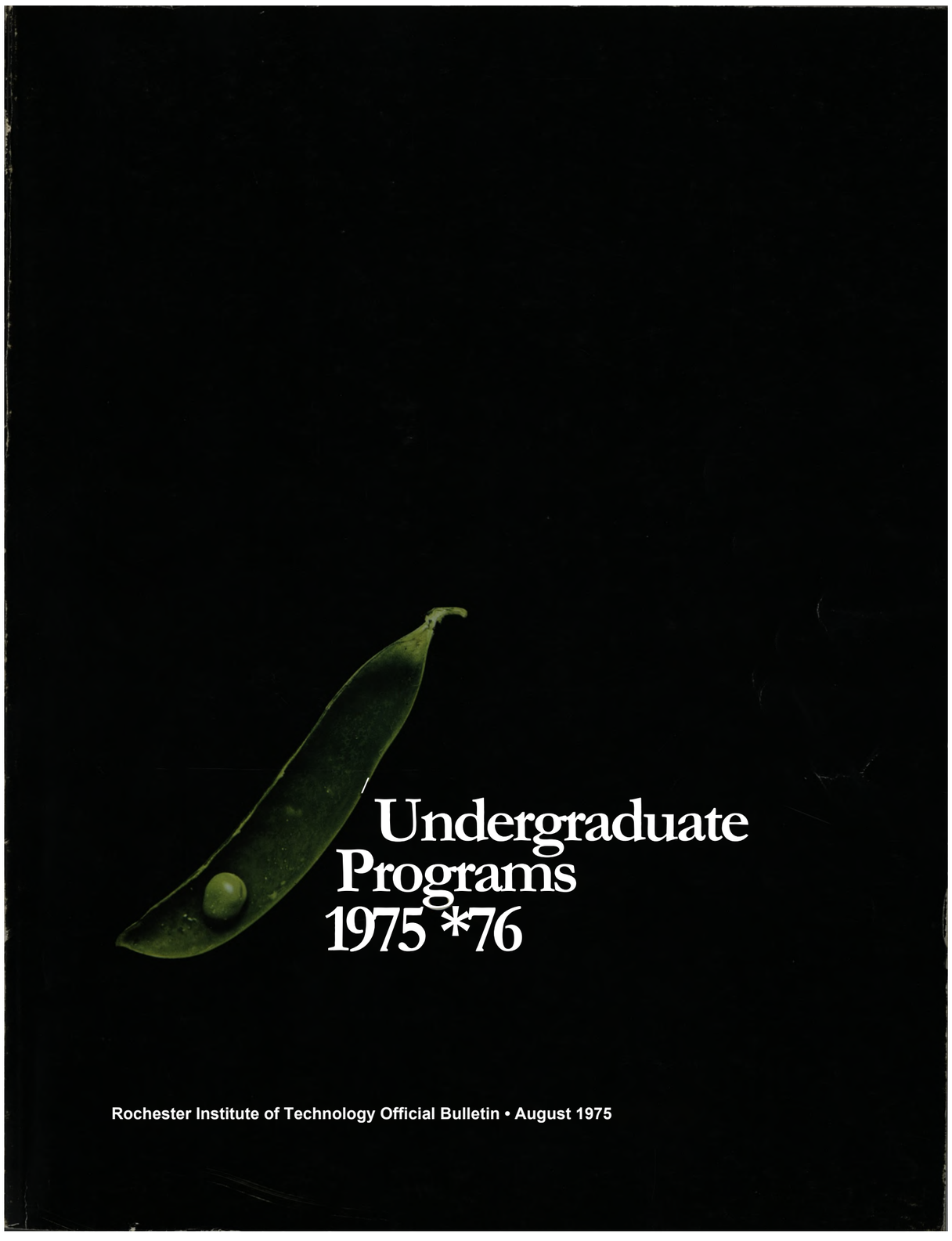
1975

1975-1976 Graduate Bulletin

Rochester Institute of Technology



Undergraduate Programs 1975 *76

Rochester Institute of Technology Official Bulletin • August 1975

The SEED

In one form or another, it gives life to just about everything we know.

A plant grows from one. A person grows from one.

And, like a lot of things, there's a lot more to a seed than what you can see on the outside. Its shell is usually pretty colorless, its shape nondescript. But inside that shell is one of natures wonders: a tiny living organism ready to burst into growth, complete with its own food supply.

The human mind is very much like a seed. It can lie unused, uncultivated, for years. Or it can be cared for and nurtured and helped to grow.

Rochester Institute of Technology has been helping people grow for almost 150 years. And in their turn, many of RIT's graduates have helped guide the growth of some of the nation's most prestigious industries, and opened new fields in the arts and technologies.

Our ideas about education for a career aren't so revolutionary in today's world. But they were 150 years ago when RIT declared its goal was to prepare graduates for "the making of a living and the living of a life."

Along the way, we've learned a lot about what it takes to make an education pay off. A lot about what helps a graduate keep on growing after graduation. A lot about what it takes to make the most of a career, and a life.

We think you'll do a lot of growing at RIT.

Rochester Institute of Technology Calendar 1975-76

	CCE Registration	New Student Registration	Graduate Registration	Special Student Registration (Day)	Classes Begin (Day & CCE)	Vacation, No classes	Last Day of Quarter
Fall Quarter, 1975	Sept. 16, 17	Sept. 22	Sept. 23	Sept. 24	Sept. 24	Nov. 26-30 Dec. 14-Jan.4	Dec. 13
Winter Quarter, 1976	Dec. 16, 17		Jan. 5	Jan. 6	Jan. 5 (CCE) Jan. 6 (Day)		March 19 March 20 for Sat. classes
Spring Quarter, 1976	March 16, 17		March 29	March 30	March 29 (CCE) March 30 (Day)	April 16, 17 May 31	June 12 (CCE) June 11 (Day)

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Undergraduate Study 1975/76

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For more information concerning undergraduate study at RIT, or for a complete list of courses offered, return the information request card at the end of this bulletin, or write or phone:

Rochester Institute of Technology
Admission Office
One Lomb Memorial Drive
Rochester, NY 14623
(716) 464-2831

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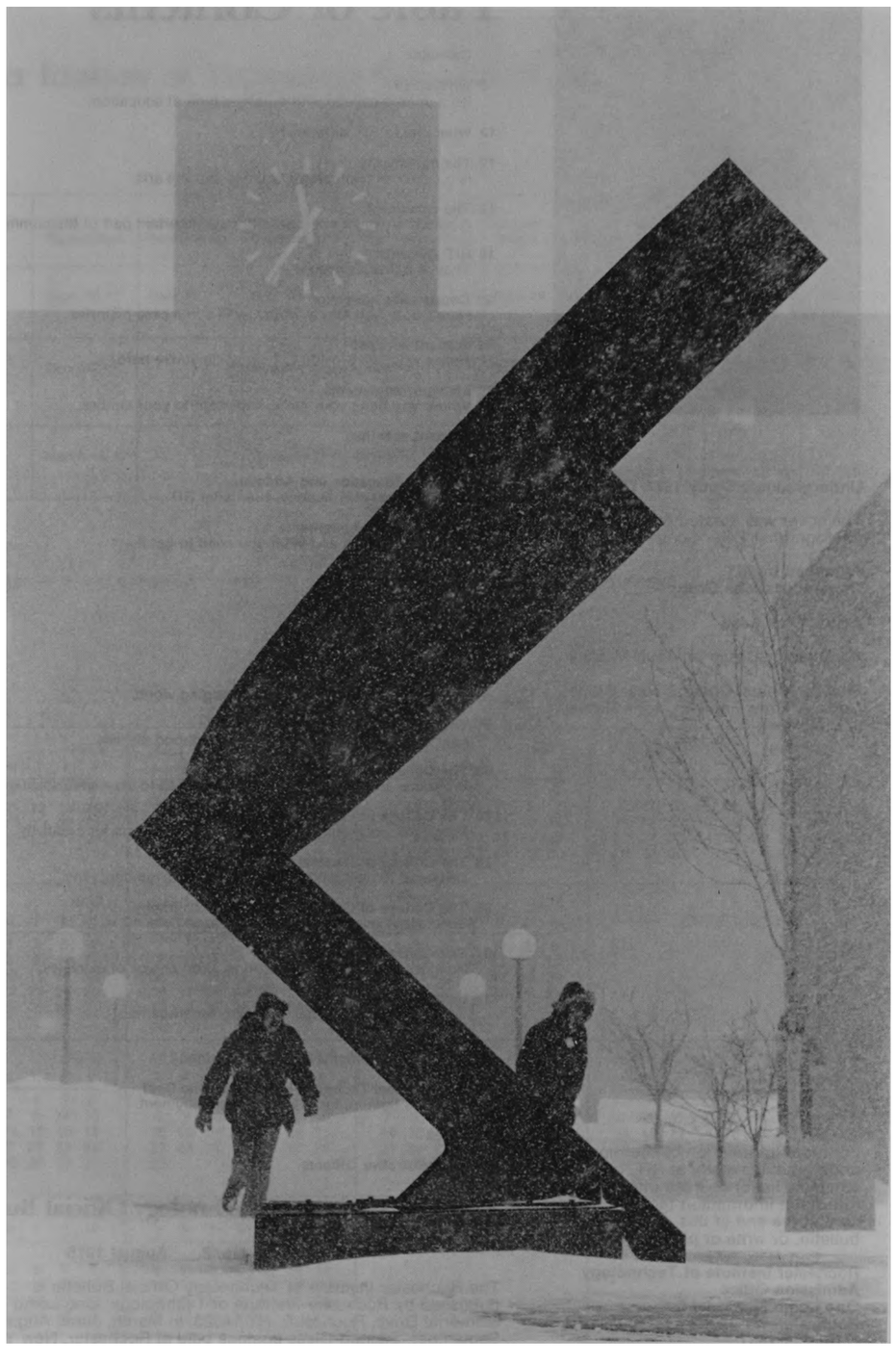
Rochester Institute of Technology Official Bulletin

Vol. LXXV No. 3 August 1975

The Rochester Institute of Technology Official Bulletin is published by Rochester Institute of Technology, One Lomb Memorial Drive, Rochester, NY 14623, in March, June, August and September. Second-Class postage paid at Rochester, New York.



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, with approximately 40% transferring in as upperclassmen.

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

Size
More than 7,000 full-time students, 2,500 summer students, and over 12,300 evening students made up the student body in 1974-75.

Degrees
A.A., A.S., A.A.S., B.F.A., B.S., B. Tech., M.B.A., M.E., M.F.A., M.S., M.S.T.

Programs:
Co-op Calendar
Colleges of Business, Engineering, and Science; School of Applied Science; School of Printing (optional); College of General Studies (Social Work and Criminal Justice); Computer Science and Technology.
Usual Calendar
College of Fine and Applied Arts; School of Photographic Arts and Sciences; Department of Packaging.

Facilities
Recently completed $110 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 town houses 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
30,000 in all 50 states and worldwide.

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 in his recent annual report for the past year. "We know, better than most places, that what happens in the classroom must be tested and refreshed by real experience."

That's RIT.

Founded in 1829 with the stated goal to prepare its students for "the making of a living and the living of a life," RIT has become a national model for post-secondary education specializing in professional and technical areas.

More than 7,000 day students, 2,500 summer students, and over 12,300 evening students made up the student body in 1974-75.

The Institute is a complex of nine colleges whose basic educational objective is to provide motivated, career-oriented students with top-quality academic opportunities and diversified social and complementary experiences.

One of RIT's major strengths is its ability to adapt quickly to changes in society: to develop new programs, revise existing ones, or rewrite an entire curriculum if necessary. This ability is essential for an Institute of technology in one of the most rapidly changing technological eras the world has known.

The growth of a pea seed begins with the tiny tips of the root and stem breaking through the outer shell of the seed. But before this happens, all conditions must be right: the right supply of moisture, the right temperature and oxygen supply, and the right light conditions.

In 1829, the conditions for the growth of RIT and its unique kind of education were perfect: a thriving frontier village that was *to become Rochester needed a training center for skilled professionals.*

The growth of an idea

RIT has a history.

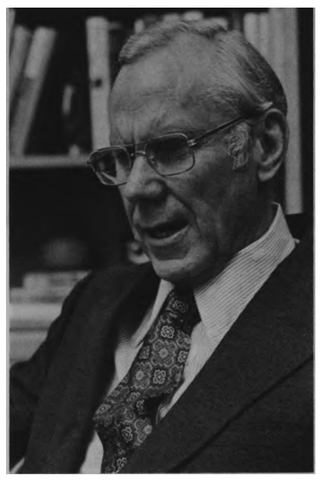
It began in 1829, when the brash frontier village that was to become Rochester decided that — in addition to the material wealth brought about by its productive farms, its millsatthe falls of the Genesee, and the Erie Canal — there was more to life than just making a living. The need was for the infusion of some elements of culture in an occupation-centered existence. The Rochester Athenaeum was founded; its philosophy is an important part of RIT today.

As Rochester became a leader in high-skill industry shortly after the Civil War, the new need was for expertly trained technicians and supervisors. The void was filled by establishing Mechanics Institute,

where young men discovered the satisfaction and the rewards that come to those whose training is in demand. The Athenaeum and the Institute merged in 1891; graduates were equipped for "the making of a living and the living of a life." This is still true.

A third dimension has come about more recently, but rests upon the other two. In addition to awareness of the cultural heritage, and proficiency in an occupation, there must be a perception of the new directions society should follow if it is to survive. This requires education for the role of leadership in a world that urgently needs men and women trained in a career, able to interact with changing conditions, and willing to assume responsibility as an inheritor as well as an innovator.

This is where Rochester Institute of Technology stands today.



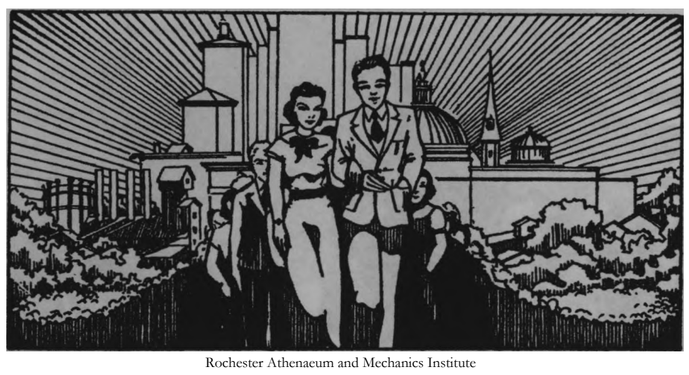
“If Rochester did not have an RIT, it would have to invent one,” RIT President Dr. Paul A. Miller told some of the Institute staff at a meeting earlier this year.

Dr. Miller, a recognized expert in the field of continuing education, has strong opinions about RIT and its place in technical, professional, and continuing education.

Miller, 57, is the sixth president RIT has had in its 146 year history.

He was appointed in 1969, after serving at various times in his career as assistant secretary of Education of the Department of Health, Education and Welfare; president of West Virginia University; and provost of Michigan State University.

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



Rochester Athenaeum and Mechanics Institute
□□□□□□□□□ □□□□

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.

When RIT started career education more than 100 years ago, 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 this hundred-plus 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 hundreds of programs offered through the nine day and evening colleges.

But it's an education with a difference.

At RIT, it means our graduates go directly from here to where they want to be–in the professional world, doing professional work.

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

It means every person on our faculty is chosen because he's tops in his field –before he comes to RIT.

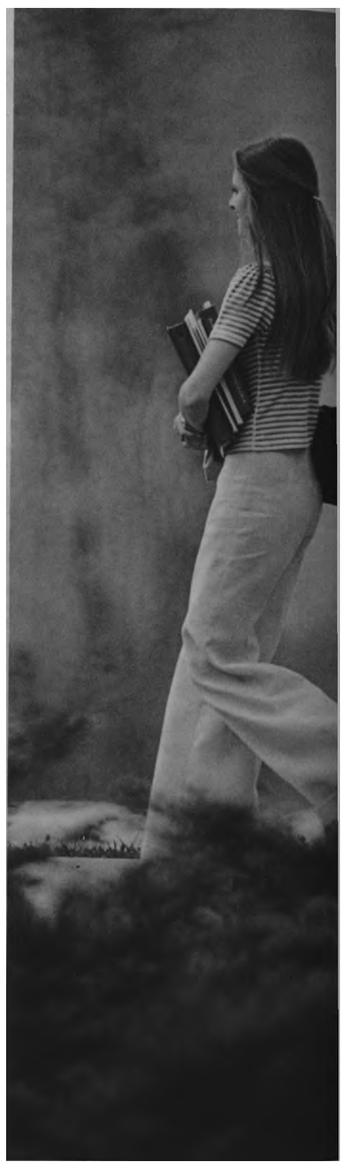
And it means we recognize that a lot of people already have careers– but want to further their knowledge.

So we have a whole college designed just to provide the special services these people need.

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.



What makes RIT different?

Uncommon. From the president on down, that adjective is used frequently to describe RIT's academic offerings.

What makes them uncommon?

Dr. Todd H. Bullard, provost and vice president for Academic Affairs, classifies three levels of uncommon:

—Programs distinguished by cooperative work-study arrangements, and that undergird specialized instruction in other colleges;

—Programs that can be found in other institutions, but not very frequently;

—Programs found with even less frequency, if at all, elsewhere.

Many of the offerings of the Colleges of Engineering, Science, Business and the School of Art and Design fall under Dr. Bullard's first category. They're available at many other institutions in the country, but cooperative work-study (Co-op) and other variations make them different.

They're made more unusual by their service courses in support of other disciplines. The College of Science, for instance, has special courses to support printing and photography majors, and a physics in the arts course for fine arts students. The College of Engineering offers special courses for printers.

At the second level Dr. Bullard places programs such as computer science and technology, engineering technology, instructional technology, criminal justice, food administration, hospital dietetics, and general education courses as distinct from a college of liberal arts.

At the third level are the highly unusual or unique offerings of the School for American Craftsmen, packaging science, nuclear medicine technology, printing, the technological expressions of photography such as photo science, photo management, and photo marketing, and the National Technical Institute for the Deaf.

RIT's uncommonness is rooted in its origins, Dr. Bullard believes. The Rochester Athenaeum and Mechanics Institute responded to distinctive technician and vocational needs of Rochester.

"RIT simply to sustain itself found it had to maintain a close community relationship. It had to be in contact with the centers of employment," Dr. Bullard says. Thus he explains the existence of Co-op.

Faculty and officers gloried in the Institute's uniqueness, Dr. Bullard adds. "The people who came here accepted that kind of institution and tried to nurture it. They took pride in its difference and didn't try to move it along the lines of emulating other institutions."

Without models, how do faculty and administrators determine which programs to offer?

There are many ways of identifying need for programs, Dr. Bullard answers. Maintain a "substantial web of relationships" with people in industry, business and government. Create advisory committees such as those in graphic arts, computer science, accounting, and NTID. Work with faculty and deans in maintaining contact with industrial training directors.

Faculty interact with industry through Co-op, and come up with more ideas. And every college has a curriculum committee exploring new possibilities.

Trustees provide ideas. Printing came largely because of Frank Gannett's insight. Plans for NTID were brought to RIT's attention by Mrs. F. Ritter Shumway.

There's even more to the groundwork. Attempts are made to define manpower needs, both immediate and projected. This is a difficult process, Dr. Bullard says: "The nature of the economy and of technological development have much about them that are unpredictable. That's not to say we don't try. Our record's been quite good."

If industrial people believe there's a need fora program, and if manpower studies tend to confirm that need, the program might seem a sure bet.

But it's not always.

Enter the student.

"Often because of their specialized nature, the programs don't command an instant identity, especially among the young," says Dr. Bullard.

Nearly four decades old, the School of Printing still faces a public attitude (though nowchanging) which assumes not many people enter higher education to study printing.

So there are always risks when launching a new program. RIT has a good record in meeting the planned estimates of enrollments, Dr. Bullard reports. Most of the growth of the last five years is attributable to new programs, he says.

RIT can be expected to continue to launch unusual programs. Two factors will be at work here—responding to the ever changing needs of technology, and the competition for students.

"In this day, independent institutions simply must be different and, of course, good, or there's no reason students should attend them," concludes Dr. Bullard. "Uncommon programs are the lifeblood of this place. They distinguish RIT from the others."

The community is a center of technology, science and the arts

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 community of which it is a part. 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. Some recent examples of class projects include: an exhibit interpreting plans for future transportation systems serving greater Rochester; a multi-media presentation aimed at developing public support for revitalizing the downtown business district.

And the campuses are an integral part of the community

The Henrietta campus

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.

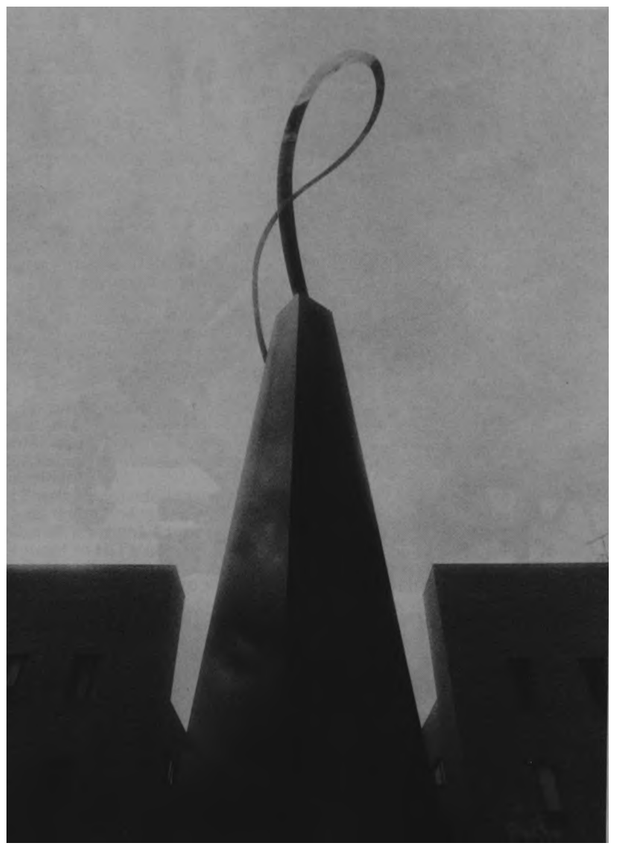
Constructed at a cost of over $110 million, it now occupies some 400 acres of the 1,300-acre site.

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.

A campus map is located on the inside back cover.



RIT student engineers with the equipment they designed and built.

RIT engineers design for handicapped

Children in physical therapy at the Al Sigl Center soon are crawling, walking and playing with the help of equipment designed and built by Rochester Institute of Technology mechanical engineering students.

Members of the RIT student branch of the American Society of Mechanical Engineers (ASME) constructed a device which was designed by students in a design class of Dr. Richard G. Budynas, the ASME faculty advisor.

The device is a large wooden structure. One side contains a rug-covered incline adjacent to a set of stairs, allowing a child, depending on his ability, to crawl or walk to the top. The other side contains a linoleum-covered slide. Underneath, a tunnel extends across the entire width. Within the tunnel the child can crawl or push himself on a cart. The device has retractable wheels.

The project was conceived when Dr. Budynas suggested his students investigate what they might do for the handicapped for their group projects. Duane Smith, Joanne Wieczorek and Dave Kellam visited the Al Sigl Center and talked to physical therapists about the three to six year olds who have difficulty walking and crawling. The RIT students decided to try to design something that not only would improve the children's motor capabilities, but would give them recreation as well.

Original plans were to design the equipment only, but people at the Al Sigl Center responded with so much enthusiasm the students in ASME decided to pick up the construction.

The Mechanical Engineering Department paid for the $500 in required materials.

"It certainly is pleasing that student groups are interested in helping our agency," said Susan Ingmire, one of the physical therapists who supplied the initial information. "We use the equipment for not only our ambulatory children, but for the more severely physically handicapped as well. It's a good piece of general recreation equipment, too, for all our children."

The Metropolitan Center

By far the greatest number of RIT offerings away from the main campus are to be found in the Institute's Metropolitan Center, at 50 West Main Street in downtown Rochester.

Here in the heart of downtown, the Evening Session of the College of Continuing Education provides day and evening course work in areas as diverse as tool making and mathematics, ceramics and management, textile weaving and design, human behavior, social work and electromechanical technology (in this last instance, an entire Associate degree program is available).

During the 1974 academic year, more than 1,200 students pursued their educational, vocational, and avocational objectives at the Metropolitan Center. RIT's entire graduate painting program (M.F.A.)is located on the sixth floor, and students from the Institute College comedown several days each week to do laboratory work in the excellent electromechanical facilities.

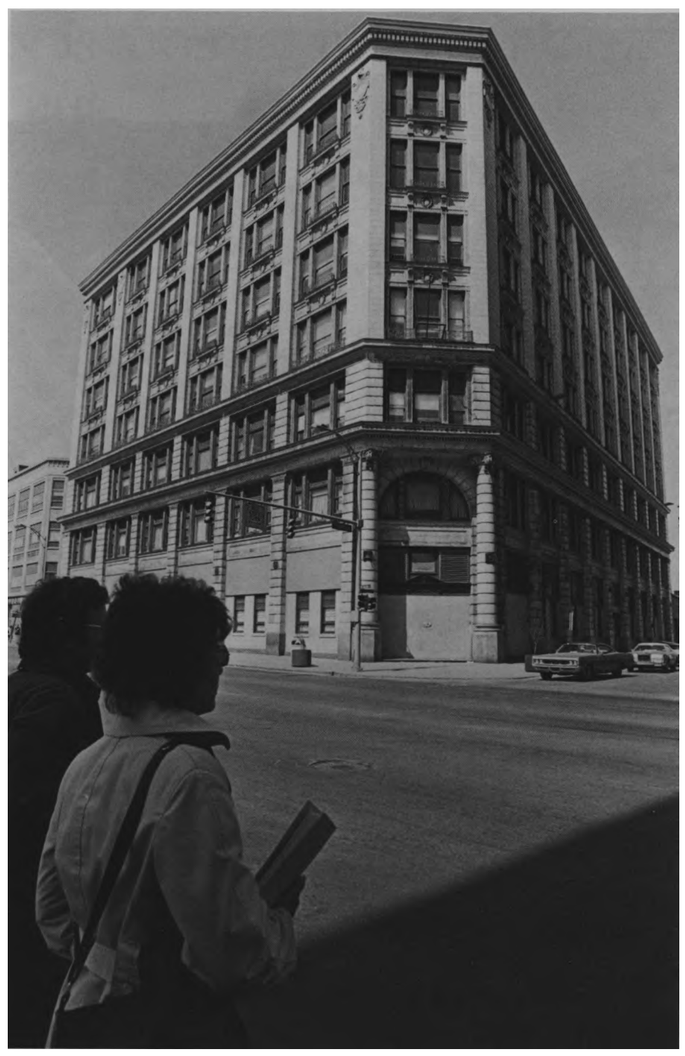
Beyond these curricular uses of the Metropolitan Center, an abundance of technical and community service programs is provided at the Center by various divisions of the Institute.

A unique component of the Metropolitan Center is the Distillation Research Laboratory, which has been supported by the Department of the Interior for 13 years to examine unusual physical properties of water and other liquids. The findings are applicable to desalination and recycling of polluted water. For further information write or call its director, Dr. K.C.D. Hickman, 262-2720.

The Metropolitan Center, located within Rochester's Inner Loop and on nine major bus routes, is an easily accessible, largely self-contained facility. It enjoys regular RIT security and physical plant services and food service. In addition to housing numerous Evening Session offerings, the Metropolitan Center is in a unique position to provide courses and programs of special interest to its neighbors—the several wards comprising the central city, City Hall and the County Office Building, and the Center for Governmental Research, a myriad of stores, businesses and industries within a twenty-block radius.

The Center's effectiveness is further enhanced by its utilization for special meetings, conferences, seminars of a technical or professional nature, workshops and community involvement programs.

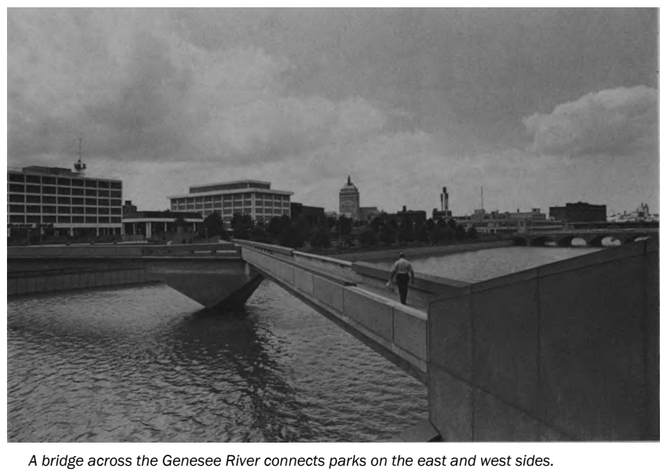
In addition to its use by the College of Continuing Education for these various community service projects, the Metropolitan Center serves as a "home" for several non-profit education and community service projects.



RIT's Metropolitan Center at 50 W. Main Street in Rochester

For additional information about the programs or facilities of the Metropolitan Center, please call or write its Academic Administrator, 50 West Main Street, Rochester, NY, 14614. (Telephone: 262-2701).

The Lincoln First Bank tower in Rochester



A bridge across the Genesee River connects parks on the east and west sides.

Midtown Plaza provides an urban shopping mall in the city.

"The community of Rochester is an education in itself," says Lauralee Over, director of Community Relations at RIT.

"I don't think there's a place in the country where community groups and organizations are as strong—or get as much done—as they do here."

A native of Harrisburg, Pennsylvania, Ms. Over, 35, has lived in Rochester seven years.

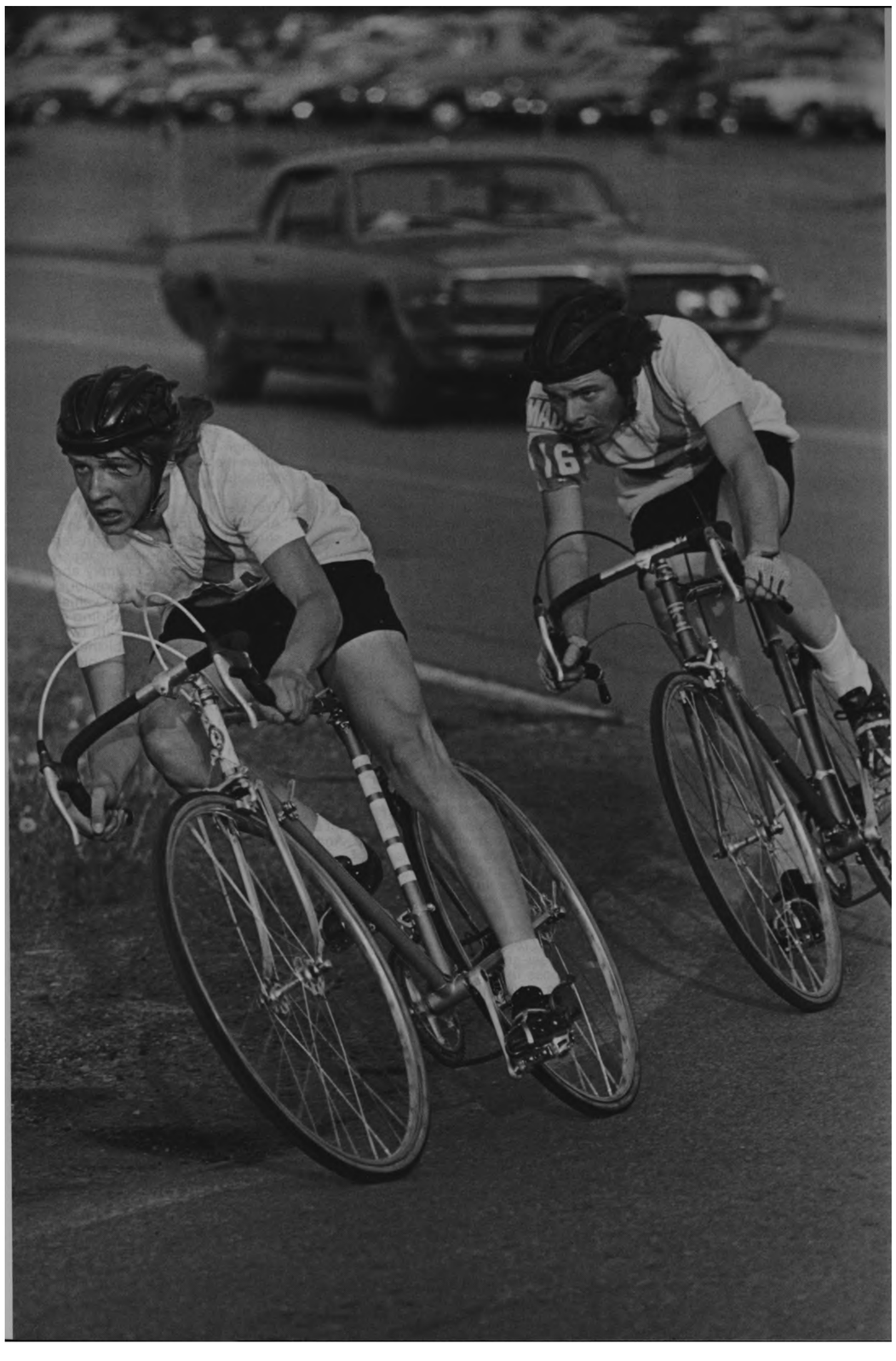
Does she like it?

"Absolutely. No matter what your interests are, you'll find them here. For a community this size, we have amazing resources."

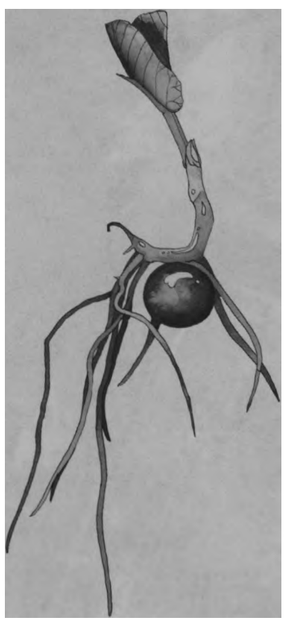
Public Affairs: a link with the community

The Public Affairs Division at RIT is responsible for building bridges between campus and community. Its work is accomplished through several functional units. The Communications Services Department 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 is a separate Office of Public Information for NTID. The Development Department has the specific charge of enlisting broad financial support for RIT which, like any other private university, is ultimately dependent on friends and benefactors to meet almost all its capital needs and a substantial portion of its operating income as well. The Community Relations Department establishes linkages between those on campus with a real interest orconcern for the community and their counterparts in the Rochester area. The Office of Program Services renders a support function. The Alumni Office is related to the Institute and the Alumni Association.

The Public Affairs Department 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 RIT student body: its only characteristic is diversity



In one of its earliest stages of growth, the seed sends tiny secondary roots in diverse directions into the earth. Their common purpose: to anchor the seedling firmly and supply the water and nutrients it needs for growth.

RIT's student body is one of the most diverse to be found. But students at RIT, no matter what their background, have a common goal: they want an education for a professional career.

There is no typical RIT student.

And if the student body can 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. There is also a Tech Vets club on campus.

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 46.

Foreign students

The Foreign Students' Advisor's Office both helps foreign students with some of the problems they may encounter in college, and periodically offers special programs.

Deaf students

The 650 students registered through the National Technical Institute for the Deaf (See also page) make a distinct contribution to the educational processes of the Institute. They are RIT students in every sense: they come from varied back-grounds, 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.

Office fills veterans' needs on campus

"The whole reason for having an office of Veteran's Affairs here on campus is so we can take care of all the Vets' needs in one place," says Sue Liberman, coordinator of Veteran's Programs at RIT.

"We're a full-service operation . . . we try to keep things and people from getting shuffled around."

Sue, 35, is a native of New York and joined RIT last year after many years in business management positions.

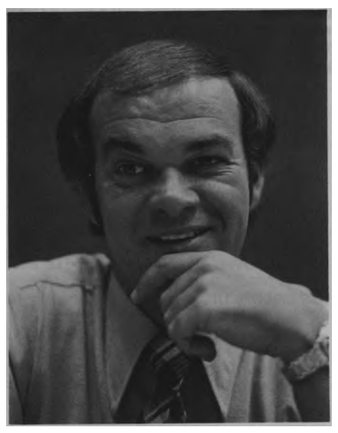
"I never really felt much personal commitment in other positions," she says. "I felt that human services were my thing."

Now, in addition to helping RIT's more than 2,000 veteran students keep their federal paperwork straight, she spends time providing personal services like counseling.

She says that a few of the veterans at RIT are women, although the majority are men.

"And there was some problem with that at first. A lot of the guys came in and felt apprehensive about a woman being in this job. So I'm a woman. So what. My own personal belief is that it's probably helpful to have someone without military conditioning in this role."

"Usually, the guys come in to talk about a specific problem. But the times I enjoy most are the times they come in just to talk. Sometimes after one of these talks they'll leave the office and say Thanks, Sue,' and I know I'm doing my job.



RIT's "out in front" for transfers

RIT was the first college in New York State to assign a staff person full-time to help students make the transfer from another college to RIT.

That move, made several years ago, has made transferring to RIT one of the easiest and most advantageous moves a student can make, says Lou Guard, associate director of Admission for transfer students.

"There are some really good reasons for a person to transfer into RIT at one of the upper levels," Guard says.

"First of all—and most important to the student—we give maximum transfer credit. Many of our upper-level programs, in fact, start at the third year and a student who comes in with an associate's degree will get blanket credit for his first two years.

"Many transfer here from colleges whose purpose is to explore career possibilities, and provide necessary background for upper-level specialization; these students have now made a career decision and find that RIT moves them most directly into their chosen field. Others select RIT because of its cooperative program.

"Also, RIT has a history of helping transfer students and a good relationship with two-year colleges and other four year institutions. Many of our third and fourth year programs are designed specifically to coordinate with the first and second year programs at other colleges.

In addition, Guard points out, RIT offers special incentives to the transfer student—like the Outstanding Transfer Scholar Awards given every year. These full tuition scholarships are awarded on the basis of academic competition, to students who have been accepted as Juniors for the following academic year.

"We're definitely out in front when it comes to helping transfer students," Guard says.

Guard has been at RIT since 1964. A native of Geneva, 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 two years ago, Ann Hayes, coordinator of commuter and married student 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 percent of the singles commuting from home accepted the invitation and commented favorably afterward.

A special parents orientation program attracted the 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 wantto coordinate car pools.

If commuters want to stay on campus for just one or two nights, there are guest rooms in the Residence Halls to accommodate them. 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 lunch hours when commuters are on campus.

Ann Hayes

A part-time social coordinator has been hired to develop programs for married students and their families. Special social events are planned so the spouse as well as the student can feel more a part of the school.

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 has been proposed.

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 □□□□□ 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, printing, 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 $130 and $170 a week, depending on whether the student is starting or completing his Co-op program, and on the judgment of his employer, according to RIT's Central Placement Services.

The total number of students in Co-op programs this academic year approaches 1,700. 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, or Mechanical Engineering); the **College of Business** (Business Administration, Food Services Administration, 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 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.)

In addition, 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.

Students in **Medical Technology** have three years full-time at RIT, and then one year of full-time internship in a cooperating hospital.

The **Department of Computer Science and Technology** of Institute College offers a five-year B. Tech cooperative program for those entering as freshmen, with the first two years in full-time study. Transfers with an Associate degree in data processing, programming, or equivalent enter as third-year students. All follow the alternate work-study co-op programs for the third, fourth and fifth years.

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

The College of General Studies, in its program 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** offers the cooperative plan as an option to its students, which extends the time required for a degree.

Co-op gave Chemistry student on-the-job chance

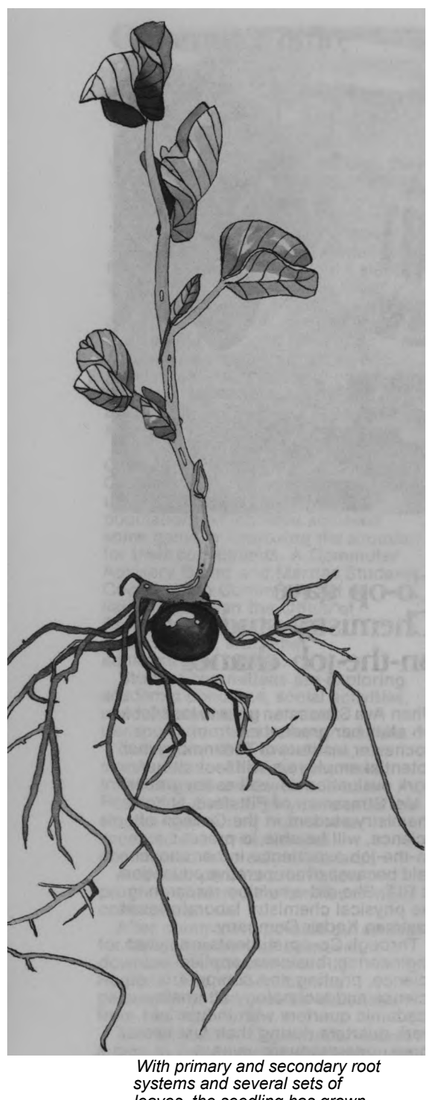
When Ava Strassman goes to look for a job after her graduation from Rochester Institute of Technology, her potential employers will look at her work evaluation as well as herjrades.

Ms. Strassman of Pittsford, N.Y., a chemistry student in the College of Science, will be able to present on-the-job experience in her chosen field because of cooperative education at RIT. She did emulsion research in the physical chemistry laboratories at Eastman Kodak Company.

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

Not only does Co-op give you the chance to prove yourself on the job, it also helps you decide whether you've made the right career choice, says Ms. Strassman. "You still don't feel you're stuck for life. It's not too late to change."

The 1971 graduate of James Sperry High School in Henrietta lists other advantages of Co-op: providing money to finance a college education and improving one's classroom studies.



With primary and secondary root systems and several sets of leaves, the seedling has grown into an adult plant and set the life cycle it will follow while it continues to grow.

For many students at RIT, there's an important step between campus life and a professional career: it's called Co-op, and it means the student has a chance, while he's in college, to sample the day-to-day work he may have in his profession.

Early start Co-op: a way to finance your education

Early-start Co-op is the latest innovation in RIT's cooperative work-study program.

The College of Business is opening up that option for low-income youths from public and private schools in the City of Rochester who might not be able to finance their college educations otherwise.

Priscilla A. Johnson has been hired as coordinator of the federally funded program.

Unlike other Co-op students, who begin their work blocks after completing two years of academic study, early-start Co-ops will alternate work quarters with school quarters for their entire undergraduate careers.

An immediate impetus for the innovation was the increasing unavailability of federal aid for low-income students, says Ms. Johnson, who worked with Higher Education Opportunity Students at the University of Rochester the past three years.

"I've seen a severe tightening of money," she reports. "A lot of federal legislation for educational money for low income families is being redone. It's leaving a lot of people without funds."

In addition, Ms. Johnson says, the opportunity to finance one's education ought to give a student a "sense of pride and individuality."

Arden Travis, director of Cooperative Education in the College of Business and project director, adds a third motivation for the program.

"We're tapping a tendency of students who want to stop out for a while. In one local high school four years ago 90 per cent of the graduates wen on to college. Now that percentage is in the 70s. Young people don't seem to want continuous education anymore."

To get a bachelor's degree alternating work and academic quarters will take 5½ years, but Ms. Johnson says students won't consider that a disadvantage. They'll be more attractive to employers because they'll have work experience as well as degrees, she explained.

Ms. Johnson visits Rochester high schools and community agencies to bring information to eligible students and finds employers for those students accepted into the program. Job placements are local.

Besides recruiting students and helping to place them in jobs, Ms. Johnson, offers them academic, financial, vocational and personal counseling.

Although early-start Co-op is being administered through the College of Business, students interested in other Co-op disciplines, with the exception of engineering and science, are eligible for enrollment in Early-start Co-op.

RIT is one of only seven private, four-year institutions in the country to receive a first-year cooperative education award from the U.S. Department of Health, Education and Welfare this year.

An employee of the University of Rochester from 1971 to until earlier this year, Ms. Johnson was an administrative assistant in the Center for Afro-American Studies, coordinator of Afro-American Studies, program advisor in the College of Arts & Science, and teacher/counselor for the Educational Opportunity Program. She has a bachelor's degree in social science from the University of Rochester.

Kathy Neville says her Co-op job gave her a chance to "really view" her chosen major.

"Employers won't be so hesitant" after Co-op

Initiative, capability and job openings propelled Kathy Neville rapidly up the promotion ladder during her first quarter as a Co-op student.

Kathy, a retailing major in the College of Business, worked for Sibley, Lindsay and Curr Company's downtown Rochester department store during Fall Quarter 1973.

Like all Co-ops, she started as a salesclerk, but was re-interviewed after three days and moved to the public relations department. She handled sales promotion and special events so well she was assigned to the Renaissance Processional, a major promotional event, as assistant manager.

By mid-October she was moved to the fashion office to handle the organization, window dressing and other duties for the Christmas show and annual children's show.

"A rise like that, in just one quarter, is unusual for the Co-op student," Kathy realizes. "I let them know I thought I was capable of more than just being a sales clerk, and luckily there were openings. Once they found they could trust me they gave me more responsibility."

Two of her supervisors at Sibley's lavished praise on her.

"Kathy is a very competent young woman in the fashion field," said Joan Spadaro, fashion coordinator. "She's extremely cooperative, a diligent worker, very personable."

Margaret Thirtle, vice president for sales promotion, said, "In the 27years I've been at Sibley's I've had occasion to work with many students. I can always tell one who has star quality. Kathy knows exactly where she's going and is organized and talented. She has everything it takes to make it to the top."

The next quarter, Kathy worked with the promotion director at William Hengerer's downtown Buffalo store, a division of Sibley's. When she returned to Sibley's in Rochester the next September, one of her responsibilities was coordinating the *Seventeen* Beauty Shop.

While she was at Sibley's, Kathy also became interested in *Mademoiselle* magazine and entered its competition to become a college board member. She was accepted on the basis of a special sales promotion.

As a member of the college board until her recent graduation, she fed back to the magazine ideas about articles and interests of college-age women. The magazine also sent her samples of products which she showed to fellow students to determine if *Mademoiselle* should sell advertising for them.

Her Co-op experience gave her "an opportunity to really view what I'm majoring in," Kathy says, and to convince her that she wants a career in sales promotion.

"You're not really exposed to the fundamentals of retailing until you're actually on the job," she believes. "You can learn anything you want in the classroom, but you don't know it until you put it to use on a job. If I hadn't had such a good Co-op, I'd probably still be wondering whether I want to be in retailing."

When she enters the job market after graduation, Kathy expects to have an easier time than many young retailing majors.

"In retailing, the biggest thing is moving up," she's observed. "Employers won't be so hesitant to hire you if they see you've already proved yourself. You're not such a risk."

Student was contract watchdog on Co-op

Not many 21-year-olds have the chance to see that specifications for a $150,000 government contract are carried out.

Janet Kristiansen had.

A mathematics student in the College of Science, Ms. Kristiansen spent her cooperative work quarters at the National Aeronautics and Space Administration's Goddard Space Flight Center in Greenbelt, Md.

There she worked as a task monitor to make sure specifications were met by the private firms to whom the space agency contracted projects.

For an undergraduate, the amount of responsibility was unusual. The contracts were valued as high as $150,000. Making sure their specifications were followed means Ms. Kristiansen directed people with master's and Ph.D. degrees.

Janet, the daughter of Mr. & Mrs. Stanley Kristiansen of 911 Kimball Court, Spring Hill,Fla..andagraduate of Arundel Senior High School in Odenton, Md., worked on the third satellite in the Atmosphere Explorer series and on the Earth Resources Technology Satellite.

Her mathematics background was needed for much of the analysis she carried out.

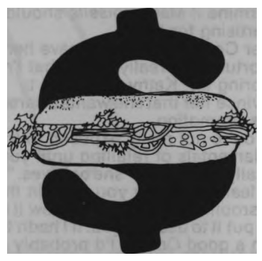
She hoped to return to Goddard after graduation. Her interest is in applying space technology to the earth's needs.

The findings of the Earth Resources Technology Satellite, for instance, can be used for determining crop yields, pollution control, and weather prediction, she points out.

RIT students gain practical experience in their chosen fields through the cooperative education (Co-op) program at RIT. Science students spend their last three undergraduate years alternating academic quarters with industrial work quarters.

Co-op has "multiple advantages," says Ms. Kristiansen. It's a chance to work in yourfield, and perhaps change fields if you decide that's not for you. It makes up your mind about what elective courses to take. It provides a break with routine. And it helps finance a college education.

College of Science students in chemistry, biology, mathematics, and physics have taken their"work blocks" in research, quality control, industrial production, technical service, marketing and data processing at Xerox, Eastman Kodak, Alliance Tool and Die, American Cyanamid, Burroughs Corp., Pennwalt Corp., Rochester Gas & Electric, Bausch & Lomb, the Central Intelligence Agency, and other places.



Food Administration Co-ops ran their own business

Scott Bullock and Bruce Rubin think they achieved their goal of serving the best submarine sandwiches for the cheapest prices on Martha's Vineyard the summer of 1974.

Bullock and Rubin established and operated "Captain Nemo's Subs" for 80 days as part of their cooperative work experience at RIT.

They were the first Food Administration Co-ops to establish their own business.

"Captain Nemo's Subs," across from the ferry at Vineyard Haven, the biggest commercial town on the island, catered to the tourist traffic with varieties of subs for $1.49 and under.

About a dozen other shops on Martha's Vineyard sold subs, but Captain Nemo's was the only exclusive sub shop.

"We were told we had the best subs on the island and our shop was just what the island needed," said Scott, 21, the son of Mr. and Mrs. Robert H. Bullock of 28 Main St., East Bloomfield, N.Y., and a 1971 graduate of Bloomfield Central School and 1973 graduate of Monroe Community College.

The students' imaginations even created a peanut butter and jelly sub.

"We made what we like to eat," said Bruce, 20-year-old son of Mr. and Mrs. Samuel Rubin of 73 Chute Road, Dedham, Mass., and a 1972 graduate of Dedham High School.

The idea for the business came from Rubin, who had worked on Martha's Vineyard during the summer of 1973. Planning for Captain Nemo's was started the following January.

Rubin and Bullock pooled their resources to come up with the $3,000 needed to get started. A realtor found a location to rent. Permits were sought and granted from the town government.

The partners built everything in the shop.

For the rest of the summer each worked about 80 hours a week running the carry-out business with the help of two employees.

"We had to do everything from cooking to purchasing to bookkeeping to advertising to clean-up," Bullock said.

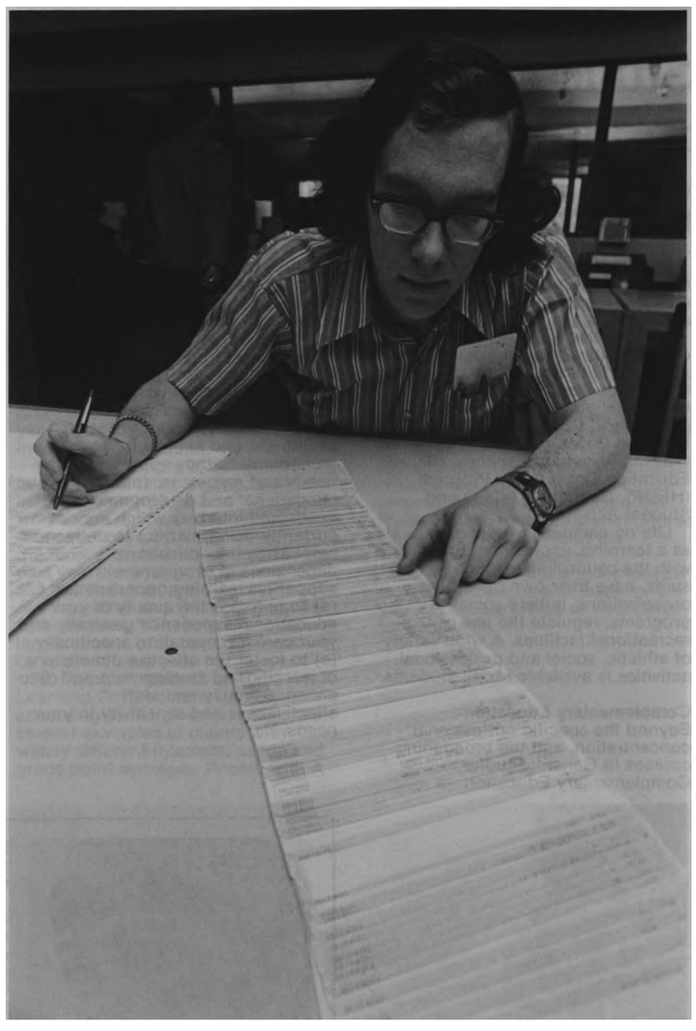
"Our experience couldn't have been learned from working for someone else," Rubin feels.

A good deal of their success came from their willingness to work later than their competitors. Captain Nemo's was the only place on the island to buy food after 11 p.m. It was open until 1 a.m. during the week and 2 a.m. on Fridays and Saturdays.

As the shop's popularity grew, employees of the ferry across the street came in with mass orders for the passengers.

Bullock and Rubin reopened Captain Nemo's the next summer.

David Nagy: Co-op is “unsurpassed in giving experience of the real world”



David Nagy was going to be a professional photographer until he realized he had a technical background he could use in another field.

Nagy, 20, a computer systems major in the Institute College, cemented his career choice while working as a cooperative education (Co-op) student in a computer science job with the Social Security Administration (SSA) in Baltimore.

A transfer student from Butler County Community College north of Pittsburgh, and the son of Mr. and Mrs. Frank P. Nagy of 433 Riemer Road, Sarver, Pa., he was at RIT for the Outstanding Transfer Scholar Competition in spring 1973 when RIT’s Central Placement Office informed him of the SSA's Student Trainee Access program.

He listed on his resume his experience working with a mini computer at the community college. He was summoned to an interview in Baltimore and one week later was offered a job.

On a double work block during Summer and Fall Quarters 1973, Nagy had responsibility for looking at new systems and their applications to the Social Security Administration.

He helped write a technological forecasting bibliography in cooperation with the National Bureau of Standards, which will publish the report with him listed as coauthor.

“The Social Security Administration must know how to keep its computer service up to date,” Nagy explained. “It must know what to expect in the future and how to use that information."

Nagy returned to the SSA in Baltimore for another double work block the following summer and fall. He has a commitment to the federal government to work at least six months after his graduation in June 1976. The plan he’s in allows him to transfer anywhere within the government without losing seniority.

Without Co-op, Nagy doubts he could have met the financial strain of college.

He has a certainty about his career plans he believes Co-op made possible.

“Through 14 years of school you don’t know exactly what you want to do with your life,” he asserts. “The people who are definite are those who've had outside experience.”

Co-op “puts you into the bigger macrocosm,” he says. “It’s unsurpassed in giving experience of the real world. There’s no other way I could have applied my education before I graduate. And now I know better what to concentrate on in my studies.”

Co-op offers a number of learning experiences, especially for the student who works away from Rochester and his hometown, Nagy’s found.

“There’s nothing like having to find your own apartment and actually find out what life’s like. I grew up in the country, worked in Baltimore and am going to school in Rochester. Those are three really varied experiences, and they’re all part of life.”

Nagy’s job was close to the ideal for cooperative work-study education: work which provides learning experience in his 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, printing, and computer science and technology alternate academic quarters with industrial work quarters during their last two or three undergraduate years.

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.

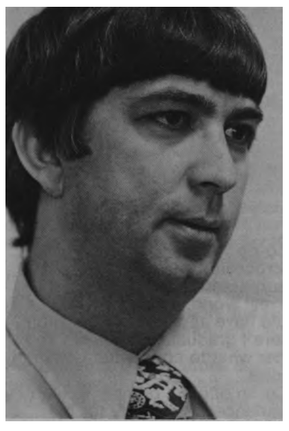
The goals of Complementary Education are: (a) to provide means for preparing you for the civic, aesthetic, personal, and social areas of life; of helping you to understand, as reflective and sensitive human beings, the meaning and value of what you do; and of providing learning opportunities that feature 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.



Dr. Tom Plough, associate vice-president for Student Affairs, 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, 34, holds a B.A. (Social Sciences), an M.A. (Student Personnel Administration), and a Ph.D. (Higher Education Administration) from Michigan State University.

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 in cooperation with Instructional Research and Development staff and LDC staff.

During the 1973-74 school year, the Learning Development Center saw more than 1,700 RITstudents and also helped nearly 400 community people. The current LDC staff consists of nine full-time members and 27 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 year were "How to Write a $25,000 Resume" and "How to Psych-out Your Prof and Cheat Legally on Examinations." These courses drew a large number 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 clients 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 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. Both programs are highly structured and require students to attend classes approximately seven hours a day, five days a week, for the academic term.

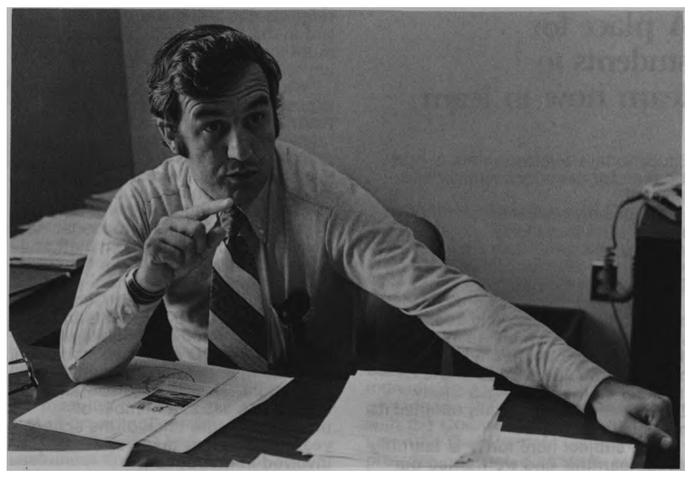
Although the majority of LDC's work is centered on the RIT campus, it is well known in the Rochester community. Several community agencies refer clients to the RIT facility for diagnostic evaluation or specific course work. This past year the center initiated two new programs in conjunction with outside agencies. These are a learning efficiency course for mentally ill patients at the Rochester State Hospital Rehabilitation Center and a program in communications and math for the New York State Office of Vocational Rehabilitation.

Central Placement Services
The function of the RIT Placement Service is to assist students in contacting potential employers and to provide career guidance. The office serves in four principal areas as a liaison between employers and students seeking positions. Those areas include: part-time jobs for students on the RIT campus or within the community, summer work, cooperative employment, senior and alumni placement.

This office will help you write resumes, complete application blanks and other appropriate forms, and prepare for interviews; it will provide cooperative employers with student grades; and it will follow up on the results of job search efforts. Employers are encouraged to visit the campus to recruit students for positions in their companies. The Central Placement Services office is on the second floor of the Administration building and is open twelve months a year.

The following services are of particular interest:

1. For students in the cooperative education programs, the placement process and job counseling begin in the sophomore year as they prepare for their first jobs in their junior year. This procedure may vary slightly for transfer students since a student does not begin Co-op work assignments until the academic department determines if he or she has the right sequence of courses.
2. Many of these students continue with their Co-op employer by accepting an offer for permanent employment after graduation. While the number doing this will vary from company to company, it is safe to estimate that an average of 50-60 percent of students on Co-op jobs will accept permanent positions with their Co-op employer when they graduate.
3. The demand for RIT graduates continues to be strong even though it reflects the ups and downs of our economy to some extent. Students who make an effort to seek out their jobs have a rather good chance of success when one considers the senior, on-campus interviews that are conducted between the middle of October and the first of May each year and the literally hundreds of full-time, permanent positions that are filed with Central Placement Services each year by employers who come here to recruit, as well as employers who do not come here for recruiting.
4. Each year there are some graduating seniors who do not enter jobs or graduate study immediately after graduation because of any number of personal reasons. However, once these graduates decide to seek out a position, Central Placement Services stands ready to assist them in this search if they so desire.



Placement can help find the right job before graduation

One of the first things a student should want to know after coming to RIT as a freshman or transfer is what his job possibilities will be after graduation.

And the only way to find that out is by making regular stops at the Central Placement Office, beginning as soon as the student gets to campus.

"We'd like the freshmen and transfers in here as soon as they get to campus," says Dick Delmonte, director of Central Placement. "They should be in here to use the career information literature we have. They should be in here to find out exactly what kind of job market there is in their field. And they should want to know what kinds of jobs people who graduated in their field during the last couple of years found. We have all that on file."

Placement—finding the right job after graduation—is an important part of an education at RIT.

But Delmonte—who directs a staff of 14—says placement may not be the right word for the process of helping a student decide what to do after graduation.

"The word 'placement' connotes that we put people places . . .that we find slots and fill them with students. And that's really not what we do.

Delmonte says the Placement Office tries to help students get the information they'll need to plan and correctly begin a career, and tries to help them decide if the academic programs they're in are the right ones to prepare them for the jobs they want after graduation.

The office is also willing to provide information for a student before he officially enrolls.

"We get a lot more inquiries today from parents and students before they get to RIT. They want to know what kind of earning power a person will have after going through a particular program.

Delmonte sees his office as an important link between RIT and the business world.

"We're a bridge to the outside . . . we're the only people on campus, really, who have this kind of exposure."

Delmonte, 44, has been at RIT since 1969. A native of Auburn, New York, he is a graduate of the University of Notre Dame.

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.

Human Resource 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 "Human Resource Series" 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.

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 47.)

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 available at the Student Health Service two days a week.

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.

Day Care
The Horton Child Care Center is a developmental preschool for children of part-time and full-time students, faculty and staff at RIT. It is located in Riverknoll apartment housing, within easy walking distance of the academic buildings. Children ages 3 (by December 1) through 5 are accepted for either the morning or afternoon sessions. 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 Director of Student Activities.

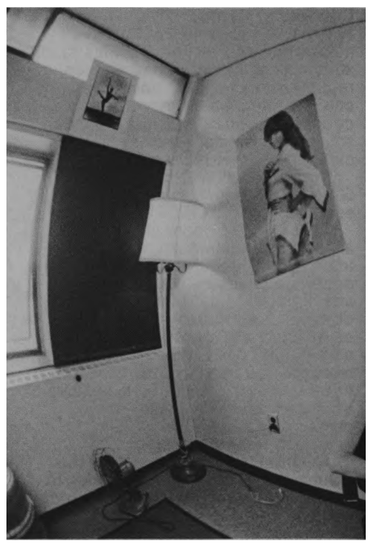
All I.D. cards must be validated quarterly. Replacement of lost cards is $5.00.

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 normally $5.00, 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 and supplies may be purchased at the RIT Bookstore where stocks include recommended items. General guidelines are given with the introductory statement on expenses. The major portion of the expenditures for books and supplies is made during the first week of school. In anticipation of this expense, students should have sufficient funds available.



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, or third academic year, 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 booklet describing Riverknoll and Perkins Green apartments is available from the Married Student Housing Office, 113 Kimball Drive, Rochester, NY 14623, (716) 328-6455.

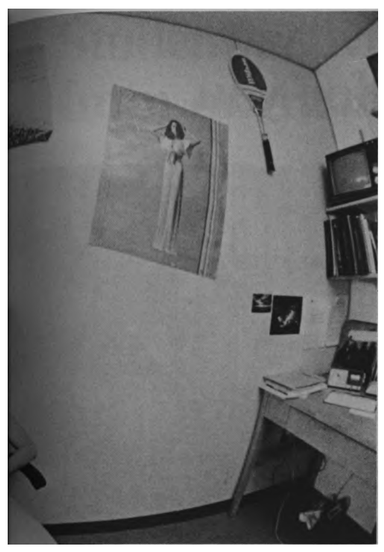
The Residence Halls
All residents participate in one of the Institute's board plans. The charges for residency and meals are included in the section on student expenses.

Each entering student is furnished information on housing arrangements, furnishings, and helpful hints by the Residence Halls Office when he or she is accepted.

Each women's house is located near men's houses, and most houses have visitation privileges. Alcoholic privileges are extended to each house upon a favorable vote of the residents. If you want to live in a house that does not have these privileges, you may request in advance that you be assigned to a limited privilege house. Such requests should be addressed to the Residence Halls Office.

Special Interest Houses (such as the Havarah House, primarily a Jewish culture area, the Unity House, as a Black culture area, the International House, the Photo House, and NTID Programmed Housing) continue the students' learning experience in the residence halls. Additional information will be sent to each applicant for housing in the packet containing his housing contract form.

Student Judicial Boards are charged with the responsibility of adjudicating infractions of residence halls rules and regulations. Cases in these Boards may be heard on a wide variety of infractions.




STOP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The Wallace Library: a multi-media learning center for you

The Wallace Memorial 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 throughout the week and on weekends. Located throughout the three floors of the library are over 900 student study stations, including individual study carrells and group study rooms with closed circuit TV sets.

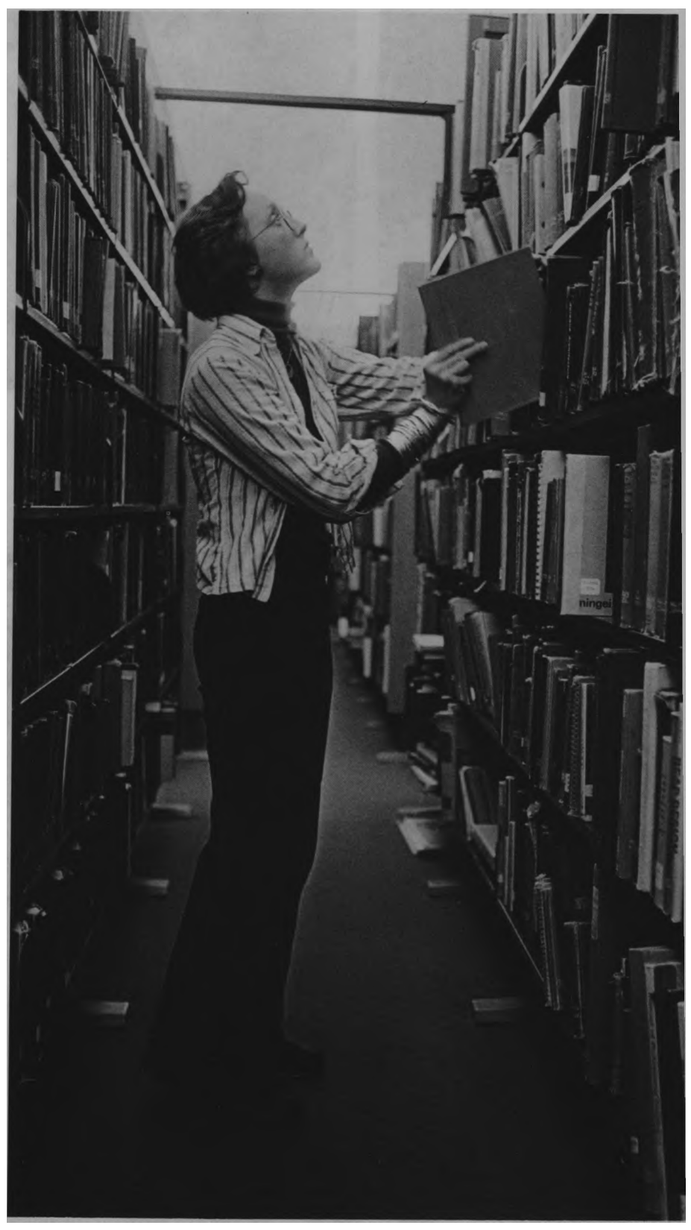
During the year student work in art and photography is exhibited in the second floor display gallery. Outstanding student art work is permanently displayed throughout the building. Two music listening rooms are located on the third floor, and there are several lounge areas throughout the building.

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 are the Graduate Chemistry Library and the Melbert B. Cary, Jr. Graphic Arts Collection, containing rare items of printing.

The Media Resource Center located just inside the library entrance on the lower level contains a variety of audio-visual equipment and non-print media for individual use. In addition, the Center contains one of the finest slide collections in the country, with over 60,000 slides. Preview facilities and study carrells are also provided.

The Audiovisual Services department houses a collection of nearly 300 films and provides materials, equipment, and assistance for classroom instruction. Approximately 3,000 films are shown in classrooms each year.

— Gary MacMillan



Student activities will keep you busy from orientation to graduation

New student orientation
All new students (freshmen and transfers) are required to pay the Orientation Fee of $10. 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 comprised 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, special, 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 office for the union staff, there are the offices of Urbanarium, Student Aid, Student Affairs, chaplains, the Coordinator of Clubs and Organizations, and most student organizations (College Union Board, Student Association, WITR radio, Techmila, and Reporter, Commuters and Tech Vets).

Free University
Free University is an educational organization based on the concept of free education through generally unstructured programs. There are no costs, no exams, no registration, no attendance requirements, no grades. The only requirement is the single common bond among Free University participants: the individual's desire to learn, expand and share information. The programs include day and evening courses, seminars, a documentary film series, and a speaker series. The courses range from Kundalini Yoga to Basic Auto Repair and from Defensive Driving to the Economics of Pollution.

Free University is an autonomous student-funded and student-run organization. It operates as an alternative to the normal curriculum in those areas in which the Institute cannot or does not operate.

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.

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 Boswell Coffeehouse, jointly sponsored by the Student Christian Movement and the Catholic Campus Parish, provides entertainment and fellowship on Sunday evenings.

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.

And after graduation, there's the Alumni Association

The RIT Alumni Association is an organization of more than 30,000 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 extra-curricular achievement by the undergraduates.

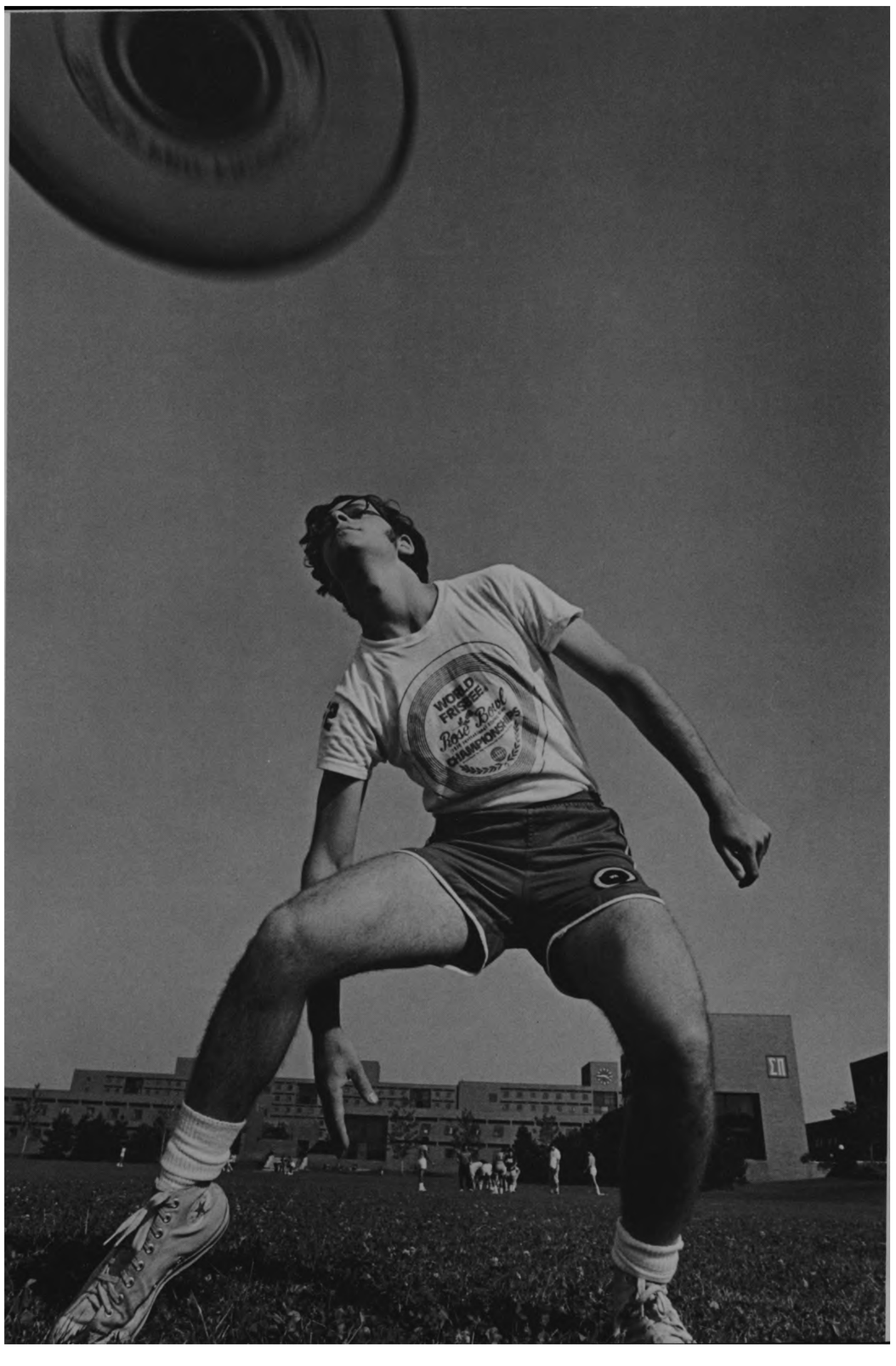
To provide direction for alumni activities, an elected Executive Council serves as the governing body of the Association.

There are a number of services available to alumni, including a travel program to destinations throughout the world; a continuing education program which aims to keep alumni up-to-date in their various professional areas; and many social events, including Homecoming.

There are also many programs which alumni interact with the Institute's various departments. These include Admission, Placement, and Alumni-Student Interaction Programs. 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 operation of the Institute.

The Office of Alumni Programs, 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.


WORLD
FRISBEE
Roll Ball
CHAMPIONSHIPS
ΣΠ

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

Louis A. Alexander, Jr., Director

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 body efficiently and effectively during work, play, and rest, throughout his 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
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
Dance (Ballroom, Folk, Modern)
Outdoor Living
Rifle
Roller Skating
Scuba Diving (Beginner's, Advanced)
Skiing
Softball
Swimming
Tennis
Trap & Skeet (Beginner's, Advanced)
Volleyball
Water Safety Instruction
Weight Lifting
Yoga
Water Polo
Ultimate Frisbee
Table Tennis
Diving

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 cou rses.

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 degree
All candidates for the A.A.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 into RIT from any other college or university also must comply with the Physical Education requirements for the Associate and Baccalaureate degree, either at RIT or as transferable credit.

An exception:
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, 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. Availabletoall 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 (NYSAIAW).

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 paythisfee ifthey 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.

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.

Associate degree programs
Upon successful completion of the requirements as indicated in the program outlines of the schools and departments, students are awarded the Associate in Science or the Associate in Applied Science degree.

One institute program — Biomedical Photography — is a two-year program leading only to the A.A.S. degree. Chemical Technology is a three-year cooperative program leading to the A.A.S. degree.

Bachelor's degree programs
Six day colleges—Business, Engineering, Fine and Applied Arts, General Studies, Graphic Arts and Photography, and Science—offer four- or five-year programs leading to the B.S. or B.F.A. 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.

The newly organized Institute College includes the School of Applied Science, offering the B.Tech degree as upper-level (post-Associate) programs only; the Department of Computer Science and Technology offering the B.S. and B. Tech degrees; the Department of Packaging Science offering the B.S. degree, and the Department of Instructional Technology offering the B.S. degree in Audiovisual Communications.

Graduate degree programs
The many programs leading to graduate degrees are fully described in the separate Graduate bulletin, available by sending in the information card at the end of this bulletin.

A Master's degree may be obtained in: 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, either Engineering Technology or Business Technology for community college faculty, and Computer Science and Technology.

Grading system
Grades representing the students' progress in each of their courses 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
W Withdrawn
R Registered
Z Audit
S Satisfactory
T Transfer
X Credit by Examination

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 and I grades are not used in computing G.P.A.

The grade point average is computed by the following formula:

G.P.A = Total quality points earned per

Total quarter credit hours for which registered

Scholastic Probation
Students whose 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 grade point average falls below a 2.00 for two consecutive quarters will be Continued On Probation.

Any student whose 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 remove himself 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 Admissions for readmission at the end of his suspension. His readmission must be approved by the Dean of the college he wishes to attend upon his return (this may be his original college or another.)

Eligibility for Inter-collegiate 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.

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 who has been guilty of flagrant violation of good conduct or good taste 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, which is issued at registration.

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.

Courses and time schedules are subject to change to meet the requirements of the student's occupational objective. 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.

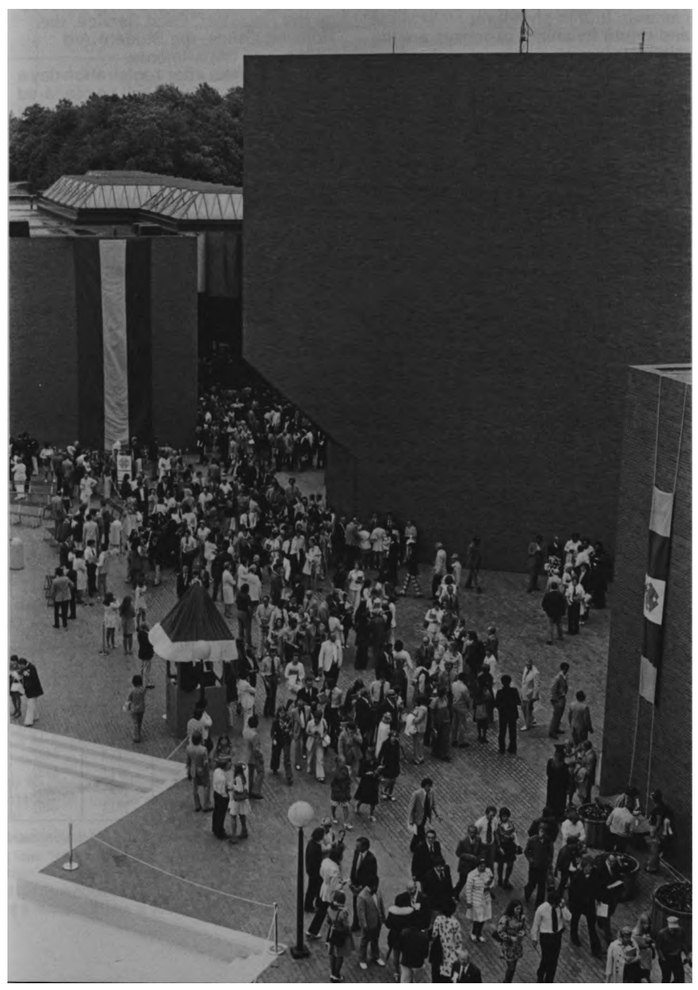
Certificates and Diplomas
1. Satisfactorily meet the program requirements of the college.

Associate 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; at minimum, 30 of the final 45 credit hours are to be completed in residence.
4. A grade point average of 2.00 (a "C" average).
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 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
Rochester Institute of Technology is chartered by the Regents of the University of the State of New York and registered by the State Education Department. It is accredited by the Middle States Association of Colleges and Secondary Schools. It is a member of the American Council on Education and the Association of Colleges and Universities of the State of New York.

The Electrical Engineering and Mechanical Engineering curricula are accredited by the Engineers' Council for Professional Development. The Public Accounting curriculum, School of Business Administration, is registered with the New York State Education Department and graduates meet requirements for candidacy for the Certified Public Account examination. Food Administration graduates who earn the B.S. Degree with major in Dietetics are qualified to apply for American Dietetics Association internships. The curriculum in Medical Technology fulfills the requirements for taking the registry examination of the American Society of Clinical Pathologists for medical technologists. The five-year program in Chemistry, leading to the B.S. Degree, has been approved by the Committee on Professional Training of the American Chemical Society. The programs in the College of Fine and Applied Arts have been accorded accreditation by the National Association of Schools of Art.



What's it cost?

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 the minimal).

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.

The tuition at RIT is computed on a quarter basis.

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

Tuition and Fee payments are due on the following dates: Fall Quarter, September 2, 1975; Winter Quarter, December 15, 1975; Spring Quarter, March 8, 1976; Summer Quarter, to be announced.

Tuition payment
Tuition and fees may be paid by mail in advance and students are requested to take advantage of these arrangements. Payments should be made by check, money order, or New York draft, payable to Rochester Institute of Technology.

The Estimated Quarterly Bill*
The student is mailed the "Estimated Quarterly Billing Packet" approximately one month prior to the quarterly due date. The packet will contain all the necessary information and forms required to complete the Estimated Bill accurately and quickly.

Upon receipt of the Institute copy of the Estimated Bill and the student's payment, the Bursars Office will credit the payment of the student account, clear the student for registration and hold the Estimated Bill for verification with the actual charges as processed by the Registrar, Food Service, the Housing Office, the Student Aid Office, and departments.

Three weeks after registration day a statement of account will be prepared and mailed to those students having an unpaid balance. These students will automatically be placed on the deferred payment plan.

The deferred payment plan
Students can automatically participate in this plan by remitting 50% of their Estimated Bill. The participation fee is $5.00 and is applicable to both full and part-time students.

Upon receipt of the50%, the Bursars Office will clear the student for registration. The remaining 50% or the balance due must be paid during the fifth week of classes.

A late payment penalty charge of $25 will be assessed against all delinquent accounts (deferred accounts unpaid after the fifth week of classes, except as noted below).

The following groups of students are excluded from the deferred payment plan charges providing the appropriate papers are on file in the Bursar's Office: NTID students, Veterans, students whose expenses are paid by a state's Office of Vocational Rehabilitation, and students whose tuition is paid by an outside concern e.g., KNIGHT Plan, Company Billing.

*The Estimated Quarterly Billing procedure is currently under review. Should this procedure be revised a cover letter explaining the new payment procedure will be sent to all students well in advance of the quarter.

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 photographic 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.

Students, former students, and graduates are in good financial standing when all fees, tuition, fines, are paid in full. They may re-register, receive grade reports, transcripts, and other forms of recognition or recommendation from the Institute.

The Institute reserves the right to modify its tuition and fee charges.

Freshman expenses, 1975-76

Based on three academic quarters, as resident studentsf

Department or Major	Tuition	Fees*	Roomtt and Board	Total**
Electrical, Industrial and Mechanical Engineering	$2649	$130	$1713	$4492
Business Administration, Retailing	2574	130	1713	4417
Food Administration	2574	130	1713	4417
Art and Design	2649	130	1713	4492
School for American Craftsmen	2649	130	1713	4492
Printing	2649	130	1713	4492
Photography (other than Photographic Science)	2649	130	1713	4492
Photographic Science	2649	130	1713	4492
Biology, Chemistry, Math, Medical Technology Physics	2649	130	1713	4492
Chemical Technology (2 Quarters)	1766	105	1142	3013
Computer Systems	2649	130	1713	4492
Social Work, Criminal Justice	2649	130	1713	4492
Career Decision Program	2649	130	1713	4492
Packaging Science	2649	130	1713	4492

t Rochester area students who live at home and commute to campus should substitute their own estimates for room and board.
* Does not include $35.00 Orientation Fee.
** It is estimated that an additional $500 should be allowed for clothing, recreation, travel, and incidentals,
tt Double Room and Board (20 meals per week).
It must be emphasized that totals shown are estimates.

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.
ENGINEERING	Electrical, Industrial, or Mechanical	1 & 2	$2,649	$130	$2,779	$963	$908	$908
		3, 4, 5	1,766	105	1,871	963	908	
BUSINESS	Bus. Admin., Food Admin., or Retailing	1	2,574	130	2,764	938	883	883
		2**	2,574	130	2,764	938	883	883
		3	1,616	105	1,721	938	883	
		4	2,574	130	2,721	938	883	883
SCIENCE	Biology, Chemistry, Mathematics, or Physics	1 & 2	2,649	130	2,779	963	908	908
		3, 4, 5	1,766	105	1,871	963	908	
SCIENCE	Chemical Technology	1, 2, 3	1,766	105	1,871	963	908	
INSTITUTE COLLEGE	Computer Science and Technology	1 & 2	2,649	130	2,779	963	908	908
		3, 4, 5	1,766	105	1,871	963	908	
	School of Applied Science	1 & 2	(Completion of 2 years at another college)					
		3, 4, 5	1,766	105	1,871	963	908	
GENERAL STUDIES	Criminal Justice Social Work	Each Year	2,649	130	2,779	963	908	908

Other programs

College or School	Department	Year	Tuition Per Year	Fees†	Total Per Year	Quarterly Payments*		
						1st, Qtr.	2nd, Qtr.	3rd, Qtr.
FINE & APPLIED ARTS	Art & Design Sch. for American Craftsmen	Each Year	$2,649	$130	$2,779	$963	$908	$908
GRAPHIC ARTS & PHOTOGRAPHY	Photographic Arts and Sciences Printing Photographic Processing	Each Year	2,649	130	2,779	963	908	908
BUSINESS	Photographic Marketing	Each Year	2,574	130	2,704	938	983	883
SCIENCE	Medical Technology	1, 2, 3	2,649	130	2,779	903	908	908
		4	(Full-Time Internship in approved hospital)					
COUNSELING CENTER	Career Decision	2 Only	2,649	130	2,779	963	908	908
INSTITUTE COLLEGE	Packaging Science	Each Year	2,649	130	2,779	963	908	908

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 this be remembered in budgeting for upper class years. This is especially true for students in Arts and Photography,

† Does not include $35 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 $75 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 $75 per quarter credit hour.

The Activity/Union Fee and Athletic Fee are not assessed.

A graduation fee of $15 is payable at the beginning of the Spring Quarter of each 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.

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, upper-class, 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 regional awards or federal assistance. 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 and loans

The RIT Board of Trustees has provided a scholarship fund from which general awards are made to entering freshmen and transfer students. Transfer student applicants currently in college should advise the RIT Admission Office that they are to be considered as scholarship applicants, and request action on their Admission application before March 1. 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 $2649. The amount of the scholarship and the recipients are determined on a basis of entrance examination data, the 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 25 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 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 Parent's Confidential Statement 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, cannot be considered.

The Parents' Confidential Statement is the basic form used in determining eligibility for most financial aid programs. Students qualified to claim financial independence should file the Student's Confidential Statement. Completion of either 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.

Paying for it: 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.	Regents Examination & Scholarship Center Albany, 12210.
Tuition Assistance Program (New York State)	New York State residents who show ability to pursue full-time programs.	$100 to $1,500 per year.	Regents Examination & Scholarship Center Albany, 12210.
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.	Regents Examination & Scholarship Center Albany, 12210.
War Service Scholarship	New York State veterans who qualify through examination in the summer.	$350 per year.	Regents Examination & Scholarship Center Albany, N.Y. 12210.
Basic Educational Opportunity Grants (Federal)	Undergraduate students, who have not attended college prior to April 1, 1973, in financial need attending post-secondary institutions.	(1975-76). $1,400 per year maximum	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 Assistance Corporation Student Loans	New York State residents in full- and half-time degree programs.	Undergraduates, up to $2,000 per year, depending on level of study. Graduates, up to $2,500, for master's.	Most banks in New York State and New York State Higher Education Assistance Corp., 50 Wolf Rd., Albany, N.Y. 12205.
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 half-time degree programs.	Up to total of $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.
RIT Emergency Loans	Terms vary.	Loans are usually for small amounts.	Through RIT Student Financial Aid Office.
Employment			
College Work Study Program (Federal)	College students in full- and half-time degree programs who meet financial need requirements established by Federal Government.	Varies, depending on hours and wage rate. Wages range from $1.75 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.

If you want a refund

Advance deposits are non-refundable.
The acceptable reasons for 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.

Withdrawal
During the first week of classes
90% of unused room charge
During the second week of classes
75% of unused room charge
During the third week of classes
60% of unused room charge
During the fourth week of classes
50% of unused room charge

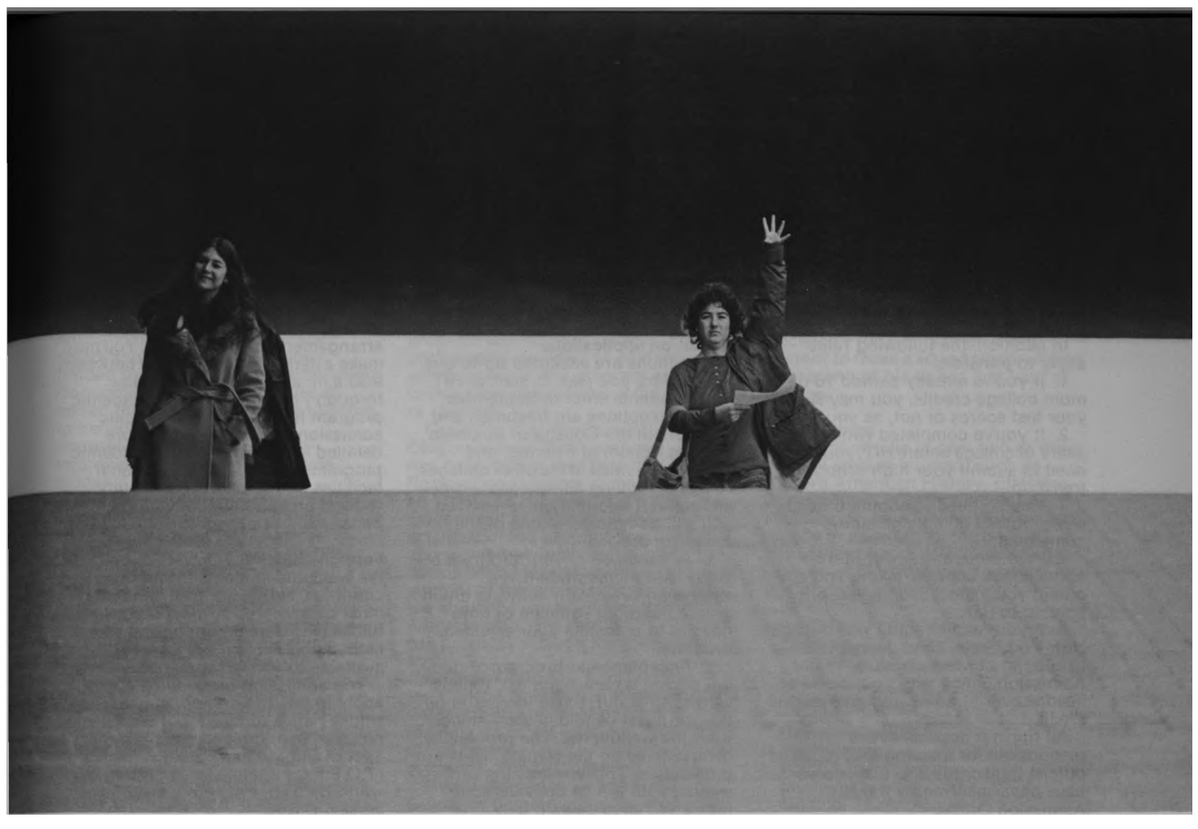
Board charges will be refunded according to the following schedule:
1. During the first four weeks, 75% of unused board is refundable.
2. If a student leaves after the first 4 weeks, 50% of the unused board is refundable.

*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.

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 pro-rated from the date of official withdrawal from the Institute.



To apply for admission

Applying for admission is a simple procedure.

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

For each program, we have indicated the (1) required high school subjects, (2) desirable elective subjects and other factors we consider, and (3) the 5th percentile, the 50th percentile and 95th percentile of the high school class rank and each of the SAT scores for our 1973 freshmen. 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 inter-disciplinary 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. Scores from Scholastic Aptitude Test (SAT) are preferred. American College Test (ACT) scores will be accepted. Forms for test registration should be obtained from your high school Guidance Office.

To receive an application, mail in the card at the end of this bulletin.

To apply as a transfer student
RIT welcomes transfer students, and more than 40 percent of our current 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, you may submit your test scores or not, as you wish.
2. If you've completed two or more years of college before RIT, you do not need to submit your high school transcript.
3. You do need to submit official transcripts of all college study completed.
4. Provide us with a list of the courses you are now taking and any others you expect to complete prior to coming to RIT.
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 degree (A.A.S., A.S., and A.A.) 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 summer 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 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.

Credit by Examination
RIT grants credit for satisfactory scores on examinations covering objectives and context 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
Applications are accepted up to one year before you plan to start at RIT. Most students enter 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. RIT uses "rolling admissions"—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 if they specifically so request.
3. Deferral of action until more recent grades, test scores or other data requested are available.
4. Denial of Admission. RIT reserves the right to deny admission on the basis of any required admissions data.

Physical examination
You must submit a physical examination report before your first RIT registration on the form provided with your admission letter.

Admission deposit
The $100 non-refundable admission deposit reserves a place in our 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
You are not required to visit our campus before we act on your application, but we do encourage you to see this modern 1,300-acre campus and meet some of your faculty. For arrangements, call the Admission Office, (716) 464-2831. For a general view of campus, request tour information. Tour guides are available at 10:30 a.m. and 2:30 p.m. Monday through Friday, and by advanced arrangements at other times. You may make a personal appointment between 9:30 a.m. and 3:30 p.m. Monday through Friday for general academic program information and specific admission information. For more detailed information about academic programs and related educational facilities and to meet your faculty, request an appointment with the department or school of your interest.

Foreign students
We welcome students from other countries. However, these students must be prepared to meet expenses in full as employment opportunities are limited and student aid is rarely available to foreign students.

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.

Registration
You will be notified by mail of the date and hour of registration for your first quarter. Thereafter you are responsible for consulting the College Calendar for registration dates and times for subsequent quarters.

Failure to report in person for registration at the time indicated may result in forfeiture of your place in classes at the Institute. The late processing fee is $10.

Special programs aimed at special needs

Extra help for those who need it: HEOP

The Higher Educational Opportunity Program offers support for educationally and economically disadvantaged students. Jointly funded by RIT and the State Education Department, this program tries to lessen the economic burdens of going to college and to give direct counseling, tutoring, and skill-improvement for New York State students who qualify.

Students in this program enroll in regular RIT courses as full-time students, but have two kinds of academic support. In the summer before their first year at RIT they usually enroll in one General Studies course and have intensive counseling and skill support in writing, study skills, and mathematics. Secondly, their counselors have very close contact with them, their professors, and some staff and administrators throughout their program at RIT. Overall, students in this program do as well academically as the average RIT student, despite their initial disadvantage. And most of them stay at RIT until they earn a degree—over 83 per cent since the program began. The HEOP program here has been steadily growing since it first began. For further information, contact the Director, Higher Education Opportunity Program.

College Restoration; helping the student come back

The College Restoration Program is a specialized program of instruction for students who have experienced probation or dismissal from college for academic reasons. After being accepted into the program, the student is classified for one academic quarter as a special restoration student of the RIT 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 special program should qualify the student to apply for readmission to the college or department of his choice, or to seek some other type of educational programming to achieve his vocational career. Participation in the College Restoration Program cannot guarantee that a student will be readmitted to his former college or department or admitted to a school where he might wish to transfer; however, periodic reports of student progress are made to parents, and professional resumes of student achievement in the program are sent to colleges upon request of the student or college.

Once the results of the Educational Diagnosis have been analyzed, and it has been determined that the College Restoration Program can be helpful, an individual program is planned. The student will participate in the activities of the program for approximately seven hours a day, five days a week, for ten weeks. The content of the program depends upon the student's needs and his rate of progress during the program, but it will probably include the following areas:

College Course — Each student in the College Restoration Program may enroll for one or more courses in the Institute's regular offerings. Selection of the courses shall be underthe strict guidance of the Counseling Center.

Group Guidance — The Group Guidance session gives the student a chance to discuss his problems, their causes and effects, with others who have experienced similar problems. These sessions are held under the supervision of a qualified group leader.

Other Courses — As defined by particular needs, students will also be enrolled in a block of laboratories, classes, and seminars selected from the following: writing lab, efficient thinking, efficient reading, editorial review, study skills seminar, book discussion, listening-notetaking seminar, mathematics laboratory, scientific concepts seminar, contemporary issues, and vocabulary workshop.

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, Effective 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 Systems
Crafts
Criminal Justice
Engineering
Food Administration
Mathematics
Medical Technology
Nuclear Medicine Technology
Packaging
Photography
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.

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.

Professional memberships

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 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.

Dean Edward Johnson

Business program has flexibility

RIT's curricula in the College of Business have been significantly improved since Dr. Edward A. Johnson took over as dean three years ago.

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

The College of Business has 900 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."

RIT's youngest academic dean at 38, he came to RIT from the College of Business and Economics at West Virginia University, where he was an associate professor and research associate. He has a Ph.D. degree in management.

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 to take a broader range of accounting electives; i.e., accounting for non-profit organizations. Degrees granted: A.A.S.-2 year; B.S.-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: A.A.S.-2 year; B.S.-4 year.

Food Administration and Tourist Industries Management—Students develop skills for careers in the food and hospitality industry; courses include: accounting, economics, computer science, chemistry, management, behavioral science, food preparation, nutrition and sanitation. Degrees granted: A.A.S.-2 year; B.S.-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: A.A.S.-2 year; B.S.-4 year.

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

Freshman Admission Requirements

Transfer Admission with Junior standing

Program	Required High School Subjects*	Desirable Elective Subjects	H.S. rank (percentile)†	SAT (optional)†	Two Year College Programs	Desirable minimum grade point average
Accounting	Elem. Algebra; Inter. Algebra; 1 year any science	Additional mathematics and science	23 62 98	320 450 590 / 350 530 660	Accounting or equivalent	□□□
Business Administration	Elem. Algebra; Inter. Algebra; 1 year any science	Biology; additional mathematics	23 62 98	320 450 590 / 350 530 660	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.	□□□
Food Administration and Tourist Industries Management	Elem. Algebra; Inter. Algebra; 1 year chemistry preferred	Additional mathematics and science	23 62 98	320 450 590 / 350 530 660	Food service administration; hotel-motel management or equivalent.	□□□
Dietetics	Elem. Algebra; Inter. Algebra; 1 year chemistry preferred	Biology; additional mathematics	23 62 98	320 450 590 / 350 530 660	Hospital dietetics or equivalent.	□□□
Retailing	Elem. Algebra; Inter. Algebra; 1 year any science	Business; art and speech courses	23 62 98	320 450 590 / 350 530 660	Retailing; retail merchandising or equivalent.	□□□
Photographic Marketing	Elem. Algebra; Inter. Algebra; 1 year chemistry preferred	Additional mathematics and science	23 62 98	320 450 590 / 350 530 660	Business administration; marketing or equivalent.	□□□

‘One third of the courses in each program consist of electives in social science, literature, and humanities.

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

†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.

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 students’ 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 B.S. 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 21.

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:

A.A.S. 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.

B.S. 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.

The Transfer program
Junior standing will be granted to qualified students from accredited institutions who possess an associate 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 B.S. 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 Dietetics program, the amount of transferrable 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.

The Graduate program
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. Fill out reply card at the end of this bulletin.

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

	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

Business Administration program provides mastery in a marketable skill

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.

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

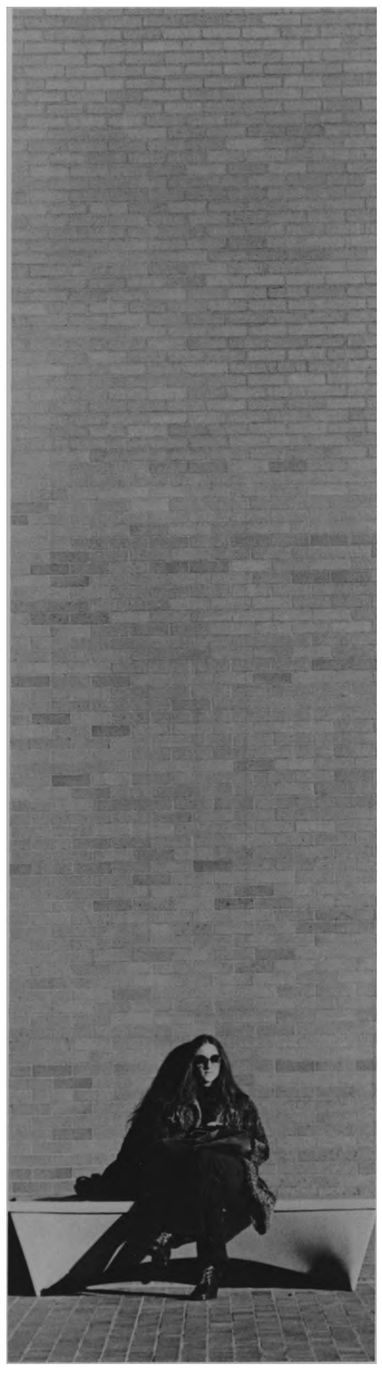
This program of study in photographic marketing is designed to provide students with a thorough knowledge of the photographic process in order that they may have an understanding of how their products work. At the same time, they will be involved in learning the economic, financial and marketing principles 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 anA.A.S. degree and should qualify for a store manager's position.

Photographic Marketing Management Major

Year	First Year	Quarter Credit Hours Fall	Winter	Spring
First Year	BBUA-210 Financial Accounting	4		
	BBUA-211 Managerial Accounting			4
	ICSS-200 Introduction to Computer Science			4
	BBUQ-291, 292 Mathematics	4	4	
	GSSE-301, 302 Economics 1, II		4	4
	PPHM-201, 202, 203 Basic Principles of Photography	4	4	4
	·General Studies Electives—Lower Division	4	4	
	^Physical Education Elective			
Second Year†	BBUQ-351, 352 Statistics 1, II	4	4	
	BBUB-401 Behavioral Science			4
	BRER-211 Retail Organization and Management		4	
	PPHM-310 Survey of Machine Processing			
	BBUB-201 Management Concepts	4		
	PPHM-320, 321 Mechanics of Photographic Hardware 1, II		4	4
	·General Studies Electives—Lower Division		4	4
	^Physical Education Electives			
Third Year	BBUB-434 Operations Management	4		
	BBUE-381 Money and Banking		4	
	BBUE-405/406 Micro or Macro Economics			4
	BBUF-441 Financial Management			4
	BBUM-263 Marketing Principles	4		
	BBUM-552 Advertising		4	
	·General Studies Electives—Upper Division	5	5	5
	Professional Electives	4	4	4
Fourth Year	BBUB-404 Administrative Policy			4
	BBUB-407 Technical Society and Legal Environment	4		
	BBUM-553 Sales Management		4	
	·General Studies Electives—Upper Division	4	4	4
	Professional Electives			

·See p. 80 for General Studies requirements.
ISee p. 37 for policy on Physical Education.
TUpon successful completion of second year, the Associate of Applied Science degree is awarded.
Total of 196 quarter credit hours is required for the B.S. 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.



Accounting programs (Common Curriculum, First Two Years)

Year	First Year	Fall	Winter	Spring
First Year	BBUA-210 Financial Accounting	4		
	BBUB-201 Management Concepts	4		
	BBUQ-291, 292 Mathematics	4	4	
	GSSE-301, 302 Economics I, II		4	4
	ICSS-200 Introduction to Computer Science			4
	*General Studies Electives - Lower Division	4	4	4
	Science Electives		4	4
	‡Physical Education Elective	□		□
Second Year	BBUA-308, 309, 310 Intermediate Accounting I, II, III	4	4	4
	8BUA-331 Cost Accounting I			4
	BBUQ-351, 352 Statistics I, II		4	4
	BBUF-503 Financial Problems		4	
	BBUF-441 Financial Management	4		
	BBUM-263 Marketing Principles	4		
	*General Studies Electives	4	4	4
	Physical Education Elective	□	□	□

†Upon successful completion of the second year, the Associate in Applied Science degree is awarded.
*See p. 80 for General Studies requirements.
‡See p. □□ for policy on Physical Education.

Certified Public Accounting Major

Year	Third year	Fall	Winter	Spring
Third Year	BBUA-332 Cost Accounting II	SR or F 4	W or S 4	S R
	BBUA-421 Advanced Accounting		4	
	BBUA-422 Tax Accounting		4	
	BBUB-301 Business Law T	4		
	BBUE-405/406 Micro or Macro Economics	4		
	Business Elective		4	
	*General Studies Electives - Upper Division	5	5	
Fourth Year	BBUA-313 Auditing	4		
	BBUA-423 C.P.A. Problems		4	
	BBUB-302 Business Law II		4	
	BBUB-401 Behavioral Science			4
	BBUB-404 Administrative Policy			4
	BBUB-407 Technical Society and Legal Environment			4
	BBUB-434 Operations Management	4		
	GLIC-402 Conference Techniques	4		
	*General Studies Electives - Upper Division	5	□□	5

*See p. 80 for General Studies requirements.

General Accounting Major**

Year	Third year	Fall	Winter	Spring
Third Year	BBUA-332 Cost Accounting II	SR or F 4	W or S	S R
	BBUA-422 Tax Accounting		4	
	BBUB-401 Behavioral Science		4	
	BBUE-405 Microeconomics	4		
	Business Electives	4	4	
	*General Studies Electives - Upper Division	5	5	
Fourth Year	BBUA-313 Auditing	4		
	BBUB-404 Administrative Policy			4
	BBUB-407 Technical Society and Legal Environment			4
	BBUB-434 Operations Management	4		
	Business Electives	4	4	4
	*General Studies Electives - Upper Division	5	□□	5
	GLLC-402 Conference Techniques		4	

*See p. 80 for General Studies requirements.
**Students interested in the Certificate of Management Accounting should include BBUA-554 and BBUB-536 in their electives.

Business Administration Major

Year	First Year	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 Introduction to Computer Science			4
	*General Studies Electives - Lower Division	4	4	4
	‡Physical Education Elective			
Second Year†	BBUQ-351, 352 Statistics 1, II		4	4
	BBUB-401 Behavioral Science			4
	BBUE-381 Money and Banking	4		
	BBUM-263 Marketing Principles	4		
	*General Studies Electives - Lower Division	4	4	4
	‡Physical Education Elective			
Third Year	BBUB-434 Operations Management	SR or F 4		Wor S
	BBUE-405, 406 Micro or Macroeconomics	4		
	BBUF-441 Financial Management			4
	Business Electives	4		
	*General Studies Electives	5		5
Fourth Year	BBUB-404 Administrative Policy	SR or F	W o r S	S R 4
	BBUB-407 Technical Society and Legal Environment	4	4	
	Business Electives		5	5
	GLLC-402 Conference Techniques	4		

†Upon successful completion of the second year, the Associate Science degree is awarded.
*See p. 80 for General Studies requirements.
‡See p. 37 for policy on Physical Education.

Two-year transfer program: Business Administration (for Associate Degree Graduates in Business)

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

Year	First Year	Fall	Winter	Spring
Third Year	BBUE-405 406 Micro or Macro Economics			4
	BBUF-441 Financial Management			4
	BBUQ-410, 411 Quantitative Methods 1, II	4	4	
	Business Electives	4	4	4
	'General Studies Electives - Upper Division	5	5	5
	Science Electives	4	4	
	^Physical Education Elective			
Fourth Year	BBUB-404 Administrative Policy	SR or F	W o r S	SR 4
	BBUB-407 Technical Society and Legal Environment		4	
	BBUB-434 Operations Management	4		
	Business Electives	4		
	• 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:
Accounting: BBUA-210, 211; Economics: GSSE-301 and/or 302; Management: BBUB-401; Marketing: BBUM-263.

Business electives
(Each gives 4 Quarter Credit Hours)

Accounting
- BBUA-331 Cost Accounting I
- BBUA-422 Tax Accounting
- BBUA-554 Seminar in Accounting

Economics
- 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

Finance
- 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

Management and Quantitative Methods
- 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

Marketing
- 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

Food Administration and Tourist Industries Management teaches "Efficient and Sophisticated" management

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.foodcompaniesand 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 catalogue from the Admission Office by returning the information request card at the back of this bulletin.

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.

Hotel and Tourist Industries Management

Year	First Year	Fall	Winter	Spring
		Quarter Credit Hours		
First Year	BFAM-215 Food Principles	5		
	BBUQ-291 Mathematics	4		
	SBIG-210 Human Biology 1 (MicroBiology in Health and Disease)	4		
	BFAM-210 Introduction to Food Management and Tourist Industries		4	
	BFAM-220 Career Seminar		1	
	SCHG-201 General Chemistry		4	
	SCHG-202 Organic Chemistry			4
	BFAD-213 Nutrition Principles			4
	BBUA-210 Financial Accounting			4
	ICSS-200 Introduction to Computer Science			4
	·General Studies Electives—Lower Division	4	4	4
	fPhysical Education Elective			
Second Year	BBU8-201 Management Concepts	4		
	BFAM-321 Food and Beverage Merchandising			
	BBUQ-351, 352 Statistics 1 II	4	4	
	BFAM-331, 332 Food Production Management 1, II		5	4
	GSSE-301, 302 Economics 1, II		4	4
	BBUM-263 Marketing Principles			4
	·General Studies Electives—Lower Division	4	4	4
	tPhysical Education Elective			
Third Year		SR/F	W/S	SR
	BFAM-423 Management Systems for Lodging and Tourist Industry	4		
	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		
Fourth Year	BFAM-450 Marketing for Hotel & Tourist Industries		4	
	BBUB-407 Technical Society & Legal Environment	4		
	BFAM-554 Seminar in Tourist Industries		4	
	BFAM-511 Advanced Food Service Operations		4	
	BBUB-404 Administrative Policy			4
	Food/Business Electives			
	·General Studies Electives—Upper Division	5	5	5

·See p. 80 for General Studies requirements.
tSee p. 37 tor policy on Physical Education.

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 B.S. 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.

Due to the special professional requirements of the American Dietetic Association, the amount of transferable credit and estimated time to complete work for the B.S. 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.

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—nation, 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 area 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	First Year	Fall	Winter	Spring
First Year	BFAM-215 Food Principles	5		
	BBUQ-291 Mathematics	4		
	SBIG-210 Human Biology 1 (MicroBiology in Health and Disease)	4		
	BFAM-210 Introduction to Food Management and Tourist Industries		3	
	BFAM-220 Career Seminar		□	
	SCHG-201 General Chemistry		4	
	SCHG-202 Organic Chemistry			4
	BFAD-213 Nutrition Principles			4
	BBUA-210 Financial Accounting			4
	ICSS-200 Introduction to Computer Science			4
	*General Studies Electives—Lower Division	4	□	
	†Physical Education Elective	□	□	□
Second Year	BBUB-201 Management Concepts	4		
	BFAM-321 Food and Beverage Merchandising	□		
	BBUQ-351, 352 Statistics 1, II	4	4	
	BFAM-331, 332 Food Production Management 1, II		5	4
	GSSE-301, 302 Economics 1, II		4	4
	BBUM-263 Marketing Principles			4
	*General Studies Electives—Lower Division	4	□	4
	†Physical Education Elective	□	□	□
Third Year		SR/F	W/S	SR
	BFAM-415 Food Science 1	4		
	BBUB-434 Operations Management	4		
	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	
Fourth Year		SR/F	W/S	SR
	BBUB-407 Technical Society & Legal Environment	4		
	BFAM-511 Advance Food Service Operations		4	
	BBUB-404 Administrative Policy			4
	Food/Business Electives	□	□	4
	*General Studies Electives—Upper Division	5	5	□ □

*See p. 80 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

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

BBUA-211 Managerial Accounting
BBUA-331, 332 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

General Dietetics

Year	First Year	Quarter Credit Hours: Fall	Winter	Spring
First Year	BFAM-215 Food Principles	5		
	BBUO-291 Mathematics	4		
	SBIG-210 Human Biology 1 (Microbiology in Health and Disease)	4		
	SBIG-211, 212 Human Biology II & III (Anatomy and Physiology)		4	4
	BFAM-210 Introduction to Food Management and Tourist Industries		3	
	BFAM-220 Career Seminar		□	
	SCHG-201 General Chemistry		4	
	BFAM-213 Nutrition Principles			4
	SCHG-202 Organic Chemistry			4
	ICSS-200 Introduction to Computer Science			4
	*General Studies Elective—Lower Division	4	4	
	†Physical Education Elective	□	□	□
Second Year	BBUB-201 Management Concepts	4		
	BBUA-210 Financial Accounting	4		
	BFAM-321 Food and Beverage Merchandising	□		
	BBUO-351, 352 Statistics 1, II		4	4
	GSSE-301, 302 Economics 1, II		4	4
	SCHG-203, 204 Biochemistry	4	4	
	*General Studies Elective—Lower Division	4	4	□
	†Physical Education Elective	□	□	□
Third Year	BFAM-415, 416 Food Science 1, II		4	4
	BFAM-331, 332 Food Production Management 1, 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 coop work study period during the Fall Quarter.	**		
Fourth Year		SR/F	W/S	SR
	BFAD-531 Advanced Nutrition	4		
	BFAD-533 Diet Therapy		4	
	BBUB-407 Technical Society & Legal Environment	4		
	BBUB-434 Operations Management	4		
	BFAM-511 Advance Food Service Operations		4	
	BFAD-550 Community Nutrition		4	
	BBUB-404 Administrative Policy			4
	Food/Business Electives	4		4
	*General Studies Electives—Upper Division		5	□ □

*See p. 80 for General Studies requirements.
†See p. 37 for policy on Physical Education.

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.

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 50 for details.

Two-year transfer program
Junior standing will be granted to qualified students with an associate 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 previous education and field interest.

Retailing Major

Year	First Year	Quarter Credit Hours Fall	Winter	Spring
First Year	BBUA-210 Financial Accounting	4		
	BBUB-201 Management Concepts	4		
	BRER-211 Retail Organization & Management	4		
	BBUQ-291 Mathematics 1		4	
	BRER-212, 213 Merchandising Concepts 1, II		4	4
	GSSE-301, 302 Economics 1, II		4	4
	ICSS-200 Introduction to Computer Science			4
	*General Studies Electives—Lower Division	4	4	4
	†Physical Education Elective	☐	☐	☐
Second Year	BBUB-401 Behavioral Science	4		
	BBUM-263 Marketing Principles	4		
	BBUQ-351, 352 Statistics 1, II		4	4
	BBUM-552 Advertising			4
	Retail/Business Electives	4	4	
	BRER-300 Retail Career Seminar			☐
	Science Elective		4	4
	*General Studies Electives—Lower Division	4	4	4
	†Physical Education Elective	☐	☐	☐
Third Year		SR/F	W/S	SR
	BBUB-434 Operations Management	4		
	BRER-410 Retail Sales Promotion	4		
	Retail/Business Electives	4	4	
	BBUM-420 Consumer Behavior		4	
	BBUF-441 Financial Management		4	
	*General Studies Electives	5	5	
Fourth Year	BBUB-407 Technical Society & Legal Environment	4		
	GLLC-402 Conference Techniques	4		
	BBUB-404 Administrative Policy			4
	Retail/Business Electives	4	☐	☐
	*General Studies Electives—Upper Division	5	☐ ☐	5

*See p. 80 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-512 Textiles (Fashion Fabrics)
BRER-513 Textiles (Home Furnishing Fabrics)
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
For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

The College of Continuing Education adapts RIT to varying community needs

The College of Continuing Education is dedicated to serving the community by adapting the resources of the Institute to anticipate and to meet widely varying needs for continuing education. To perform the several tasks required by such a purpose, the College works in close cooperation with all other colleges of the Institute and with local and national agencies and industries. The resulting courses and programs are sometimes quite different from those offered by the full-time colleges; all credit courses are stimulating and rigorous, and are registered with the State Education Department.

The College of Continuing Education is primarily concerned with providing appropriate educational opportunities for those who cannot, or choose not to, attend full-time day college. The typical student of the College—if there can be one in a learning community of such diversity—is mature, is employed, usually in business or industry, and is married—often a parent, and more than occasionally a homeowner. In four out of five instances, there is some form of tuition aid from the student's employer.

Evening Session

The Evening Session conducts classes leading to either a diploma or degree or to a personal goal made attainable by a choice of one or more courses. Programs leading to the Diploma of the Institute are available in 27 fields, as diverse as management and electronics, sociology and photography.

There are also available 19 possible options leading to the Associate in Applied Science degree, including programs in graphic arts, industrial technology (with options in mechanical, electrical, electromechanical, and building construction), management (with options in health institutions, industrial marketing, transportation and traffic, production, and personnel), business (with options in accounting, business administration, and money and finance).

Thirteen programs lead to the Bachelor of Science degree, and among the available majors are management (with options in industrial marketing, transportation and traffic, production and personnel), graphic arts (with options in design, photography, and printing), business (with options in business administration and accounting), and applied science (with a choice of electrical, mechanical, chemistry, or mechanical-industrial options).

There is also a program leading to the Bachelor of Technology degree in Electrical or Mechanical Technology, and one leading to the Bachelor of Science degree in Audiovisual Communications. Both programs are designed primarily for transfer students with an associate's degree.

The Evening Session also offers one curriculum leading to the Associate in Arts in General Education, and another leading to the Master of Science in Applied and Mathematical Statistics.

Not all courses in the Evening Session are intended for degree-seeking students, and it is well for any potential student to arrange for an interview with one of several available counselors to explore his vocational and academic goals. Counselors are available for such conferences throughout the calendar year.

Summer Session

In a variety of schedules and courses, the Summer Session attempts to meet the summer objectives of regular full- or part-time students from RIT or other institutions. Students with the necessary prerequisites may enroll in any of the schedules available in the summer: the Summer Day Sessions (of varying lengths), or the Summer Evening Quarter. These are listed in a separate Summer Session bulletin.

Extended services

The College of Continuing Education extends its services to provide opportunities for special educational experiences for men and women by involving both community and Institute resources to meet needs of professional organizations, agencies, industries, business and government. Its offerings may be at the graduate or undergraduate level in credit or credit-free courses, conferences, or workshops. The College also administers study via television, as well as foreign study programs.

Professional Development Programs, Off-Campus College Credit Programs, In-Plant Courses, Community Development and Urban Extension, Office of Continuing Studies for Women, and courses at the Metropolitan Center, 50 West Main St., Rochester.

For further information

To provide further information, the College of Continuing Education publishes its own catalog, which contains more specific information about its courses and programs. If you would like to receive a copy of it, or of other descriptive information, please return the information request card at the end of this bulletin or call (716) 464-2234.

Dean Alford: helping plan "effective, efficient lifelong learning for the community"

Learning is not a childhood disease one gets over after one's swallowed enough pills.

With that philosophy Dr. Harold J. Alford assumed his role as dean of the College of Continuing Education last year.

Dr. Alford oversees RIT's planning for effective, efficient lifelong learning for the community.

The four-year college has been dead for two decades and is still pretending it's alive, says Dr. Alford.

More than half the students entering college in the mid-50's failed to graduate within four years (the percentage is even higher now). The assumption was that these people had dropped out, but 10-year studies revealed 85 per cent had received their degrees.

"People have been participating in continuing education for a quarter of a century, but institutions have continued to act as if they haven't, Dr. Alford says.

The drop-in, drop-out phenomenon will increase, he predicts.

That doesn't mean the only college that will prosper is the College of Continuing Education. Colleges such as fine arts, business and engineering will have to modify their thinking to accommodate students who don't expect to go through in a sequential pattern, believes Dr. Alford.

The dean says the notion of childhood education was a product of the industrial revolution, which required a labor force. But increasingly it's being recognized that the job one prepares for in one's teens and early 20s can be very different from the job one performs in one's 30s, 40s and 50s.

Predictions are that a person will change careers five times in a lifetime.

Dr. Alford thinks the number should be higher, but believes it signifies a constantly evolving career rather than a dramatic occupational change.

"Your job's changing daily. You're constantly relearning. It's very possible that most people will stay in the same kind of occupation, but they'll change so much within that occupation. That's why I like the term continuing education. There's learning going on all the time."

And thus comes the role of a College of Continuing Education: providing an institutional arrangement for the effective learning of people throughout their lives.

Dr. Alford cites a study which showed that an educational institution is almost the last place adults will turn for new knowledge and skills.

"This says the learning institutions have failed to impress students with the relevance they have to learning," Dr. Alford says. "Educational institutions are always trying to persuade themselves that learning is sequential and linear. Adults don't learn that way on their own."

Dean Harold Alford

RIT has been more enlightened than most educational institutions in recognizing the pattern of adult learning and in trying to meet the knowledge needs of the community, Dr. Alford believes. It's one of the reasons he was attracted to the Institute.

He's also impressed with CCE's conferring its own degrees, and with Dr. Paul A. Miller, whom he describes as one of the handful of college and university presidents "who knows what he's talking about in continuing education and demonstrates that he means it."

Is RIT's position as a leader in continuing education being threatened by the influx of other institutions into the market?

Dr. Alford doesn't think so.

"Most institutions of higher education have been so separated from the population and its activities that they can't relate," he believes.

He points to RIT's strong advantages: its career orientation, its sensitivity to the community, its history of adult education, its willingness to change to meet the times.

"I was aware of RIT since the late 50s," Dr. Alford says. "The more I learned about RIT, it seemed to me that this was an institution that, unlike most all institutions of higher education, changed."

To keep CCE "visible, open, listening and responding" is Dr. Alford's goal.

"When we find a need that RIT can logically respond to, then we'd better respond and respond well," he says.

Dr. Alford came to RIT with 27 years experience in continuing education. He has been dean of the Division of Instruction and director of Programs of Continuing Education for the Educational Testing Service of Princeton, N.J., and director of The Division of Continuing Education at Kansas State University, Manhattan.

His Ph.D. in adult education is from the University of Chicago.

The College of Engineering program is strong in fundamentals

Richard A. Kenyon, Dean

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

Five-Year programs
The College offers three five-year cooperative programs leading to the Bachelor of Science degree with majors in electrical, industrial and mechanical engineering.

Resources
The Electrical Engineering Department operates laboratories for experimental work in circuits, machinery, electronics, microwave communications, and control systems. Laboratories for work in metallurgy, heat power, air conditioning, materials testing, precision measurements, control instruments, machine tools, and extensive computing facilities are available for the Mechanical Engineering and Industrial Engineering departments.

Accreditation
The programs of study leading to the Bachelor of Science degree in Electrical 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.

The Cooperative plan
As described on page 21, 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 for each student by the Coordinator of Employment for the college. The chart below 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 insignificant numbers has provided an added dimension and a uniqueness to the Engineering College.

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 three engineering departments.

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.

Transfer students can normally expect to complete the B.S. 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 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 degree.

Entrance requirements (B.S.)
Applicants for the engineering programs must be high school graduates, and must have completed elementary and intermediate algebra, plane geometry, trigonometry, and either physics or chemistry while in high school. Advanced algebra, solid geometry, and both physics and chemistry, 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.

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

	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.	RIT	Work	RIT	------
B	Work	RIT	RIT	------

Admission: at a glance

College of Engineering programs

Three five-year cooperative programs leading to the B.S. degree are offered. The three majors are electrical, 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 and electrical engineering are accredited by the Engineer's Council for Professional Development.

Electrical Engineering—Students first develop proficiency in mathematics, science, and engineering fundamentals. Fundamental electrical studies include: electromagnetics, energy conversion, circuit theory, and electronics. Degrees granted: A.A.S.-2 year; B.S.-4 year.

Industrial Engineering—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: A.A.S.-2 year; B.S.-4 year.

Mechanical Engineering—Students devote the first two years to the study of mathematics, physics, chemistry, and mechanics. There are three options in upper years—applied mechanics, environmental engineering, and thermal fluid sciences. Degrees granted: A.A.S.-2 year; B.S.-4 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 A.A.S. degree in electrical technology. Incoming students enroll in transfer adjustment courses the summer before entering as third-year students. Degree granted: B.S.

Freshman Admission Requirements

Transfer Admission with Junior standing

Program	Required High School Subjects*	Desirable Elective Subjects	H.S. rank (percentile)†	SAT‡ or ACT	Two Year College Programs	Desirable minimum grade point average
Electrical Engineering	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; Physics or Chemistry	Chemistry or Physics; additional mathematics	30 76 98	350 490 640 / 470 590 730	Engineering science (liberal arts with math/science option considered on individual basis).	2.25
Industrial Engineering	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; Physics or Chemistry	Chemistry or Physics; additional mathematics	30 76 98	350 490 640 / 470 590 730	Engineering science (liberal arts with math/science option considered on individual basis).	2.25
Mechanical Engineering	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; Physics or Chemistry	Chemistry or Physics; additional mathematics	30 76 98	350 490 640 / 470 590 730	Engineering science(liberal arts with math/science option considered on individual basis).	2.25
Electrical Engineering Transfer Adjustment Schedule					Electrical technology.	3.0

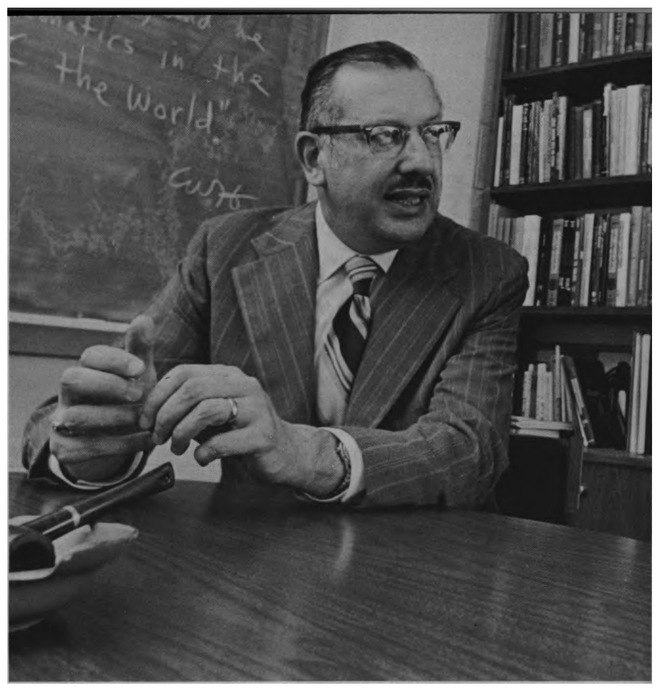
[1]About 20 per cent of the program consists of electives in social science, literature, and humanities. A substantial number of professional and free electives are also available.
[4]Four years of English is required in all subjects, except where State requirements differ.
‡Data is for the 5th, 50th, 95th percentile of a recent class of freshmen.
*Those with lower scores or rank were admitted because of other indications of success.

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 catalogue from the Admission Office by returning the information request card at the back of this bulletin.



Dean Paul Bernstein

Technologists must know people and people must know technology

"Some of my colleagues refer to this sort of thing as 'studies in how to balance a teacup,' but I don't believe a person can be an engineer if he doesn't have this."

By "this," Dr. Richard A. Kenyon, dean of the College of Engineering, is referring to humanistic, liberal arts, people-oriented studies.

Kenyon's statement is an accurate reflection of the attitude technicians and engineers have felt toward liberal arts. For their part, the humanists have felt perhaps even less kindly about technical studies.

It's time to break down this "two-culture" concept, believes Kenyon. Society has reached a point where technologists must understand people and people systems, and humanists must understand technology.

His colleague Dr. Paul Bernstein, dean of the College of General Studies, agrees. "The trench warfare between the technologists on the one side and the humanists on the other must be stopped," Bernstein says. "Almost anything you do in today's world has humanistic connotations. A technologist should also be a humanist, and his end goal is the betterment of civilization."

For two decades engineering students at RIT have been required to take liberal arts courses, but the attitude toward those courses is changing as the engineer's horizon expands. Where before it was felt the general studies courses would "round out" a person to better live his life outside the job, today it is recognized that he also needs these humanistic courses to do his job.

"If an engineer doesn't understand people systems, he won't solve people-oriented problems," believes Kenyon.

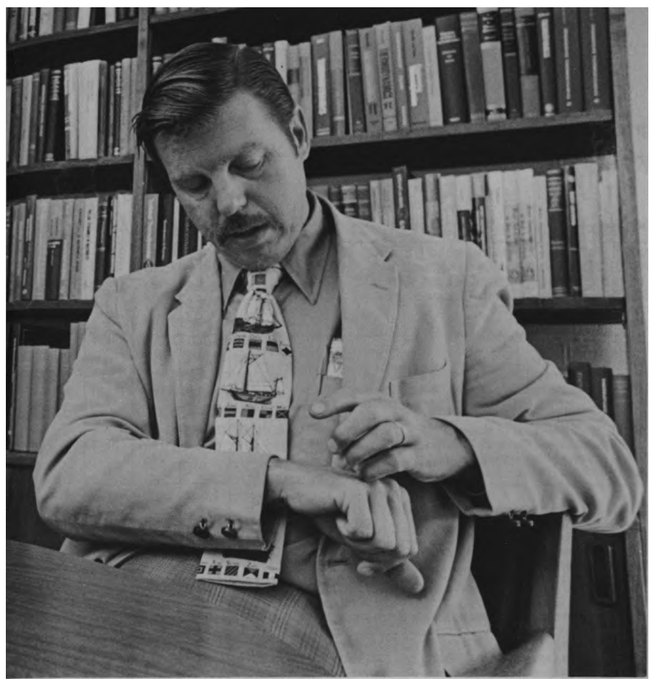
"He needs these courses for more than just doing the job," injects Bernstein. "Perhaps the greater dimension involves our roles as citizens and human beings."

Technology, the men suggest, is intricately interwoven into the total culture. In the past, engineers have produced gadgets which sometimes had detrimental effects on the quality of life. Now, the social condition is demanding that engineers consider the effects of their actions on people.

Besides giving social consciousness to the person who makes his career in engineering, the "new attitude" in engineering studies has made an engineering background feasible for careers in many other fields.

Kenyon feels it is not farfetched to consider engineering as an undergraduate preparation for law, medicine, politics, management, social work, and other fields. He has seen his former students enter such diverse areas as theology, gynecology, law, and management.

"There are sufficient examples of people trained in engineering who have entered other programs and brought added dimensions to them,"



Dean Richard Kenyon

he says. "I would consider it a gain, not a loss, if some of our engineering graduates don't make careers in engineering."

A corollary to Kenyon's thinking is that if engineers must become more sensitive to people, students of the humanities must become more sensitive to technology.

"Anybody who proposes to deal with the issues that face our society cannot do it without some understanding, some expertise, in the areas of technology," he says. "I don't see how you can live in this society without some appreciation of the technological side."

"By the same token," Bernstein indicates, "the technologist must be sensitive to questions of value, to ecological considerations, and to the socio-political concerns that will tend to make our society more people-oriented."

Does Kenyon suggest humanities students should be required to take engineering courses?

"A humanities major doesn't have to become an engineer," Kenyon answers, "but if he doesn't get a minor sequence in science and technology, there's a serious gap in his program."

Bernstein, who started as an electrical engineer at Johns Hopkins University for two years and now is an historian, comments, "I don't know as there's any one area that's a better undergraduate preparation than another. Engineering is a very useful field. I have a greater appreciation of the sciences as a result of my background. I think what we are doing is recognizing that students move from one field to another."

Although Kenyon says he himself was torn between a technical career and social work, he says he's "never seen the dichotomy" between technology and a humanistic orientation in his own life. For many years he has been active in bringing engineering to bear on environmental and societal problems.

Many people agree with him, many don't, Kenyon says.

"We have 35 people on our engineering faculty, and I'd say they all have different responses to this," he says. "Not everybody feels you can walk both sides. My colleagues and I continue to talk about the role of the engineer and technologist in our society."

Students often grasp the idea more readily than their elders, he has observed.

Bernstein says "a weld is being made between technology and the humanities, by a welder who's off-campus. The welder is society. Campuses as a whole move too slowly in integrating the kind of changes society has made."

RIT, Bernstein believes, is "a little further along" than most campuses in appreciating the need for an interdisciplinary approach to any problem.

"It's a matter of taking a look at the technological, social, economic, philosophical, religious, and other aspects of any problem and interrelating them," Kenyon says. "The only alternative is to go back and live and work in even smaller professional groupings without attempting communication. I don't believe we can afford to do that anymore."

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.

Approximately 85 percent of the technical content of the curriculum in Electrical Engineering is devoted to the establishment of a solid foundation in science, mathematics, engineering fundamentals and the core electrical engineering studies in electromagnetics, energy conversion, circuit theory and electronics. The remaining 15 percent consists of professional and free elective courses from which the students assemble individually tailored programs with the professional assistance and guidance of their faculty advisors. The students are encouraged to use the entire Institute bulletin in planning this portion of their programs. In this way they can be assured that their education reflects the strongest combination of the Institute's facilities with their own interests and aptitudes.

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 A.S. degree in Engineering Science.

Electrical Technology transfer program (TAS)

In addition to the transfer of students holding the A.S. 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 A.A.S. 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 A.A.S. degree in Electrical Technology.

Incoming students are brought to the campus in the Summer (Fourth) Quarter immediately following their A.A.S. program. Here they are tested diagnostically in mathematics and circuit analysis. Their summer curriculum is then selected (on the basis of the test results) and assembled from one of the two specialized mathematics courses designed for the program, together with course work in Circuit Analysis, General Studies, and Computers, as required. The objective is to use this initial Summer Quarter to bring the students to the point where the remainder of their Bachelor of Science program can be constructed from existing, regularly scheduled Institute courses. Beyond this initial Summer Quarter, the TAS student follows a cooperative work/study plan leading to the Bachelor of Science degree at the end of his third academic year at RIT. Professional and free elective opportunities are also provided in this plan for the expression of individual student interests.

B.S. Degree in Electrical Engineering

Year	First Year	Quarter Credit Hours: Fall	Winter	Spring
First Year	EENG-201, 202 Introduction to Engineering 1, II	4	4	
	SCHG-208, 209 General Chemistry for Engineers 1, II	4		4
	SMAM-251, 252, 253 Engineering Calculus 1, II, III	4	4	4
	SPSG-205, 206 General Physics 1, II		4	4
	*General Studies - Lower Division	4	4	4
	‡Physical Education Elective	☐	☐	☐
Second Year†	EEEE-351 Circuit Analysis 1			4
	EMEM-336, 332 Mechanics 1, II	4		4
	SMAM-305 Engineering 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 1, II		4	4
	General Studies - Lower Division	4	4	
	TCSP-220 Advanced Programming Techniques		4	
	‡Physical Education Elective	☐	☐	☐
Third Year		F or W		S or SP
	EEEE-352, 353 Circuit Analysis II, III	4		4
	EEEE-430 Linear Systems			4
	EEEE-441, 442 Electronics 1, II	4		4
	SMAM-351 Probability and Statistics			4
	SMAM-420 Complex Variables	4		
	General Studies - Lower Division	4		
Fourth Year	EEEE-531 Energy Conversion	4		
	EEEE-471, 472 Electric and Magnetic Fields 1, II	4		4
	EMEM-431 Thermodynamics			4
	EEEE-643 Electronics III	4		
	EEEE-634 Intro. to Communication Systems	4		
	EEEE-613 Intro. to Classical Controls			4
	General Studies - Upper Division			5
Fifth Year				S
	Professional Elective	4		4
	Professional Elective	4		4
	Free Elective	3-5		3-5
	General Studies - Upper Division	5		5

*See p. 80 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.

B.S. Degree in Electrical Engineering
Transfer Adjustment Schedule (TAS)

Year		Quarter Credit Hours: Fall	Winter	Spring
	Summer prior to third year			
Summer prior to third year	Individualized program drawn from following courses:			
	EEEE-351 Circuit Analysis 1			4
	SMAM-305 Transfer Mathematics 1			4
	SMAM-300 Transfer Mathematics II ...as required			☐
	*General Studies			4-5
	TCSP-220 Advanced Programming Techniques			4
Third Year	EEEE-352, 353 Circuit Analysis II, III		4	4
	EEEE-441, 442 Electronics 1, II		4	4
	EMEM-336, 332 Mechanics 1, 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 1, II		4	4
	SMAM-351 Probability & Statistics			4
	SMAM-420 Complex Variables		4	
	General Studies		4-5	4-5
Fifth Year	EMEM-431 Thermodynamics			4
	SPSP-314 Modern Physics		4	
	Professional Elective		4	4
	Professional Elective		4	4
	Free Elective			3-5
	General Studies		4-5	

TAS Students have Co-op during Fall and Spring Quarters.
*See p. 80 for the General Studies Requirements.
See p. 37 for policy on Physical Education.

	Quarter Credit Hours
Professional electives in Electrical Engineering	
EEEE-532 Electrical Machines I	4
EEEE-590 Thesis	4
EEEE-614 Control Synthesis	4
EEEE-621 Transmission Propagation and Waves	4
EEEE-650 Introduction to Logic and Switching	4
EEEE-665 Digital Computer Workshop	4
EEEE-670 Introduction to Microelectronics — 4	
EE EE-671 Hybrid Microelectronics Design	4
EEEE-673 Applied Electronic Design	4
EEEE-675 Analog/Hybrid Computation	4
EEEE-679 Active and Passive Filters	4
EEEE-687 Power Systems Analysis	4
EEEE-693 Digital Data Communications	4
EEEE-695 Introduction to Audio Engineering	4
EEEE-696 Communication Circuit Design	4

B.S. Degree in Computer Engineering

Year	First Year	Fall	Winter	Spring
		Quarter Credit Hours		
First Year	SMAM-251, 252, 253 Engineering Calculus 1, II, III	4	4	4
	SCHG-208, 209 General Chemistry for Engineers 1, II	4		4
	SPSP-205, 206 General Physics 1, II		4	4
	EENG-202 Introduction to Engineering II (EE)		4	
	*General Studies, Lower Division	4	4	
	ICSS-200 Introduction to Computer Science	4		
	ICSP-215 Programming Language—FORTRAN			4
	‡Physical Education Elective	☐	☐	☐
Second Year†	SMAM-305 Engineering Calculus IV	4		
	SMAM-306 Differential Equations		4	
	ICSS-430 Numerical Methods			4
	SPSP-207 General Physics III	4		
	SPSP-314 Modern Physics 1		4	
	EEEE-351 Circuit Analysis 1			4
	EMEM-336, 332 Mechanics 1, II	4		4
	ICSP-305 Assembly Language		4	
	*General Studies, Lower Division	4	4	4
	‡Physical Education Elective	☐	☐	☐
Third Year		F/W		S/SR
	EEEE-441, 442 Electronics 1, II	4		4
	EEEE-352, 353 Circuit Analysis II, III	4		4
	ICSS-320 Data Structure Analysis	4		
	*General Studies, Lower Division	4		
	ICSS-211 Introduction to I/O Systems			4
	EEEE-430 Linear Systems			4
Fourth Year	EEEE-643 Electronics III	4		
	EEEE-471 Electric & Magnetic Fields 1	4		
	EEEE-613 Introduction to Classical Controls			4
	EEEE-531 Energy Conversion	4		
	EEEE-650 Introduction to Logic and Switching			4
	SMAM-351 Probability and Statistics	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
				4
	Restricted Elective (°°)	4		
	EEEE-693 Digital Data Communications			4

*See page 80 for General Studies requirements.
‡See page 37 for policy on Physical Education.
(†) Upon successful completion of the Second Year, the Associate in Applied Science Degree is awarded.
(°°) Either ICSS-555 Real Time Computation or EEEE-675 Analog/Hybrid Computation.

Computer Engineering

Roy S. Czernikowski, Program Coordinator

The Computer Engineering program is jointly offered by the Department of Electrical Engineering and the Department 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 to the control of engineering systems.

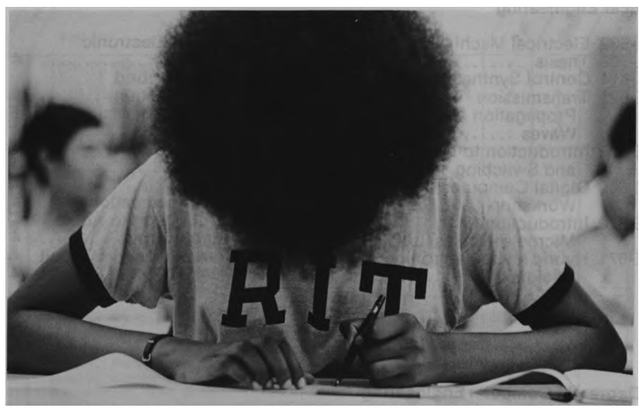
The cooperative work/study program of the final three years enables the student to apply the principles and techniques of Computer Engineering to real industrial problems and thus complete the preparation for a challenging career in this expanding field.

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, it covers most types of industry and commercial activity. Second, it is that major branch of engineering concerned not only with things, but with people as well.

Industrial Engineering has been defined as follows: "Industrial Engineering is concerned with the design, improvement, and installation of integrated systems of men, 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, to specify, predict, and evaluate the results to be obtained from such systems."



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, and management consulting. In recent years, the availability of computers has revolutionized the techniques used by industrial engineers. Entire systems can now be analyzed using simulation and techniques of operations research.

The laboratories at Rochester Institute of Technology are well equipped for teaching in the manufacturing sciences. A well-equipped machine shop and numerically controled machining center makes it possible to demonstrate current techniques and to conduct student projects. The computing facilities include a newly installed XDS Sigma 6. Students may gain access to the system through remote terminals. Cooperation with the College of Business insures an education well-founded in the techniques of business and management.

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 previous education and work experience. Students completing an A.A.S. in Engineering Science normally receive credit for the first two years and start their program at RIT with the third year class.

B.S. Degree in Industrial Engineering

Year	First 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	☐	☐	☐
Second Year†	EMEM-336 Mechanics I (Statics)	4		
	EMEM-332 Mechanics II (Dynamics)			4
	SMAM-305 Engineering Calculus IV	4		
	SMAM-306 Elementary Differential Equations		4	
	SMAM-308 Engineering Mathematics			4
	SPSG-207 General Physics III	4		
	EMEM-343 Materials Processing		4	
	EMEM-344 Materials Science			4
	Science Elective		4	
	*General Studies - Lower Division	4	4	4
	‡Physical Education Elective	☐	☐	☐
Third Year		F or W		S or SR
	EIEI-420 Work Measurement & Analysis I	4		
	EIEI-401 Introduction to Operations Research I	4		
	EIEI-481 Management Theory & Practice	4		
	SMAM-351, 352 Introduction to Probability and Statistics	4		4
	EIEI-415 Human Factors I			4
	EIEI-402 Introduction to Operations Research II			4
	EIEI-422 Systems & Facilities Planning			4
Fourth Year	EIEI-510, 511 Applied Statistics I, II	4		4
	EIEI-520 Engineering Economy			4
	EIEI-503 Simulation	4		
	EIEI-516 Human Factors II	4		
	**Professional Electives	4		4
	*General Studies - Upper Division			5
Fifth Year	**Professional Electives	☐		☐
	*General Studies - Upper Division	5		5
		4		4

*See p. 80 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.
**At least one professional elective must be selected from the following courses: EMEM-431 Thermodynamics; EMEM-415 Fluid Mechanics I; EEEE-461, 462 Electrical Engineering I, II.

Mechanical Engineering provides comprehensive training in a spectrum of professional activity

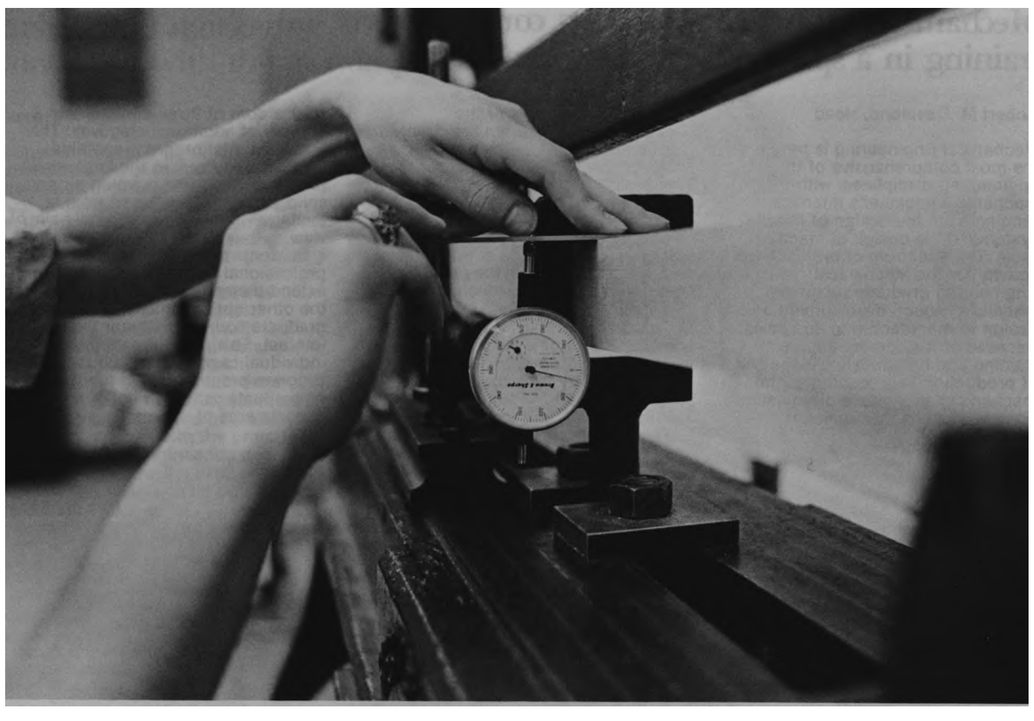
Robert M. Desmond, Head

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 his comprehensive training and his education in the areas of production and economics the mechanical engineer is often called upon to assume management positions.

The first two years of the undergraduate program are devoted to the mastery of mathematics, physics, chemistry, and mechanics— the basic tools of the technologist — and to the thorough grounding in the humanities — the mark of an educated man. 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 three options for intensive study. The three areas include applied mechanics, environmental, and thermal fluid science. Both the applied mechanics and thermal fluid science options offer a core of three courses and a number of additional electives. The environmental program contains four core courses; in these courses problems concerning water, air and solid waste are discussed from a technical and a non-technical point of view.

Students may use their remaining professional and free electives to extend their educational experience in the other options and/or enroll in graduate courses that suit their interest. This flexibility permits each individual to prepare an educational program preparatory for employment or graduate school in his or her specific area of interest.



Combined five-year B.S./M.S. 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 B.S./M.S. 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. The student who is admitted into the program in his or her second year is expected to start his or her 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.

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

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 B.S. program in Engineering. The addition of these transfer students in significant numbers numbers to our regular undergraduate students has provided an added dimension and a uniqueness to the RIT engineering program.

The A.A.S. graduate in Engineering Science with above average scholastic achievement can generally anticipate entering the B.S. 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 A.A.S. graduate in Mechanical Technology with superior academic achievement should seriously consider transfer to a B.S. 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 A.A.S. graduate in technology requires a somewhat special program to adapt his previous educational experience to the B.S. 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 career goals, satisfies the basic accrediting requirements for the B.S. degree, provides a meaningful cooperative work experience, and permits the student to fulfill the degree requirements in a reasonable period of time.

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 B.S./M.S. degree program.

B.S. Degree in Mechanical Engineering

Year	First Year	Fall	Winter	Spring
		Quarter Credit Hours		
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 1, II	4	4	
	SPSG-205, 206 General Physics		4	4
	*General Studies - Lower Division	4	4	4
	‡Physical Education Elective	☐	☐	☐
Second Year†	EMEM-336 Statics	4		
	EMEM-337, 338 Strength of Materials 1, 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
	‡Physical Education Elective	☐	☐	☐
Third Year		F or W		S or SR
	EMEM-413, 414 Thermodynamics 1, II	4		4
	EEEE-461, 462 Electrical Engineering 1, II	4		4
	EMEM-532 Introduction to Machine Design	4		
	EMEM-439 Dynamics			4
	EMEM-415 Fluid Mechanics 1			4
	General Studies - Lower Division	4		
Fourth Year	OPTIONS A, B or C			
	EMEM-514 Heat Transfer	4		
	EMEM-401 Mechanical Engineering Lab 1	4		
	EMEM-678 Mechanical Vibrations[1]	4		
	EMEM-661 Fluid Mechanics II			4
	EMEM-440 Mechanical Systems Analysis			4
	General Studies - Upper Division	5		5
	Mechanical Engineering Option, A, B, or C			4
Fifth Year	OPTIONS A & B	F or W		S
	Professional Electives	4		4
	General Studies - Upper Division			5
	Mechanical Engineering Option A or B	4		4
	Free Elective	4		4
	EMEM-502 Mechanical Engineering Lab II	4		
	OPTION C			
	Professional Elective			4
	General Studies - Upper Division			5
	Mechanical Engineering Option C	☐		4
	Free Elective	4		4
	EMEM-502 Mechanical Engineering Lab II	4		

*See p.80 for the General Studies Requirements.
†Upon successful completion of the second year, the Associate in Applied Science degree is awarded.
[1]Successful completion of this course is required to enter Option A.
‡See p.37 for policy on Physical Education.

Mechanical Engineering Options
(4 Credits each)

Option A: Applied Mechanics
Required courses:
- EMEM-694 Stress Analysis I
- EMEM-672 Selected Machine Elements
- EMEM-632 Advanced Mechanical Systems Design

Electives:
- EMEM-670 Thermal Stresses
- EMEM-675 Probabilistic Approach to Design
- EMEM-676 Kinematic Analysis of Mechanisms
- EMEM-684 Advanced Dynamics
- EMEM-685 Advanced Strength of Materials
- EM EM-697 Stress Analysis II

Option B: Thermal Fluid Science
Required courses:
- EMEM-635 Industrial Heat Transfer
- EM EM-660 Refrigeration and Air Conditioning
- EMEM-652 Fluid Mechanics of Turbomachinery

Electives:
- EM EM-650 Gas Dynamics
- EMEM-615 Viscous Flow
- EMEM-677 Modern Energy Conversion
- EM EM-680 Advanced Thermodynamics
- EM EM-683 Statistical Thermodynamics
- EMEM-696 Nuclear Power

Option C: Environmental
Required courses:
- EM EM-667 Introduction to Air Pollution
- EM EM-668 Environmental Engineering Laboratory and Project
- EM EM-669 Introduction to Water Pollution
- EM EM-695 Solid Waste Management

Electives:
- EMEM-664 Engineering Acoustics and Noise Control
- EMEM-679 Mechanical Systems Analysis II
- EM EM-689 Patent Law and Protection
- EM EM-690 Environment and the Engineer

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 and Printmaking. In the School for American Craftsmen concentrations are given in Ceramics and Ceramic Sculpture, Glassblowing, 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 the latest 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. 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 craftsmen. They have been broadly trained 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 craftsmen, 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 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 school year, in a series of summer sessions, or a combination of 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 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. To receive the bulletin, return the reply card at the back of this bulletin.

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

Admission: at a glance
College of Fine & Applied Arts programs

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, opinions, and information. Graduates can serve as creative members of problem solving teams. Degrees granted: A.A.S.-2 year; B.F.A.-4 year.

Fine Arts—Students may concentrate in printmaking or painting and take other art electives. They prepare as professional artists and have exploratory potential for later careers in teaching. Degrees granted: A.A.S.-2 year; B.F.A.-4 year

Industrial/Environmental Design—Prepares students to design effectively for social, industrial and environmental conditions. Concern is given to future-forecasting and emphasizes the humanistic and larger environments. Degrees granted: A.A.S.-2 year; B.F.A.-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: A.A.S.-2 year; B.F.A.-4 year.

Glassblowing—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: A.A.S.-2 year; B.F.A.-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, hollowware. Degrees granted: A.A.S.-2 year; 8.F.A.-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: A.A.S.-2 year; B.F.A.-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: A.A.S.-2 year; B.F.A.-4 year.

Freshman Admission Requirements

Transfer Admission with Junior standing

Program	Required High School Subjects*	Desirable Elective Subjects	H.S. rank (percentile)†	SAT (optional) ACT (optional) ‡	Two Year College Programs	Desirable minimum grade point average
Communication Design	☐ year any mathematics; ☐ year any science	Art courses; portfolio of original artwork required	24 70 94	330 470 620 / 340 500 640	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.	☐☐☐
Fine Arts	☐ year any mathematics; ☐ year any science	Art courses; portfolio of original artwork required	24 70 94	330 470 620 / 340 500 640	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.	☐☐☐
Industrial/ Environmental Design	☐ year any mathematics; ☐ year any science	Art courses; portfolio of original artwork required	24 70 94	330 470 620 / 340 500 640	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.	☐☐☐
Ceramics and Ceramic Sculpture	☐ year any mathematics; ☐ year any science	Art or industrial courses; portfolio of original work required	24 70 94	330 470 620 / 340 500 640	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.	
Glassblowing	☐ year any mathematics; ☐ year any science	Art or industrial courses; portfolio of original work required	24 70 94	330 470 620 / 340 500 640	Transfer as a junior is uncommon, as comparable programs are not generally available at other colleges.	
Metalcrafts and Jewelry	☐ year any mathematics; ☐ year any science	Art or industrial courses; portfolio of original work required	24 70 94	330 470 620 / 340 500 640	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	☐ year any mathematics; ☐ year any science	Art or industrial courses; portfolio of original work required	24 70 94	330 470 620 / 340 500 640	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	☐ year any mathematics; ☐ year any science	Art or industrial courses; portfolio of original work required	24 70 94	330 470 620 / 340 500 640	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.	

[1]About one-third of the courses in each program consist of electives in social science, literature and humanities.

*Four years of English is required in all programs (except where State requirements differ.

‡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.

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 craftsmen 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, gives the courses in drawing, design, and art electives required in the curricula in the School for American Craftsmen. Students in the School of Art and Design may elect, with permission, and as space is available, elective courses in the School for American Craftsmen that are related to their programs of study, or interests.

In the College of Fine and Applied Arts the schools so use their facilities as to broaden and deepen the art interests of the students in both. Seminars, lectures, exhibitions, and motion pictures draw the students in the college 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 in the two schools.

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 or Printmaking. 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 col lege, 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 craftsmen. 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 B.F.A. 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.

Campus galleries: showcase for all art

It's not the Metropolitan Museum of Art, but RIT has a lot to recommend it as a showcase for art and photography.

Student photographers and artists take turns with the internationally famous to show the RIT audience what's doing in their crafts.

With presentations changing every one to three weeks in the seven display areas on campus, in the course of an academic year the RIT community is exposed to scores of exhibitions.

There's no central coordinator for shows, which differ in medium, purpose, sophistication and intended audience.

The exhibit area viewed by the greatest number of students, faculty, staff and visitors is the lobby of the College-Alumni Union. Because of the diversity of the audience, Union Director Steve Walls aims to present work which is representative of what's being done by students, alumni and faculty.

The purpose, says Walls, is exposure: "I feel an obligation to show some work that might never be viewed by science, engineering and business students who rarely go near the other display areas."

Because of the security problems and the lack of display cases for jewelry and ceramics, Walls usually sticks to photography, which he feels is more easily replaceable, and large paintings.

Although Walls usually has no shortage of people who ask to show their work, he sometimes seeks major exhibits from outside RIT for educational purposes.

Union exhibits never stay up beyond two weeks. "This is not an art museum," Walls says. "If you have to see it everyday, it should be up for just a short time."

Unlike the Union lobby, where most people view the exhibits because they are passing through, the Bevier Gallery in the College of Fine and Applied Arts can appeal to people who are there to see the art.

Such shows are a learning device for students as well as an attraction for people outside RIT, a college official said. There has always been discussion about whether the gallery should be used for high quality outside art or student work, he says, and a balance is attempted between the two.

"It's a mistake to identify the gallery as having only one function," a professor said.

"No precise identity has been established. We want to get in things that will hit all areas of interest. We'd like students to think it's for them, and faculty and the community to think it's for them. Anyone can come to appreciate."

In the College of Graphic Arts and Photography, there are three exhibit areas for 900 students: an M.F.A. Gallery, a second floor "little gallery," and glass display cases in the lobby. The M.F.A. Gallery is the showcase of the three, with one major outside show of established names each quarter, graduate theses and other high quality work, says Brad Hindson, assistant Professor and M.F.A. coordinator.

In the School of Photography lobby displays, "we're very careful that we don't censor," reports Doug Lyttle, associate professor of photography. "We want to give students the chance to make the visual statements they feel they must. The whole world is the photographer's workshop."

The gallery in the Wallace Memorial Library is similar in purpose to the Union's—to show students what other students are doing. It's a modest exhibit area behind glass where small paintings, prints, photos and ceramics are displayed. In September, a second gallery lining the library staircase opened for large works of art.

School of Art and Design
prepares students to relate art to commerce and industry

Ronald Padghan, Chairman, Foundation Studies

Philip Bornarth, Chairman, Fine Arts

Roger Remington, Chairman, Communication Design

Craig McArt, Chairman, Environmental Design

Fred Meyer, Chairman, Graduate Studies

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.

The educational objectives of the School of Art and Design are to encourage imagination, creative ability, and a sense of artistic discrimination; to develop the skills essential to professional competence; to relate the various arts and to assist the student in finding the means to enjoy them; and to cooperate with the College of General Studies in helping the student grow culturally and socially, and to inspire him to make his maximum contributions as a creative artist and a citizen.

Programs

Major concentrations are offered in Communication Design, Environmental Design and the Fine Arts. Electives may be pursued, beginning in the second year in painting, printmaking, design applications, communication design and the crafts. The first year forms the foundation preparation for the major concentration, with courses required in drawing and two- and three-dimensional design. The communication designer is in the service of ideas and humanity. He has the abilities and competence needed for effectively planning, imparting and interchanging thoughts, concepts, opinions, and information. He is an inventive and creative member of problem-solving teams in the contemporary world of business, industry, agriculture, government, education, and religion. 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.

The Fine Arts specifically serve the student who is interested in concentrated study in areas of printmaking or painting 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.

Course descriptions

For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

Communication Design, Fine Arts, Environmental Design Majors

Year	First Year	Fall	Winter	Spring
		Quarter Credit Hours		
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	4	4	4
	FADF-210, 211, 212 Drawing	4	4	4
	*General Studies—Lower Division	☐	☐	☐
	‡Physical Education Elective			
Second Year †	FSCF-225, 226, 227 Art and Civilization	3	3	3
	*General Studies—Lower Division	4	4	4
	‡Physical Education Elective	☐	☐	☐
	**ELECTIVES (THREE) 3 Credits each per Quarter			
	***FADC-301, 302, 303 Communication Design			
	***FADE-301, 302, 303 Environmental Design			
	***FADP-301, 302, 303 Advanced Drawing			
	FADS-411, 412, 413 Sculpture			
	FADE-320 Graphic Visualization			
	FADE-411,412, 413 Design Applications	9	9	9
	PPRT-201, 202, 203 Typographic Composition			
	PPHG-207, 208, 209 Still Photography			
	PPHF-207, 208 Introduction to Filmmaking			
	PPHF-209 Introduction to TV			
Third Year	FSCF-325, 326 American Art	3	3	
	FSCF-327 Contemporary Tendencies in Art			3
	*General Studies—Upper Division	5	5	5
	MAJOR (ONE)			
	FADR-401, 402, 403 Printmaking			
	FADP-401, 402, 403 Drawing and Painting	☐	☐	☐
	FADC-401, 402, 403 Communication Design			
	FADE-401, 402, 403 Environmental Design			
	**ELECTIVES (ONE)			
	FADR-411, 412, 413 Printmaking			
	FADP-411, 412, 413 Drawing and Painting			
	FADC-411, 412, 413 Communication Design			
	FADE-411, 412, 413 Design Applications	3	3	3
	FSCC-251, 252, 253 Ceramics 1			
	FSCM-251, 252, 253 Metalcrafts 1			
	FSCT-251, 252, 253 Textiles 1			
	FSCW-251, 252, 253 Woodworking 1			
Fourth Year	*General Studies—Upper Division	5	5	5
	MAJOR (ONE)			
	FADR-501, 502, 503 Printmaking			
	FADP-501, 502, 503 Painting	9	9	9
	FADC-501, 502, 503 Communication Design			
	FADE-501, 502, 503 Environmental Design			
	**ELECTIVES (ONE)			
	FADR-511, 512, 513 Printmaking			
	FADP-511, 512, 513 Painting			
	FADC-511, 512, 513 Communication Design			
	FADE-511, 512, 513 Design Applications	3	3	3
	FSCC-251, 252, 253 Ceramics II			
	FSCM-251, 252, 253 Metalcrafts II			
	FSCT-251, 252, 253 Textiles II			
	FSCW-251, 252, 253 Woodworking II			

†Upon completion of the second year, the Associate in Applied Science degree is awarded.

*See p.80 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. Some electives are sequential Consult the advisor when planning programs.

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

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

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 craftsmen, or as technicians in industry. Those who complete the four-year course of study are prepared for careers as self-employed designer-craftsmen, 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 necessary skills, foster appreciation, not only of the crafts, but the related arts, 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 in order that they may live usefully as creative artists and citizens.

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 he has received instruction in its proper use, and responsibility for observing safety precautions is assumed by each student upon entering the school.

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 Glassblowing. 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 catalogue from the Admission Office by returning the information request card at the back of this bulletin.

Crafts Majors

Year	First Year	Fall	Winter	Spring
First Year	FADF-201, 202, 203 Design	4	4	4
	FADF-205, 206, 207 Creative Sources	☐	☐	☐
	FADF-261, 262, 263 Drawing	☐	☐	☐
	‡‡FSCW-241, 242, 243 Mechanical Drawing	☐	☐	☐
	*General Studies Electives—Lower Division	4	4	4
	MATERIALS AND PROCESSES (ONE)			
	FSCG-200 Ceramics			
	FSCG-200 Glassblowing			
	FSCM-200 Metalcrafts	5	5	5
	FSCT-200 Textiles			
	FSCW-200 Woodworking			
	‡Physical Education Elective	☐	☐	☐
Second Year†	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 Glassblowing			
	FSCM-300 Metalcrafts	5	5	5
	FSCT-300 Textiles			
	FSCW-300 Woodworking			
	ELECTIVES (ONE)			
	FADE-411, 412, 413 Design Applications			
	FADS-251 Sculpture			
	PPHG-207, 208, 209 Still Photography			
	FSCC-251, 252, 253 Ceramics 1	3	3	3
	FSCM-251, 252, 253 Metalcrafts 1			
	FSCT-251, 252, 253 Textiles 1			
	FSCW-251, 252, 253 Woodworking 1			
	FSCG-251, 252, 253 Glassblowing 1			
	‡Physical Education Elective	☐	☐	☐
Third Year	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 Glassblowing			
	FSCM-400 Metalcrafts	5	5	5
	FSCT-400 Textiles			
	FSCW-400 Woodworking			
	**ELECTIVES (ONE)			
	FADR-411, 412, 413 Printmaking			
	FADP-411, 412, 413 Drawing and Painting			
	FADC-411, 412, 413 Communication Design			
	FADE-411, 412, 413 Design Applications			
	FADS-251 Sculpture	3	3	3
	FSCC-251,252, 253 Ceramics 1			
	FSCM-251, 252, 253 Metalcrafts 1			
	FSCT-251,252, 253 Textiles 1			
	FSCW-251, 252, 253 Woodworking 1			
	FSCG-251, 252, 253 Glassblowing 1			
Fourth Year	*General Studies Electives—Upper Division	5	5	5
	TECHNIQUES AND THESIS (ONE)			
	FSCC-500 Ceramics			
	FSCG-500 Glassblowing			
	FSCM-500 Metalcrafts	☐	☐	☐
	FSCT-500 Textiles			
	FSCW-500 Woodworking			
	**ELECTIVES (ONE)			
	FADR-511, 512, 513 Printmaking			
	FADP-511, 512, 513 Drawing and Painting			
	FADC-511, 512, 513 Communication Design			
	FADE-511, 512, 513 Design Applications			
	FADS-251 Sculpture	3	3	3
	FSCC-251, 252, 253 Ceramics 1			
	FSCM-251, 252, 253 Metalcrafts 1			
	FSCT-251, 252, 253 Textiles 1			
	FSCW-251,252, 253 Woodworking 1			
	FSCG-251, 252, 253 Glassblowing 1			

Quarter Credit Hours

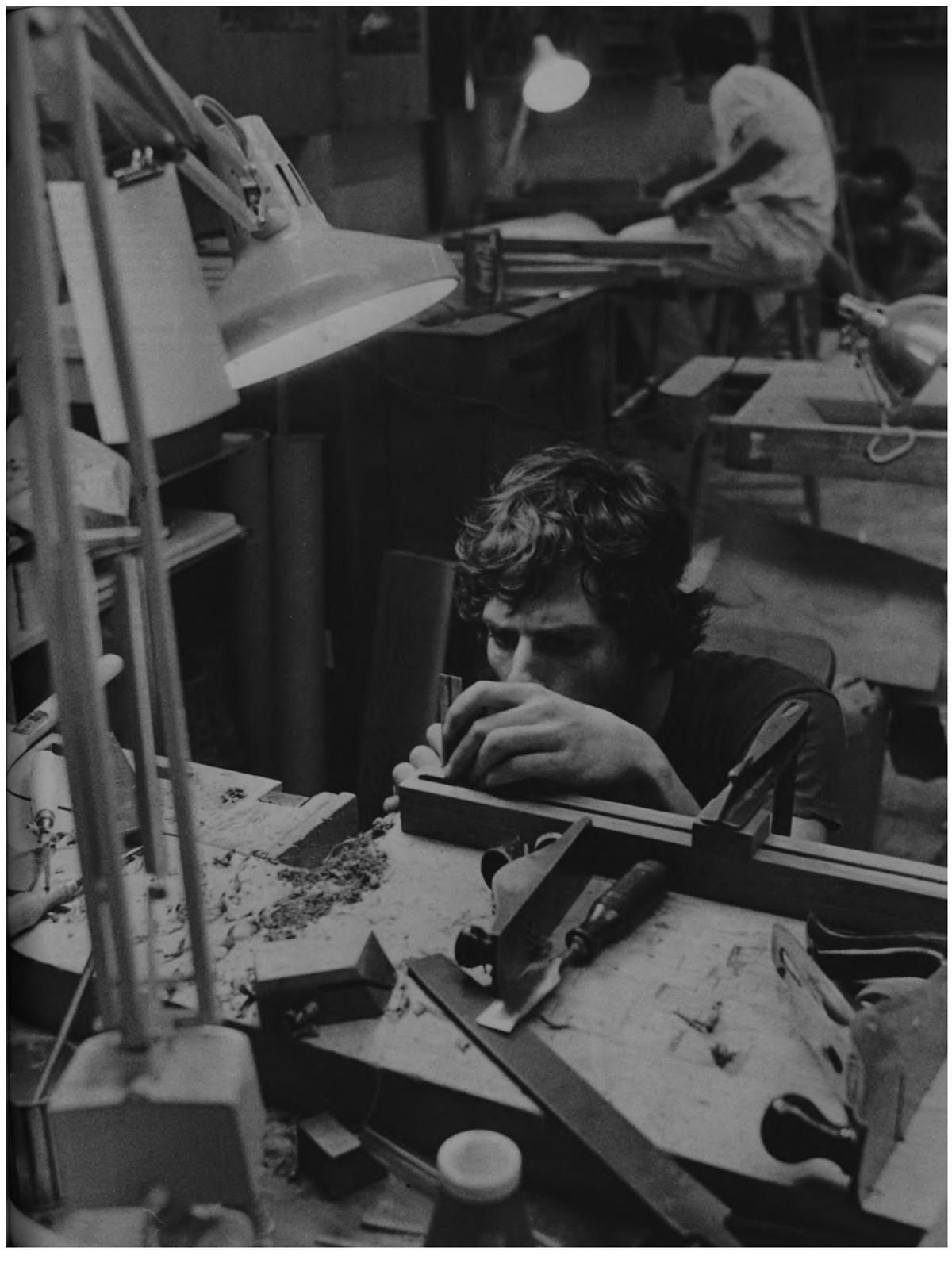
‡‡Woodworking and Furniture Design only.

†Upon satisfactory completion of the second year, the Associate in Applied Science degree is granted.

*See p.80 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.



General Studies is helping students with the human side of a career

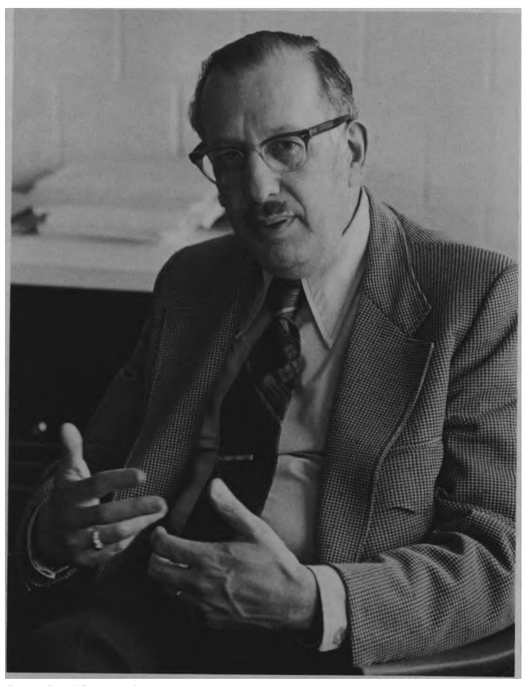
Paul Bernstein, Dean

General education at RIT is more than a listing of required courses. It seeks to foster in each student an adequate philosophy and a way of life consistent with it. Its purpose is to draw out the talent of young people and give them the opportunity to mature intellectually, aesthetically, socially, and morally. The courses in General Studies are designed to help the student understand humanistic concerns, the physical universe, and human society. Their purpose is to stimulate curiosity, to encourage independent study, and to enable the student to see how different areas of knowledge are related.

It is hoped that these activities will help the student make progress in a career, develop effective human relationships, and make intelligent and constructive use of his potentialities.

More specifically, it is hoped that the following can be done in association with the student:

1. To provide a wider acquaintance with man's historical and cultural heritage.
2. To provide awareness of alternative perspectives as a basis for more intelligent and responsbile choice of values and attitudes.
3. To provide opportunity for development of appropriate habits of thought in many fields so that the student has a basis for continuing self-education.
4. To promote a vigorous intellectual independence.
5. To provide training in those intellectual techniques which are useful for the clear statement and comprehension of ideas.
6. To promote understanding of and respect for areas of human knowledge and investigation that complement and extend his professional studies.



Dean Paul Bernstein

General Education is integral

"The whole concept of general education is, of course, a subject of great debate," says Dr. Paul Bernstein.

"But I feel strongly that general education has to be viewed as an integral, not a peripheral, part of a person's education."

Bernstein, 48, is dean of the College of General Studies, chairman of the Institute's Graduate Council, and a leading champion of the cause of general education on RIT's technically-oriented campus.

"You don't just come to school for printing or criminal justice; you must, for example, be able to communicate what you know in printing or criminal justice to others, or the knowledge alone won't do much good. And there is much to be said for improved understanding of social and political issues, critical thinking, and a more competent approach to alternative values.

The College of General Studies operates the departments of Social Work and Criminal Justice, which are degree programs. The remainder of its courses are open to students in any of the RIT colleges, and are designed, as Bernstein says, "to give our students breadth of choice."

For students enrolled in any of the nine RIT colleges, there are required areas of study in General Studies. But there are no required courses. And Bernstein says the college is anxious to set up independent study programs for credit and will start a new course in almost any area of interest if enough students want to take it.

"The concept here is that we have to learn to live a life as well as to make a living," he says.

Admission: at a glance
College of General Studies programs

Two programs leading to the B.S. 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: B.S.

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: B.S.

Freshman Admission Requirements

Transfer Admission with Junior standing

Program	Required High School Subjects	Desirable Elective Subjects	H.S. rank (percentile)†	SAT [verbal] [math] †	Two Year College Programs	Desirable minimum grade point average
Social Work	Elem. Algebra; Inter. Algebra; ☐ year any science	Social sciences; humanities	9 38 90	260 450 720 320 490 690	Blanket credit for the first two years offered for an A.A. or A.A.S. degree.	☐☐☐
Criminal Justice	Elem. Algebra; Inter. Algebra; ☐ year any science	Social sciences; humanities.	9 38 90	260 450 720 320 490 690	Blanket credit for the first two years is offered for an A.A.S. or an A.A.S. 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.	☐☐☐

[1]Four years of English is required in all programs, except where State requirements differ.

‡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.

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.

*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.

Curriculum

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

Lower division requirement
Students must have two courses from each area: Language and Literature, Social Science, Science and Humanities.

Students may not repeat a discipline—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.

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

Resources
The College is fortunate in having a wide variety of resources both within the Institute and in the community. At RIT the Bevier Art Gallery, the Institute 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 Librarian of RIT 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 Summer information on the information card at the back of this bulletin.

Providing qualified personnel for police, courts, and corrections is goal of the Criminal Justice program

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, science and humanities, and language 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 stimulated 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.

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

Patricia M. Carter

"Just realizing 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 M. Carter was Schenectady's first female police officer in 1948. She worked as a police youth officer, eventually founding, in 1966, the department's Youth Aid Bureau, which she commanded until she retired in 1974. Along the way, she completed work on a Ph.D.

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 said. "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 said.

"The emphasis in corrections is going to be on community-based programs," she said, 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."

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.

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.

Criminal Justice

Year	First Year	Fall	Winter	Spring
		Quarter Credit Hours		
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	☐	4	☐
	Open Elective			4
	Physical Education Elective	☐	☐	☐
Second Year	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-509 Juvenile Justice			5
	Professional Elective[3]		4	4
	GSSP-203 The Psychology of Childhood and Adolescence		4	
	GSSP-503 The Abnormal Personality			5
	Science Elective (College of Science)[1]	4	4	
	*Other General Studies (Electives)—Lower Division	☐		
	Physical Education Elective	☐	☐	☐
Third Year	GCJC-411 Issues in Corrections	4		
	GCJC-401 Scientific Methodology	4		
	GCJC-403, 404 Field Experience and Seminar[2]		9	9
	*General Studies Elective—Upper Division	☐ ☐		
Fourth Year	GCJC-526 Issues in Law Enforcement	4		
	GCJC-528 Etiology of Crime		4	
	GCJC-514 Planning and Change in Criminal Justice			4
	Professional Elective[3]	4	4	4
	GSSS-502 Contemporary Social Problems	5		
	*General Studies Electives—Upper Division	5	☐ ☐	5
	Open Elective			4

*See p. 80 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.

[1]A *Computer Science* course sequence may be taken in place of the Science Electives.

[2]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.

[3]Professional Electives are designed to allow the student to concentrate on a particular discipline(s) of criminal justice. Students possessing educational

Transferability

Blanket credit for the first two years is offered for an A.A.S. 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 their Senior year, rather than the Winter Quarter of their Junior year.

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 A.A. or A.A.S. degree. RIT has long maintained a close relationship with community and two-year colleges in curriculum articulation.

Social Work

Year	First Year	Quarter Credit Hours: Fall	Winter	Spring
First Year	GSWS-301 Intro, to the Field of Social Work	4		
	GSSP-210 Intro, to Psychology	4		
	SBIG-210, 211 Biological Concepts 1, II		4	4
	GSSP-203 Psych, of Childhood & Adolescence		4	
	GSWS-305 Social Work Field Study		□	
	GSSS-210 Intro, to Sociology			4
	Five General Studies Electives (Lower Div.)[1]	□	□	4
	One Professional Elective[2]	□	□	4
Second Year	GSWS-302 Social Welfare: History	4		
	GSSE-210 Intro, to Economics	4		
	GSHH-547 History of Social Discrimination	5		
	or			
	GSSM-514 Theories of Political Systems	5		
	GLLC 431, 432 Spanish 1, II		4	4
	or			
	GSSS-331, 330 Black Perspectives/Hispanic Culture		4	4
	GSSE-503 Personal Finance		5	
	or			
	GSSP-515 Psych, of Human Adjustment		5	
	GSWS-531 Research Methods			4
	GSWS-411 Methods of Social Work 1 & Lab[4]			4
	Three Professional Electives[2]	4	4	4
	One General Studies Elective (Lower Div.)[1]		4	
	Physical Education[3]	□	□	□
Third Year	GSWS 421, 422 Field Instruction 1, II[5]	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.)			□ □
Fourth Year	GSWS-535 Seminar & Project		4	
	GSWS-303 Social Welfare: Profession & Issues			4
	Three Professional Electives[2]	4	4	4
	Three Open Electives/Independent Study[6]	4	5	5
	Four General Studies Electives (Upper Div.)	□ □	5	5

[1]See page 80 for General Studies requirements.
[2]See page 81 for Professional Electives.
[3]See page 37 for Physical Education.
[4]Includes part-time placement in social work agency.
[5]Full-time field placement in social work agency.
[6]I.S. Independent Study may be academic or at a social agency.

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 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 in doing this, reflect on his social work study and experience, and focus on future professional and humanitarian goals.

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

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 theircuriosity, 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.

Career opportunities
Because the curriculum leading to the B.S. 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 institution work, school work, day care center work.

Social Work program for transfer students with A.A. or A.A.S. Degree

Year	Third year	Quarter Credit Hours Fall	Winter	Spring
Third Year	GSWS-301 Intro, to the Field of Social Work	4		
	or			
	GLLC-402 Conference Techniques	4		
	GSWS-531 Research Methods	4		
	GSWS-411 Methods of Social Work 1 & Lab[4]	4		
	GSWS-412, 413 Methods of Social Work II, III		4	4
	GSWS-302 Social Welfare: History	4		
	GSWS-421, 422 Field Instruction 1, II[5]		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[2]	4	4	4
	Six G.S. Electives (Upper Division)[1]			
	Physical Education[3]			

Transferability
Blanket credit for the first two years is offered for an A.A. or A.A.S. degree.

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

Social Work: a young program, it's already "the outstanding program ... in New York State"

"We were winging it like the Wright Brothers," says John Humphries, one of the founding fathers of RIT's social work program, in describing the earliest discussions of placing social work at RIT.

Months of research by the College of General Studies social sciences faculty and advice from community agencies finally led to the establishment of the program in 1971.

Now four years old, the program already has received high praise from sources outside the Institute. Philip R. Johnston, executive secretary, State Board of Social Work, State Education Department, calls it "the outstanding baccalaureate program in social work education in New York State . . .There is a vitality, depth and commitment as well as productivity in this program that is rarely matched."

But what do faculty and students on the inside think?

"RIT is lucky to have the social work program and social work is lucky to have RIT," says Professor Carolyn Qualich, completing her second year as a member of the social work faculty. Professor Qualich expresses the sentiments of most of the social work faculty, who see an advantage in training professional social workers in the midst of a strongly career-oriented institution. Mingling with a variety of professionals widens the perspectives of social work students and vice versa, say faculty members.

"The difference (between social work and other RIT students) is that the tool the social worker uses is himself," explains faculty member Leona Irsch.

This year the program has 150 full- and part-time students and continues to attract over-30 students as well as students fresh out of high school.

"Not too many people get a second chance at a career," says Bill Rider, a senior, who left a position as personnel director for a clothing manufacturerto study at RIT. Like other students, Bill was attracted to the RIT program primarily because of the extensive field experience.

The Council on Social Work Education, national accrediting body for baccalaureate social work programs, requires 300 clockhoursof work in the field for accreditation. RIT's program gives a student 600 clock hours in social agencies or community organizations by graduation.

"Our field experience program is the backbone of the Social work education here," explains Leonard Gravitz, director of the Department of Social Work. Students begin their experience in the field with the second quarter of their freshman year as they visit various agencies in the Rochester community.

Because RIT is scheduled on a quarterly system rather than semesters, juniors can spend two entire quarters, four days a week, at their field placement jobs. An additional day is spent on campus in a methods seminar. In their senior year students are encouraged to return to their field agency for follow-up study.

"Agencies can use students so much better when they aren't missing staff meetings or other important daily aspects of the job," comments Professor Irsch. Of five social work programs in the Rochester area, RIT is the only school with students in the field for a concentrated block of time.

Each student's work experience is fully supervised by an RIT faculty member as well as the member of the agency to which the student reports. The final evaluation of a student's field work is made by the faculty member, agency representative and student.

"We're unusual in the degree of student involvement in matters of curriculum and policy," says Gravitz. Students elect their own representatives to a 12-member student-faculty committee that meets monthly to recommend program changes, hear individual grievances and evaluate curriculum.

Bill Rider, a student member of the committee, would like to see student participation increase even further. "So far only student problems are being aired in committee," he says. "I'd like to see the faculty bring some of their problems up for student discussion."

A strong desire to be involved in solving problems seems to be characteristic of social work students. As Bill Rider describes it, there is a "great carry-over effect in this profession."

Freshman Patty Brockley finds she's better able to listen to all viewpoints when there's an argument in her dormitory. Sheilah Kleinman, mother of three and transfer from a women's college, says she has ample opportunity to use her skills in herown neighborhood.

Social work students seem to be never off duty. "People are drawn to this profession because they like other people," says Professor Qualich.

Patty Brockley agrees. "I knew I wanted anything but a desk job. I can't stand talking to filing cabinets."

Graduating students are qualified to enter social work positions without further training, although some choose to go on to a master's degree in social work or to other fields.

One of the reasons RIT began a baccalaureate program in social work was because of the need for trained professionals at the baccalaureate level. "Prior to 1971, eighty per cent of the people who called themselves social workers had no specialized training in the field," says Professor Irsch. There were never that many master's degree graduates to go around, as noted by a special state commission on social work education, which defined a need for bachelor's level training as early as 1960.

Since that initial report, economic woes and federal cutbacks in social programs have begun to tighten the traditional job market available to social workers. However, Director Gravitz continues to be optimistic about the career futures of RIT students. He thinks the generalist preparation of the RIT program fits students for a number of options within the field. "It's going to be a matter of looking harder," he admits.

Students seem to share his brand of realistic optimism. Adds transfer student Sheilah Kleinman, "After all, one doesn't get into the business of helping people because 'the dollar' is the most important thing in life."

Graphic Arts and Photo: specialized education for a specialized field

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 courseforthetraining of technicians for the photographic industry. It now offers undergraduate programs leading to a B.S. degree in Photographic Science and Instrumentation, to a B.S. degree in Professional Photography, and to a B.F.A. 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 B.S. degree. A program in Biomedical Photography leading to an A.A.S. degree and a program in Biomedical Photographic Communications leading to a B.S. degree are also offered. Graduate programs lead to an M.S. degree in Photographic Science and Instrumentation, and to an M.F.A. 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 B.S. and M.S. degree.

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 M.S. 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.

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. Itisan ideal environment for the student in either photography or the graphic arts because he or she has 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, he can meet many of these leaders in research and development personally.

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, includeaSeniorthesis 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.

Admission: at a glance
College of Graphic Arts & Photography programs

The School of Photographic Arts and Sciences, the School of Printing, and the Graphic Arts Research Center are included in this College.

This 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—Students learn about the materials and processes of photography and the application of photographic processes to science and technology. Course content comparable to engineering. Mathematics, physics, and chemistry of radiation-sensitive systems, optics and image formation. Degrees granted: A.A.S.-2 years; B.S.-4 years; M.S.-5 years.

Photographic Illustration—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: A.A.S.-2 years; B.FA.-4 years.

Professional Photography—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: A.A.S.-2 years; B.S.-4 years.

Photographic Processing and Finishing Management—Students develop a thorough knowledge of photographic process, production techniques and procedures, and business, including aspects of promotion and selling in a competitive market. Degree granted: B.S.

Biomedical Photography—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. Degree granted: A.A.S.

Biomedical Photographic Communications—Students learn advanced audiovisual techniques for media production in medical schools, research centers, private hospitals, and other scientific facilities. Degree granted: B.S.

Printing—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: A.A.S.-2 years; B.S.-4 years.

Freshman Admission Requirements — Transfer Admission with Junior standing

Program	Required High School Subjects*	Desirable Elective Subjects	H.S. rank (percentile)†	SAT (critical reading) ‡	Two Year College Programs	Desirable minimum grade point average
Photographic Science and Instrumentation	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; Physics or Chemistry	Chemistry or Physics; additional mathematics	40 64 98	370 550 660 460 600 730	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.	□□□
Photographic Illustration	☐ year any mathematics; 1 year any science	Art courses	27 65 96	370 500 670 410 550 710	Total of 93 quarter credits including 48 quarter credits in photography, 12 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.	□□□
Professional Photography	Elem. Algebra; Plane Geom. or Inter. Algebra 1 year any science	Physics or Chemistry; photography; additional mathematics	27 65 96	370 500 670 410 550 710	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.	□□□
Photographic Processing and Finishing Management	Elem. Algebra; Plane Geom. or Inter. Algebra; Chemistry or Physics	Additional mathematics and science	27 65 96	370 500 670 410 550 710	Because of a liberal selection of professional electives, transferring at the end of two years is readily accomplished.	□□□
Biomedical Photography	Elem. Algebra; Plane Geom. or Inter. Algebra; Trigonometry; Biology	Chemistry; Physics	27 65 96	370 500 670 410 550 710		
Biomedical Photographic Communications					Associate degree in biomedical photography or previous college work in audiovisual with strong emphasis in photography and biology.	□□□
Printing	Elem. Algebra; Plane Geom. or Inter. Algebra; 1 year any science	Printing courses or experience with school publication; chemistry; interest in printing; additional mathematics	14 46 89	300 420 580 340 490 630	Associate 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.	□□□

†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.

‡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.

T ransfers
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 B.S. and B.F.A. degrees must complete the requirements of a major program, and they must also complete satisfactory thesis work.

Requirements for the M.S. degree in Photographic Science and Instrumentation, Printing Technology, and Printing Education, and for the M.F.A. 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 B.S. or B.F.A. 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-1 ntertype 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. And 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 fortesting 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 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 Gazetteofthe U.S. Patent Office.

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

Photographer of the future will be a "photographer plus" says dean

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 tanning 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.

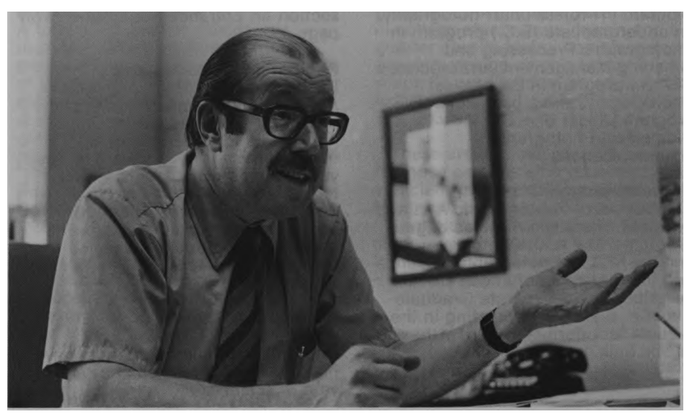
"I also foresee more emphasis in such areas as film making and television and photography applied to sciences and engineering as in our biomedical photography program."

Printing is continuing itsevolvement 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.



Dr. Lothar K. Engelmann

School of Photographic Arts and Sciences trains visual problem solvers

William S. Shoemaker, 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. Chemicals and specialized equipment are supplied. Students are encouraged to purchase photographic equipment that will further their chosen careers. All first year B.F.A. and B.S. 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. If desired, teachers will assist students in equipment recommendation. Guest speakers and field trips broaden the student's viewpoint. Participation in the spring field trip and summerstudy 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 (B.S.) in Photographic Science and Instrumentation; an undergraduate (B.F.A.) program in Photographic Illustration; an undergraduate (B.S.) program in Professional Photography; an undergraduate (B.S.) program in Photographic Processing and Finishing Management; an associate's (A.A.S.) program in Biomedical Photography; and a bachelor's (B.S.) program [upper division] in Biomedical Photographic Communications.

Graduate programs
The School of Photographic Arts and Sciences offers two master's degree programs: M.F.A. in Photography and the M.S. in Photographic Science and Instrumentation. These are described in the separate Graduate Bulletin, available by sending in the request for information card at the end of this bulletin.

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 applicantsforadmission must meet the general requirements for admission to the I nstitute as described on page 45. 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, as explained in the section on Entrance Requirements on page 45.

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.

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
Applicants for admission to the associates degree program must have had elementary algebra, plane geometry, intermediate algebra and trigonometry; also one year of science, with biology recommended. A report is required from the applicant covering visits to photographic departments of at least two hospitals.

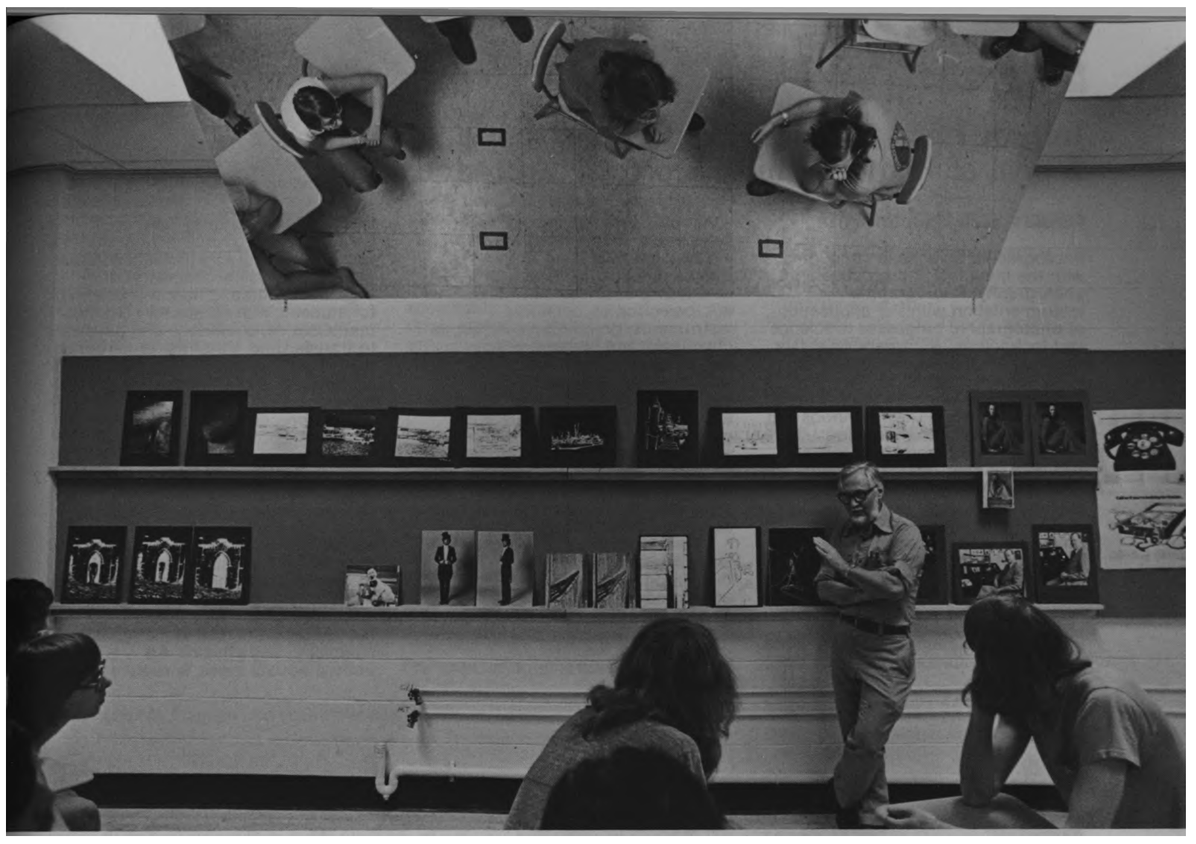
Biomedical Photographic Communications
Applicants for this upper division curriculum need the minimum of an associate degree, with one year of biology, one year of technical photography, and a minimum of two years in a communications specialty such as biomedical photography. A personal interview may be required. The RIT summer transfer course may also 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.

Advance credit and transfer programs
Advance 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 without incurring loss in time or added expense.

There are transfer programs into the second or the third year of each of the four majors offered by the School. These are for students who have transferrable advance credits in science, art, business, and/or photography.

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.



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 "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 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 an acceptable design studio course (six quarter credits) and a “C” grade or better in ‘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 *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 in general chemistry and general physics, plus a “C” grade or higher in *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, plus 48 credit hours of photography. 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 the second years of Photographic Illustration and Professional Photography.

Improvement of materials and processes is goal of Photographic Science and Instrumentation

Ronald Francis, Staff Chairman

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.

Almost every segment of American business is an employer of graduates in Photographic Science and Instrumentation; for example, aerospace, business machines, microelectronics, scientific instruments, graphic arts, industrial chemicals, and photographic equipment and materials. Aside from industry, many graduates are employed by governmental agencies and laboratories with military or government contracts in aerospace, aerial surveying, and information handling. Graduates with an interest in selling often move into positions as sales and technical representatives or as private consultants.

The department of Photographic Science and Instrumentation 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 Bachelorof Science and Master of Science degrees, and a graduate program for persons holding a Bachelor of Science degree in physics, chemistry, 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.

Four-year program
Bachelor of Science in Photographic Science and Instrumentation
Course content is typical of engineering programs. It includes specialized courses in the physics and chemistry of radiation-sensitive systems, optics and image formation, and photographic system engineering, as well as the fundamental courses in mathematics, chemistry, and physics. An undergraduate thesis is required.

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. Applications should be sent to Dr. Gerhard Schumann, professor, and coordinator of the departmental graduate program.

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 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 runsforten 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 department.

The graduate program is administered by the Council of Graduate Studies and is under the direction of Dr. Gerhard Schumann, Professor. See Graduate Bulletin for particulars.

Photographic Science and Instrumentation

Year	First Year	Quarter Credit Hours: Fall	Winter	Spring
First Year	PPHS-201, 202, 203 Photography for Scientists & Engineers	4	4	4
	SCHG-205, 207 Chemical Principles	4	4	4
	SMAM-251, 252, 253 Calculus	4	4	4
	'General Studies Electives - Lower Division	4	4	4
	^Physical Education Elective	0	0	0
Second Yearf	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 1		4	
	ICSP-205 Computer Techniques			3
	SPSP-311, 312, 313 University Physics	5	5	5
	• General Studies Electives - Lower Division	4	4	4
	fPhysical 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		4	4
	PPHS-521, 522, 523 Imaging Systems and Evaluation	4		
	Professional Electives (selected from undergraduate elective list)	To brin ! 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	
	PPHS-890 Research			4
	Professional Electives (selected from undergraduate elective list)	To brin ! underg aduate quarter credits t o 184		
Fifth Year IS/MS program	PPHS-711, 712, 713 Theory of the Photographic Process	3	3	3
	PPHS-731, 732, 733 Principles of 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		
	Professional Electives (selected from graduate elective list)	To brin gradua e quarter credits t 45		

tUpon successful completion of the second year, the Associate in Applied Science degree is awarded.
*See p. for General Studies requirements.
tSee p. for policy on Physical Education.

Photographic Science and Instrumentation

Undergraduate electives
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
SCH0-431, 432, 433 Organic Chemistry
SCHA-311, 312 Analytical Chemistry
SCHA-313 Introduction to Physical 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
EEEE-441 Electronics I
SPSP-455 Optical Physics
Others to be selected in consultation with advisors

Graduate electives
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
PPRT-702 Graphic Reproduction Theory
PPRM-702 Computers in Management
SCHA-511, 512 Instrumental Analysis
SMAM-611 Engineering Mathematics
SMAM-612 Engineering Mathematics
CASM-761 Reliability
CASM-851 Non Parametric Statistics
CASM-811, 812 Probability Theory and Application
CASM-821, 822, 823 Theory of Statistics
CASM-841, 842 Regression Analysis
CASM-731, 741, 871 Statistics
Others to be selected in consultation with advisors.

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

Bachelor of Fine Arts in Photographic Illustration helps students develop innovative responses to visual problems

Photographic Illustration
Photojournalism
Photography as a Fine Art
Film Making

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. The student is encouraged to develop innovative and individualized responses to visual problems; he is expected to become sensitive to contemporary graphic design and to visual aspects of his society; he is asked to be a perceptive and responsible citizen of an evolving society.

The photo student who elects the B.F.A. program may produce advertising photography for magazines, direct mail pieces, posters, billboards, and packages. He may produce editorial photography, magazine illustrations, picture essays, and book illustrations. He may illustrate brochures, annual reports, and other visual materials for business, government, and educational institutions. He may make educational, entertainment or business films and TV commercials. He is qualified to teach photography and visual communications and to cooperate in the making of audiovisual materials. He is qualified to function as an artist using photography as his principal means of expression. He may become a scholar, photohistorian, photojournalist, or museum curator.

The Bachelor of Fine Arts program is sub-divided 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 particular individual 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 Chairman. This is based on educational background and availability of faculty and facility.

Major Photographic electives
Photo Illustration
Photojournalism
Photography as a Fine Art
Film Making
(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.

Bachelor of Fine Arts in Photographic Illustration

Year	First 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 Yearl	FADF-321, 322, 323 Design	2	2	2
	'General Studies Electives - Lower Division	4	4	4
	PPHL-301, 302, 303 History and Aesthetics of Photography	3	3	3
	PPHL-311, 312, 313 B.F.A. Photography II	6	6	6
	^Physical Education Elective	0	0	0
	Major Photographic Electives: Photo Illustration 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
		4	4	4
	Professional Electives (selected from BFA elective list)	4	4	4
ourth 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

(t)Upon successful completion of the second year, the Associate in Applied Science degree is awarded.
'See p. 80 for General Studies requirements.
JSee p. 37 for policy on Physical Education.

Student learns full range of professional skills in Bachelor of Science in Professional Photography

Ira B. Current, Staff Chairman

The primary goal of the Professional Photography curriculum is to prepare the individual student for a career field involving photography as his chief means of support.

The program leading to the Bachelor of Science degree in Professional Photography is a challenging and rewarding study in which the student can prepare for a career as an image maker—communicator or in allied photographic endeavors. The first two years give the student 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 advisor, an advanced program, selecting from a number of elective courses, based on his 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, Micrographics, Nature Photography, Photojournalism, Portraiture, Process Control, Reproduction Techniques, Sensitometry, Television Production.

In addition, within the School of Photographic Arts and Sciences divisions, other areas of study are available. Independent studies and group seminars are arranged to explore highly specialized techniques or to experience in-depth studies in photography.

Emphasis is 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. To help achieve this, community projects are utilized to increase the student's ability to gain experience with the work-a-day world's problems, on a practical basis.

Broadly stated, this preparation involves studies and experiences in both technical and creative aspects of visual problem solving. The curriculum is planned to give the student skills in business as well as photography, to enable him to seek employment in the field of his choice.

The first year is common to Professional Photography and Photographic Illustration programs. After the first year, the student elects to continue in either Professional Photography or Photographic Illustration with the approval of the Staff Chairman. This is based on educational background and availability of faculty and facility.

Science option electives (second year)
SMAM-201, 202, 203 College Algebra and Trigonometry
SCHG-281, 282, 283 General Chemistry
SSEG-201, 202, 203 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 staff chairman:

SCHG-205, 206, 207 Chemical Principles
SCHC-211, 212, 213 General Chemistry

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

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, 512,513Photojournalism II
PPHM-301, 302, 303 Machine Processing
PPHP-407 A-V Preparations 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.

Professional Photography

Year	First 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	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
i-ounn 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

·See p. 80 for General Studies requirements.
iSee p. 37 for policy on Physical Education.
fUpon successful completion of the second year, the Associate in Applied Science degree is awarded.

Film and television program is for those who see the motion picture as an "expressive, unique force"

Richard Floberg, Coordinator

Film Making and Television

The courses in Film Making I and II 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 as a creative medium and to develop the skills of film production.

Offered to students in Professional Photography or Photographic Illustration, 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. Each student produces several short films, working closely through all phases of motion picture production: scripting, pre-production planning, budgeting, shooting, sound editing and working with a laboratory. Students combine their learning of visual and sound artistry through hands-on experience with camera and sound equipment. Each film project is designed by the individual student; they receive individualized instruction as they bring purposeful expression to the screen in a wide variety of styles.

Courses	Quarter Credit Hours: Fall	Winter	Spring
PPHF-401, 402, 403 Film Making 1	4	4	4
Prerequisites: Elective to all undergraduate 3rd and 4th yr. students, and other students by special permission			
PPHF-501, 502, 503 Film Making II	4	4	4
Prerequisite: PPHF-403 or permission of instructor			
PPHF-407, 408, 409 History and Aesthetics of Film	3	3	3
Prerequisite: Elective to all RIT undergraduate and graduate students			
PPHF-421, 422 Scriptwriting		3	3
Prerequisite: Elective to all RIT undergraduate and graduate students			
PPHF-507-508, 509 Introduction to Television Productuion	4	4	4
Prerequisite: Elective to all undergraduate 3rd and 4th yr. students, and other students by special permission			
PPHF-207, 208, 209 Introduction to Film Making and Television	3	3	3*
Prerequisite: Elective to all Art and Design students except freshmen			
PPHG-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.

Bachelor of Science in Photographic Processing and Finishing Management 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 oftheirtimeinourfully equipped color processing and finishing laboratory to gain hands-on experience in production, quality control, and managementtechniques.

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 A.A.S. degree and should qualify for area supervisory positions in a finishing plant.

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

Photographic Processing and Finishing Management Majors

Year	First 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 Computer Science			4
	•General Studies Electives—Lower Division	4	4	4
	{Physical Education Elective	0	0	0
Second Year t	PPHM-301, 302, 303 Machine Processing	4	4	4
	PPHP-311, 312, 313 Basic Color	3	3	3
	ITEE-310 Electricity	4		
	ITEE-311 Electronics		4	
	BBUB-401 Behavioral Science in Management			4
	•General Studies Electives—Lower Division	4	4	4
	{Physical Education	0	0	0
Third Year	PPHP-511, 512, 513 Photographic Process Control	4	4	4
	GSSE-301, 302 Economics! and II	4	4	
	Professional Electives**	4	4	4
	PPRM-503, 504 Statistics of Quality Control 1 & II		4	4
	•General Studies Electives—Upper Division	5		5
Fourth Year	BBUM-263 Marketing			4
	BBUB-434 Operations Management			4
	Professional Electives**	12	8	4
	•General Studies Electives—Upper Division	5	10	5

•See p.80 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.
tUpon 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.

Photographic Processing and Finishing Management

Professional electives
PPHS-301, 302, 303 Principles of Photographic Systems I
SCHG-205, 206, 207 Chemical Principles
PPHP-441, 442, 443 Advanced Color Printing
PPHP-411, 412, 413 Sensitometry
PPHM-501, 502, 503 Training and Supervision of Photographic Processing and Finishing Laboratory Personnel
PPHM-511, 512, 513 Advanced Machine Processing
PPHM-599 Independent Study
BBUF-281 Money and Banking
BBUF-441 Finance (Financial Management)
BBUA-331, 332 Accounting I, II (Cost)
BBUB-301 Business Law
BBUB-404 Management (Business Policy)
GLLC-402 Conference Techniques
GLLC-501 Effective Speaking
Others to be selected in consultation with advisors.

[illegible]

Nile R. Root, R.B.P., Coordinator

The Biomedical Photographic Communications curriculum is an upper division 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 Printing, which can be selected in consultation with the advisor.

The curriculum provides the graduate with preparation to be an entering professional in biomedical communication, 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 curriculum provides a two-year program leading to the Associate of Applied Science degree. A graduate may apply for entrance into the Biomedical Photographic Communications program for a Bachelor of Science degree.

The Biomedical Photography 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 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 he enters into his profession full time.

Biomedical Photography

Year	First Year	Fall	Winter	Spring
		Quarter Credit Hours		
First Year	PPHB-201, 202, 203 Biomedical Photography I	□	□	□
	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 Electives—Lower Division	4	4	4
	{Physical Education Elective	□	□	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

Biomedical Photographic Communications

	Summer Transfer Communications/Biology or General Course if needed per evaluation			
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	□	□	□

*See p. 80 for General Studies requirements.

‘··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.
NOTE: See p.37 for policy on Physical Education.

Procedures 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, publishing, and allied industries. Programs of study are especially directed toward careers in the areas of printing technology, printing production, and printing management.

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 communications; and an understanding of the student's professional and general environment as a means of developing himself as a well-rounded individual and a responsible citizen.

Career opportunities
The graduate with a B.S. 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 advanced 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.

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

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 B.S. 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 by sending in the information request form at the back of this bulletin.

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

Emery E. Schneider, Staff Chairman

The creative opportunities in the graphic arts are enormous and attractive. 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 advertising agencies 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 administers 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 designed to give 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.

Photography-Plate-Press Division

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 his 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 acts chiefly as a service department for all students in the School of Printing, regardless of their area of specialty by offering courses in the various processes and materials pertaining to the graphic arts. This Division administers, however, three sequences in the production area which are:

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.

Management Division

James R. Walsh, Staff Chairman

The opportunities in the management segment of the graphic arts are varied and appealing. 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. The sequences administered by this division are listed below:

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 School 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 individual interests and objectives, and to meet the credit requirements of the Printing program. Selection is subject to prerequisite requirements and availability of courses.

Science electives
The first year science sequence must be Chemistry, SCHG-281, 282,283, or Physics, SPSP-214, 215, 216. The second year science sequence can be Chemistry or Physics, Advanced Chemistry, Advanced Physics, Contemporary Science, Calculus, Computers, ICSS-200, ICSS-210, ICSP-215, or Photography for Scientists and Engineers, PPHS-201, 202, 203.

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

School of Printing

Year	First Year	Quarter Credit Hours Fall	Winter	Spring
First Year	PPRT-201 Typography 1	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
	SMAM-201, 202, 203 College Algebra, Trigonometry, Geometry	3	3	3
	◆General Studies Electives—Lower Division	4	4	4
	{Physical Education Elective	0	0	0
Second Year t	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
	{Physical Education Elective	0	0	0
Third Year	PPRT-410 Introduction to Paper	3		
	PPRM-301 Applications of Computers to Graphic Arts			3
	PPRM-401 Estimating 1		3	
	PPRM-403 Printing Production Management 1	3		
	"Science Option	4	4	4
	Professional Electives		4	4
	'General Studies Electives—Upper Division	5	5	5
Fourth Year	PPRM-501 Financial Controls			3
	PPRM-503 Statistics of Quality Control		4	
	PPRM-590 Senior Seminar	3		
	Professional Electives	8	8	8
	·General Studies Electives—Upper Division	5	5	5

·See p. 80 for the General Studies requirements.
'·Approved three-quarter sequences are listed under Science Electives.
tUpon completion of the second year, the Associate in Applied Science degree is awarded.
{See p. 37 for policy on Physical Education.

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)
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.

The College of Science provides in-depth background, wide selection of electives

Thomas P. Wallace, Dean

The College of Science has undergraduate programs in Biology, Chemistry, Mathematics, Physics, Chemical Technology, Medical Technology, and Nuclear Medicine Technology.

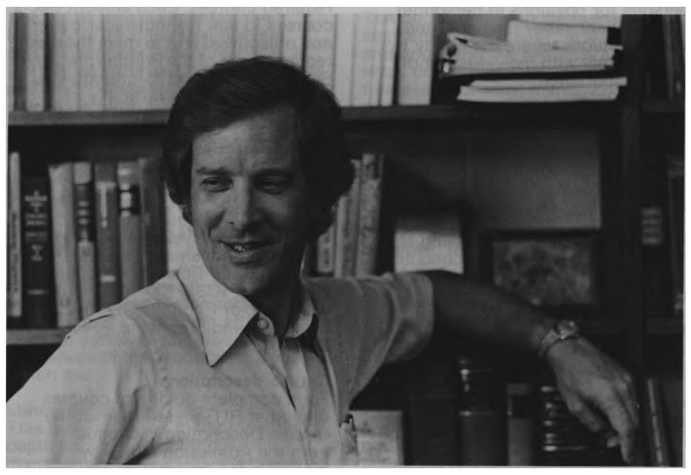
Choice of majors
A student may enroll in the College of Science as a science major without designating a specific major. In consultation with an advisor, a program will be designed to meet the student's individual needs and goals. The program can be flexible and cover a number of introductory college level courses in science.

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 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.

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.

Continued page 106.



Dr. 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 third 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 percent, to 530 students. New programs have been added: an industrial internship master's degree in chemistry, a clinical chemistry master's degree, and a bachelor's degree in nuclear medicine technology.

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 on 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 is an ideal size to offer students a variety of expertise among the faculty, yet insure close student-faculty rapport, the dean feels. Most of the 60 faculty members hold the Ph.D. degree.

In what he considers the best evaluation of a college's programs—the success of its graduates—Dr. Wallace believes the College of Science has met the test. Science graduates who have gone directly into industry have received commending reports from their employers. Those who entered graduate schools have done well in their Ph.D. qualifying exams and coursework.

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: A.S.-2 years; B.S.-4 years.

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. Degrees granted: A.S.-2 years; B.S.-4 years.

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: A.A.S.

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: A.S.-2 years; B.S.-4 years.

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: A.A.S.-2 years; B.S.-4 years.

Nuclear Medicine Technology—Graduates assist physicians in procedures that require use of radioactive material. Graduates prepare radioactive dosage, collect and prepare specimens, verify patient records, carry out laboratory studies, and present results for interpretation by physician. Three years are spent at RIT and last year is in internship. Degrees granted: A.A.S.-2 years; B.S.-4 years.

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: A.A.S.-2 years; B.S.-4 years.

Freshman Admission Requirements

Transfer Admission with Junior standing

Program	Required High School Subjects*	Desirable Elective Subjects	H.S. rank (percentile)†	SAT†	Two Year College Programs	Desirable minimum grade point average
Biology	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; Biology	Physics or Chemistry; additional mathematics; C.E.E.B. Biology Achievement Test	25 83 98	380 510 680 / 440 570 740	Liberal arts major with a math/biology option or equivalent. Changes from other science majors 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	25 83 98	380 510 680 / 440 570 740	Liberal arts major with a math/chemistry option or equivalent. Changes from other science majors or engineering science can be arranged.	2.0
Chemical Technology	Elem. Algebra; 1 year any science	Additional mathematics and science	37 61 90	380 470 720 / 440 570 600	Program terminal at A.A.S. degree—no Junior-year courses.	
Mathematics	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; Chemistry of Physics	Physics or Chemistry; additional mathematics	25 83 98	380 510 680 / 440 570 740	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	25 83 98	380 510 680 / 440 570 740	Medical laboratory technology or equivalent program.	2.0
Nuclear Medicine Technology	Elem. Algebra; Plane Geometry; Inter. Algebra; Trigonometry; 1 year any lab science	Additional mathematics and science	25 83 98	380 510 680 / 440 570 740	Medical laboratory 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	25 83 98	380 510 680 / 440 570 740	Liberal arts major with a math/physics option or equivalent. Changes from other science maiors or engineering science can be arranged.	2.0

'About one-third of the program includes electives in social science, literature, and humanities.

•Four years of English is required in all programs, except where State requirements differ.

{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.

To illustrate, the following is a typical distribution of courses for the first year as a science major:

Science major

Year	First Year	Quarter Credit Hours: Fall	Winter	Spring
First Year	•SBIG-201, 202, 203 General Biology	4	4	4
	•SCHC-211, 212, 213 General Chemistry	4	4	4
	SMAM-251, 252, 253 Calculus	4	4	4
	•SPSP-311, 312 University Physics		5	5
	General Studies Elective	4	4	4
	Physical Education	0	0	0

•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. In addition, the Biology Department has a four-year program in Medical Technology, the Physics Department has a four-year program in Nuclear Medicine Technology, 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 prog rams 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 Cooperative Plan

The school year is divided into four 11-week quarters, Fall, Winter,Spring, and Summer. Students in the Biology, Chemistry, 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 diagram at right illustrates the cooperative schedule as it applies to students in the five-year programs.

The Transfer Plan

Students with associate degrees in a comparable program from other educational institutions normally can expect to transfer at the Junior year level. Transfer credit is granted for 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 isalsoRIT policy togrant 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.

Chemical Technology

Candidates enrolled in the Chemical Technology program spend their initial quarter in classes at the Institute. At the completion ofthefirst 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	—

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

Biology program prepares students for employment or graduate study

William A. Burns, Acting Head

The Department of Biology offers programs leading totheA.S. degree in Biology, the A.A.S. degree in Medical Technology, and B.S. degrees in Biology and in Medical Technology.

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 B.S. 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.

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. Upon successful completion of their fourth year, they are awarded a B.S. 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.

Biology

Year	First Year	Fall	Winter	Spring
		Quarter Credit Hours		
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
	{Physical Education Elective	0		0
Second Year A. S. Degree				
	SPSG-211,212, 213 College Physics	4	4	4
		4	4	4
	or			
	SPSP-311, 312, 313 University Physics	5	5	5
	SCHO-231, 232, 233 Organic Chemistry	4	4	4
	·General Studies Electives—Lower Division	4	4	4
	{Physical Education Elective	0	0	0
Third and Fourth Year				
	··Biology Elective	F or W		S or SR
	Institute-wide Elective	8		8
	·General Studies Electives—Upper Division	4		4
		5		5
Fifth Year B.S. Degree				
	··Biology Elective	F or W		S
	Institute-wide Elective	8		4
	·General Studies Elective	4		8
		5		5

*See p. 80 for General Studies Requirements.
iSee p. 37 for policy on Physical Education.
*For the B.S. 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.

Medical Technology

Year	First Year	Fall	Winter	Spring
		Quarter Credit Hours		
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	
Second Year A.A.S. 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
	{Physical Education Elective	0	0	0
Third Year				
	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
B.S.	The fourth year of this program is taken at an approved hospital for training medical technologist!			

·See p. 80 for General Studies requirements.
JSee p. 37 for policy on Physical Education.

Course descriptions

For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

Requirements for the A.S. and B.S. degrees in Biology and the B.S. degree in Medical Technology
The student must meet the minimum graduation requirements of the Institute as described on page 38 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 catalogue from the Admission Office by returning the information request card at the back of this bulletin.

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.

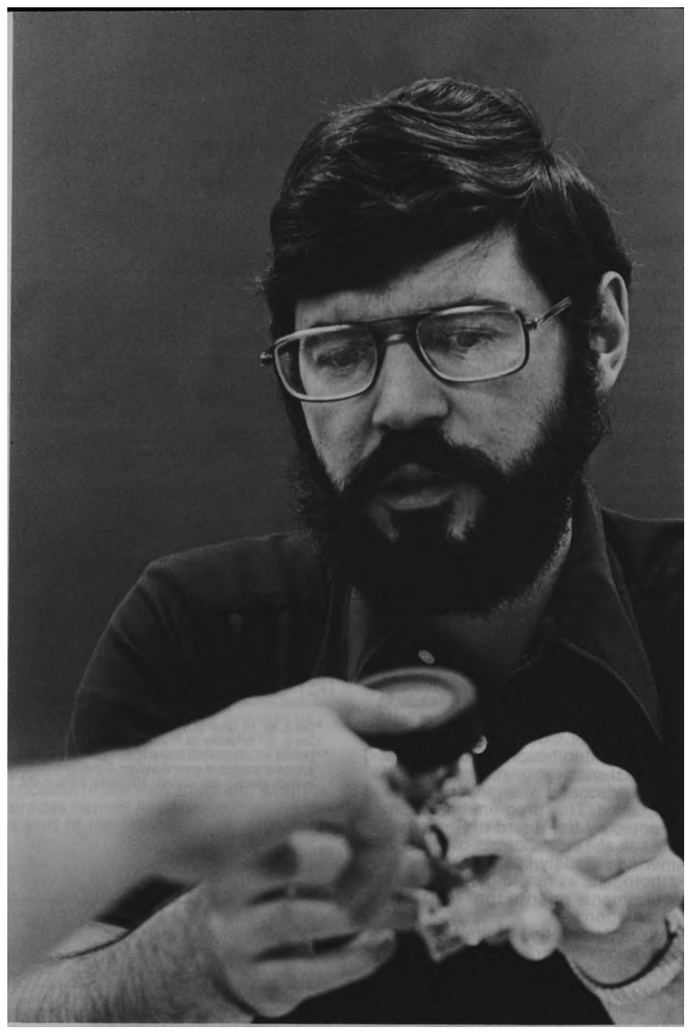
The public's growing concern with ecology, energy, health and other social needs insures jobs for the scientists and technologists who have the know-how to combat the problems.

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 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 1974 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.

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Robert E. Gilman, Head

The Department of Chemistry offers programs leading totheA.S. degree in Chemistry, the A.A.S. degree in Chemical Technology, the B.S. degree in Chemistry and the M.S. degree in Chemistry.

The A.A.S. 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 M.S. or Ph.D. degrees in Chemistry.

Requirements for the A.S. and B.S. degrees in Chemistry and the A.A.S. degree in Chemical Technology

The student must meet the minimum graduation requirements of the Institute as described on page 38 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. To meet the requirements leading to the B.S. 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	First Year	Fall	Winter	Spring
		Quarter Credit Hours		
First Year	hCHt-zu, *Hi, III* general unemisiry			
	SCHA-261, 262, 263 Intro, to Chemical Analysis	3	3	3
	SMAM-251, 252, 253 Calculus	4	4	4
	ICSP-205 Computer Techniques			3
	·General Studies Electives—Lower Division	4	4	4
	{Physical Education Elective	0	0	U
Second Year A.S. Degree	SCHA-311, 312 Analytical Chemistry	4	4	
	SCHP-340 Introduction to Physical Chemistry			4
	SMAM-305 Calculus	4		
	SMAM-306, 307 Differential Equations		4	4
	SPSP-311, 312, 313 University Physics	5	5	5
	·General Studies Electives—Lower Division	4	4	4
	{Physical Education Elective	0	0	U
Third Year	SCHO-431, 432 Organic Chemistry	F or W		Sor SF
	SCHP-441, 442 Physical Chemistry	5		b
	GLLC-421, 422 German	4		4
	·General Studies Electives—Upper Division	5		5
		5		5
Fourth Year	SCHO-433 Organic Chemistry	F or W		Sor SF
	SCHP-443 Physical Chemistry	5		
	SCHC-401 Chemical Literature	4		
	SCHI-661 Inorganic Chemistry	2		4
	·General Studies Electives—Upper Division			
	Institute-wide Electives (2)	5		5 □
Fifth Yuf B.S. Degree	SCHI-662 Inorganic Chemistry	F or W		S
	SCHA-612 Instrumental Analysis	3		
	··Chemistry Electives (2)	5		
	Institute-wide Electives (4)	**6**		16

·See p. 80 for General Studies requirements.
{See p. 37 for policy on Physical Education.
··A minimum of 6 hrs. of electives must be SCH-600, 700 courses.
Course descriptions for SCH-700 are listed in the Graduate Bulletin.

Chemical Technology

Year	First Year	Fall	Winter	Spring
		Quarter Credit Hours		
First Year	SCHT-241, 242 Chem. Tec 1, II	**6**		7
	SCHT-251 Mathematics for the Technologist	4		
	SVAM 201.202 Mathematics	3		3
	GLLC-311 Effective 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	SR or F		Wor S
	SMAM-203 Mathematics	**6**		5
	SMAM-309 Statistics	3		
	SPSG-211 College Physics			4
	·General Studies Electives—Lower Division			4
	Institute-wide Elective	4		4
	{Physical Education Elective	4		
		0		**0**
Third Year A. A. S. Degree	SCHT-305, 306 Chemistry Specialty	SR or F		W o r S
	SPSG-212, 213 College Physics	4		4
	SCHT-309 Glassblowing Techniques	4		4
	SPSP-301 Electronics for Technologists	2		
	Institute-wide Electives			3
	·General Studies Elective—Lower Division	4		
				4

·See p. 80 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 programs leading to the A.S. and the B.S. degrees in Mathematics. The A.S. degree will ordinarily be completed in two years and involves no cooperative employment. The B.S. 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. Graduates qualify for positions in industrial institutions and business concerns as well as for graduate studies leading to an M.S. or Ph.D. degree, not only in mathematics but a number of other fields as well.

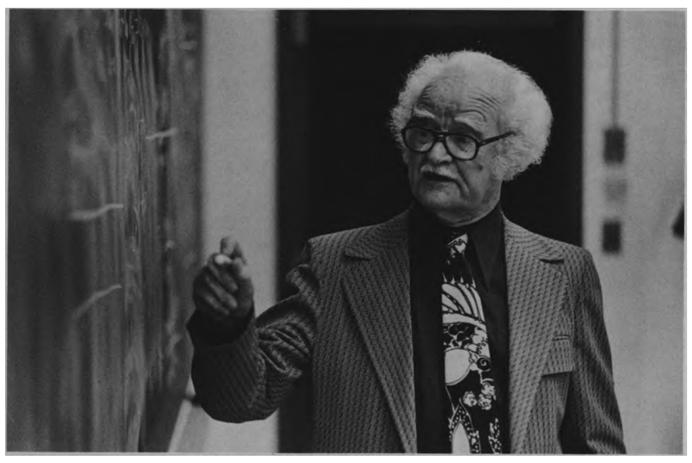
A student's program is designed to prepare the graduate not only in mathematics but also in related fields. In particular, the combination of mathematics and computer science enhances the student's cooperative employment opportunities and is an extremely desirable background for industrial and business employment or for continuation of studies at the graduate level.

Requirements for the A.S. and B.S. degrees in Mathematics

The student must meet the minimum graduation requirements of the Institute as described on page 38 and in addition must complete the requirements contained in the particular program 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. A planned elective concentration in another field such as biology, chemistry, physics, computerscience, business, or photo science is required.

Course descriptions

For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.



Mathematics

Year	First Year	Quarter Credit Hours Fall	Winter	Spring
First Year	SMAM-251, 252, 253 Calculus	4	4	4
	SMAM-210, 211 Freshmen Seminar	1	1	
	ICSS-200 Intro. Computer Science	4		
	ICSP-215 Programming Language-FORTRAN		4	
	SMAM-341 Foundations of Mathematics			4
	••Science	4	4	4
	•General Studies Elective—Lower Division	4	4	4
	{Physical Education Elective	0	0	0
Second Year A.S. Degree	SMAM-305 Calculus	4		
	SMAM-306 Differential Equations		4	
	SMAM-307 Differential Equations			4
	or			
	SMAM-308 Engineering Math			4
	SMAM-351, 352 Probability and Statistics	4	4	
	SMAM-361 Mathematical Modeling			4
	•General Studies Electives—Lower Division	4	4	4
	{Physical Education Elective	0	0	0
Third Year	SMAM-431, 432 Linear Algebra	F or W 4		S or SR 4
	SMAM-411, 412 Real Variables	4		4
		4		4
	•General Studies Electives—Upper Division	5		5
Fourth Year	SMAM-531, 532 Abstract Algebra	4		4
	Mathematics Elective	4		4
	#Elective	4		4
	•General Studies Electives—Upper Division	5		5
Fifth Year B.S. Degree		F or W		S
	Mathematics Elective	4		4
	#Elective (2)	8		8
	•General Studies Electives—Upper Division	5		5

NOTE: A detailed analysis of the above program is contained in a brochure prepared by the Department of Mathematics and available upon request.

•See p. 80 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, 206, 207 Chemical Principles
SPSP-311, 312, 313 University Physics

#The primary objective of these unspecified electives is to fulfill the requirement of a minor concentration in one of the areas mentioned in the preceding page. After that requirement is fulfilled, the electives become entirely free electives.

Physics grads head for industry academia, or government

John S. Shaw, Head

The Physics Department offers programs leading to the A.S. and B.S. degrees in Physics, as well as the A.A.S. and B.S. degrees in Nuclear Medicine Technology.

The B.S. 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 M.S. or Ph.D. programs in Physics or physics-related areas, such as Biophysics, Atmospheric Science, or Industrial Business Administration.

The program leading to the degree of B.S. 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.

Requirements for the A.S. and B.S. degrees in Physics and theA.A.S.and B.S. degrees in Nuclear Medicine Technology

The student must meet the minimum graduation requirements of the Institute as described on page 38 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 catalogue from the Admission Office by returning the information request card at the back of this bulletin.

Physics

Year	First Year	Fall	Winter	Spring
		Quarter Credit Hours		
First Year	SMAM-251, 252, 253 Calculus	4	4	4
	SCHG-205, 206, 207 Chemical Principles	4	4	4
	SPSP-200 Physics Orientation	0	0	0
	SPSP-311, 312 University Physics		5	5
	ICSP-205 Computer Techniques	3		
	•General Studies Electives—Lower Division	4	4	4
	{Physical Education Elective	0	0	0
Second Year A.S. Degree	SMAM-305 Calculus	4		
	SMAM-306, 307 Differential Equations		4	4
	SMAM-308 Engineering Math			4
	SPSP-313 University Physics	5		
	SPSP-314, 315 Introduction to Modern Physics		4	4
	SPSP-321 Elementary Physical Analysis		3	
	•General Studies Electives—Lower Division	4	4	4
	Institute-wide Elective	4	3	
	{Physical Education Elective	0	0	0
Third Year		F or W		S or SR
	SPSP-431, 432 Electronic Measurements	3		3
	SPSP-401, 402 Intermediate Mechanics	4		4
	•SPSP-455 Optical Physics	4		
	•General Studies Elective	5		5
	Institute-wide Elective			4
Fourth Year	SPSP-411, 412 Electricity & Magnetism	4		4
	••SPSP-415 Thermal Physics	4		
	SPSP-421, 422 Experimental Physics	2		2
	SPSP-501 Theoretical Physics			5
	•General Studies Elective	5		5
Fifth Year B.S. Degree		F orW		S
	SPSP-552 Atomic Physics & Quantum Mechanics	4		
	SPSP-521 Advanced Experimental Physics	3		
	SPSP-531 Solid State Physics			4
	SPSP-553 Nuclear Physics			4
	•General Studies Elective	5		5
	Institute-wide Elective	4		4

♦See p. 80 for General Studies requirements.
{See p. 37 for policy on Physical Education.
••SPSP-455 given in alternate years.
SPSP-415 given in alternate years.

Nuclear Medicine Technology

Year	First Year	Fall	Winter	Spring
		Quarter Credit Hours		
	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
	SPSP-211, 212, 213 College Physics	4	4	4
	SCHO-231, 232 Organic Chemistry	4	4	
	SBI0-305, 306 Physiology and Anatomy		4	4
	SMAM 309 Statistics			4
	•General Studies Electives—Lower Division	4	4	4
	Institute-wide Elective	4		
	{Physical Education Elective	0	0	0
	SPSP-351, 352, 353 Radiation Physics	5	5	5
	SCHB-301, 302 Biochemistry	5	5	
	SBIT-430 Radiation Biology			4
	SBIT-432 Biology Laboratory Techniques			4
	•General Studies Electives—Upper Division	5	5	5
		4	4	

•See p. 80 for General Studies requirements.
{See p. 37 for policy on Physical Education.

Institute College, RIT's newest, plans individual student programs

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, Department of Computer Science and Technology, Department of Packaging Science, the Center for Community/Junior College Relations and the Department of Instructional Technology.

In 1968, the Center for Community College Faculty Development was formed, with its primary function the training of faculty for the two-year college career programs. In 1970, a new School of Applied Science evolved from the program of the CCCFD, offering upper-division baccalaureate programs to graduates of civil, electrical, and mechanical engineering technology curricula from the two-year colleges.

In 1972, the name of the Center was changed to Center for Community/Junior College Relations. This Center now incorporates an Office of Faculty Development and an Office of Community Junior College Articulation. Major emphasis is on closer relationships with two-year colleges as they relate to upper-division transfer to RIT.

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 degree granting institutions and supply faculty in those areas of technical and professional education where a demonstrated need exists.

Also in 1972, a 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.

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 developed curriculum is representative of the areas of knowledge that are basic to the packaging science industry.

Computer Science and Technology —an existing program since 1971— became a department of Institute College in June of 1973. This department is also closely related to the two-year colleges and has an active upper-division component besides offering the freshman and sophomore years.

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.

Resources

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.

Institute College utilizes some of the finest facilities and equipment available. The new packaging science laboratories, the computing science facilities and equipment, and the new instructional technology laboratory have all seen additional equipment installed within the current year. 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 6 Computer (and others) gives the student a maximum opportunity to utilize computers in his/her curriculum.

Memberships

Institute College holds institutional membership in the American Association of Community and Junior Colleges, the New York State Association of Junior Colleges, and the Association of Upper Level Colleges and Universities.

Acceptance of the associate degree

The School of Applied Science functions as an upper-division unit only. Holders of an appropriate associate 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.

The departments of Computer Science and Technology and Packaging Science admit students into the upper-division years and accept the associate degree at full value. They also conduct a four-year curriculum into which high school graduates are admitted.

Faculty

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

Program planning

Each student in the Institute College is considered individually when his 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, the student can be assured of building upon previous courses and knowledge of his field, assuring that his associate degree retains the integrity it deserves, and guaranteeing, as far as possible that previously studied material will not be repeated.

Course descriptions

For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

Admission: at a glance
Institute College programs

This College includes the Department of Instructional Technology, the School of Applied Science, the Department 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.

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.

Systems Software Science: To prepare systems programmers or systems software specialists. Any relevant curriculum at RIT may be chosen as minor study.

Applied Software Science: Designed to prepare students to enter employment as applied software specialists, applications programmers, or research programmers.

Computer Science: General computer science, prepares graduates to enter employment as research programmers or enter graduate schools for specialized training. Degrees granted: B.Tech., B.S.

Packaging Science—The three options of management, design and 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: B.S.

Civil Engineering Technology—This program is oriented toward environmental controls with early emphasis on hydraulics, chemistry, microbiology and mathematics. Following technical courses are of a practical nature and are design-oriented. Degree granted: B. Tech.

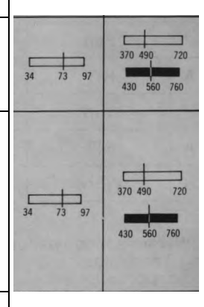
Electrical Engineering Technology—Early emphasis in this program ison further mastery in circuit theory and materials for design and mathematics. Later courses are elective options in electrical power, communications, and digital computer design. Degree granted: B. Tech.

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.

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: B.S.

Freshman Admission Requirements

Transfer Admission with Junior standing

Program	Required High School Subjects*	Desirable Elective Subjects	H.S. rank (percentile)†	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; 1 year any science	Additional mathematics and science		Mathematics and science.	2.0
Packaging Science	Design Management: Elem. Algebra; Inter. Algebra 1 year any science Technical: 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

'All options include electives in social science, literature and humanities.

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

{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.

School of Applied Science programs designed to build on a student's previous knowledge

James D. Forman, Director

The School of Applied Science offers only upper-division (Junior and Senior) level work in Civil Engineering Technology, Electrical Engineering Technology, and Mechanical Engineering Technology. All lead to the Bachelor of Technology (B. Tech.) degree.

These programs are designed to accept only graduates of associate degree programs in similar technical fields and to provide a direct continuation of study in the student's area of specialization. Although each discipline area consists of a carefully integrated program of professional training, liberal education, and on-the-job, real world experience, each student is considered individually when his program is planned. In this way the student builds upon his previous knowledge and experience in his career field in a manner to best meet his needs.

The graduate—an engineering technologist—is a distinct type of professional whose main concern and interest is with existing technology in the fabrication, operation, maintenance, and management of products and processes. As such, he qualifies for positions where he is called upon to fulfill his role within the broad engineering requirements of business, industry, and government.

Cooperative work plan
All programs in the School of Applied Science are pursued on the cooperative education plan. This involves alternate periods of academic study and related industrial employment.

Students are assisted in finding work with an employer where this experience is related to their career goals, and, when feasible, in a geographic location of the student's choosing.

Advantages of this plan are:

1. An enriched learning experience giving more meaning to academic studies.
2. Enhanced possibility of being accepted for a higher level position than is typically offered college graduates entering their first employment.
3. Provision for a substantial income to defray the cost of completing the bachelor's degree.

Electrical and Mechanical Engineering Technology students are placed in A or B sections, with work and academic assignments alternating on a quarter basis as shown in the table below:

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	—

The slightly different schedules for Civil Engineering Technology students provide opportunity for summer employment for each group.

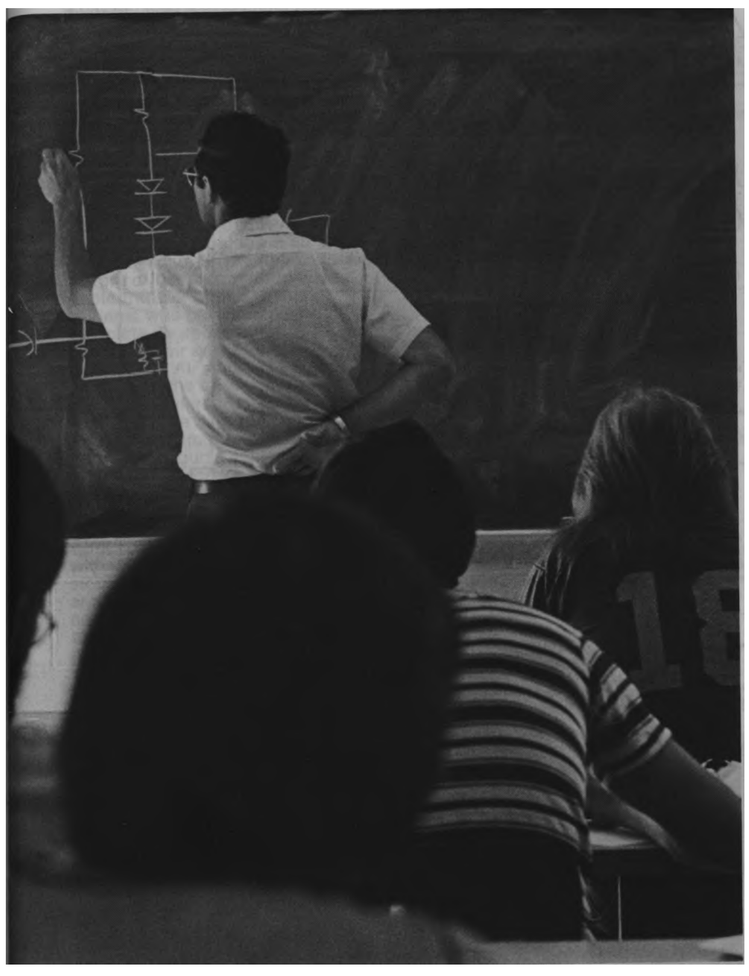
Year		Fall	Winter	Spring	Summer
3	I	RIT	Work	RIT	Work
	II	Work	RIT	Work	RIT
4	I	Work	RIT	Work	RIT
	II	RIT	Work	RIT	Work
5	I	RIT	Work	RIT	—
	II	Work	RIT	RIT	—

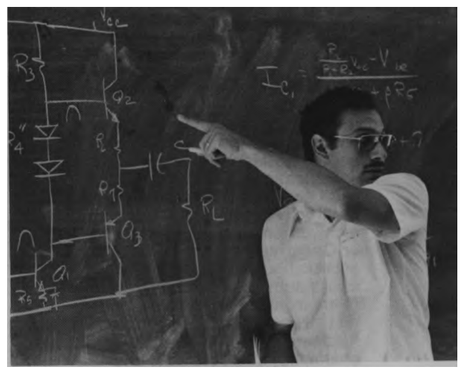
Admission requirements
Admission to the bachelor of technology degree programs in the School of Applied Science is open to persons holding an associate degree in Civil or Construction Technology, Electrical Technology, Mechanical Technology, a comparable associate degree program, or an acceptable equivalent.

Program requirements
School of Applied Science students are required to complete 23 quarter credit hours of general studies with passing grades. 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 p. 37).

Graduation requirements
The minimum requirements for the B.Tech degree in Engineering Technology are:

1. Successful completion of the prescribed program.
2. A minimum cumulative quality point average of 2.0.





Civil Engineering Technology, upper-division baccalaureate program

The Civil Engineering profession requires the services of many individuals with a wide range of backgrounds and interests—technicians, technologists and engineers.

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

All students enter this program at the third year level, having already received an associate degree in Civil or Construction Technology, or an acceptable equivalent. The curriculum, oriented toward the area of environmental controls, has its first two quarters concentrated on the fundamentals of hydraulics, chemistry, microbiology, and mathematics. Succeeding technical courses are of a practical nature and are design oriented.

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 draftsmen. 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.

Successful completion of this curriculum will provide the student with an excellent background in the techniques of pollution abatement. Graduates could expect to find employment with consulting engineers, in supervisory positions of pollution control facilities, or in the engineering departments of various federal, state or local government agencies.

Technical electives

When students enter their last two academic quarters, they will probably have developed certain special interests within their field. Therefore, they are permitted to select their technical electives from existing courses offered by the:

a. School of Applied Science
b. College of Engineering
c. College of Science

Civil Engineering Technology, B. Tech Degree

Year	First and second year	Quarter Credit Hours Fall	Winter	Spring
	COMPLETION OF AN APPROPRIATE ASSOCIATE DEGREE AT A TWO YEAR COLLEGE	F or W		S or SR
Third Year	•(SMAT-420 Introduction to Solutions of Engineering Problems)	(4)		
	SMAT-421 Solution of Engineering Problems 1	4		
	ITEC-428 Report Writing	2		
	SCHG-271 Chemistry of Water 1	3		
	General Studies Elective (Lower Division)	4		
	{Physical Education Elective	0		
	-(SMAT-421 Solution of Engineering Problems 1)			(4)
	SMAT-422 Solution of Engineering Problems II			4
	ITEC-430 Water Supply and Distribution			3
	SCHG-272 Chemistry of Water II			3
	SBIG-440 Environmental Microbiology			4
	General Studies Elective (Lower Division)			4
	{Physical Education Elective			0
Fourth Year	•(SMAT-422 Solution of Engineering Problems II)	(4)		
	ITEC-434 Environmental Pollution	3		
	ITEC-436 Design of Sanitary and Stormwater Drainage Systems	3		
	ITEC-438 Principles of Treatment of Water and Sewage	5		
	ITEC-440 Mechanical Equipment	3		
	•ITEE-414 Basic Electrical Principles	4		
	{Physcial Education Elective	0		
	ITEC-510 Design of Water Treatment Facilities			3
	ITEC-514 Land Planning			2
	ITEC-516 Structural Analysis and Design			4
	ICSP-205 Computer Techniques			3
	General Studies Elective (Upper Division)			5
Fifth Year	ITEC-513 Computer Techniques in Civil Technology Lab	1		
	ITEC-527 Soil Mechanics	4		
	ITEC-541 Engineering Economics	3		
	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.

Electrical Engineering Technology, upper-division baccalaureate program

The Bachelor of Technology degree in Electrical Engineering Technology is a relatively new professional program designed to meet the growing needs for technologists in a technology-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 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 degree Electrical Technology programs. The first two quarters of course work are designed to provide uniform mastery in the fields of mathematics, circuit theory and materials for design. 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 chosen option and to provide course work that complements his professional objectives. The Institute provides a wide variety of course offerings and the student is urged to make full use of these offerings in developing his professional program.

The curriculum also includes one year of cooperative work experience and thus provides important training in the solution of real technical problems.

Like all programs at Rochester Institute of Technology, a thorough grounding in the humanities is required, and students in the Bachelor of Technology program have 23 elective quarter courses in the areas of Science and Humanities, Social Science and Literature.

A student who completes his first two years at a community college and then enters the Bachelor of Technology program at Rochester Institute of Technology finds that the total cost of his education is significantly less than at a four-year private institution. In addition, his cooperative employment not only prepares him for direct employment in industry but also provides income to defray the major portion of his educational expenses.

Electrical Engineering Technology, B. Tech degree

Year	First and second year	Quarter Credit Hours Fall	Winter	Spring
	COMPLETION OF AN APPROPRIATE ASSOCIATE tIFCRFF AT A TWO YFAR MI I FGF	F or W		S or SR
Third Year	ITEE-401 Circuit Theory I	5		
	ITEM-411 Engineering Materials 1	4		
	•(SMAT-420 Introduction to Solutions of Engineering Problems)	9		
	SMAT-421 Solution to Engineering Problems 1	4		
	General Studies Elective (Lower Division)	0		
	{Physical Education Elective			
	ITEE-402 Circuit Theory II			4
	ITEM-412 Engineering Materials II			4
	•(SMTM-421 Solution of Engineering Problems 1)			(4)
	SMTM-422 Solution of Engineering Problems II			4
	ICSP-302 Computer Applications in Engineering Problems 1			1
	General Studies Elective (Lower Division)			4
	{Physical Education Elective			0
Fourth Year	•(SMAT-422 Solutions to Engineering Problems II)	(4)		
		4		
		4		
		4		
	General Studies Elective (Upper Division)	5		
	{Physical Education Elective	0		
	ITEE-520 Electrostatic and Magnetic Fields			4
	ITEE-532 Power Amplifier Design			4
	ITEE-540 Pulse Circuits			4
	General Studies Elective (Upper Division)			5
Fifth Year	Technical Specialization Option (Communications 1, Power Systems 1, Digital Design 1)	4		
	Free Elective	3-5		
	ITEM-436 Engineering Economics			4
	Technical Elective			
	General Studies Elective (Upper Division)			5

•Entering students will take SMAT-420 or SMAT-421 dependingon 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.

{See p. 37 for policy on Physical Education.

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 IC's
ITEE-546 Industrial Electronics
ITEE-550 Power Systems I
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

Mechanical Engineering Technology, upper-division baccalaureate program

The baccalaureate program in Mechanical Engineering Technology is an upper-division program, in which students who have completed an associate degree curriculum, or its equivalent, can further upgrade their technological skills.

At RIT, students spend their first two quarters improving on their prior education in the fundamentals of mathematics, mechanics, and electricity. During their fourth quarter, in consultation with their advisors, they elect an area of specialization, either Manufacturing or Design. In the former, he takes courses relating to the manufacturing function—including technology and management. The Design major pursues courses in Mechanical Design, Controls, Vibration, and Thermal Technology.

All students will take an appropriate sequence of technical electives, either within their own specialty or as a means of broadening their skills in parallel technologies. Those with special interests may take courses in such areas as Graphic Arts or Packaging Technology for instance.

Graduates of this program are already occupying important positions in product design, testing, field engineering, marketing, manufacturing engineering and production.

Technical electives
(each carries 4 quarter credit hours)

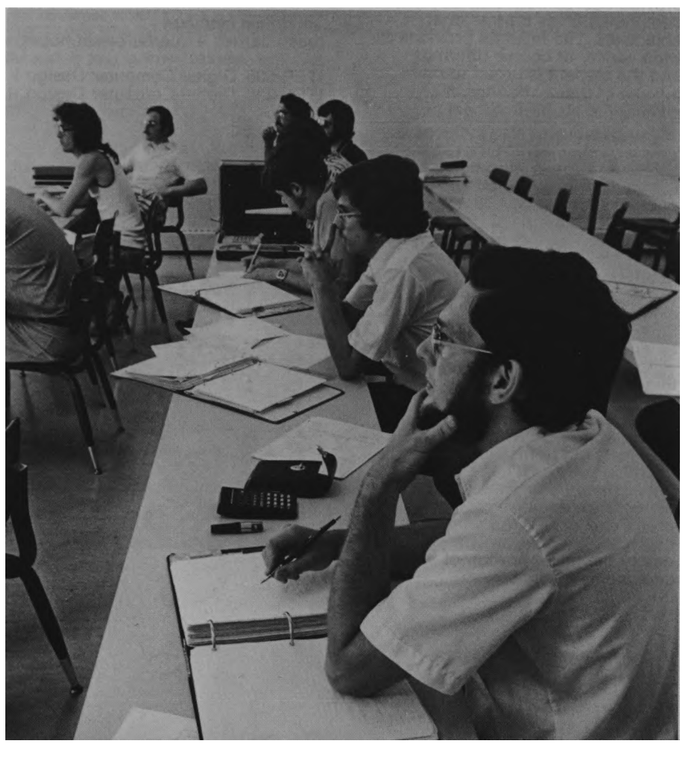
406 Dynamics of Machinery
425 Statistical Quality Control
431 Production Management
451 Vibration and Noise
470 Numerical Control Applications
472 Tool Engineering
480 Methods Analysis
490 Production Planning
491 Material Control
507 Design Practice
508 Special Topics in Machine Design
514 Special Topics in Material Forming
535 Analog Control Systems
540 Thermal Technology
599 Independent Study

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

Mechanical Engineering Technology, B.Tech Degree

Year		Quarter Credit Hours Fall	Winter	Spring
First Year				
First and second Year	COMPLETION OF AN APPROPRIATE ASSOCIATE DEGREE AT A TWO YEAR COLLEGE	F or w		S or SR
Third Year	•SMAT-420 Introduction to Solution of Engineering Problems	(4)		
	SMAT-421 Solution of Engineering Problems 1	4		
	ITEM-414 Materials Technology 1	4		
	ITEC-428 Report Writing	2		
	ITEM-404 Applied Mechanics of Materials	4		
	General Studies Elective—Lower Division	4		
	Physical Education Elective	0		
	•SMAT-422 Solution of Engineering Problems II			4
	ITEM-415 Materials of Technology II			3
	ICSP-205 Computer Techniques			3
	ITEM-405 Applied Dynamics			4
	General Studies Elective—Lower Division			4
	**Physical Education Elective			0
Fourth Year	ITEM-441 Thermodynamics and Heat Transfer	4		
	ITEE-411 Electrical Principles for Design 1	4		
	ITEM-506 Machine Design	4		
	General Studies Elective—Upper Division	5		
	**Physical Education Elective	0		
	ITEM-437 Cost and Value Analysis			4
	ITEE-412 Electrical Principles for Design II			4
	ITEM-460 Applied Fluid Mechanics			4
	General Studies Elective—Upper Division			5
Fifth Year	ITEM-521 Logic Control Systems	4		
	Technical Elective	4		
	Technical Elective	4		
	General Studies Elective—Upper Division	5		
	Technical Elective			4
	Technical Elective			4
	Technical Elective			4
	Free Elective			4

•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, delete a technical elective in the fourth year.
**See p. 37 for policy on Physical Education.



Instructional Technology program helps students "effectively and efficiently" communicate

O. Dennis Barnes, Chairman

Bachelor of Science in Audiovisual Communications

The Audiovisual Communications program at RIT is one of only a few programs in the nation offering a baccalaureate degree in the 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 B.S. 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.

Admission requirements

The two-year B.S. degree program accepts as transfer students g raduates of two-year colleges with an associates 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 B.S. 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 Communications, B.S. Degree

Quarter Credit Hours

Liberal Arts, required courses	Quarter hours
General Studies—Upper Division	25
Conference Techniques—GLLC-402	4
Contemporary Science—SSEG-201, 202, 203	12
Elective	4
	Total 45
Free Electives	5
Audiovisual Communications, required courses	
Audiovisual Program Design I—ICAV-440	4
Audiovisual Program Design II—ICAV-450	4
Management of Audiovisual Programs—ICAV-550	4
Audiovisual Management Elective	4
Audiovisual Production Electives	8
Message Design—ICAV-401	4
Writing for Audiovisual Programs—ICAV-510	4
Audiovisual Seminar—ICAV-405	2
Senior Project—ICAV-595, 596	4
	38
Audiovisual electives	8
'Physical Education electives	0
Total credits for B.S. (plus Associate Degree)	96

•RIT requires two years (6 quarters) of Physical Education, if not previously taken in college. Students should plan to take as many PE courses as necessary to meet this requirement.

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 catalogue from the Admission Office by returning the information request card at the back of this bulletin.

Meeting computer manpower needs is goal of Computer Science and Technology

Richard T. Cheng, Chairman

The Computer Science degree programs at RIT are designed to meet the manpower demand of industries, government and educational institutions. In addition to theoretical fundamentals, practical aspects of computer science are emphasized. Hands-on opportunity is provided and encouraged. Graduates of this department will be fully prepared to enter employment as staff members in computer installations and applications departments or to enroll in graduate schools to pursue advance studies.

Programs
The Department of Computer Science and Technology offers a Bachelor of Science (B.S.) degree in Computer Science and Technology* with options in Applied Software Science or Computer Science and a Bachelor of Technology (B.T.) degree in Computer Science and Technology with options in Computer Systems or System Software Science.

Admission requirements

Freshmen
High school graduates withfouryears of English, Elementary and Intermediate Algebra, and one year of Science. In addition, Plane Geometry and Trigonometry are required for students taking the Applied Software Science and Computer Science options.

Transfer students
Graduates from two-year programs in computer technology or data processing from an accredited program will receive full credit for their two-year degree and enter RIT as Juniors. The exact program they take at RIT will be planned according to the courses they have taken, grades received and recommendations of their faculty at the previous college attended.

*A Computer Engineering (B.S.) degree program is jointly given by Institute College and the College of Engineering—see page 65.

Minors
A Bachelor of Technology degree candidate in Computer Science and Technology will elect a minor in any relevant degree program at RIT such as Engineering, Mathematics, Physical Science or Business.

Computer Science and Technology, Bachelor of Technology degree Computer Systems option

This program is designed to provide students with a broad background in computing. A student may choose an area of concentration in business, mathematics, engineering, or other relevant curriculum at RIT as a minor. Generally, this program is oriented to prepare Management System Analysts, Information System Designers, and Business Applications programmers.

Year	First Year	Quarter Credit Hours Fall	Winter	Spring
First Year	ICSS-202 Intro, to Computer Science	4		
	ICSP-209 Intro, to Data Systems		4	
	ICSP-215 Programming Language-FORTRAN		4	
	ICSS-230 Discrete Structure			4
	ICSP-301 COBOL Programming			4
	SMAM-204 Modern Algebra	4		
	SMAM-214 Introductory Calculus		4	
	SMAM-309 Statistics			4
	General Studies Elective—Lower Division	8	4	4
	Physical Education Elective	0	0	0
Second Year	ICSP-305 Assembly Language Programming	4		
	ICSS-310 Information Systems Design			4
	ICSS-320 Data Structure Analysis		4	
	ICSS-321 Sorting and Searching Techniques			4
	Computer Science Elective	4	4	
	Minor Elective	4	4	4
	General Studies Elective—Lower Division	4	4	4
	Physical Education Elective	0	0	0
Third Year		F or W		S or Sr
	ICSS-311 Information Systems Analysis	4		
	ICSS-525 Assemblers, Interpreters, & Compilers			4
	Computer Science Elective	4		4
	Minor Elective	4		4
	General Studies Elective—Upper Division	5		5
Fourth Year	ICSS-420 Data Communication Systems	4		
	Computer Science Elective	4		8
	Minor Elective	4		4
	General Studies Elective—Upper Division	5		5
Fifth Year	ICSS-450 Computing Management	4		
	ICSS-550 Review of Computer Science			4
	Computer Science Elective	4		4
	Minor Elective	8		8

Cooperative program
Under RIT's co-op program, students alternate their classroom study with actual field-work experience in computer science areas. Aside from making their education more relevant, the co-op opportunity allows the student to help finance his education, and traditionally qualifies graduates for higher starting positions and salaries due to their experience.

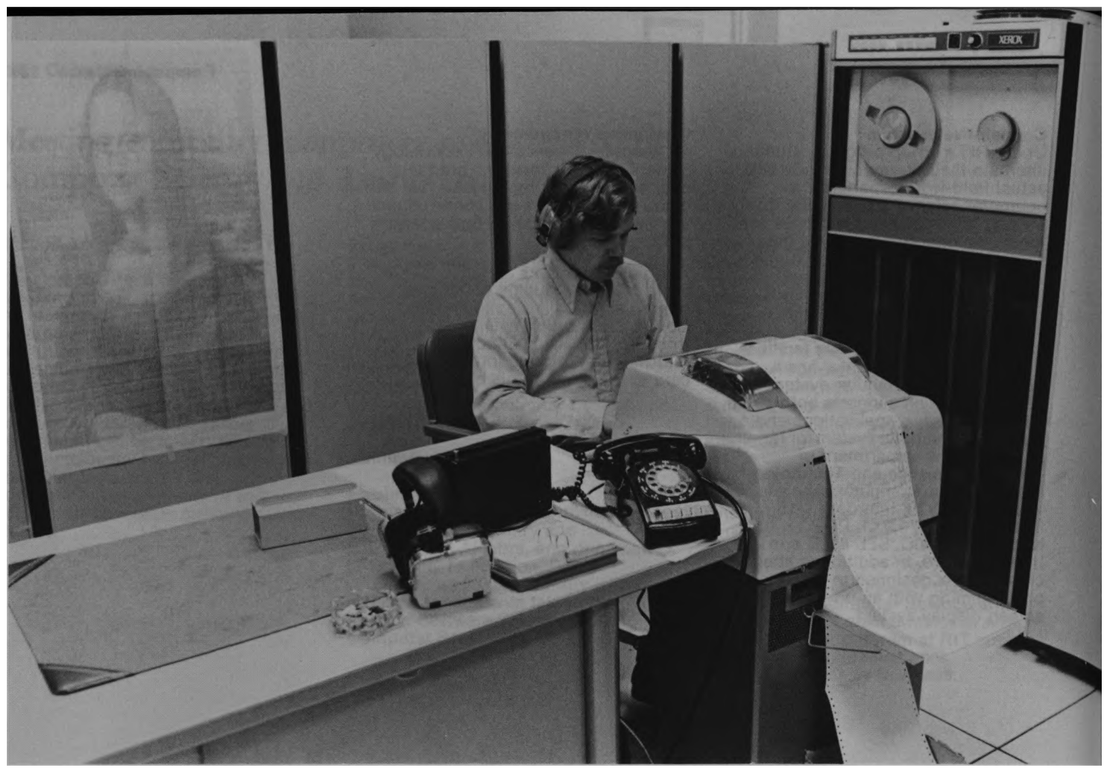
Laboratories and computer facilities
The RIT Computer Center has a Xerox Sigma-6 computer system with 512K core which supports both batch and time-sharing applications and a Xerox 530 computer system for remote job entry. The Department of Computer Science and Technology has five Digital Computer Laboratories with IBM 360/30, Interdata 7/16, IBM 1500, CDP 35/X1, PDP 11/10, Microdata 1600D, SEL 810B and Intel Model 80. In addition, a special classroom is designed to teach programming with an on-line large screen display system.

Graduation requirements
A Computer Science and Technology student will be allowed to graduate after successful completion of 194-198 quarter credit hours of planned course work and a minimum of four quarters of Co-op blocks.

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

Year	First Year	Quarter Credit Hours: Fall	Winter	Spring
First Year	ICSS-202 Introduction to Computer Science	4		
	ICSP-215 Programming Language—FORTRAN		4	
	ICSP-305 Assembly Language Programming			4
	ICSS-230 Discrete Structure		4	
	General Studies Electives (Lower Division)	8	4	8
	Physical Education Elective	0	0	0
Second Year	ICSP-306 Advanced Assembly Language	4		
	ICSS-315 Digital Computer Organization	4		
	ICSS-320 Data Structure Analysis		4	
	ICSS-321 Sorting and Searching Techniques			4
	Computer Science Elective		4	4
		4	4	4
	General Studies Electives (Lower Division)	4	4	4
	Physical Education Elective		0	0
Third Year		F or W		S or SR
	ICSS-440 Operating Systems	4		
	ICSS-525 Assemblers, Interpreters, & Compilers			4
	Computer Science Elective	4		4
		4		4
	General Studies Electives (Upper Division)			5
Fourth Year	ICSS-575 Minicomputer Systems and Applications	4		
	ICSS-580 Systems Programming	4		
	ICSS-585 Systems Programming Laboratory			4
	Computer Science Elective	4		4
		4		4
	General Studies Electives (Upper Division)			5
Fifth Year	ICSS-545 Microprogramming	4		
	ICSS-550 Review of Computer Science			4
	Computer Science Elective	4		4
	Minor Elective	8		8

Computer Science and Technology, Bachelor of Technology degree
System Software Science option
This program is designed to provide students with a background in computer system software in addition to the broad background in computing. Graduates are prepared to enter employment as Systems Programmers or System Software Specialists. Any relevant curriculum at RIT may be chosen as minor study.



Computer Science and Technology, Bachelor of Science degree
Applied Software Science option
This program is designed to provide students with a background in applied areas of computer software. Graduates are prepared to enter employment as Applied Software Specialists, Applications Programmers, or as Research Programmers.

Year	First Year	Fall	Winter	Spring
		Quarter Credit Hours		
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
	Physics Electives		4	4
	General Studies Electives (Lower Division)	8		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	8
	Science Elective	4		4
	General Studies Electives (Lower Division)	4	4	4
	Physical Education Elective	0	0	0
Third Year		F or W		S or SR
	ICSS-430 Numerical Methods			4
	ICSS-440 Operating Systems	4		
	Computer Science Elective	4		4
	Math or Science Elective	4		4
	General Studies Electives (Upper Division)	5		5
Fourth Year	ICSS-575 Minicomputer Systems & Applications	4		
	Computer Science Elective	8		8
	Math or Science Elective			4
	General Studies Electives (Upper Division)	5		5
Fifth Year	ICSS-545 Microprogramming	4		
	ICSS-550 Review of Computer Science	2-4		4
	Computer Science Elective			2-4
	Free Elective	4		4
	General Studies Elective (Upper Division)	5		5

Computer Science and Technology,
Bachelor of Science degree
Computer Science option

This program is designed to provide students with a general and broad background in computing theories and applications. Graduates are prepared to enter employment as Research Programmers or enter graduate studies in a specialized area.

Year	First 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
	Physics Electives		4	4
	General Studies Electives (Lower Division)	8		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	8
	Science Elective	4		4
	General Studies Electives (Lower Division)	4	4	4
	Physical Education Elective	0	0	0
		F orW		S or SR
Third Year	ICSS-340 Finite State Machine and Automata	4		
	ICSS-400 Logical Design			4
	SMAM-511 Numerical Analysis 1 or Math Elective	4		
	ICSS-440 Operating Systems	4		
	Computer Science Elective			8
	General Studies Electives (Upper Division)	5		5
Fourth Year	ICSS-480 Formal Languages	4		
	ICSS-525 Assemblers, Interpreters & Compilers			4
	ICSS-575 Minicomputer Systems & Applications	4		
	SMAM-512 Numerical Analysis II or Math Elective			4
	Computer Science Elective	4		4
	General Studies Electives (Upper Division)	5		5
Fifth Year	ICSS-545 Microprogramming	4		
	ICSS-550 Review of Computer Science			4
	Computer Science Elective	2-4		2-4
	Free Elective	4		4
	General Studies Elective (Upper Division)	5		5

[illegible]

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, 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 presently found in the departmental 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 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 B.S. 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 program a career opportunity with developing potential. Associate degree holders (A.A., A.S., A.A.S.) 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 curriculum in two additional years at RIT.

NOTE: Since the Packaging 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.

Packaging Science (B.S. Degree)

Packaging (Management option)

Courses Required	Quarter Credits	Hour Credits
*General Studies Electives		54
Mathematics—Science		
Algebra, Trigonometry	6	
Chemistry	12	
Engineering Materials	4	
Computer Techniques	8	
Statistical Quality Control	4	34
Art and Design		6
Printing		
Printing Processes	3	
Layout and Printing Design	3	
Copy Preparation	4	
Reproduction Photography	3	
Technical Writing	3	16
Management and Marketing		
Economics	8	
Accounting	8	
Management Principles	4	
Human Relations	4	
Marketing Principles	4	
Two courses from the following:		
Purchasing		
Management Problems		
Marketing Research		
Advertising		
Sales Management		
Marketing Logistics	8	36
Packaging		
Introduction	2	
Principles	3	
Materials and Processes	4	
Equipment and Systems	4	
Environment and Testing	4	
Development—Marketing Relations	4	
Senior Thesis	4	25
Free Electives		16
‡Physical Education Electives	0	
Total Credits for degree		187

Packaging (Design option)

Courses Required	Quarter Hour Credits	
*General Studies Electives		44
Mathematics—Science		
Algebra	3	
Contemporary Science	12	
Engineering Materials	4	
Computer Science	8	27
Art and Design		
Design I	15	
Drawing	12	
Industrial Design Applications	9	
Introduction to Communications Design	9	
Communications Design	18	63
Printing		
Printing Processes	3	
Reproduction Photography	3	
Technical Writing	3	9
Marketing		
Marketing Principles		4
Packaging		
Introduction	2	
Principles	3	
Materials and Processes	4	
Equipment and Systems	4	
Environment and Testing	4	
Development—Marketing Relations	4	
Senior Thesis	4	25
Free Electives		15
‡Physical Education Electives	0	
Total Credits for B.S. degree		187

Packaging (Technical option)

Courses Required	Quarter Hour Credits	
*General Studies Electives		54
Mathematics—Science		
Algebra	4	
Calculus	6	
General Chemistry	8	
Organic Chemistry	12	
Physics	12	
Engineering Materials	4	
Applied Vibrations	4	
Statistical Quality Control	4	
Computer Science	8	62
Printing		
Printing Processes	3	
Layout and Printing Design	3	
Copy Preparation	4	
Technical Writing	3	13
Design		
Fundamentals of Design		6
Marketing		
Marketing Principles		4
Management		
Management Principles		4
Packaging		
Introduction	2	
Principles	3	
Materials and Processes	4	
Equipment and Systems	4	
Environment and Testing	4	
Development—Marketing Relations	4	
Senior Thesis	4	25
Free Electives		19
‡Physical Education Electives	0	
Total Credits for B.S. degree		187

*See p. for General Studies requirements

‡See p. for policy on Physical Education

Packaging: room for talented people in an expanding field

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 $30 billion industry that depends on a variety of trained professionals. Individuals who work in packaging are people who were interested in art, science, business, or mathematics when they were in high school.

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 dream up the "pow" colors, supergraphics, and unusual package features of many contemporary packages. They are also the people who have developed features like child-proof medicine caps and convenience 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. The trips to the moon would never have been possible without this kind of 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 business 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.

ROTC trains junior officers to

"evaluate situations, make decisions"

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 the 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.

Course descriptions
For a complete outline of courses offered at RIT, please request the Course Description catalogue from the Admission Office by returning the information request card at the back of this bulletin.

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.

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, lab fees, textbooks, and other required expenses, except room and board. In addition, all students entering the Advance 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.

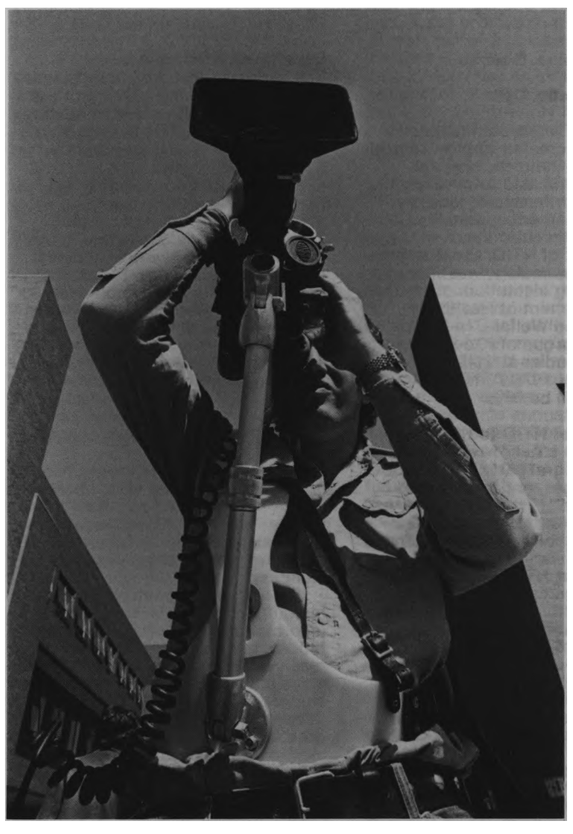
Four-year program
The Army ROTC program at Rochester Institute of Technology is voluntary and is open to all male and female students enrolled on a full-time basis.

Students are eligible to enroll in this program anytime during their Freshman or Sophomore years. They may also disenroll at anytime 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.

Instructional Development works to improve the quality of education at RIT

Richard D. Zakia, Director

Instructional Development is committed to searching out and implementing ways of further improving the quality of education at RIT. Working with faculty and administration, Instructional Development seeks to facilitate learning through the cooperative planning, implementation and evaluation of human and non-human learning resources. Support is provided for all approved, internally and externally funded projects designed to improve undergraduate instruction. The Instructional Development staff is located in the Wallace Memorial Library in order to facilitate the use of the resources offered by the Library, Audiovisual Services and the Media Production Center.



Media Production Center

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 the 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 for 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.

The National Technical Institute for the Deaf provides training for meaningful employment

D. Robert Frisina, Director

William E. Castle, Dean

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 1975-76 total enrollment will be 650.

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 the Technical Education programs that lead to certificates, diplomas and associate degrees. Many deaf students take RIT courses or are cross-registered full-time or part-time into the associate and baccalaureate 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, the NTID student discusses the possibility with his counselor, academic advisor, and with the NTID educational specialist in the college of his 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 skills and social awareness 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 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 value to students. The new complex enables NTID to make the classroom and housing area a living-learning experience.

The 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.

Certificate, diploma, associate degree, and baccalaureate degree programs are offered to NTID students.

Summer Vestibule programs

The Summer Vestibule programs are 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 will have the opportunity to explore and evaluate, through program sampling, the various programs of study available through NTID. Concurrently, the faculty will have the opportunity to evaluate the students' abilities and interests and to offer counsel and planning for the Fall Quarter.

The counseling staff helps students 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 or expert 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 Dr. 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:

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 Machine Tool Operation
3. A Diploma in Numerical Control Programming
4. A Diploma in Electronics
5. A Diploma in Industrial Drafting
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 Business or Institute College.

Technical Science careers:

1. A Certificate for Histologic Technicians
2. A Certificate for Physician's Office Technicians
3. A Diploma for Hematology Technicians
4. A Diploma for Microbiology Technicians
5. A Diploma for Clincal Chemistry Technicians
6. A Diploma for Medical Record Technicians
7. An Associate in Applied Science for Medical Record Technicians
8. An Associate in Applied Science for Medical Laboratory Technicians
9. Other science careers are offered through cross-registration into the College of Science.

Visual Communications careers:

1. A Certificate in Applied Photography
2. A Diploma in Applied Photography
3. A Diploma in Printing Technology
4. A Diploma in Applied Art
5. An Associate in Applied Science in Applied Photography
6. An Associate in Applied Science in Applied Art

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 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 your 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 you to become a successful professional in your chosen career by making you a more rounded individual.

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 Drama 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 Committee. 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 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 student. 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 by sending in the information request card in the back of this bulletin.

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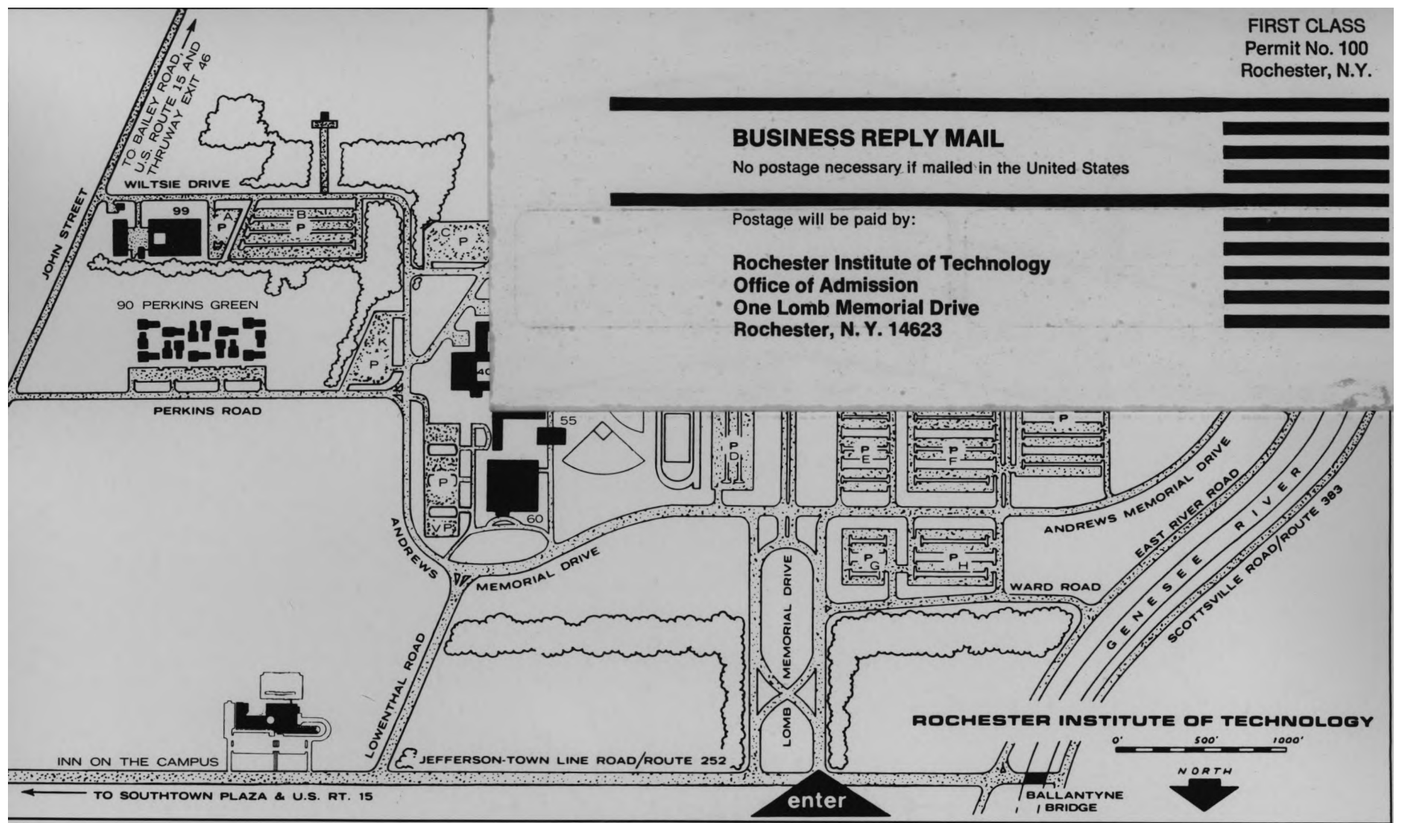

KEY TO BUILDINGS

1. GEORGE EASTMAN MEMORIAL BUILDING:
   1A. Administration Tower (Information Desk)
   1B. College of Business
   1C. College of Continuing Education
2. FRANK RITTER MEMORIAL ARENA: Ice Rink
3A. GEORGE H. CLARK MEMORIAL GYMNASIUM
3B. EDITH WOODWARD MEMORIAL POOL
4. COLLEGE-ALUMNI UNION and INGLE MEMORIAL AUDITORIUM
5. WALLACE MEMORIAL LIBRARY
6. COLLEGE OF GENERAL STUDIES
7A. JAMES E. BOOTH MEMORIAL building: College of Fine and Applied Arts, Bevier Gallery
7B. FRANK E. GANNETT MEMORIAL building: College of Graphic Arts and Photography
8. CHESTER F. CARLSON MEMORIAL building: College of Science
9. JAMES E. GLEASON MEMORIAL building: College of Engineering and School of Applied Science
10. THE ANNEX
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20. RIVERKNOLL Apartments and Town Houses
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99. CENTRAL SERVICES BUILDINGS
(P) Parking, long term
(VP) Visitor Parking, short term

Rochester Institute of Technology

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