college life and develop interpersonal relationship skills. The students are also guided through a series of specially designed living arrangements and self-governance experiences. This program has proven invaluable in preparing students to participate in the collegiate environment.

### Technical education at NTID

Technical education is study and training that teaches special skills to students. These skills prepare a student to become a specialist in professional careers in business or health-related fields, in applied arts, in engineering or photographic occupations.

In many ways, it is almost easier to say what technical education is not. Technical education is not a vocational or trade school education. Technical careers require advanced schooling and special knowledge and very often require special skills on equipment designed for specific operations.

At NTID we think of technical education from the three main standpoints in this quote from its founding director, Dr. Robert Frisina:

"Many people think technical education is concerned with the hands, not the mind; or the mind and not the heart. At NTID we have concern for all three."

In addition to the technical and professional skills a deaf student gets through his classes and lab work and co-op experience, we know that general personal, social, cultural and communication skills and knowledge are just as important in succeeding on the job and in a community.

Technical education curricula at NTID prepare students for the following:

### Art Careers:

1. A certificate in applied art
2. A diploma in applied art
3. An associate in applied science in applied art

### Business Careers:

1. A certificate in office practice and procedures
2. A certificate in data processing
3. A diploma in office practice and procedures
4. A diploma in data processing
5. A diploma in accounting technology
6. An associate in applied science in office practice and procedures
7. An associate in applied science in data processing
8. An associate in applied science in accounting technology
9. Other business careers are offered through cross-registration into the College of Business or Institute College.

### Engineering Careers:

1. A diploma in architectural drafting
2. A diploma in manufacturing processes
3. A diploma in numerical control programming
4. A diploma in industrial drafting
5. An associate in applied science design/drafting technology
6. An associate in applied science in architectural technology
7. An associate in applied science in civil technology
8. An associate in applied science in electromechanical technology
9. Other engineering careers are offered through cross-registration into the College of Engineering or Institute College.

### Technical Science Careers:

1. A certificate for histologic technicians in allied health
2. A certificate for physician's office technicians in allied health
3. A diploma for hematology technicians in allied health
4. A diploma for microbiology technicians in allied health
5. A diploma for clinical chemistry technicians in allied health
6. A diploma in medical record technology
7. A certificate in optical finishing technology

8. A diploma in optical finishing technology
9. An associate in applied science for medical record technology
10. An associate in applied science for medical laboratory technology
11. An associate in applied science in optical finishing technology
12. Other science careers are offered through cross-registration into the College of Science.

#### Visual Communications Careers:

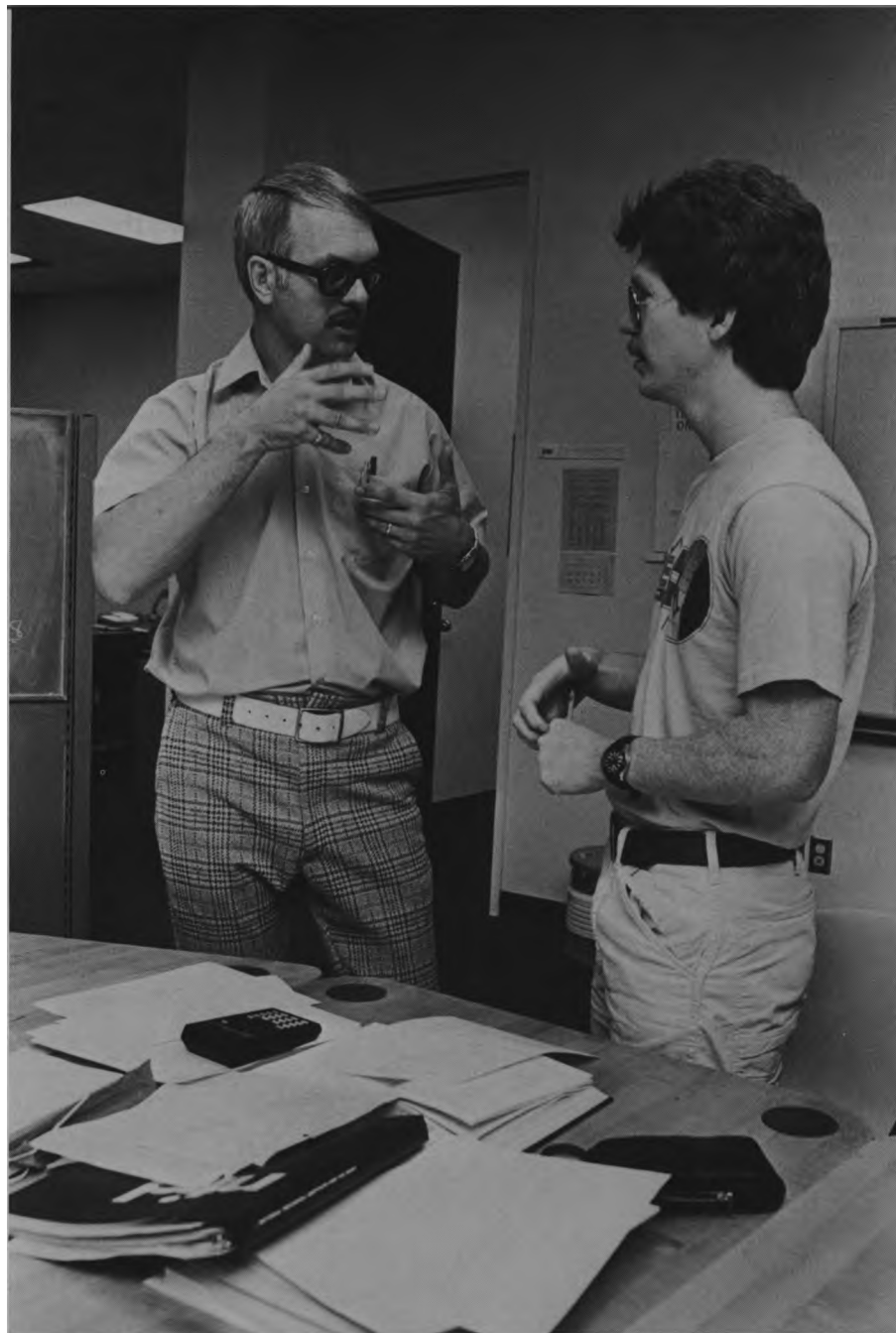
1. A certificate in applied photography
2. A certificate in printing production
3. A diploma in applied photography
4. A diploma in printing production
5. A diploma in media production
6. An associate in applied science in applied photography
7. An associate in applied science in printing production
8. An associate in applied science in media production

#### Special support services

Special support services are provided to the NTID student. Interpreter services are available where required for any class in which one or more deaf students are in attendance. In many classes for baccalaureate programs, hearing students—on a voluntary basis—take notes on special notetaking pads and give copies of them to NTID students.

In addition, counseling and speech and hearing services are conducted on an individual basis for each NTID student. Services to assist in career development and social and cultural 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 NTID—experiences that will lead to meaningful employment.

The NTID Job Placement Service has been very successful in helping graduates find rewarding jobs in their fields.



**Complementary education**  
Experiences set up to enrich and increase students' educational opportunities are provided. Complementary education supports academic (classes) and provides personal development skills. There is no credit for these experiences but they will enable students to become successful professionals in their chosen careers by making them more rounded individuals.

Such activities as athletics, student newspaper, student government, and clubs are not only fun, but give many deaf students the opportunity to become leaders.

One of the most active groups on campus is the NTID Masquers Club. Throughout the year a troupe of deaf students presents a variety of plays and skits for both hearing and deaf audiences.

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. There are many NTID students with an interest in all sports.

NTID students annually elect a member to the RIT Policy Council. There a student has the chance to help make decisions that will affect the future of all students. Additionally the deaf students have organized the NTID Student Congress as a subsidiary to the RIT Student Association.

**Admission**

Admission to NTID is based on each student's potential to finish a program of study which will give him or her the skills to get a good job.

The NTID programs are designed for students who have finished the educational program in their home community which meets their learning needs, in the opinion of school authorities, counselors and others who know the students. Generally, it is expected that students now enrolled in public or private secondary school programs serving the deaf will take advantage of the possibilities for education and training that these programs may have for them.

**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 the separate NTID bulletin, available from NTID.



## The College of Science stresses practice of science in the real world

**Thomas P. Wallace, 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.

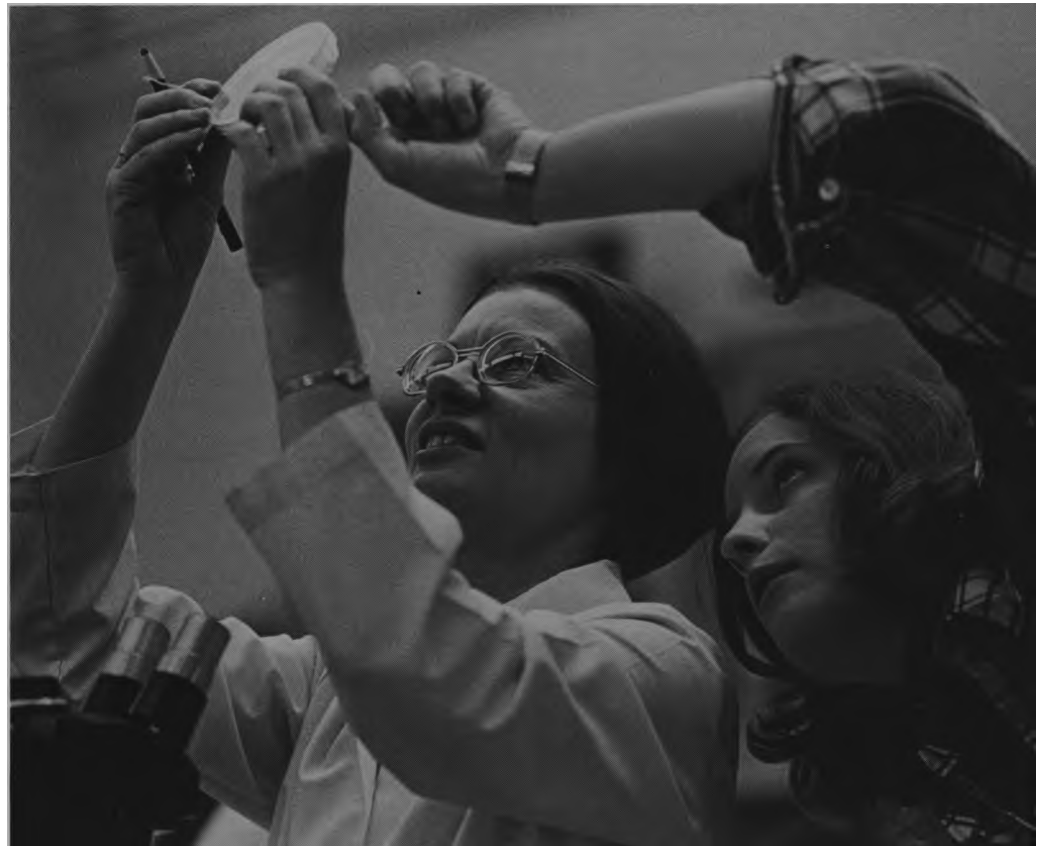
Our stress is on the practice of science in the real world, not just classroom lecturing. We're career-oriented and train students for where the jobs are.

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 publications 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.

This is a unique undergraduate program in the sciences that combines work-study, research experience, the latest equipment, and a dedicated faculty.



Dean Thomas P. Wallace

## The dean keeps teaching “to maintain a healthy perspective”

Teacher, scholar and activist in the development of new ideas—that’s Dr. Thomas P. Wallace’s model for a member of the academic profession.

Since he came to the RIT College of Science in 1968, Dr. Wallace has been living up to his ideals.

Now in his fifth year as dean of the college, Dr. Wallace has shown the same dynamic leadership in that position as he brought to his former responsibilities as assistant professor, associate professor, head of the chemistry department, and associate dean.

During his deanship the college’s enrollment has increased 25 per cent, to 600 students. New programs have been added: an industrial internship master’s degree in chemistry, a clinical chemistry master’s degree, a bachelor’s degree in nuclear medicine technology, and a bachelor’s degree in computational mathematics.

The college has made great strides toward developing programs to educate health professionals.

Its young, aggressive leadership has given the college greater visibility, both at RIT and off campus. “I feel strongly that science, mathematics, and engineering should be the basis for any technical education at an institute of technology,” Dr. Wallace says, and he’s labored to bring that about at RIT.

The dean has been presenting a role model for his faculty that blends teaching, research, and a keenly felt responsibility for the college’s development.

Named an Outstanding Educator of America, he has continued to teach and to work with undergraduates and graduates on research projects. “That’s essential if an administrator is to maintain a healthy perspective of what’s going on in academic life,” he says.

Dr. Wallace feels the College of Science combines factors which make for a unique undergraduate education—quality teaching by a dedicated faculty; the cooperative work-study arrangement; the opportunity for an undergraduate to do research with a faculty member using the latest high-grade equipment; and a strong faculty-student interaction.

The college has an ideal size to offer students a variety of expertise among the faculty, yet insure close student-faculty rapport, the dean feels.



**The programs**  
The College of Science has undergraduate programs in biology, chemistry, mathematics, computational mathematics, physics, chemical technology, medical technology, nuclear medicine technology and respiratory therapy technician.

**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 School of Health Related Professions.

**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 in-depth 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, make 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.

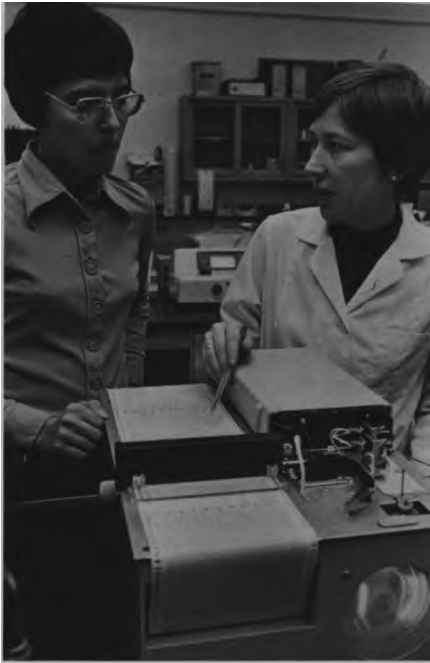
To illustrate, the following is a typical distribution of courses for the first year as a science major.

		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	*SBIG-201, 202, 203 General Biology.....	4	4	4
	*SCHC-211, 212, 213 General Chemistry .....	3	3	3
	SCHA-261, 262, 263 Chemical Analysis .....	3	3	3
	SMAM-251, 252, 253 Calculus .....	4	4	4
	*SPSP-311, 312 University Physics .....		5	
	General Studies Elective.....	4	4	
	Physical Education .....	0	0	

*\*Any two of these three in a given quarter*

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 Admission for policy and procedures.

The cooperative plan  
The school year is divided into four 11-week quarters, Fall, Winter, Spring, and Summer. Students in the biology, mathematics, and physics programs attend classes at the Institute 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 section to which the student is assigned is designated by the coordinator of employment.

The following 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 diagram below illustrates the cooperative schedule for the chemical technology program.

		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 programs in biology, mathematics and physics

		Fall	Winter	Spring	Summer
1st 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	-
	B	Work	RIT	RIT	-

Cooperative schedule for five-year chemistry program

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

Admission: at a glance  
College of Science programs

Undergraduate programs are offered in the seven 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 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-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 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 computer science enhances employment opportunities. Degrees granted: **AS-2** year; **BS-5** year.

**Medical Technology-Prepares** students for employment in hospital, industrial-medical, or research laboratories. Students spend three years at RIT and last year in an approved hospital internship. Degrees granted: AAS-2 year; BS-4 year.

**Nuclear Medicine Technology**-Graduates assist physicians in procedures that require use of radioactive materials. Graduates prepare radioactive dosage, collect and prepare specimens, verify patient records, carry out laboratory studies, and present results for interpretation by physicians. Three years are spent at RIT and last year is in an approved hospital internship. Degrees granted: AAS-2 year; 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 or industrial business administration. Degrees granted: AS-2 year; BS-5 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
			Liberal arts major with a math/biology option or equivalent. Changes from other science major or engineering science can be arranged.	2.0
Chemistry	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; Chemistry	Physics; C.E.E.B. Chemistry Achievement Test	Liberal arts major with a mth/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; Trigonometry; 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	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; Biology	Physics or Chemistry	Medical laboratory technology or equivalent program.	2.5
Nuclear Medicine Technology	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; 2 years lab science	Additional mathematics and science	Biology or medical technology or equivalent program.	2.0
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
Respiratory Therapy Technician	Biology	Algebra, Chemistry, Physics	Not applicable.	

<sup>1</sup> About one-third of the program includes electives in social science, literature, and humanities.  
<sup>\*</sup>Four years of English is required in all programs, except where state requirements differ.

## Science careers: demand increasing

The demand for scientists, technologists, and well-trained technicians continues to increase.

You can take advantage of the outstanding job prospects in science with a bachelor's degree or less.

In chemistry, biology, mathematics and physics, a person with a bachelor's degree can work at the research assistant level; in marketing, sales and service of scientific products; or in high school teaching.

The public's growing concern with ecology, energy, health and other social needs insures jobs for the scientists and technologists who have the know-how to combat the problems.

In industry and in government (the two major employers), the disciplines that apply scientific and technical knowledge to the solution of practical problems are more promising than purely theoretical studies.

Interdisciplinary areas such as biomedicine, environmental chemistry and geophysics offer good career opportunities.

In this age of the computer, mathematicians are increasingly important in a number of fields.

The allied health professions make up another mushrooming area. Two programs currently offered in the College of Science at RIT—medical technology and nuclear medicine technology (which involves the clinical use of radioactive materials)—require three years of classroom study and a fourth year of clinical training in a hospital. After that a student can take a certifying examination.

Science technicians don't always need four-year degrees. The chemical technology curriculum at RIT is an associate in applied science program which trains chemical technicians to perform experiments, record data and results, and communicate them to project directors. The three-year program combines work with study—the student alternates quarters in the classroom with quarters in a job.

If you attend a college with such a cooperative work-study arrangement, you can gain practical on-the-job experience, decide



whether it's what you want to do the rest of your life, and make money to pay a good chunk of your college expenses.

Cooperative education, which is an important part of RIT's baccalaureate programs in biology, chemistry, mathematics and physics, brings the cost of a private college education in line with that at a public university.

Science graduates with cooperative education experience also will find their starting salaries in their post-college jobs higher than people their age without

experience. RIT's College of Science graduates earned upwards of \$10,000 each in their first year of full-time employment.

A science background can provide a good starting point for advanced study in other areas such as law, medicine, engineering and business, as well as in the traditional science disciplines. The Ph.D. in one of the sciences will most likely work in research and development in the laboratory or in university teaching.

Biology program prepares students for employment or graduate study

Paul A. Haefner, Head

The Department of Biology offers programs leading to the AS degree in biology, and the BS degree in biology.

The program of the Department of Biology prepares students to pursue graduate degrees in a wide 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 medical research laboratories, food and other agriculturally related industries, pharmaceuticals, and environmental organizations.

By proper choice of electives, students may prepare to specialize in biological instrumentation techniques leading to careers in biological technology, as well as in environmental or medical science.

Requirements for the AS and BS degrees in biology and the BS degree in medical technology

The student must meet the minimum graduation requirements of the Institute as described on page 49 and in addition must complete the requirements contained in the particular program listed below or its equivalent as determined and approved by the Biology 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 chemistry, physics, computer science, mathematics, 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 Admission Office.



Biology and Medical Technology programs

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	SBIG-201, 202, 203 General Biology.....	4	4	4
	SCHG-215, 216, 217 General Analytical Chemistry.....	4	4	5
	SMAM-204, 214, 215 Modern Algebra, Introduction to Calculus .....	4	3	3
	or			
	SMAM-251, 252, 253 Calculus .....	4	4	4
	*General Studies Electives-Lower Division.....	4	4	4
Second Year A.S. Degree	‡Physical Education Elective.....	0	0	0
	**Biology Elective.....	4	4	4
	SPSG-211, 212, 213 College Physics.....	4	4	4
	or			
	SPSP-311, 312, 313 University Physics.....	5	5	5
	SCHO-231, 232, 233 Organic Chemistry.....	4	4	4
Third and Fourth Year	*General Studies Electives-Lower Division.....	4	4	4
	‡Physical Education Elective.....	0	0	0
	**Biology Elective.....	F or W		S or SF
	Institute-wide Elective.....	8		8
Fifth Year B.S. Degree	*General Studies Electives-Upper Division.....	4		4
	**Biology Elective.....	5		5
	Institute-wide Elective.....	8		8
	*General Studies Elective.....	4		4

\*See p. 98 for General Studies requirements.

‡See p. 37 for policy on Physical Education.

\*\*For the BS degree, 60 hours in biology must be distributed as follows:

3 quarter courses in general biology; 2 quarter courses in each area of molecular and cellular biology; developmental biology, genetics and ecology; organismal biology; and 1 quarter course in biological techniques.

## Chemistry provides full range of degree options

**Robert E. Gilman**, Head

The Department of Chemistry offers programs leading to the AS degree in chemistry, the AAS degree in chemical technology, the BS degree in chemistry and the MS degree in chemistry.

The AAS degree in chemical technology involves a three-year curriculum and incorporates direct industrial cooperative employment. The chemical technology curriculum is designed to integrate the component skills, knowledge, and attributes necessary for the performance of industrial laboratory tasks. Emphasis is placed on laboratory experiences centered about qualitative and quantitative

analysis. Advanced laboratory work is designed to teach the student special laboratory techniques and modern instrumentation.

The five-year 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. Graduates qualify 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 number of graduates continue their education for the MS or Ph.D. degrees in chemistry.

### **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 49 and in addition must complete the requirements contained in the

particular program listed below or its equivalent as determined and approved by the Chemistry Department.

As part of the BS requirements, the student 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 190 quarter credit hours and 380 quality points. 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, physics, computer science, mathematics, business, or photo science is possible.







Chemistry

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	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—Lower Division .....	4	4	4
	‡Physical Education Electives .....	0	0	0
Second Year	SCHA-311 Instrumental Analysis .....	F or W 4		S or SR
	SCHA-312 Separations Techniques.....			4
	SMAM-305 Calculus .....	4		
	SMAM-306 Differential Equations .....			4
	SPSP-311, 312 University Physics .....	5		5
	*General Studies Electives—Lower Division .....	4		4
	‡Physical Education Electives .....	0		0
Third Year	SCHP-340 Introduction to Physical Chemistry .....	F or W 4		S or SR
	SCHP-441 Physical Chemistry .....			4
	SCHO-431 Organic Chemistry .....			4
	SPSP-313 Physics.....	5		
	SPSP-331 Electronics.....	3		
	SMAM-431 Linear Algebra.....	4		
	GLLC-421 German .....			5
	*General Studies Elective.....	4		5
Fourth Year	‡Physical Education Elective .....	0		
	SCHP-442, 443 Physical Chemistry.....	F or W 4		S or SR
	SCHO-432, 433 Organic Chemistry.....	4		4
	SCHC-402 Introduction to Research.....	0		
	Institute-Wide Electives.....			6
	SCHI-661 Inorganic Chemistry.....			3
	GLLC-422 German .....	5		
	*General Studies Elective.....	5		
Fifth Year	SCHI-662 Inorganic Chemistry.....	F or W 3		5
	or SCHB-602 Biochemistry .....	3		
	SCHA-612 Instrumental Analysis.....	5		
	Chemistry Electives .....			6
	*General Studies Electives .....	5		5
	Institute-Wide Electives.....	5		6

\*See p. 98 for General Studies requirements.  
‡See p. 37 for policy on Physical Education.

Chemical Technology

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	SCHT-241, 242 Chem. Tec. I (General) & (Analytical) .....	6		6
	SCHG-215 Chem. Tec. II Gen. & (Analytical) Lec.....	3		
	SMAM-201, 202 Algebra, Trigonometry .....	3		3
	GLLC-220 English Composition.....	4		
	PPRM-201 Introduction to Technical Writing.....			3
	*General Studies Elective-Lower Division .....			4
	‡Physical Education Elective .....	0		0
Second Year	SCHT-243, 244 Chem. Tec. III, IV (Organic) .....	SR or F 6		W or S 5
	SMAM-203 Algebra, Trigonometry.....	3		
	SMAM-309 Statistics.....			4
	SPSG-211 College Physics .....			4
	SCHT-309 Glassblowing Techniques.....			2
	*General Studies Electives—Lower Division .....	8		
	‡Physical Education Elective .....	0		0
Third Year AAS degree	SCHT-305, 306 Chemistry Specialty (Spectrometry).....	SR or F 4		W or S 4
	SPSG-212, 213 College Physics.....	4		4
	SPSP-301 Electronics for Technologists.....			3
	Institute-wide Electives .....	4		4
	*General Studies Electives—Lower Division .....	4		4

\*See p. 98 for General Studies requirements.  
‡See p. 37 for policy on Physical Education.

Mathematics  
program can be  
designed with or  
without Co-op

Edward A. Newburg, Head

The Department of Mathematics offers two degree programs, one in mathematics and one in computational mathematics. Each program leads to the AS and then BS degrees.

The AS degree will ordinarily be completed in two years and involves no cooperative employment. The BS degree involves a five-year curriculum and incorporates industrial cooperative employment during the third, fourth and fifth years. However, the Department of Mathematics will design a special curriculum for students who do not desire to participate in the system of cooperative employment.

The program leading to the BS in mathematics is a traditional applied mathematics program requiring a minor concentration in one of a variety of fields of application chosen by the student.

The program leading to the BS in computational mathematics emphasizes some of the more modern topics in applied mathematics and incorporates a strong minor in computer science.

Graduates of either program qualify for positions in industrial institutions and business concerns as well as for graduate studies leading to an MS or Ph.D. degree, not only in mathematics but in a number of other fields as well.

Requirements for the AS and BS  
degrees in mathematics or  
computational mathematics

The student must meet the minimum graduation requirements of the Institute as described on page 49 and in addition 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.



Mathematics

Year				
		Fall	Winter	Spring
First Year	SMAM-251, 252, 253 Calculus .....	4	4	4
	SMAM-210, 211, Freshmen Seminar .....	1	1	
	ICSS-202 Intro. Computer Science.....	4		
	ICSP-215 Programming Language-FORTRAN .....		4	
	SMAM-431 Linear Algebra.....			4
	**Science.....	5	5	5
	*General Studies Elective—Lower Division .....	4	4	4
	‡Physical Education Elective .....	0	0	0
	SMAM-305 Calculus .....	4		
	SMAM-306 Differential Equations .....		4	
	SMAM-307 Differential Equations .....			4
	orSMAM-308 Engineering Math.....			4
	SMAM-351, 352 Probability and Statistics.....	4	4	
	SMAM-341 Foundations of Mathematics .....			4
Third Year	Elective .....	4	4	4
	*General Studies Electives—Lower Division .....	4	4	4
	‡Physical Education Elective .....	0	0	0
	SMAM-361 Mathematical Modeling.....	F or W		S orSR
	SMAM-432 Linear Algebra.....	4		4
	SMAM-411,412 Real Variables.....	4		4
	‡ Elective .....	4		4
Fourth Year	*General Studies Electives—Upper Division.....	5		5
	SMAM-531, 532 Abstract Algebra.....	4		4
	Mathematics Elective.....	4		4
	*Elective.....	4		4
	*General Studies Electives—Upper Division .....	5		5
	Mathematics Elective.....	F or W		S
	# Elective (2) .....	4		4
		8		8
	*General Studies Electives—Upper Division .....	5		5

NOTE: A detailed analysis of the above programs is contained in a brochure prepared by the Department of Mathematics and available upon request.  
\*See p. 98 for General Studies requirements.  
‡See p. 37 for policy on Physical Education.  
\*\*One of the following introductory sequences, including the associated laboratory.  
SBIG-201, 202, 203 General Biology  
SCHG-211, 212, 213 General Chemistry  
SCHG-205, 206, 207 Chemical Principles  
SPSP-311, 312, 313 University Physics  
SPSP-205, 206, 207 General Physics  
#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.



Computational Mathematics

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	SMAM-251, 252, 253 Calculus .....	4	4	4
	ICSS-202 Intro. Computer Science .....	4		
	ICSP-215 Programming Language-FORTRAN .....		4	
	SMAM-431 Linear Algebra.....			4
	**Science.....	4-5	4-5	4-5
	*General Studies Elective—Lower Division .....	4	4	4
Second Year	‡Physical Education Elective .....	0	0	0
	SMAM-305 Calculus .....	4		
	SMAM-306 Differential Equations I .....		4	
	SMAM-351, 352 Intro. Probability & Statistics.....		4	4
	SMAC-265 Discrete Mathematics.....	4		
	SMAC-365 Combinatorial Mathematics .....			4
	ICSP-305 Assembly Language Programming.....	4		
	ICSS-315 Digital Computer Organization.....		4	
	Computer Science Elective .....			4
Third Year	*General Studies Elective—Lower Division .....	4	4	4
	‡Physical Education Elective .....	0	0	0
	SMAM-361 Mathematical Modeling.....	F or W 4		S or SR
	SMAM-432 Linear Algebra.....			4
	SMAM-531, 532 Abstract Algebra .....	4		4
Fourth Year	#Elective .....	4		4
	*General Studies Elective—Upper Division .....	5		5
	SMAM-511, 512 Numerical Analysis .....	F or W 4		S or SR 4
	SMAM-410 Advanced Calculus .....	4		
	ICSS-530 Discrete Simulation .....			4
Fifth Year	# Electives .....	4		4
	* General Studies Elective—Upper Division .....	5		5
	#Electives (2) .....	8		8
	*General Studies Elective—Upper Division .....	5		5

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

NOTE: A detailed analysis of the above programs is contained in a brochure prepared by the Department of Mathematics and available upon request.  
\*See p. 98 for General Studies requirements.  
‡See p. 37 for policy on Physical Education.  
\*\*One of the following introductory sequences, including the associated laboratory.  
SBIG-201, 202, 203 General Biology  
SCHC-211, 212, 213 General Chemistry  
SCHG-205, 205, 207 Chemical Principles  
SPSP-311, 312, 313 University Physics  
SPSP-205, 206, 207 General Physics  
# 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.

Physics grads  
head for industry,  
academia or  
government

V. V. Raman, 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 49 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 Admission Office.



Physics

Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	SMAM-251, 252, 253 Calculus.....	4	4	4
	SCHC-211, 212, 213 General Chemistry.....	3	3	3
	SCHG-205, 206, 207 Chemical Principles.....	1	1	1
	SPSP-200 Physics Orientation .....	0	0	0
	SPSP-311, 312, 313 University Physics.....	5	5	5
	*General Studies Electives—Lower Division .....	4	4	4
	‡Physical Education Elective .....	0	0	0
Second Year AS degree	SMAM-305 Calculus .....	4		
	SMAM-306, 307 Differential Equations.....		4	4
	SMAM-308 Engineering Math.....			4
	SPSP-314,315 Introduction to Modern Physics.....		4	4
	SPSP-321 Elementary Physical Analysis.....		3	
	ICSP-205 Computer Techniques .....	3		
	*General Studies Electives-Lower Division.....	4	4	4
	Institute-wide Elective.....	4	3	
Third Year	‡Physical Education Elective.....	0	0	0
	SPSP-431, 432 Electronic Measurements.....	F or W		S or SR
	SPSP-401, 402 Intermediate Mechanics .....	3		3
	**SPSP-455 Optical Physics.....	4		4
	*General Studies Elective.....	4		
Fourth Year	Institute-wide Elective.....	5		5
	SPSP-411, 412 Electricity & Magnetism.....	4		4
	**SPSP-415 Thermal Physics.....	4		
	SPSP-421, 422 Experimental Physics.....	2		2
	SPSP-501 Theoretical Physics.....			5
Fifth Year BS degree	*General Studies Elective.....	5		5
	Institute-wide Elective.....	4		4
	SPSP-552 Atomic Physics & Quantum Mechanics.....	F or W		S
	SPSP-521 Advanced Experimental Physics.....	4		
	SPSP-531 Solid State Physics.....	3		
	SPSP-553 Nuclear Physics.....			4

\*See p. 98 for General Studies requirements.  
‡See p. 37 for policy on Physical Education.  
\*\*SPSP-455 and SPSP-415 given in alternate years.

## The School of Health Related Professions coordinates Institute-wide programs

**Edward B. Stockham**, Director

RIT has educated health professionals for more than a quarter of a century, since a program in dietetics was started in 1950.

The School of Health Related Professions in 1976 began coordinating the Institute's certificate, associate's, bachelor's, and master's degree programs in the health fields and its continuing education programs in health, as well as planning for future programs.

The student in the health professions looks on a bright employment future. Studies have documented a critical need for allied health professionals.

Allied health professionals work as members of health-care teams supporting the services of physicians, dentists, and other health professionals. They are in increasing demand because physicians more and more are delegating functions that do not require their level of training and experience.

Because the allied health professions offer job options at various degree levels, RIT is training people for various stages on the career ladder.

The Institute's current health-related programs are listed below. Besides the brief descriptions here, you can find out further information on each by consulting the appropriate page in this bulletin.

**Biomedical photography/biomedical photographic communications** is an undergraduate and bachelor's degree program in the College of Graphic Arts and Photography. It educates people to work in audiovisual and educational resource departments in hospitals, medical and dental schools, research centers, and other health institutions.

**Dietetics** is a bachelor's degree program in the Department of Food Administration and Tourist Industries Management within the College of Business. RIT's two options in dietetics prepare students for the complete range of nutritional employment from management of food systems to therapeutics.

**Medical illustration** is an option within the bachelor of fine arts degree program in the College of Fine and Applied Arts. Medical illustrators work as part of teams supplying the growing needs for professional audiovisual media of a medical nature.

**Medical technology** is a bachelor's degree program in the College of Science which educates students to perform medical laboratory analysis in clinical laboratories.

**Nuclear medicine technology** is a bachelor's degree program in the College of Science which prepares students to assist physicians in procedures that require the use of radioactive materials and nuclear instrumentation.

**Clinical chemistry** is a master's degree program in the College of Science which prepares supervisors for clinical chemistry laboratories.

**Health sciences applications of instructional technology** is an option within the Institute College's master's degree program in instructional technology. Its graduates are prepared to work with health professionals in designing, developing and evaluating instructional systems in schools of medicine, dentistry, nursing, veterinary science, podiatry, optometry, and other health training institutions.

**Health institutions management** is an associate's degree program within the College of Continuing Education. Its graduates are prepared for administrative positions in hospitals, nursing homes and related health service areas.

**Respiratory therapy technician** is a certificate program in the School of Health Related Professions which prepares students to work closely with patients, doctors, and nurses in providing respiratory care through the use of various medical gases, aerosols, respirators and resuscitators, pulmonary function testing, and other modes of inhalation therapy.

Program	College	Degree	See Page
Biomedical photography/biomedical photographic communications	Graphic Arts & Photography	AAS BS	120
Clinical chemistry	Science	MS	*
Dietetics	Business	BS	68
Health institutions management	Continuing Education	AAS	**
Health sciences applications of instructional technology option	Institute College	MS	*
Medical illustration option	Fine and Applied Arts	BFA	92
Medical technology	Science	BS	166
Nuclear medicine technology	Science	BS	167
Medical laboratory technology	National Technical Institute for the Deaf	AAS	†
Medical record technology	National Technical Institute for the Deaf	AAS	†
Optical finishing technology	National Technical Institute for the Deaf	AAS	†
Respiratory therapy technician	Science	Cert.	168

\*See Graduate Bulletin

\*\*See CCE course catalog

†See NTID Bulletin

Medical Technology program prepares students for laboratory work in a variety of situations

William A. Burns, Director

The major function of the medical technology program, which leads to the bachelor of science degree, is the preparation of students for employment in hospital laboratories, industrial-medical or research laboratories, and pharmaceutical companies. This program has been accepted by the Board of Registry of Medical Technologists of the American Society of Clinical Pathologists as meeting all requirements prior to the Registry examination.

Students enrolled in the medical technology program attend classes at RIT during the Fall, Winter and Spring Quarters for three years. In the Fall Quarter of their third year, they apply for internship to hospital schools of medical technology that are approved by the American Society of Clinical Pathologists. They will then spend their fourth academic year at the hospital that accepts them as an intern in medical technology. At the present time a new integrated internship year is being developed by the medical technology faculty. Upon the completion of this new internship development, all RIT med-tech students that begin their studies at RIT subsequent to the completion of this new format will be expected to intern under this new fourth year arrangement, for which tuition will be charged. Upon successful completion of their fourth year, they are awarded a BS degree from RIT.

The medical technology program is affiliated with Rochester General Hospital, St. Mary's Hospital in Rochester and Buffalo's Millard Fillmore Hospital. Students may, however, seek admission to any approved hospital for their internship.



Medical Technology				
Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	SBIG-201, 202, 203 General Biology.....	4	4	4
	SCHG-215, 216, 217 General Analytical Chemistry.....	4	4	5
	SMAM-221, 222, 223 College Math.....	4	4	4
	*General Studies Elective-Lower Division.....	4	4	4
	‡Physical Education Elective.....	0	0	0
Second Year AAS degree	SBIO-305, 306 Physiology and Anatomy.....		4	4
	SCHO-231, 232 Organic Chemistry.....	4	4	
	SPSG-211, 212, 213 College Physics.....	4	4	4
	ICSP-205 Computer Techniques.....	3		
	*General Studies Electives-Lower Division.....	4	4	4
	Institute-wide Elective.....			4
Third Year	‡Physical Education Elective.....	0	0	0
	SBIG-401 Immunohematology .....	3		
	SBIO-404, 405 Microbiology .....	5	4	
	SCHB-602, 603 Biochemistry .....	3	3	
	SCHB-605, 606 Biochemistry Case Studies.....	1	1	
	SBIT-432, 433 Biology Laboratory Techniques.....		4	4
	SMAM-309 Statistics.....			4
	Institute-wide Elective.....			4
	*General Studies Elective-Upper Division.....	5	5	5
BS degree The fourth year taken at an approved hospital for training medical technologists.				

\*See p. 98 for General Studies requirements.  
‡See p. 37 for policy on Physical Education.



## **Nuclear Medicine Technology program includes one year of clinical training**

**Dr. Jerome Wagner**, 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 internship begins in early September and ends in mid-September of the following year.

The first two weeks of training are an intensive introduction to the theory and practice of nuclear medicine technology taught by physicians and technologists from the program's affiliated hospitals. Classes during this time are held on

the RIT campus, and laboratory sessions take place at Rochester hospitals.

Most of the internship is performed in nuclear medicine departments of the program's hospital affiliates. Each student is assigned (subject to 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. Several times during each four-month rotation, students return to the RIT campus for a half-day of lectures and discussions.

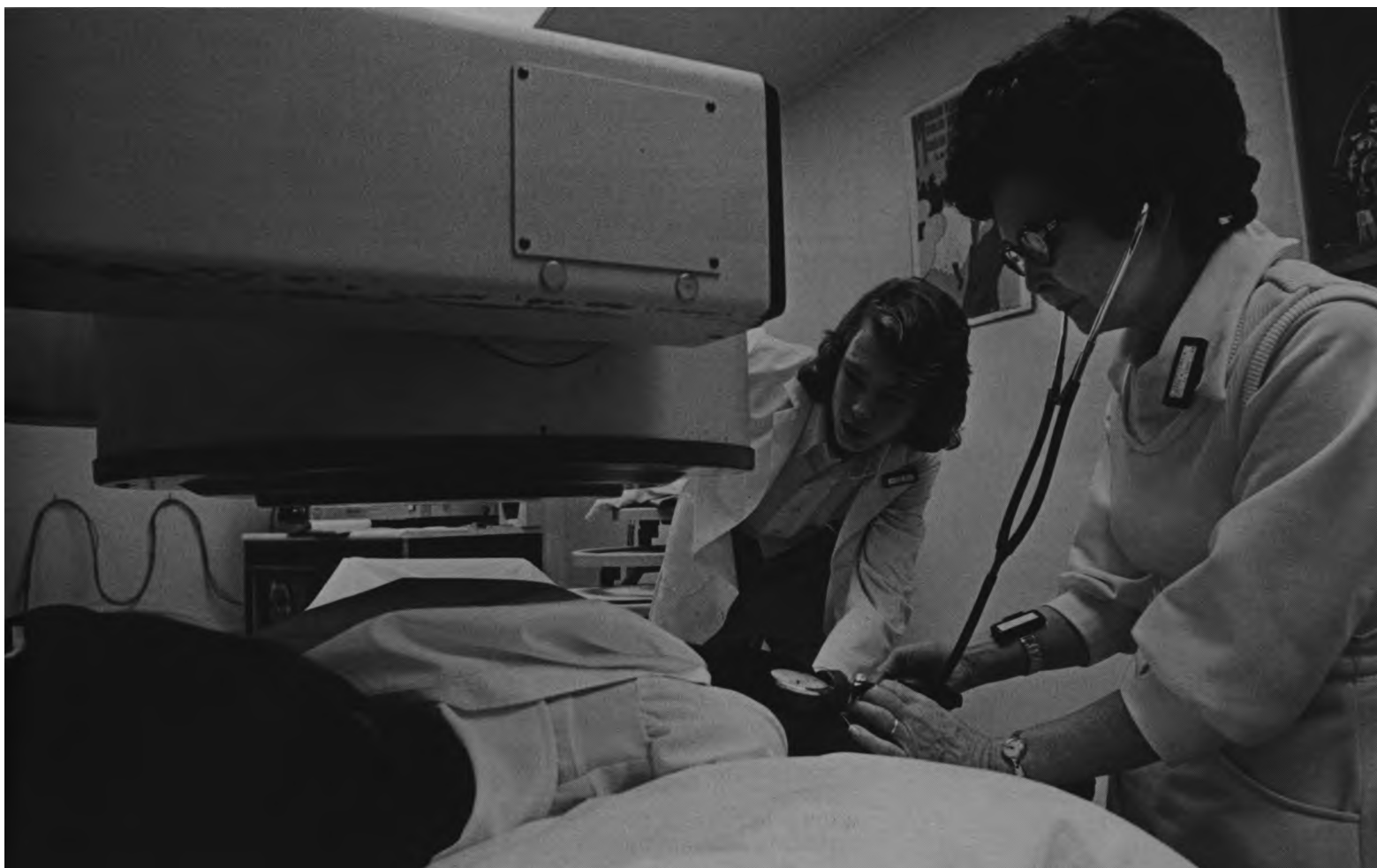
Training during the hospital internship emphasizes the following areas: (a) radiation safety and protection; (b) patient positioning and nursing procedures; (c) radionuclide imaging and external monitoring; (d) nuclear

medicine department administrative procedures; (e) in vitro procedures.

The internship 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 internship 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: Community-General Hospital of Greater Syracuse, Syracuse; The Genesee Hospital, Rochester; Highland Hospital, Rochester; Our Lady of Lourdes Hospital, Binghamton; Rochester General Hospital, Rochester; Sisters of Charity Hospital, Buffalo; Strong Memorial Hospital, Rochester.

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 January preceding the start of the clinical year. Students selected for internships there receive a stipend and spend the entire year in St. Louis.



Requirements for the AAS and BS degrees in nuclear medicine technology

The student must meet the minimum graduation requirements of the Institute as described on page 49 and in addition must complete the requirements contained in the particular program listed below or its equivalent as determined and approved by the School of Health Related Professions. 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.

Accreditation

The nuclear medicine technology program is recommended for accreditation by the Joint Review Committee on Educational Programs in NMT of the American Medical Association.

Course descriptions

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

Clinical Chemistry

Dr. William N. Bigler, Program Director

For more information see the Graduate Bulletin, available from the Admission Office.

Respiratory Therapy technicians are clinical specialists

Edward B. Stockham, Acting Director

Respiratory therapy is an allied health clinical specialty dealing with the treatment, management, control and care of patients with respiratory problems. The respiratory therapy technician works closely with patients, doctors, and nurses in providing respiratory care through the use of various medical gases, aerosols, respirators and resuscitators, pulmonary function testing, and other modes of inhalation therapy.

Nuclear Medicine Technology				
Year		Quarter Credit Hours		
		Fall	Winter	Spring
First Year	SMAM-221, 222, 223 College Mathematics.....	4	4	4
	SCHG-215, 216, 217 General and Analytical Chemistry . . .	4	4	5
	SBIG-201, 202 General Biology .....	4	4	
	*General Studies Electives—Lower Division .....	4	4	4
	Institute-wide Elective .....			4
	‡Physical Education Elective .....	0	0	0
Second Year AAS degree	SPSP-211, 212, 213 College Physics .....	4	4	4
	SCHO-231, 232 Organic Chemistry.....	4	4	
	S BIO-305, 306 Physiology and Anatomy.....		4	4
	SMAM-309 Statistics.....			4
	*General Studies Electives—Lower Division.....	4	4	4
	Institute-wide Elective .....	4		
Third Year	‡Physical Education Elective .....	0	0	0
	SPSP-351, 352, 353 Radiation Physics.....	5	5	5
	SCHB-602, 603 Biochemistry .....	3	3	
	SCHB-605, 606 Biochemistry Case Studies.....	1	1	
	SBIT-430 Radiation Biology.....			4
	SBIT-432 Biology Laboratory Techniques.....			4
	*General Studies Electives—Upper Division .....	5	5	5
	Institute-wide Elective .....	4	4	
BS degree The fourth year is spent in an approved hospital				
*See p. 98 for General Studies requirements. ‡See p. 37 for policy on Physical Education.				

Respiratory Therapy Technician						
Year		Quarter Credit Hours				
		Summer	Fall	Winter	Spring	
First Year	Technical Mathematics (CASM-201) or Algebra, Trigonometry and Analytical Geometry (SMAM-201) (Lecture 30 hrs.) .....	3				
	Cell Biology (SBIG-221) (Lecture and Lab 30 hrs. each) .....		4			
	General, Organic and Biochemistry (SCHG-201) (Lecture 30 hrs.).....	3				
	Physiology and Anatomy (SBIO-305) (Lecture and Lab 30 hrs. each).....			4		
	Principles of Physics (Lecture 30 hrs.).....			3		
	Physiology and Anatomy (SBIO-306) (Lecture and Lab 30 hrs. each) .....				4	
	Introduction to Pathology (SBIG-311) (Lecture 30 hrs.) .....				3	

		Total Hours			
		Credits	Lecture	Laboratory	Clinical practice
Second Year	50 weeks of clinical training; lectures, laboratories, clinical practice				
	Respiratory Therapy I: Gas, Aerosol/Humidity Therapy.....	7	27	19	80
	Respiratory Therapy II: Cardiorespiratory Drug Administration .....	4	29	5	40
	Respiratory Therapy III: IPPB Therapy and Pulmonary Drainage.....	8	18	16	120
	Respiratory Therapy IV: Pulmonary Function Testing .....	4	26	11	40
	Respiratory Therapy V: Continuous Ventilation .....	9	34	18	120
	Respiratory Therapy VI: Cardiopulmonary Resuscitation .....	2	10	5	20
	Respiratory Therapy VII: Infection Control.....	2	13	5	20
	Totals	36	157	79	440
	Program Totals	60	367	169	440

The program enables graduates to qualify as candidates for certification by the Technician Certification Board of the American Association for Respiratory Therapy. The program is a 12-month certificate program offered part

time over a two-year period to accommodate the working, non-certified practitioner. The first year is the basic science pre-professional phase, and the second year is the professional science-clinical phase.

# ROTC trains junior officers to “evaluate situations, make decisions”

**Lieutenant Colonel Raymond F. Humphrey**, Professor of Military Science

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 participating 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 is open to all male and female students enrolled on a full-time basis.

Students are eligible to enroll in this program anytime 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 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.

In both the two-year and four-year programs, the student must successfully complete all degree requirements. Additionally, each student attends an Advanced Summer Camp, usually between junior and senior year, prior to receiving their commission 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 freshmen, sophomores and juniors. Under this program, the Army pays for all tuition fees, labs fees, textbooks, and other required expenses, except room and board. In addition, all students entering the Advanced Course ROTC 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 their fifth floor offices in the administration building or by calling 464-2881, 2882.

## **Course descriptions**

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





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College of Continuing Education

**Paul Bernstein**, BS, MA, Ph.D.  
Graduate Studies

**George E.D. Brady**, BA, Ed.M.  
Records and Institutional Research

**William E. Castle**, BS, MS, Ph.D.  
National Technical Institute for  
the Deaf

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College of Graphic Arts and  
Photography

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Administrative Services

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Admission

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College of Engineering

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Assistant Dean, Student Services;  
Professor

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Director, Center for Management Study;  
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Associate Professor

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Director, Cooperative Education;  
Associate Professor

**Beverly J. Markus**, BS, Coordinator,  
Cooperative Education; Instructor

**School of Business  
Administration and  
School of Retailing**

**William E. Beatty**, BA, Western  
Maryland; ML, Pittsburgh; MBA, New  
York University—Associate Professor

**John H. Burns**, BS, Cincinnati; MS,  
Rochester; Ph.D., Michigan State—  
Director, Graduate Business Programs,  
Associate Professor

**Thomas R. Burns**, BBA, Ohio State;  
J.D., Notre Dame—Lecturer

**Richard J. Butler**, BS, MS, Clarkson  
College—Assistant Professor

**Henry J. Cassia**, BS, MBA, New York  
University—Associate Professor

**You-Keng Chiang**, BA, Central  
University, Chungking; MA, Ph.D.,  
Chicago—Associate Professor

**Dorothy Cotton**, Fashion Specialist,  
Public Relations Consultant—Lecturer

**George D. Demopoulos**, BA, Graduate  
School of Industrial Studies, Salonica,  
Greece; MA, Ph.D., SUNY, Buffalo-  
Professor

**Terry L. Dennis**, BS, Clarkson College;  
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Columbia—Professor

**Stanley M. Dye**, BA, Haverford College;  
C.P.A., New York—Distinguished  
Lecturer

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MBA, University of Pennsylvania—  
Assistant Professor

**William D. Gasser**, BBA, Niagara;  
C.P.A., New York, Louisiana—Professor

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MBA, Rochester—Assistant Professor

**Mary Dean Gridley**, BA, Winthrop  
College; MAT, University of South  
Carolina—Lecturer

**Suella C. Habbersett**, BA, Muskingum  
College; M.Ret., University of  
Pittsburgh—Assistant Professor

**John K. Hatley Jr.**, BS, MS, Georgia  
Institute of Technology—Associate  
Professor

**Gene G. Hoff**, BBA, Hartwick; MBA,  
Rochester—Assistant Professor

**Frank E. Holley**, BS, University of  
Illinois—Distinguished Lecturer

**Alexander Livingston**, J.D., J.S.D.,  
Brooklyn Law School; C.P.A., New  
York—Associate Professor

**Margaret S. Marshall**, BA, MS, West  
Virginia—Lecturer

**James E. McMillion, Jr.**, BFA, MFA,  
Ohio State—Professor, James E.  
McGhee Professor in Photographic  
Management

**E. James Meddaugh**, BS, Rutgers;  
MBA, Drexel; Ph.D., Pennsylvania  
State; C.P.A., New York—Associate  
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**William L. Mihal**, BS, MS, Clarkson  
College; Ph.D., University of Rochester-  
Associate Professor

**Herbert J. Mossien**, BS, Alfred—  
Professor

**Francis J. Pallischeck**, BA, Iowa State;  
MBA, Siena College—Professor

**Keith G. Provan**, BS, American  
University; MBA, Boston University—  
Assistant Professor

**Timothy J. O'Leary**, BS, Westminster;  
MBA, DBA, Kent State—Assistant  
Professor

**Jose A. Rullan**, BS, Western Carolina  
University; MS, Rochester Institute of  
Technology—Instructor

**Joseph H. Schuler, Jr.**, BFA, Syracuse;  
MFA, Rochester Institute of  
Technology—Lecturer

**Dean C. Siewers**, BS, Marietta; MBA,  
Duke University—Assistant Professor

**Hollister Spencer**, BA, MBA, Harvard;  
DBA, Arizona State—Professor

**William Stevenson**, BIE, MBA, Ph.D.,  
Syracuse—Associate Professor

**Daniel D. Tessoni**, BBA, St. John Fisher,  
MS, Clarkson College of Technology—  
Instructor

**Philip R. Tyler**, DBA, Michigan State-  
Associate Professor

**Paul H. Van Ness**, BA, MBA,  
University of Michigan—Associate  
Professor

**Stanley M. Widrick**, BS, Clarkson  
College of Technology, MBA, SUNY at  
Buffalo—Assistant Professor

**Thomas A. Williams**, BS, Clarkson; MS,  
Ph.D., Rensselaer Polytechnic Institute—  
Professor

**Eugene O. Wilson**, BS, MS, Syracuse;  
MBA, Rochester—Associate Professor

**Julian E. Yudelson**, BS, University of  
Pennsylvania; MBA, Emory University;  
Ph.D., Northwestern University-  
Associate Professor

**John S. Zdanowicz**, BS, Rochester  
Institute of Technology; MBA, Ph.D.,  
Michigan State—Associate Professor

Department of Food  
Administration and Tourist  
Industries Management

**Frank A. Bucci**, BS, New Hampshire; MBA, Boston College—Associate Professor

**Leila P. Hopkins**, BS, Tennessee; MS, Iowa State; R.D.—Assistant Professor

**Janet M. Sim**, BS, Colorado State; MS, Iowa State—Assistant Professor

**Ivan Town**, BS, Rochester Institute of Technology; MS, Iowa State—Assistant Professor

**Carol B. Whitlock**, BS, MS, Pennsylvania State; Ph.D., Massachusetts—Lecturer

Clinical Faculty

**Jean Fox**, Director of Dietetics, Rochester General Hospital

**Jean Queale**, Chief of Dietetic Service, The Veterans Administration Hospital, Canandaigua, New York

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**Norman A. Flannigan**, BS, M.Ed., Ph.D., Assistant Dean, Operations; Associate Professor

**Harold M. Kentner**, BA, MA, Assistant Dean, Community Relations; Professor

**David E. Hooten**, BS, MS, Ed.D., Executive Director, Non-traditional Studies; Associate Professor

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**Robert A. Clark**, BS, Ph.D., Academic Administrator, Technical Studies; Associate Professor

**Silvio De Cristofaro**, BS, Academic Administrator, "Mechanics Institute;" Professor

**Frederick P. Gardner**, BA, MS, Ed.D., Academic Administrator, Humanistic Studies; Associate Professor

**Rolf A. Zerges**, BS, MA, Academic Administrator, Business and Community Studies; Associate Professor

Full-time Faculty

**George L. Bedirian**, BA, Northeastern University; MA, University of Massachusetts; MS, Rochester Institute of Technology—Lecturer

**Walter R. Bieder**, BA, Indiana State University; MA, Indiana University—Assistant Professor

**Austin J. Bonis**, BS, College of the City of New York; MA, Ph.D., George Washington University—Professor

**Andrew Davidhazy**, BFA, MFA, Rochester Institute of Technology-Associate Professor

**Gene DePrez**, BFA, MFA, Rochester Institute of Technology—Lecturer

**Mario DiQuilio**, BS, Massachusetts Institute of Technology; MS, Canisius College; MS, Rochester Institute of Technology—Associate Professor

**Fredrick P. Frey, Jr.**, BS, Muhlenberg College; MS, Rochester Institute of Technology—Assistant Professor

**Alfred C. Haacke**, BS, Massachusetts Institute of Technology—Assistant Professor

**Hugh B. Hammett**, BA, Furman University; MA, Ph.D., University of Virginia—Associate Professor

**Jessie M. James**, BA, Empire State College—Instructor

**Bernard A. Logan**, BS, M.Ed., University of Rochester—Associate Professor

**Sidney McQuay**, M.Ed., State University College at Oswego—Assistant Professor

**Dorothy K. Paynter**, BA, M.Ed., State University College at Brockport—Assistant Professor

**Robert E. Philo**, BS, State University College at Oswego—Instructor

**Louis H. Rohr**, Ph.B., MS, University of Wisconsin—Assistant Professor

**Surjit Singh**, MFA, Kent State University; N.D.D., London University—Assistant Professor

**Edwin D. Spong**—Manpower Specialist, Technical Studies; formerly associated with Rochester Industries Placement Service

**Peter J. Vogelaar**, BFA, MFA, Rochester Institute of Technology—Assistant Professor

**Joseph Waldinsperger**, NYS Vocational Certification—Assistant Professor

**Andrea C. Walter**, BA, Duquesne University; MA, University of Pittsburgh; Ed.D., University of Rochester-Associate Professor

**Robert M. Way**, AB, Syracuse University; MS, Rochester Institute of Technology-Associate Professor

Adjunct Faculty

Refer to the College of Continuing Education outline of programs and schedule of classes, available from CCE.

Electrical Engineering  
Department

**Richard A. Kenyon**, BME, MS, Ph.D., P.E., Dean, Professor

**Douglas M. Marshall**, BSEM, MSEM, Associate Dean, Associate Professor

**James E. Palmer**, BSc, MSEE, Ph.D., Department Head, Electrical Engineering; Professor

**Richard Reeve**, BS, MS, Ph.D., Department Head, Industrial Engineering; Associate Professor

**Robert M. Desmond**, BSME, MSME, Ph.D., P.E., Department Head, Mechanical Engineering; Professor

**Swaminathan Madhu**, MA, MSEE, Ph.D., Director of Graduate Programs, Professor

**Roy S. Czernikowski**, BEE, ME, Ph.D., Coordinator, Computer Engineering Program; Associate Professor

**Ralph H. Stearns**, BS, MBA, P.E., Specialist in Cooperative Education, Lecturer

**Betty M. Weatherhog**—Administrative Assistant to the Dean

Electrical Engineering  
Department

**Robert C. Baker**, BEE, MSEE, Cornell; P.E.—Associate Professor

**Frank J. Bogacki**, BSEE, Gannon College; MSEE, Ph.D., Pennsylvania—Assistant Professor

**George Brown**, BSEE, Vanderbilt; MSEE, Rochester—Associate Professor

**Roy S. Czernikowski**, BEE, Catholic University of America; ME, Ph.D., Rensselaer Polytechnic Institute-Associate Professor

**Lynn F. Fuller**, BS, MS, Rochester Institute of Technology—Visiting Assistant Professor

**Roger E. Heintz**, BSEE, Michigan Technological University, MSEE, Ph.D., Syracuse—Associate Professor

**Robert E. Lee**, BSME, MSEE, Ph.D., Rochester—Associate Professor

**Swaminathan Madhu**, MA, University c Madras; MSEE, Tennessee; Ph.D., Washington—Professor

**James E. Palmer**, BSc, University of Western Ontario; MSEE, University of Pennsylvania; Ph.D., Case Institute of Technology—Professor

**George W. Reed**, BEE, Clarkson College; MEE, Delaware; P.E.—Professor

**Harvey Rhody**, BSEE, Wisconsin; MSEE, Cincinnati; Ph.D., Syracuse-Associate 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-Visiting Assistant Professor

**Mohamed K. El-Sherbiny**, BSEE, MSEE, University of Assiut, Egypt; Ph.D., Iowa State University—Visiting Associate Professor

**George L. Thompson**, BSEE, Massachusetts Institute of Technology; MSEE, Rochester—Associate Professor

**Raman M. Unnikrishnan**, BSEE, University of Kerala, India; MSEE, South Dakota State University; Ph.D., Missouri—Assistant Professor

**Fung-I Tseng**, BSEE, Taiwan University; MSEE, Chiao-Tung University, Taiwan; Ph.D., Syracuse—Assistant Professor

**Watson F. Walker**, BSEE, Brooklyn Polytechnic Institute; Ph.D., Syracuse—Professor

Industrial Engineering Department

**Richard Reeve**, BS, MS, Ph.D., Buffalo—Associate Professor

**Don L. Anderson**, BSEE, MSIE, Ph.D., Illinois—Assistant Professor

**Gary D. Christie**, BS, Rochester Instituti of Technology; MSIE, Virginia Polytechnic Institute & State University-Instructor

**Jasper E. Shealy**, BS, Georgia Institute of Technology; MS, Ph.D., SUNY at Buffalo—Associate Professor

**Ralph H. Stearns**, BS, Pennsylvania; MBA, New York University; P.E. (Mass.) —Lecturer

Mechanical Engineering Department

**William Bober**, BCE, City College of New York; MS, Platt Institute; Ph.D., Purdue; P.E—Associate Professor

**Richard G. Budynas**, BME, Union College; MSME, Rochester; Ph.D., Massachusetts; P.E—Associate Professor

**Robert M. Desmond**, BSME, Worcester Polytechnic Institute; MSME, Ph.D., Minnesota; P.E — Professor

**Robert A. Ellson**, BME, City College of New York; MSME, Ph.D., Rochester, P.E —Associate Professor

**Charles W. Haines**, AB, Earlham; MS, Ph.D., Rensselaer Polytechnic Institute; Mathematics and Mechanical Engineering—Associate Professor

**William F. Halblieb**, BSGE, Massachusetts Institute of Technology; MSME, Rochester, Ph.D., Cornell; P.E — Professor

**Richard B. Hetnarski**, MSME, Gdansk Technical University; MS Warsaw University; Dr. Tech. Sci., Polish Academy of Sciences; P.E—Professor

**Bhalchandra V. Karlekar**, BEME, College of Engineering, Baroda, India; MSME, Ph.D., Illinois State; P.E-Professor

**Richard A. Kenyon**, BME, Clarkson College; MS, Cornell; Ph.D., Syracuse; P.E—Professor

**Douglas M. Marshall**, BSEM, MSEM, West Virginia—Associate Professor

**Chris Nilsen**, BS, Rochester Institute of Technology; MSME, Worcester Polytechnic Institute; Ph.D., Michigan State; P.E —Associate Professor

**Neville F. Rieger**, BME, M.Eng. Sc., University of Melbourne; Ph.D., University of Nottingham—James E. Gleason Professor, Mechanical Engineering

**Martin P. Sherman**, BAE, New York University; MA, Ph.D., Princeton; P.E — Associate Professor

**Robert L. Snyder**, BS, Rochester Institute of Technology; Ph.D., Iowa State; P.E—Professor

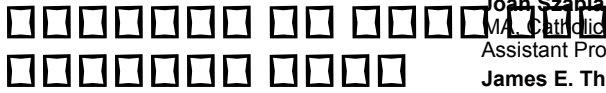
**Wayne W. Walter**, BE, State University of New York Maritime College, Bronx; MS, Clarkson College; Ph.D., Rensselaer Polytechnic Institute; P.E — Associate Professor

**Paul H. Wojciechowski**, BS, MS, Ph.D., Rochester—Associate Professor

Academic Technical Associates

**Donald E. Buss**—Technical Associate, Electrical Engineering Department

**Kenneth R. Hood**—Senior Technical Associate, Mechanical Engineering Department



**Robert H. Johnston**, BS, MA, Ph.D., Dean, Director, School for American Craftsmen; Professor

**Peter Giopulos**, BFA, M.Ed., Associate Dean, Associate Professor

**Kener E. Bond, Jr.**, B.Ed., MFA, Assistant Dean, Associate Professor

**Philip W. Bornarth**, BAE, MAE, Chairperson, Fine Arts; Associate Professor

**Craig J. McArt**, BID, MFA, Chairperson, Environmental Design; Associate Professor

**Fred Meyer**, BFA, MFA, Chairperson, Graduate Studies; Professor

**Ronald E. Padgham**, BFA, Ohio Wesleyan; MFA, Syracuse University—Chairperson, Foundation Studies; Associate Professor

**R. Roger Remington**, BFA, MS, Chairperson, Communication Design; Professor

School of Art and Design

**Norman A. Bate**, BFA, Pratt Institute; MFA, Illinois State—Professor

**Susan Carter**, AB, Smith College; BFA, MFA, Yale-Assistant Professor

**Robert A. Cole**, BA, MS, Maryland—Assistant Professor

**David Dickinson**, Chelsea School of Art, London, England; SKHS, Oslo, Norway; MFA, Rochester Institute of Technology —Lecturer

**Ruth E. Gutfrucht**, BFA, MFA, Rochester Institute of Technology—Professor

**Robert Heischman**, BFA, Miami University; UCFA, Ruskin School of Art—Assistant Professor

**James Hennessey**, BS, Illinois Institute of Technology; MFA, California Institute of the Arts—Assistant Professor

**Barbara Hodik**, BS.Ed., Benedictine College; MA, New York University; Ph.D., Pennsylvania State—Assistant Professor

**Steve Holler**, BFA, Kansas City Art Institute; MFA, California College of Arts and Crafts—Assistant Professor

**Robert Kerr**, BFA, Illinois State—Assistant Professor

**Frederick Lipp**, BFE, School of the Art Institute of Chicago; MFA, Rochester Institute of Technology—Assistant Professor

**Edward C. Miller**, BFA, SUNY at Buffalo; MFA, Illinois State—Assistant Professor

**Luvon Sheppard**, BFA, MST, Rochester Institute of Technology—Instructor

**Bruce Sodervick**, BS, Indiana State; MFA, Southern Illinois—Assistant Professor

**Joan Szabla**, BFA, Madonna College; MA, Catholic University of America—Assistant Professor

**James E. Thomas**, BS, Philadelphia College of Art; MFA, Pennsylvania State—Associate Professor

**Toby Thompson**, BID, Syracuse; MFA, Rochester Institute of Technology-Associate Professor

**James Ver Hague**, BS, Massachusetts Institute of Technology; MS, Rensselaer Polytechnic Institute; BA, State University of New York at Buffalo; MFA, State University of New York at Buffalo—Lecturer

**Marlene Venezia**, BS, SUNY at Buffalo; MFA, Michigan State—Assistant Professor

**Joe A. Watson**, BFA, University of Georgia; MFA, Yale University—Lecturer

**Sheila Wells**, BA, California College of Arts and Crafts; MFA, Rochester Institute of Technology—Associate Professor

**Lawrence Williams**, BFA, Kansas City Art Institute; MFA, Illinois State—Professor

**Norman Williams**, BFA, Syracuse; MS, Syracuse—Associate Professor

**Stanley H. Witmeyer**, Diploma, Rochester Institute of Technology; BS, SUNY at Buffalo; MFA, Syracuse—Professor



## School for American Craftsmen

**Donald G. Bujnowski**, BS, SUNY at Buffalo; MA, Minnesota—Professor

**Hans Christensen**, Diploma, National College of Arts and Crafts, Copenhagen—Professor

**Hobart Cowles**, BFA, Wesleyan; MA Ohio State—Professor

**Gary Griffin**, BA, California State University; MFA, Tyler School of Art, Temple—Assistant Professor

**William A. Keyser, Jr.**, BS, Carnegie-Mellon Institute of Technology; MFA, Rochester Institute of Technology—Professor

**Max L. Lenderman**, BS, MS, Indiana State; MFA, Kansas—Assistant Professor

**Leonid Linauts**, Academy of Fine Arts, Riga, Latvia—Lecturer

**Jon Meyer**, BS, University of Vermont; Orrefors Glass Studio, Sweden—Assistant Professor

**Robert D. Schmitz**, BS, East Carolina University; MS, Alfred University; MFA, Wisconsin—Assistant Professor

**Douglas E. Sigler**, BFA, Rochester Institute of Technology; MFA, Rochester Institute of Technology—Associate Professor

## College of General Studies

**Mary Sullivan**, BA, MA, Ph.D., Dean—Associate Professor

**Dane R. Gordon**, BA, MA, BD, MA, Assistant Dean—Professor

**Louis J. Andolino**, BS, MA, Staff Chairperson, Social Science—Associate Professor

**John O. Ballard**, BA, MPA, Director, Criminal Justice Program—Associate Professor

**Leonard A. Gravitz**, BS, MS, MSW, Director, Social Work Program—Associate Professor

**Nabil M. Kaylani**, BA, MA, Ph.D., Staff Chairperson, Science and Humanities—Professor

**Thomas J. O'Brien**, BS, MA, Staff Chairperson, Language and Literature—Professor

## Language and Literature staff

**Sarah Collins**, AB, Centre College; MA, Ph.D., Indiana State University—Associate Professor

**William De Ritter**, BA, St. Lawrence; MA, Rochester—Assistant Professor

**Robert E. Golden**, AB, Michigan State; Ph.D., Rochester—Associate Professor

**Helen Hadsinskyj**, BS, Kharkov—Lecturer

**Stephen Khinoy**, AB, Harvard University; Ph.D., Johns Hopkins University—Visiting Assistant Professor

**Lakshmi Mani**, BA, MA, Calcutta; MA, SUC at Geneseo; Ph.D., McGill—Associate Professor

**Stanley D. McKenzie**, BS, Massachusetts Institute of Technology; MA, Ph.D., Rochester—Associate Professor

**James J. Philbin**, BA, Connecticut; MA, Stanford—Associate Professor

**Mark L. Price**, BA, MA, Miami University—Assistant Professor

**L. Robert Sanders**, BA, MA, SUNY at Albany—Associate Professor

**Norris M. Shea**, BA, Gannon; MA, Western Reserve—Associate Professor

**Caroline Snyder**, BA, MA, Radcliffe; Ph.D., Harvard—Associate Professor

**U.T. Summers**, AB, Vassar; MA, Radcliffe—Assistant Professor

## Social Science staff

**Brian P. Barry**, BA, St. John Fisher; MSS, Ph.D., Syracuse—Assistant Professor

**N. Evelyn Brandon**, BS, MS, Howard—Associate Professor

**Robert J. Brown**, BS, SUNY at Potsdam; Ph.D., Syracuse—Associate Professor

**Todd H. Bullard**, BA, West Liberty State College; MA, West Virginia; Ph.D., Pittsburgh—Professor

**Kathleen C. Chen**, BA, Rangoon University, Burma; MA, Bryn Mawr College; Ph.D., Pennsylvania State—Associate Professor

**DeLois R. Crawford**, BA, Tougaloo College; MSW, Atlanta University—Assistant Professor

**Constantino Dumangane, Sr.**, BA, MPA, Syracuse—Assistant Professor

**Louis R. Eltscher III**, BA, Houghton; MA, American University—Associate Professor

**Joseph E. Fitzpatrick**, BA, M.Ed., Buffalo—Professor

**Roger W. Harnish**, BA, Rochester; MS, Ph.D., Oklahoma State—Assistant Professor

**Morton Isaacs**, BA, Chicago; BS, MA, Columbia; Ph.D., Yeshiva—Associate Professor

**Joanne M. Jacobs**, BA, University of Rochester; MA, SUNY at Buffalo—Assistant Professor

**Hoyoung Lee**, BA, Seoul National University, Korea; MA, Ph.D., Maryland—Associate Professor

**Boris Micolji**, BA, University of Graz; MA, Ph.D., Western Reserve—Associate Professor

**Francena L. Miller**, BS, MS, Cornell; Ph.D., Pennsylvania State—Professor

**Paul A. Miller**, BS, West Virginia; MA, Ph.D., Michigan State—Professor

**Louis E. Neff**, AB, Denver; MA, Mexico City College—Assistant Professor

**Joanne M. Jacobs**, BA, Rochester; MA, SUNY at Buffalo—Assistant Professor

**Thomas R. Plough**, BA, MA, Ph.D., Michigan State—Associate Professor

**Ajit S. Sabharwal**, B.Com., Delhi University; MA, University of Rochester—Lecturer

**Julian Salisnjak**, BS, Sir George Williams, Montreal; Ph.D., Alpen University, Austria—Professor

**Fred W. Smith**, BA, MA, Wheaton College; Ph.D., Michigan State—Professor

**Peter Taves**, BA, Johns Hopkins; MA, Princeton—Lecturer

**Michael Vernarelli**, BS, University of Michigan; MA, Ph.D., SUNY at Binghamton—Instructor

**Jonathan A. Wohl**, BA, Cornell University; MA, New School; Ph.D., Yeshiva University—Visiting Assistant Professor

## Science and Humanities staff

**Bruce A. Austin**, BA, Rider College; MS, Illinois State University at Normal—Lecturer

**Douglas R. Coffey**, BFA, Denver; MA, Western Reserve—Assistant Professor

**Norman R. Coombs**, BS, MS, Ph.D., Wisconsin—Professor

**John A. Day**, BS, Rochester Institute of Technology; MA, SUC at Geneseo—Instructor

**Josephine M. Gray**, BA, Rochester; MS, SUC at Brockport—Assistant Professor

**Carolyn Gresham**, B M.Ed., University of North Carolina; MM, Boston University—Lecturer

**Edwin O. Hennick**, BSE, Michigan State; M.Ed., Rochester—Associate Professor

**Glenn J. Kist**, AB, MA, Xavier; Ph.D., Loyola University, Chicago—Assistant Professor

**Richard D. Lunt**, BA, Oberlin; MA, Ph.D., New Mexico—Professor

**Salvatore Mondello**, BA, MA, Ph.D., New York University—Professor

**Pellegrino Nazzaro**, BA, P. Giannone; Ph.D., University of Naples—Professor

**Egidio Papa**, BA, Aloisiano College, Gallarate, Italy; Ph.D., Gregorian University, Rome—Assistant Professor

**John T. Sanders**, BA, Purdue University; MA, Boston University; Ph.D., Boston University—Assistant Professor

**David B. Suits**, BA, Purdue University; MA, University of Waterloo—Assistant Professor

**Hertha J. Schulze**, BA, Minnesota; MA, Radcliffe; Ph.D., Minnesota—Assistant Professor

**Houghton Wetherald**, BA, Brown; MFA, Oberlin—Associate Professor

**John A. White**, BA, Ph.D., Cambridge University—Assistant Professor (joint appointment with College of Science)

**Hans W. Zandvoort**, MFA, Royal Academy of Fine Arts, The Hague—Associate Professor

### Criminal Justice staff

**Paul Brule**, BA, Wittenberg University; MA, Xavier University Graduate School—Lecturer

**Patricia M. Carter**, BA, Muskingum College; MA, SUNY at Albany—Assistant Professor

**Joseph W. DiPalma**, BA, Boston College; J.D., Syracuse University—Assistant Professor

**Richard B. Lewis**, BA, SUNY at Albany; MS, Southern Illinois—Assistant Professor

**John A. Murley**, BA, University of Dallas; MS, Claremont Graduate School and University Center—Assistant Professor

**Frank Williams**, BS, MS, Florida State University—Assistant Professor

### Social Work staff

**Helen W. Irving**, BS, Gordon College; MSW, Syracuse University—Lecturer

**Barbara Kasper**, BA, Antioch; MA, Goddard College—Lecturer

**Richard Morales**, BA, University of Michigan; MA, SUC at Brockport—Assistant Professor

**Marshall L. Smith**, AB, MSW, University of Michigan; Ph.D., SUNY at Buffalo—Assistant Professor

**Elizabeth Toney**, BA, Pasadena Nazarene; MSW, University of California at Berkeley—Assistant Professor (joint appointment with NTID)

## College of Graphic Arts and Photography

**Lothar K. Engelmann**, BS, MS, Ph.D., Dean, Professor

**John L. Kronenberg**, BS, Associate Dean

### School of Photographic Arts and Sciences administrative staff

**David A. Engdahl**, BS, M.Ed., Acting Director, School of Photographic Arts and Sciences—Professor

**William W. DuBois**, BFA, M.Ed., Assistant to the Director, School of Photographic Arts and Sciences—Assistant Professor

**Donald L. Bruening**, BA, MBA, Staff Chairperson, Professional Photography—Associate Professor

**Ronald Francis**, AB, Ph.D., Staff Chairperson, Photographic Science and Instrumentation—Professor

**David J. Robertson**, BFA, MA, Staff Chairperson, Photographic Illustration—Professor

**Gerhard W. Schumann**, Ph.D., Coordinator, MS Program

**Richard D. Zakia**, BS, Ed.D., Coordinator, MFA Program—Professor

### School of Printing administrative staff

**Mark F. Guldin**, BS, MS, Ph.D., Director, School of Printing—Professor

**Carol J. Johnson**, BS, Administrative Assistant to the Director, School of Printing

**Edward A. Brabant**, BS, Staff Chairperson, Photography-Plate-Press Division, School of Printing—Professor

**Walter A. Campbell**, BA, M.Ed., MBA, Staff Chairperson, Management Division, School of Printing—Associate Professor

**Robert G. Hacker**, B.Ed., MS, Ph.D., Coordinator, Graduate Program, School of Printing—Professor

**Archibald D. Provan**, BS, M.Ed., Staff Chairperson, Design-Composition Division, School of Printing—Associate Professor

**James R. Walsh**, BS, M.Ed., Coordinator, Undergraduate Program, School of Printing—Associate Professor

### Graphic Arts Research Center administrative and technical staff

**Herbert E. Phillips**, AAS, Director, Graphic Arts Research Center

**Sven Ahrenkilde**, M.Sc., Research Associate

**H. Brent Archer**, AAS, Research Associate

**Chester J. Daniels**, BS, MS,—Senior Technologist

**Zenon A. Elyjiw**, Senior Technologist

**Richard N. McAllen**, AAS,—Director, Web Offset Laboratory

**Milton Pearson**, BS, Senior Technologist

**Irving Pobboravsky**, BS, MS, Senior Technologist

**Hilde Sahmel**—Technical Librarian

**William D. Siegfried**, AB, BS, MA, Director of Training

### School of Photographic Arts and Sciences faculty

**Mohamed F. Abouelata**, BS, Cairo; MS, Tennessee—Assistant Professor

**Charles A. Arnold, Jr.**, BFA, Rhode Island School of Design; MFA, Rochester Institute of Technology—Professor

**James A. Bakunas**, BS, Rochester Institute of Technology—Lecturer

**Joseph J. Benenate**, BFA, Massachusetts College of Art—Assistant Professor

**Terry L. Bollmann**, AB, Drury College—Instructor

**Donald L. Bruening**, BA, Mount St. Mary's Seminary; MBA, Rochester Institute of Technology—Associate Professor

**Owen Butler**, BFA, Rochester Institute of Technology—Assistant Professor

**Burt H. Carroll**, B.Ch., Cornell; Ph.D., Wisconsin—Professor

**John F. Carson**, MSEE, Massachusetts Institute of Technology—Associate Professor

**Kathleen Collins**, AB, Stanford; MFA, Rochester Institute of Technology—Instructor

**John C. Compton**, MS, Rochester Institute of Technology—Assistant Professor

**Richard W. Cramer**, BA, University of Rochester; Educational Specialist, Kodak Marketing Education Center—Lecturer

**Neil Croom**, BS, State University College of Forestry; M.Ed., Syracuse—Professor

**Ira B. Current**, BA, Colorado—Assistant Professor

**Andrew Davidhazy**, MFA, Rochester Institute of Technology—Associate Professor

**Robert Doherty**, BFA, Rhode Island School of Design; MFA, Yale—Lecturer

**Mary A. Donadio**, BS, Nazareth—Lecturer

**Walter A. Elling**, BA, Rochester—Associate Professor

**Richard Floberg**, BA, Iowa State; MS, Boston University—Coordinator, Film Making and Television—Associate Professor

**Ronald Francis**, AB, Colby College; Ph.D., Massachusetts Institute of Technology—Professor

**Michael A. Geissinger**, BFA, Rochester Institute of Technology—Assistant Professor

**C. James Gleason**, BA, Kent State; MS, Rochester Institute of Technology—Associate Professor

**Audrey J. Haight**, University of Toronto—Assistant Professor

**Albert R. Handy**, Certificate, Architectural Engineering, Pratt Institute—Associate Professor

**Thomas Hill**, BS, Wisconsin—Associate Professor

**Bradley T. Hindson**, BA, Rutgers; MFA, Ohio State; Associate Professor

**Theron T. Holden**, AB, Hamilton College—Lecturer

**Thomas P. Iten**, BFA, Rochester Institute of Technology, Coordinator, Common First Year—Associate Professor

**Keith A. Jackson**, BS, Syracuse; MS, Kansas State—Assistant Professor

**Hugo C. Jelinek**, Diploma, Commercial Academy, Prague, Czechoslovakia—Assistant Professor

**John E. Karpen**, BS, MFA, Rochester Institute of Technology—Assistant Professor

**Robert Kayer**, BS, City College of New York; MS, Rochester Institute of Technology—Assistant Professor

**Weston D. Kemp**, MFA, Rochester Institute of Technology—Associate Professor

**Robert B. Kushner**, MS, Rochester Institute of Technology—Assistant Professor

**Henry W. Leichtner**, Master Photographer—Lecturer

**William B. Liedtke**, Education Specialist, Photofinishing Marketing Education Center—Lecturer

**Douglas A. Lyttle**, BS, Michigan—Associate Professor

**David Margaretos**, BS, Tufts—Lecturer

**James E. McMillion, Jr.**, MFA, Ohio State—Professor, James E. McGhee Professor in Photographic Management

**Beatrice Nettles**, BFA, Florida; MFA, Illinois—Visiting Assistant Professor

**John Pfahl**, BFA, MS, Syracuse—Associate Professor

**Martin A. Rennalls**, Prof. Cert. (Education) Mico Teachers' Training College, Kingston, Jamaica; Prof. Cert. London University, (Educ.); Prof. Cert. (Film), West Indies Film, Kingston, Jamaica; Prof. Cert. (Film), Colonial Film Unit, London; MS, Boston University—Associate Professor

**Albert D. Rickmers**, BS, Bloomsburg State; M.Ed., St. Bonaventure; MS, Rochester Institute of Technology—Professor

**David J. Robertson**, BFA, Pratt Institute; MA, Columbia University Teachers College—Professor

**Nile R. Root**, RBP, Denver—Coordinator, Biomedical Photography Program, Assistant Professor

**Elliott Rubenstein**, BA, MA, St. John's University; MFA, Buffalo—Lecturer

**Gerhard W. Schumann**, Ph.D., University of Frankfurt, Germany—Coordinator, MS Program, Professor

**William S. Shoemaker**, BS, Rochester; MS, University of Miami—Professor

**Donald L. Smith**, BS, Rochester Institute of Technology—Associate Professor

**Arnold M. Sorvari**, BFA, MST, Rochester Institute of Technology—Professor

**Robert R. Sponholz**, BS, Wisconsin—Associate Professor

**Leslie D. Stroebel**, BS, Ed.D., Rochester—Professor

**Clifton H. Swan**, BS, Rochester Institute of Technology—Instructor

**Richard Swift**, BA, Arizona—Visiting Professor

**Erik Timmerman**, BS, Wisconsin, MFA, Southern California—Lecturer

**John F. Trauger**, AB, Bucknell; MLS, SUC at Geneseo—Associate Professor

**Robert C. Wabnitz**, Certificate, Rochester, Art Director, Medical Illustration Department, University of Rochester Medical Center—Lecturer

**Robert S. Walsh**, BFA, Rochester Institute of Technology—Visiting Professor

**Charles C. Werberig**, BFA, MS, Syracuse—Assistant Professor

**Tom Muir Wilson**, BFA, Cranbrook Academy of Art; MFA, Rochester Institute of Technology—Associate Professor

**Richard D. Zakia**, BS, Rochester Institute of Technology, Ed.D., Rochester—Coordinator, MFA Program, Professor

## School of Printing faculty

**Bekir E. Arpag**, BS, Rochester Institute of Technology—Associate Professor

**William H. Birkett**, BS, Illinois; MBA, Michigan, CMA—Assistant Professor

**Edward Bloom**, BA, J.S.D., Pennsylvania—Lecturer

**Joseph F. Bowles**, BS, Rochester Institute of Technology—Professor

**Edward A. Brabant**, BS, Rochester Institute of Technology—Professor

**Joseph E. Brown**, BS, Carnegie-Mellon University, MS, Kansas State—Associate Professor

**Walter A. Campbell**, BA, Hobart; MBA, M.Ed., Rochester—Associate Professor

**W. Frederick Craig**, BS, West Virginia Institute of Technology; M.Ed., Rochester—Associate Professor

**Clifton T. Frazier**, BS, West Virginia Institute of Technology; M.Ed., Rochester—Associate Professor

**Carl E. Gross**, BS, Rochester Institute of Technology—Instructor

**Robert G. Hacker**, BS, Illinois State, MS, South Dakota State; Ph.D., Iowa—Professor

**Walter G. Horne**, BS, Rochester Institute of Technology, M.Ed., Rochester—Professor

**Alfred F. Horton**, AAS, Rochester Institute of Technology—Associate Professor

**James I. Horton**, BS, Rochester Institute of Technology, M.Ed. Rochester—Assistant Professor

**Alexander S. Lawson**, Diploma, Rochester Institute of Technology—Professor Emeritus

**Daniel M. Levine**, BFA, Colorado; MS, Rochester Institute of Technology—Instructor

**Joseph L. Noga**, BS, Connecticut; MS, Bridgeport—Associate Professor

**Archibald D. Provan**, BS, Rochester Institute of Technology; M.Ed., Rochester—Associate Professor

**Harry Rab**, MSME, Newark College of Engineering—Assistant Professor

**Werner Rebsamen**, Diploma, Academy of Fine Arts, Zurich—Assistant Professor

**Emery E. Schneider**, BS, Southern Illinois University; M.Ed. Rochester—Assistant Professor

**Anthony R. Sears**, BS, Rochester Institute of Technology—Professor

**Julius L. Silver**, BA, Brooklyn College; Ph.D., Connecticut—Associate Professor

**Miles F. Southworth**, BS, Michigan; M.Ed., Rochester—Professor

**Hector Sutherland**, AB, Dartmouth; MA, New York University—Professor

**Ruth Terry**—Lecturer

**Robert S. Tompkins**, Composition Specialist—Assistant Professor

**James R. Walsh**, BS, Rochester Institute of Technology, M.Ed. Rochester—Associate Professor

**Robert J. Webster**, BS, SUNY at Buffalo; MS, Ball State—Associate Professor

**Charles J. Weigand**, MS, SUC at Oswego—Assistant Professor

**Hermann Zapf**—Melbert B. Cary, Jr. Professor in Graphic Arts

## Academic Technical Associates

**David L. Dembroski**—Technical Associate, School of Printing

**Kenneth L. Fretz**, BS, Technical Associate, School of Photography

**Clair W. Fyke**—Technical Associate, School of Printing

**Richard N. Norman**, BS, Technical Associate, School of Photography

**William Peterson**, AAS, Manager, Photographic Facilities, School of Photography

**Paul J. Rogers**—Technical Associate, School of Printing

## Institute College

**Roy I. Satre, Jr.**, BA, MA, Ph.D., Dean—Professor

**Suzon T. Cruitt**, BS, MA—Assistant to the Dean

**Richard T. Cheng**, BS, MSEE, Ph.D.—Director, School of Computer Science and Technology; Professor

**Harold J. Raphael**, BS, MS, PhD.—Director, Department of Packaging Science; Professor

**Richard L. Rinehart**, BS, MS, Ed.D.—Director, Center for Community/Junior College Relations; Professor

**James D. Forman**, AAS, BS, MS—Director, School of Applied Science, Professor

**Clinton J. Wallington**, BA, Ph.D.,—Chairperson, Department of Instructional Technology; Associate Professor

## Center for Community/Junior College Relations

**Richard L. Rinehart**, BS, Michigan State University; MS, University of Michigan; Ed.D., Michigan State University—Professor

**Larry D. Hoffman**, BSEE, MSEE, Ph.D., Iowa State—Associate Professor

## School of Computer Science and Technology

**Michael I. Atkins**, BS, MS, Rose Polytechnic Institute, Ph.D., Case Western Reserve—Associate Professor

**Rodger W. Baker**, BM, BS, MS, University of Rochester—Associate Professor

**Peter Bartram**, BS, MS, Ph.D., Ohio State—Assistant Professor

**James Carbin**, BS, State University of New York—Albany; MS, Rensselaer Polytechnic Institute—Associate Professor

**Richard Cheng**, BS, Taiwan, MS, University of Wisconsin; MS, Ph.D., University of Illinois—Urbana—Professor

**James A. Chmura**, BS, MS, Rutgers University; Instructor

**Evelyn Culbertson**, BS, State University of New York—Brockport; MS, Syracuse University—Assistant Professor

**Roy S. Czernikowski**, BEE, Catholic University of America, ME, Ph.D., Rensselaer Polytechnic Institute—Associate Professor

**Henry Etlinger**, BS, University of Rochester, MS, Syracuse University—Instructor

**A-Wahab Hussein**, BS, Cairo University; MA Sc, Ph.D., University of Waterloo—Assistant Professor

**Guy Johnson**, BS, Pennsylvania State; MS, Syracuse—Assistant Professor

**Kuang-Shin Lin**, BS, Taiwan; MS, Ph.D., SUNY at Stonybrook—Assistant Professor

**Michael Lutz**, BS, St. John Fisher College; MS, SUNY at Buffalo—Instructor

**Wiley R. McKinzie**, BA, University of Wichita; MS, SUNY at Buffalo—Staff Chairperson, Technology Programs; Assistant Professor

**Kenneth Reek**, B.Tech, Rochester Institute of Technology, Lecturer

**Stewart Shen**, BS, Chenkung University; MA, University of Washington, Ph.D., Northwestern—Associate Professor

**William Stratton**, BS, MS, Hunter College; MS, SUNY at Buffalo—Assistant Professor

**School of Computer Science and Technology Adjunct Faculty**

**Karen Anderson**, BS, Georgia State University; National Technical Institute for the Deaf at RIT

**Rick Black**, BS, MS, Rochester Institute of Technology; Peat, Marwick & Mitchell

**James Iverson**, MS, Ph.D., Purdue University; Xerox Corporation

**Walter Maurer**, BA, University of Wisconsin at Madison; MS, Rochester Institute of Technology

**T.C. Soong**, MS, Ph.D., Stanford University; Xerox Corporation

**Instructional Technology**

**Wallace S. Goya**, BA, University of Hawaii; MS, Indiana University—Assistant Professor

**Arthur R. Taylor**, BA, St. Louis University; MALS, Rosary College; Ed.S. Indiana University—Visiting Assistant Professor

**Clinton J. Wallington**, BA, University of Missouri at Kansas City; Ph.D., University of Southern California—Associate Professor

**Packaging Science**

**Daniel L. Goodwin**, BS, MS, Michigan State University—Assistant Professor

**Harold J. Raphael**, BS, Michigan State University, MS, Oregon State University, Ph.D., Michigan State University—Professor

**David L. Olsson**, BS, MS, Ph.D., Michigan State University—Associate Professor

**School of Applied Science**

**James D. Forman**, AAS, BS, Rochester Institute of Technology; MS, Alfred—Director, Professor, School of Applied Science

**John F. Adams**, BEE, MSEE, Clarkson College—Staff Chairperson, Electrical Engineering Technology—Professor

**Ronald F. Amberger**, BME, Rensselaer Polytechnic Institute; M.Eng., Penn State University; P.E—Staff Chairperson, Mechanical Engineering Technology; Associate Professor

**Robert E. McGrath, Jr.**, BCE, Rensselaer Polytechnic Institute; MSCE, Syracuse; P.E—Staff Chairperson, Civil Engineering Technology; Associate Professor

**Thomas J. Dingman**, AAS, Hudson Valley Community College; BSEE, MS (ET) Rochester Institute of Technology—Assistant Professor

**Thomas M. Eckert**, BSCE, Rutgers University; P.E—Instructor

**Burton S. Garrell**, BSME, Stevens Institute of Technology; MS, Michigan State—Assistant Professor

**Joseph D. Greenfield**, BEE, City College of New York; MSEE, Pennsylvania State—Associate Professor

**Alan C.H. Hu**, BSCE, Ta Tung University, Shanghai; MPH, Minnesota; Ph.D., Oklahoma—Associate Professor

**Robert A. Merrill**, BS, Clarkson College; MS, Northeastern; P.E—Assistant Professor

**James A. Reynolds**, AAS, BS, Rochester Institute of Technology; MSEE, Illinois—Associate Professor

**Jacob Z. Schanker**, BEE, MSEE, City College of New York—Visiting Assistant 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, Rensselaer Polytechnic Institute, P.E.—Associate Professor

**Norman J. Weinreber**, AAS, BS, MS, Rochester Institute of Technology; C.Mfg.E —Associate Professor

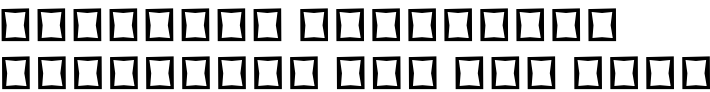
**Thomas V. Young**, BA, Hunter College; MS, New York University—Associate Professor

**School of Applied Science Adjunct Faculty**

**William C. Larsen**, BS, MSCE, Dartmouth; P.E—Principal, W.C.Larsen Consulting Engineers

**Larry O. Stid**, BS, Landscape Architecture and Urban Planning, Michigan State University; Licensed Landscape Architect; Private Consultant in Landscape Architecture and Environmental Design

**Elias C. Tonias**, BCE, Rensselaer Polytechnic Institute, MSCE, Ohio State, P.E —Associate Partner, Erdman and Anthony, Consulting Engineers



**William E. Castle**, BS, Northern State Teachers College; MA, State University of Iowa; Ph.D., Stanford University—Dean and Director

**Faculty and Staff**

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**Thomas P. Wallace**, BS, MS, Ph.D.—Dean; Professor

**John D. Paliouras**, BA, MA, Ph.D.-Associate Dean; Professor

**Robert E. Gilman**, AB, MS, Ph.D.—Department Head, Chemistry; Professor

**Paul A. Haefner, Jr.**, BS, MS, Ph.D.—Department Head, Biology; Professor

**Edward A. Newburg**, BS, MS, Ph.D.—Department Head, Mathematics; Professor

**Varadaraja V. Raman**, BS, MS, Ph.D.—Department Head, Physics; Professor

**Edward B. Stockham**, AB, Ph.D.—Director, School of Health Related Professions; Associate Professor

**David M. Lamb**, Operations Manager

**Robert G. Witmeyer**, BS, MS—Assistant to the Dean for Support Services

**Judy A. Witzel**, AAS—Administrative Assistant

**Biology Department**

**William A. Burns**, BA, Arizona State; MS, Elmira—Associate Professor

**Margaret B. D’Ambruso**, BA, Wilson College; MA, Wellesley College—Associate Professor

**G. Thomas Frederick**, BS, MS, Ph.D., Ohio State University—Assistant Professor

**Russell M. Gardner**, MA, California State University; Ph.D., Indiana University—Visiting Assistant Professor

**Paul A. Haefner, Jr.**, BS, Franklin & Marshall College; MS, Ph.D., University of Delaware—Professor

**M. Joseph Klingensmith**, BS, Illinois State; MS, Ph.D., Michigan State—Professor

**Carole A. Sack**, BA, Ph.D., Michigan State—Associate Professor

**Frank K. Seischab**, BS, Cornell; MS, SUC at Geneseo—Associate Professor

**Raymond Sowinski**, BS, Ph.D., Indiana State—Associate Professor

**Egon Stark**, BS, MS, University of Manitoba; Ph.D., Purdue—Professor

## School of Health Related Professions

**Edward B. Stockham**, AB, Ph.D., University of Pennsylvania—Director; Associate Professor

## Clinical Chemistry

**William N. Bigler**, AB, California; MS, San Jose State; Ph.D., Colorado State—Program Director; Associate Professor

## Clinical Faculty

**Richard M. Bayer**, Ph.D., Rutgers University; Rochester General Hospital

**A.S. El Shami**, Ph.D., American University in Beirut; St. Mary's Hospital, Rochester, N.Y.

**Norman P. Kubasik**, Ph.D., Syracuse University, Upstate Medical Center; Genesee Hospital, Rochester, N.Y.

**William J. Quinlan, Jr.**, BS, St. John Fisher College; University of Rochester

**J.D. Salvatore**, MS, University of Rochester; University of Rochester

**Harrison E. Sine, Jr.**, Ph.D., SUNY at Buffalo; Genesee Hospital, Rochester, N.Y.

## Medical Technology

**William A. Burns**, BA, University of Arizona; MS, Elmira—Program Director, Associate Professor

**Donna Hefley**, BS, MT(ASCP), University of Northern Iowa; M.Ed., University of Rochester—Assistant Professor

## Clinical Faculty

**Camille Pere**, MT (ASCP), Educational Coordinator, School of Medical Technology, St. Mary's Hospital, Rochester, N.Y.

**Janet Seeley**, MT (ASCP), Education Coordinator, School of Medical Technology, Rochester General Hospital

**Zymunt M. Tomkiewicz**, M.D., Director, School of Medical Technology, Rochester General Hospital

## Nuclear Medicine Technology

**Jerome Wagner**, BS, Case Institute of Technology; MS, Ph.D., University of Wisconsin—Program Director, Assistant Professor

**Margaret T. Jaconski**, AS, RT(ARRT) NMT, Upstate Medical Center—Clinical Coordinator

**Earl H. Sexton**, BS, Tufts; MS, Massachusetts Institute of Technology; MST, Cornell; Ph.D., SUNY at Albany—Associate Professor

## Clinical Faculty

**Sidney Aroesty**, BS, Biochemist, Department of Medicine, Highland Hospital, Rochester, N.Y.

**James Victor Baumgartner**, BS, RT(ARRT)NMT, RIA Specialist, Our Lady of Lourdes Memorial Hospital, Binghamton, N.Y.

**Margaret M. Christie**, AS, RT(ARRT)NMT, NMT Supervisor, Department of Nuclear Medicine, Highland Hospital, Rochester, N.Y.

**Margaret Corkish**, RT(ARRT)NMT; Supervisor, Nuclear Medicine Technology, Genesee Hospital, Rochester, N.Y.

**Robert M. Donati**, MD, Program Director, Nuclear Medicine, St. Louis Veterans Administration Hospital, St. Louis, Mo.

**E. Joan Furnas**, M.D., Radiologist, Highland Hospital, Rochester, NY

**William Goldman**, M.D., Director, Department of Nuclear Medicine, Community-General Hospital of Greater Syracuse, Syracuse, N.Y.

**David Horn**, RT(ARRT)NMT, Chief Nuclear Medicine Technologist, Community-General Hospital of Greater Syracuse, Syracuse, N.Y.

**Robert E. Knack**, M.D., Director, Department of Nuclear Medicine, Our Lady of Lourdes Memorial Hospital, Binghamton, N.Y.

**Anthony J. Leone, Jr.**, M.D., Director of Radiology, Genesee Hospital, Rochester, N.Y.

**Charles L. Lewis**, MD, Chief, Radiation Oncology & Nuclear Medicine, Rochester General Hospital

**Ruthann Lewis**, RT(ARRT)NMT, Supervisor, Nuclear Medicine Technology, Rochester General Hospital

**Robert E. O'Mara**, M.D., Professor of Radiology, Chief, Division of Nuclear Medicine, The University of Rochester Medical Center, Rochester, N.Y.

**Humberto A. Revollo**, M.D., Director of Nuclear Medicine, Assistant Chief of Radiology Department, Sisters of Charity Hospital, Buffalo, N.Y.

**David J. Riddle**, RT(ARRT)NMT, Chief Nuclear Medicine Technologist, Our Lady of Lourdes Memorial Hospital, Binghamton, N.Y.

**Sheila D. Rosenfeld**, M.Ed., RT(ARRT)NMT, Educational Coordinator, St. Louis Veterans Hospital, St. Louis, Mo.

**Michael Tuscan**, BS, RT(ARRT)NMT, Nuclear Medicine Technologist, The University of Rochester Medical Center, Rochester, N.Y.

**David Weber**, Ph.D., Associate Professor of Radiology (Nuclear Medicine), Assistant Professor, Radiation Biology and Biophysics, The University of Rochester Medical Center, Rochester, N.Y.

## Chemistry Department

**Jerry M. Adduci**, BS, Rochester; Ph.D., Pennsylvania State—Assistant Professor

**Charles F.H. Allen**, AB, Boston University; M.A., Ph.D., Harvard; D.Sc., McGill; D.Sc., Boston University—Professor

**William N. Bigler**, AB, California; MS, San Jose State; Ph.D., Colorado State—Associate Professor

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**Neil Bromberg**, Sc.B., Brown; MS, Ph.D., New York University—Visiting Assistant Professor

**David M. Crystal**, BS, MS, SUNY at Albany—Assistant Professor

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Physics Department

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**F. Kingsley Elder, Jr.**, BS, North Carolina; MS, Ph.D., Yale—Professor

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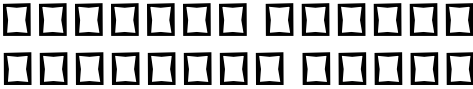
**Varadaraja V. Raman**, BS, St. Xavier; MS, Calcutta University; Ph.D., University of Paris—Professor

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**Joseph Dengler**, BS, Rochester Institute of Technology—Associate Director of Admission, RIT/NTID

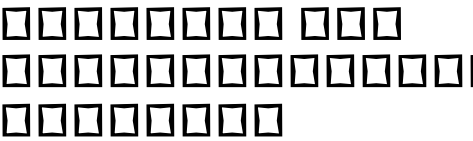
**David F. Finney**, BA, Westminster College—Admission Counselor

**E. Louis Guard**, BS, SUNY at Buffalo-Director of Admission

**George C. Hedden**, BA, SUNY at Buffalo—Departmental Coordinator, Admission

**Gail Johnson**, BA, Eisenhower College—Admission Counselor

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**Charles Smith**, Director, Operations

Computer Services

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**Jeanne M.L. Brzezinski**, AAS, Monroe Community College—Junior Programmer

**Edgar N. Buffan**, BS, Rochester Institute of Technology—Junior Software Specialist, (Instructor)

**Neal I. Eckhardt**—Technical Assistant

**Barbara B. Friedman**, BS, MA, SUNY at Stonybrook—Supervisor, Software Support, (Assistant Professor)

**Sandra H. Grzybowski**, BS, SUNY at Buffalo—Programmer

**George C. Hopkins, Jr.**—Assistant Director

**Peter F. Kulpa**—Manager, Administrative Systems

**Carol Lindsey**, BA, Keuka—Software Specialist, (Instructor)

**Andrew W. Ludwick**, BS, Rochester Institute of Technology—Programmer

**David B. McCandlish**, BA, Johns Hopkins; MS, University of Rochester—Programmer, (Instructor)

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**Robert R. Miller**, BS, Boston University—Supervisor, Student Systems

**Kenneth W. Paul**—Systems Programmer

**Richard E. Rowley**—Operations Supervisor

**Ronald E. Stappenbeck**, BS, MS, Rochester Institute of Technology—Manager, User Services; Associate Professor

**Wendy P. Thompson**, AAS, Monroe Community College—Supervisor, Financial Systems

**Edward B. True**, BS, Rochester Institute of Technology—Systems Programmer



**Robert C. Weeks, Jr.**, BA, SUC at Geneseo, MS, Rochester Institute of Technology—Financial Services Coordinator

**Stephen A. Wilkins**, AAS, SUC at Morrisville, BSBA, Kansas State—Software Specialist, (Instructor)

**Controller’s Office**

**William J. Welch**, BBA, Niagara; C.P.A., New York—Controller

**David Moszak**, AAS, Alfred State—Assistant Controller

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**William Bianchi**, BS, Rochester Institute of Technology—Assistant Bursar

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**Paul J. Cappella**, BA, St., John Fisher; C.P.A., New York—Staff Accountant

**James C. Murphy**, BA, University of Rochester—Director, Accounting/Payroll Services

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**Irene** White-Supervisor, Payroll

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**John Scahill**, AAS, Rochester Institute of Technology—Production Manager

**Scott Hoffmire**, BS, Rochester Institute of Technology—Manager, Cellar/Corner Store

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**James M. Papero**, BS, Ed.M., Rochester—Administrator, Affirmative Action

**Sandra A. Parker**, BA, Wooster—Compensation Analyst

**Purchasing**

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**Ralph Callahan**—Supervisor, Mail Services

**Frank Cocola**—Supervisor, General Duplicating

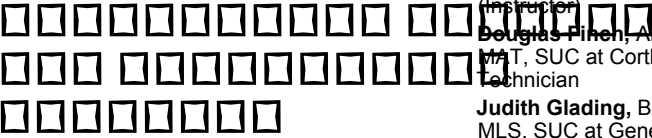
**Robert Goldstein**—Purchasing Agent

**Lawrence Thibault**—Purchasing Agent

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**Edward Steffens**, BS, Rochester Institute of Technology—Director

**Carole Bower**—Events Specialist



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**Instructional Development**

**Lawrence W. Belle**, BA, MA, Case Western Reserve University; Ph.D., University of Rochester—Director

**Thomas C. Forrester**, BS, BA, Gordon College—Instructional Developer, (Assistant Professor)

**Media Production Center**

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**David C. Abbott**, BFA, MFA, Rochester Institute of Technology—Producer/Designer, (Assistant Professor)

**Harvey B. Carapella**, BFA, Rochester Institute of Technology—Producer/Designer, (Assistant Professor)

**June L. Cherry**—Traffic Manager, Television

**Richard A. Finnie**, AAS, BET, Rochester Institute of Technology—Maintenance Engineer

**Michael M. Dobranski**, AAS, Alfred State—Photographic Supervisor

**Robert K. Gascon**, Engineering Manager, Television

**Susan B. Hubregsen**, BFA, Rochester Institute of Technology—Graphics Supervisor, (Instructor)

**John R. Lorts**, AAS, BS, Rochester Institute of Technology—Producer/Director, Television, (Instructor)

**Larry A. McKnight**, AAS, BS, Rochester Institute of Technology—Production Manager, (Assistant Professor)

**Joan Marsh**, BFA, Rochester Institute of Technology—Graphic Assistant

**Robert J. Michel**—Operations Engineer, Television

**David E. Stone**, AAS, Monroe Community College—Assistant Producer

**Wallace Memorial Library**

**Gary D. MacMillan**, BA, Kalamazoo College; AMLS, University of Michigan—Director, Associate Professor

**Allathea Ames**, BA, Ohio State; MLS, SUC at Geneseo—Chief Bibliographer, (Instructor)

**Reno Antonietti**, BS, Rochester Institute of Technology; MLS, SUC at Geneseo—Director, Audiovisual Services, (Associate Professor)

**Marjorie Bloss**, BA, Rochester; MLS, Case-Western Reserve—Head, Technical Services, (Assistant Professor)

**Karen Caviglia**, BA, Kansas University; MA, Indiana University; MLS, SUC at Geneseo—Reference Librarian, (Instructor)

**Douglas Finch**, AB, Cornell University, M.T., SUC at Cortland, Audiovisual Technician

**Judith Glading**, BA, Miami University; MLS, SUC at Geneseo—Reference Librarian, (Assistant Professor)

**Lois Goodman**, BA, CUNY at Brooklyn; MLS, Pratt Institute—Head, Public Services, (Associate Professor)

**Joan S. Green**, BS, Ohio State; M.Ed., Trenton State; Rochester Institute of Technology—Media Specialist, (Assistant Professor)

**Janice E. Linehan**, BA, Merrimack College; MLS, Rutgers—Reference Librarian, (Associate Professor)

**Ruth B. Lunt**, BA, Oberlin; MLS, SUC at Geneseo—Reference Librarian, (Assistant Professor)

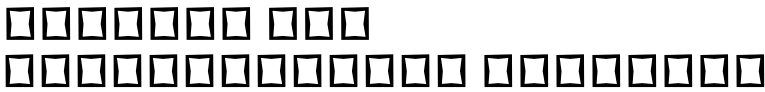
**Edna Peer**, BS, Bucknell; MLS, SUC at Geneseo—Reference Librarian, Chemistry, (Instructor)

**Patricia Pitkin**, BA, MLS, SUC at Geneseo—Data Base Manager, (Instructor)

**Gladys M. Taylor**, BS, SUC at Geneseo; MA, Cornell—Archivist, (Associate Professor)

**Marcia Walter**, BA, MLS, Syracuse—Reference Librarian, (Assistant Professor)

**Richard K. Zimmer**, BA, SUC at Geneseo; MFA, Rochester Institute of Technology—Assistant Director, Audiovisual Services, (Assistant Professor)



**George E.D. Brady**, BA, Ed.M., University of Buffalo—Dean

**John M. Whitely**, BS, Rochester Institute of Technology—Registrar

**Joane W. Beardsley**, BS, St. Lawrence University—Records Officer

**Gary J. Bonvillian**, BS, Rochester Institute of Technology—Registration Officer

**Victoria F. Gary**, BS, SUC at Geneseo—Assistant Registrar

**H. David Shuster**, BA, San Diego State University; MA, Ed.D., University of Rochester—Research Associate and Scheduling Officer

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**William H. Williams**, BA, San Jose State College; MS, Syracuse University, CDP—Assistant to the Senior Vice President

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**Eileen Biser**, BA, Manchester College—Coordinator, NTID Public Information

**Thomas G. Bisky**, BA, St. John Fisher; MS, Syracuse University—Communications Assistant, Media

**Barbara W. Brissenden**, BS, SUC at Geneseo—NTID Public Information Specialist

**James H. Castelein**, BA, SUC at Brockport—Photo Lab Technician

**Joan E. Cooley**, BA, SUC at Brockport-NTID Public Information Associate

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**C.T. Fergerson**, BFA, Rochester Institute of Technology—Coordinator, NTID Special Events

**Barbara Fox**, BA, Ithaca; MS, Boston University—Communications Associate

**Padraic G. Hobbs**, BA, Denver; MS, Syracuse University—Coordinator, Special Projects

**Andrew V. Johnson**, BS, Ed.M., Rochester—Production Coordinator

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**Marlene Ledbetter**, BS, MA, Syracuse University—Communications Associate

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**Beth A. Moynihan**, BS, Rochester Institute of Technology—NTID Visitors' Specialist

**Ronnie L. Powell**—Manager, Program Services

**Carolyn P. Rankin**, BA, Rochester—Communications Associate

**Randall S. Ross**, BFA, Rochester Institute of Technology—NTID Graphic Designer

**Sharon S. Spicciati**, BA, SUC at Geneseo—Communications Assistant, Publications

**N. Phillip Weinbach**, BS, University of Missouri; MS, Boston University—Director, NTID Public Information

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**John W. Bodwell**, BA, Knox College, M.Div., Chicago Theological Seminary—Director of Development, Manager, 150th Anniversary Campaign

**Christine DiVincenzo**—Manager, Development Resources

**David B. Jones**, BS, Rochester Institute of Technology—Associate Director, Development

**Christine Hall**, BA, Nazareth College—Director, Alumni Relations

**Karreen Roger-Smith**—Manager, Annual Funds

**Sharon Weber**—Acting Manager, Records System

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**Ann Hayes**, Director of Orientation and Special Programs

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**Louis A. Alexander, Jr.**, BS, University of Rochester—Coordinator, Student Recruitment and Alumni Relations, Athletic Department, (Professor)

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**J. Rodger Dykes**, Director, Sports Information

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