

**SUNY**  
**UTICA/ROME**



# **Graduate College Catalog**

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*The information contained in this catalog is correct at the time of printing. Changes in policies, requirements, and regulations may occur during the year.*

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# General Information

## The College

The State University of New York Institute of Technology at Utica/Rome is a special and, in fact, unique member of the SUNY family. The college has been serving students in its role as the state's only upper-level institution since 1966, when the State University established it as the Upper Division College to meet the needs of transfer and graduate students. In that capacity, the Institute of Technology has been able to offer two-year college graduates and master degree students a support system geared exclusively for their needs and interests.

Over the past three decades, students have been the beneficiaries of the expertise of admissions and financial aid professionals who deal daily with the issues of credit transfer and funding possibilities that face students graduating with an associate's degree or transferring from a four-year college. And the record shows the Institute of Technology has become a "crossroads college" for students making critical choices concerning their futures, and the logical next step for those from community and junior colleges, colleges of technology, and other institutions.

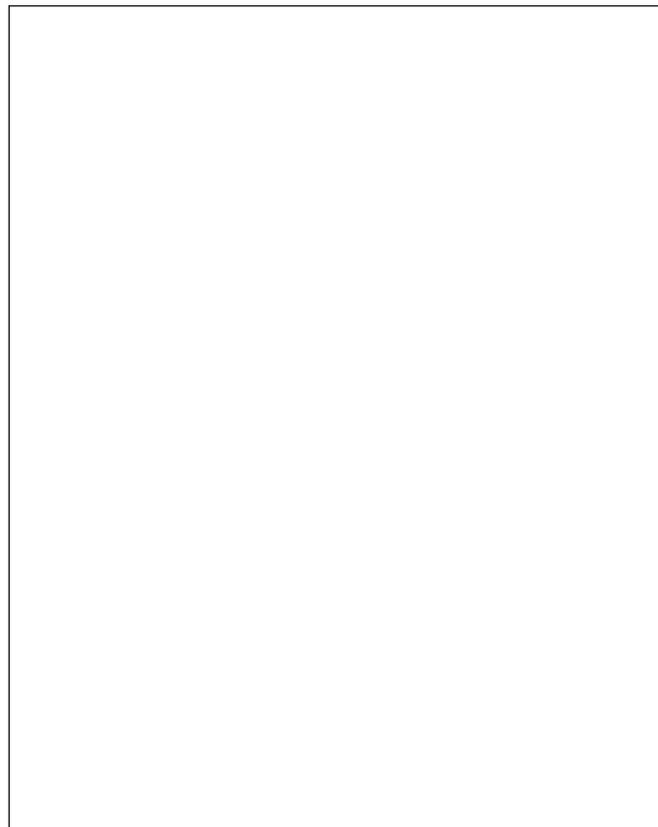
In addition to the rich human resources the college provides, the Institute of Technology offers students the many assets of the State University system's newest campus. The campus is both spacious and intimate, modern and established. For example, although established in 1966, the \$60 million dollar campus complex was completed in 1988.

Located on a beautifully-landscaped and scenic 800 acres, the campus includes two primary classroom buildings, residence hall complexes and a Campus Center. Classroom buildings are equipped with the most modern laboratories, where many of the college's professional, technical and liberal arts students develop through practice-oriented learning, taking advantage of state-of-the-art equipment.

The learning experience is enhanced through the Institute of Technology's educational partnerships with many businesses and professional organizations in Central New York, including those dealing with technology transfer, human services, health care, finance and other fields related directly to areas of study.

The Campus Center houses student services offices, a gymnasium, racquetball courts, exercise rooms, a swimming pool and saunas, a 400-seat dining hall, and meeting and recreation rooms.

Students at the Institute of Technology live in the State University system's most modern residence halls that include all of the conveniences of apartment living. These complexes have been rated by SUNY students as the best on-campus residence halls in the state. In addition, each student room is furnished with a link to the college's mainframe computer that also allows access to Internet. These townhouse apartments provide a setting that is safe and comfortable on a campus that is secluded from the hustle and noise of the city, but is just minutes away from Utica's downtown.



Consistently students mention small class size and individual attention they receive from the college's exceptional faculty as the primary factors in their successes at the Institute of Technology. And although the college has matured from the 58-student enrollment during its beginnings to some 2,500 full-and part-time students now working on bachelor's and master's degrees, it maintains a family atmosphere for those making crucial final steps toward their career goals.

More than 15,000 students have graduated from the Institute of Technology since its first commencement in 1975. The college has an exceptional placement record, with more than 90 percent of its graduates employed or attending graduate school. Its alumni hold a wide range of rewarding and exciting careers across the nation.

The Institute of Technology awards the following undergraduate degrees: Bachelor of Science (B.S.), Bachelor of Arts (B.A.), Bachelor of Technology (B.Tech.), Bachelor of Business Administration (B.B.A.) and Bachelor of Professional Studies (B.P.S.). There are also Master of Science degree programs in Accountancy, Adult Nurse Practitioner and an *Advanced Certificate in Adult Nurse Practitioner*, Advanced Technology, Business Management, Computer and Information Science, Nursing Administration, and Telecommunications.

The college offers 20 bachelor and seven master degree programs in professional, technical and liberal arts disciplines. The faculty possesses extensive professional experience and exceptional academic credentials; more than 70 percent hold doctorates or comparable degrees in their fields.

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# Utica and the Mohawk Valley

## Location and Transportation

In the geographic heart of New York State and western end of the Mohawk Valley, Utica is a natural gateway to the beautiful Adirondack Mountains and the scenic Thousand Islands. Utica is 233 miles from New York City and 190 miles from Buffalo; midway on the New York Thruway, 50 miles east of Syracuse and 90 miles west of Albany. The city is also 90 miles north of Binghamton and 100 miles south of the St. Lawrence River.

Several major routes pass through Utica, including the New York Thruway and state routes 8, 12 and 5. Local, regional and interstate bus services are available from Greyhound Bus Lines, Central New York Coach Lines, Adirondack Trailways, and other public and charter bus companies. Utica's historic Union Station is a major stop on one of the main rail lines of AMTRAK. Air service through nearby Oneida County Airport is provided by USAir and its many commuter airlines.

## Cultural Highlights

Utica has historically held a deep regard for the worlds of culture and fine arts. It is the home of internationally recognized Munson-Williams-Proctor Institute Museum of Art. The Museum of Art's galleries feature a world-renowned collection of 18th, 19th and 20th century European and American art, as well as numerous exhibitions of paintings, sculpture, graphic arts, and photography. The Munson-Williams-Proctor Institute offers lectures, live performances, film series, and assorted libraries of music, books, and art. Its annual summer festival is nationally prominent and is held in conjunction with a gala celebration in downtown Utica, "The Good Old Summertime Festival." Several other galleries can be found in the area, including the Rutger Street Gallery and Sculpture Space.

The Civic Musical Society of Utica maintains the Utica Symphony Orchestra and the Utica Civic Concert Band. Musical performances are also provided each year by the Chamber Music Society, the Great Artists' Guild, and a number of widely known choral societies.

Theatrically, the city offers a wide variety of productions each year. The Player's Theatre of Utica, one of the first amateur theatrical organizations in the country, performs several dramas, comedies, and musicals each year. Other local organizations also contribute to the year's productions. The Broadway Theatre League each season brings several major productions touring the nation to Utica. These nationally-acclaimed productions are staged in the city's Stanley Performing Arts Center.

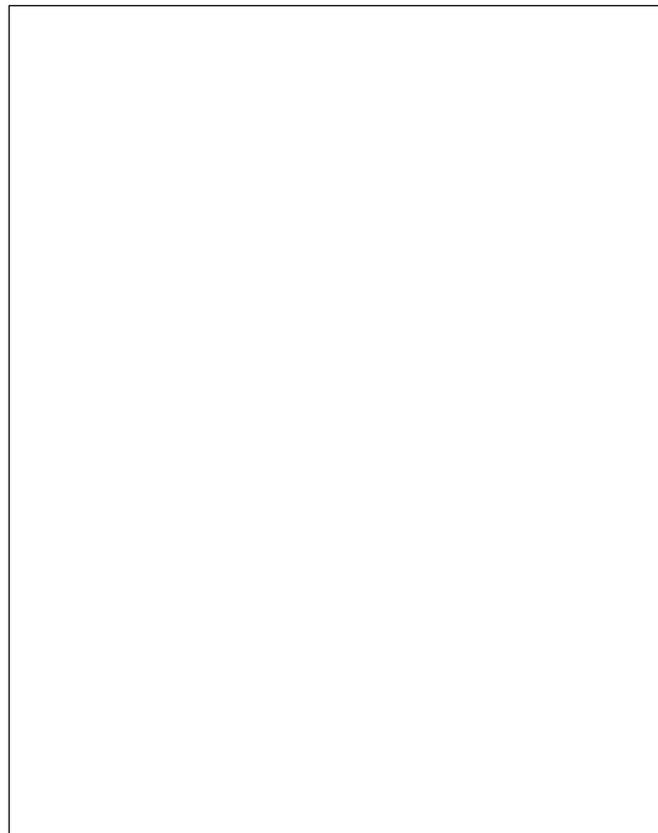
## Sports and Recreation

Utica and the surrounding area offers something for everyone throughout the entire year. In professional baseball, the city boasts of its Utica Blue Sox, members of the New York-Penn League, affiliated with the Florida Marlins. Their home field is the newly-renovated Donovan Field. Utica also hosts the Boilermaker Road Race. Rated as among the best races in the nation, this 15-kilometer run annually attracts the world's most elite runners and has grown to a field of nearly 10,000 participants, making it the largest 15-k competition in the U.S.

Within the city limits are more than 900 acres of parks, with abundant facilities for skiing, ice skating, golf, tennis, swimming, hiking, and picnicking. In one of Utica's mid-town parks, a ski center offers slopes and lifts for all skiers, from novice to experienced. Other ski areas, such as Snow Ridge, McCauley Mountain, and Schumacher Mountain, are just a short trip away.

Fishing and boating spots are easily accessible on nearby lakes such as Hinckley, Delta, and Oneida. Because Utica is located in the foothills of the Adirondack Mountains, numerous lakes, parks and campgrounds are within an hour's drive from the campus.

Utica, the Mohawk Valley and the Adirondack Park region provide ample social, cultural and recreational opportunities for SUNY Utica/Rome students.



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# Graduate Student Housing

The Residential Life Office provides assistance to Institute of Technology students, including listing available apartments/housing, Housing Assistance Days, and providing one-on-one advisement in such diverse areas as lease reading, conflict resolution, and budgeting.

Appointments in the Residential Life Office can be made on an individual basis throughout the year, in addition to the formal Housing Assistance Days. Students have found the office to be a valuable resource in securing comfortable, economical housing. Information regarding the graduate housing process and rental opportunities is automatically sent to all newly admitted graduate students. Among the types of housing available in the Utica area are: apartment complexes, apartment units in private homes, and private rooms (some with board).

The SUNY system's newest residence halls at the Institute of Technology consist of townhouse-style apartment buildings, that surround a triangular commons area. Each suite contains accommodations for four students, offering either single- or double-bedroom apartments. A number of these are handicap accessible. Each bedroom is equipped with access to a state-of-the-art computer network and telephone service that puts students in contact with the entire campus from their apartment. On-campus housing requires a room deposit of \$100 at the time an accepted student requests on-campus housing. 1997-1998 on-campus housing costs are as follows:

Single room	\$3,780
Premium double room	\$3,560
Standard double room	\$3,320
19 meals/week	\$2,200
14 meals/week	\$2,100
10 meals/week	\$2,000

Students living on-campus are required to purchase a meal plan available through the Campus Center Dining Hall or Kunsela Cafe. Housing and meal plan options are designed to fit the budgets and lifestyles of our diverse student body. Students living off-campus may also choose to participate in one of the college's meal plans. 1997-1998 academic year costs for on-campus housing and meal plans are subject to change.

## Students with Disabilities

The Institute of Technology does not discriminate against qualified individuals with disabilities in admissions or in access to programs.

# Admissions

## Application Information

An application for admission to graduate study at the SUNY Institute of Technology must be filed, along with all supporting documents to the college's Admissions Office. It is suggested that fall semester applications be submitted by July 1; applications for spring semester admission should be filed by December 1.

Admission to graduate study involves the following:

1. Submit the Application for Graduate Admission and payment of a \$50.00 application processing fee (payable to the SUNY Institute of Technology at Utica/Rome) to the Admissions Office. Applicants must indicate choice of major as well as choice of concentration when applying.
2. Graduates of colleges other than the Institute of Technology at Utica/Rome must forward official transcripts of all undergraduate and graduate work to the Admissions Office. A 3.0 undergraduate GPA is typically required for admission.
3. Submission of GRE/General Test (Adult Nurse Practitioner, Advanced Technology, Computer Science, Nursing Administration, and Telecommunications) or GMAT (Accountancy and Business Management) scores.
4. Professional references must be included in the graduate application file for an admission decision to be rendered. Nursing Administration and Adult Nurse Practitioner applicants are required to submit two letters of reference; Telecommunications applicants are also required to submit three letters of reference; Accountancy, Advanced Technology, Computer Science and Business Management applicants require one professional reference.
5. **Nursing Administration and Adult Nurse Practitioner applicants** must also submit: A) a narrative statement of objectives for graduate study (see back page of this catalog), B) a transcript demonstrating successful completion of a basic statistics course, and (for Adult Nurse Practitioner applicants only) an undergraduate health assessment course, and C) evidence of current licensure as a registered professional nurse in New York State.
6. **Telecommunications and Advanced Technology applicants** are required to submit a narrative statement of objectives (see back page of this catalog).
7. A personal interview with Admissions Office personnel is encouraged as part of the admissions process for all applicants. Marginal applicants are required to attend such an interview.

Once the Admissions Office receives all required documents, the credentials of the applicant will be reviewed and a final decision regarding admission to the degree program will be forwarded to the applicant. After formal admission, a student will be assigned a faculty advisor. Questions regarding admission should be referred directly to the Admissions Office at the SUNY Institute of Technology at Utica/Rome (1-800 SUNY TEC).

## Readmission

Previously matriculated graduate students at the Institute of Technology who have not attended classes within the past year must petition for readmission to graduate study. Petition forms for readmission are available from the Admissions Office. The degree requirements are those in effect at the time a student matriculates or rematriculates into the degree program.

## Change of Program

If a student currently enrolled in a specific degree program desires to change from one department/school to another, a petition must be filed with the Registrar's Office. Petition forms are available in the Admissions or Registrar's Offices.

## Degree Study

To be eligible for admission to degree status, the prospective candidate must:

1. Have a baccalaureate degree from an accredited university or college.
2. Submit evidence (e.g., transcripts, letters of recommendation, standardized test scores, etc.) which would indicate ability to do satisfactory graduate work, as specified by the admissions criteria for a given program.

## Withdrawal

Students who withdraw from the college, for any reason, are responsible for officially clearing all records and obligations. Appropriate forms and procedures may be obtained from the Registrar's Office.

## Leave of Absence

Leave of absence for a specified period of time may be granted to a student not subject to academic dismissal. A student applying for a leave of absence must give a definite date for re-registration at this college. A student not returning for re-registration within the specified time will be classified as an official withdrawal. Application for a leave of absence must be made to the dean of the school in which the student is enrolled.

## Degree Requirements

Policies, procedures and degree requirements for the graduate programs are in agreement with the Institute of Technology policies for graduate study as stated in the Graduate Studies Policies and Procedures Manual. Within that framework, each program is autonomous in establishing specific degree requirements. Individual program policies and procedures may be reviewed in the individual program descriptions.

## Time Limit on Completing Degree Requirements

Courses completed more than seven (7) years before the term in which the degree is awarded may not be used for credit toward the advanced degree. In the event that attendance has been interrupted due to extenuating circumstances, exceptions may be made by the department/schools with approval of the Executive Vice President for Academic Affairs.

Degree requirements are determined by the catalog under which the student is initially matriculated, and remain in force if the student maintains continuous matriculation. A student who discontinues enrollment for one year or more without being granted an official leave of absence, may apply for readmission and then fulfill the degree requirements in effect at that time.

## Non-Degree Study

Students may take graduate courses for which they have met the prerequisites without formal admission to the degree program, on a space-available basis. A maximum of six credit hours is recommended for non-degree study. Permission of the dean of the school in which the graduate course is taught is required before a non-matriculated student may register. Students may choose to continue taking coursework above the six hour total, but may not take more than 12 hours before matriculating in their program of study. Graduate coursework taken while in non-degree status may be applicable to the degree program upon formal admission. **However, there is no guarantee of credit applicability or admission by completing coursework in non-degree status.**

## Transfer of Graduate Credit

1. Students seeking transfer credit, at the time of admission, must provide official transcripts to the Admissions Office at the Institute of Technology.
2. Only graduate courses with a grade of A or B are transferable. Transfer credit will not be included in the computation of a graduate student's grade point average.
3. A maximum of six hours of graduate work may be accepted for transfer credit by the Institute of Technology at Utica/Rome, with the exception of the School of Nursing's major in Adult Nurse Practitioner, which accepts up to nine credits.
4. If, after being admitted to a degree program, a student wishes to transfer courses from another institution, he or she must submit an academic petition to his or her advisor. A petition requesting such approval must include institution name, catalog number, title, and description of each course being proposed for transfer credit. Upon completion of the course, an official transcript must be sent to the Registrar's Office at the Institute of Technology. A copy will be forwarded to the appropriate academic school. The maximum six-hour transfer applies.

## Residency Requirement

Students in graduate degree programs must complete at least 27 semester hours of graduate credit in residence at the Institute of Technology. It should be noted that bridge coursework required for the computer science program cannot be applied to this requirement.

## Full-Time/Part-Time Graduate Status

A full-time student is one who has registered for a minimum of 12 graduate credit hours per semester. Students awarded graduate assistantships are classified as full-time students when enrolled for nine credit hours of graduate coursework per semester. The maximum student load is considered 15 graduate credit hours per semester.

A part-time graduate student is one who is registered for less than 12 graduate credit hours per semester.

## International Students

In addition to admission requirements pertaining to graduate study, international students must also submit satisfactory scores from the Test of English as a Foreign Language (TOEFL) unless they have graduated from a U.S. College/University. The minimum acceptable score for admission is 550. Students with TOEFL scores below 550 may submit other proof of English proficiency (i.e., strong GRE/GMAT scores relevant to English language proficiency, MAT (Miller Analogy Test) scores, or evidence of prior successful study in an English speaking college or university). English language proficiency will be evaluated on an individual basis. International students may be required to have their transcripts evaluated by World Education Services (WES) to determine U.S. credit equivalencies. Contact admissions for information pertaining to foreign student requirements/visa.

## Graduate Assistantships

Graduate assistantships are awarded only to full-time or prospective graduate students formally admitted to a graduate program leading toward a master's degree. Persons appointed to such positions may be assigned duties in support of a program, school/department, or faculty member. These duties ordinarily include assistance with lectures, demonstrations, library and bibliographical services, etc., as well as assignments related to teaching a class and/or research activities. Graduate assistants should be engaged in learning activities consistent with their curricular and career goals.

Students interested in a graduate assistantship should indicate this interest on the application for admission. This automatically establishes an assistantship application file for the applicant. Additional materials may be required to complete an assistantship application. Applicants should submit the necessary materials by March 1. Candidates will be contacted by the screening committee if such materials are required.

Graduate assistantships at the Institute of Technology are limited, and preference is generally given to early applicants. Students desiring additional information regarding graduate assistantships, graduate assistant stipends, and other benefits should contact the Office of Admissions.

## Standardized Examinations

### Graduate Record Examination

Scores from the Graduate Record Examination (GRE) are required for the graduate programs in advanced technology, adult nurse practitioner, computer science, nursing administration, and telecommunications. The GRE is administered through the National Program for Graduate School Selection and the Educational Testing Service. The aptitude test is a 3 1/2-hour examination which measures general scholastic ability at the graduate level and yields separate scores for verbal, quantitative, and analytical abilities. Please note that the proper code number to be used in the registration form for scores to be reported to the Graduate Studies Office at SUNY Institute of Technology is #2896.

These examinations are given four times a year (the GRE Information Bulletin provides information on special administrations of the examination). Score reports take approximately six to eight weeks to reach the Admissions Office. Students should, therefore, register for the examination in time for the scores to reach the Admissions Office by the appropriate application dates. Computer-based testing is also available.

Further information may be found in the GRE Information Bulletin available with registration forms at the Admissions Office, or from Graduate Record Examinations, Educational Testing Service, Box 955, Princeton, NJ 08540.

### Graduate Management Admission Test

Scores from the Graduate Management Admission Test (GMAT) are required for the accountancy and business management programs. The GMAT is a 3 1/2-hour aptitude test designed to measure certain academic skills important in the study of management at the graduate level. This test does not measure judgment or knowledge in any specific subject matter, and those who take it are neither required nor expected to have undergraduate preparation in business subjects.

The GMAT is offered four times a year. Scores are sent to the Admissions Office by the Educational Testing Service (ETS) four to six weeks after each test date. Applicants should, therefore, take care to register for the examination in time for the scores to reach the Admissions Office before the appropriate deadline dates. Please note that the proper code number (#2896) must be used for scores reported to the Admissions Office at SUNY Institute of Technology. Computer-based testing is also available.

Further information may be found in the booklet, Graduate Management Admissions Test, available with registration forms at the Admissions Office, or from the Graduate Management Admissions Test, Educational Testing Service, Box 955, Princeton, NJ 08540.

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# Health Center

The Health Center is staffed by registered nurses, a nurse-practitioner, and support personnel. The Health Center is open daily Monday through Friday. There are regularly scheduled hours for physician visits. A gynecological clinic is also available by appointment. Hours of service are posted each semester.

The Health Center provides evaluation and treatment of health-related problems. The nurse-practitioner and the physicians treat medical problems and they assist students with referrals to area specialists. Students are encouraged to make appointments but can be seen on a walk-in basis when necessary.

The Health Center provides individual health counseling and offers innovative, prevention-oriented workshops on diet, exercise and other health-related topics throughout the year.

## Health Requirements

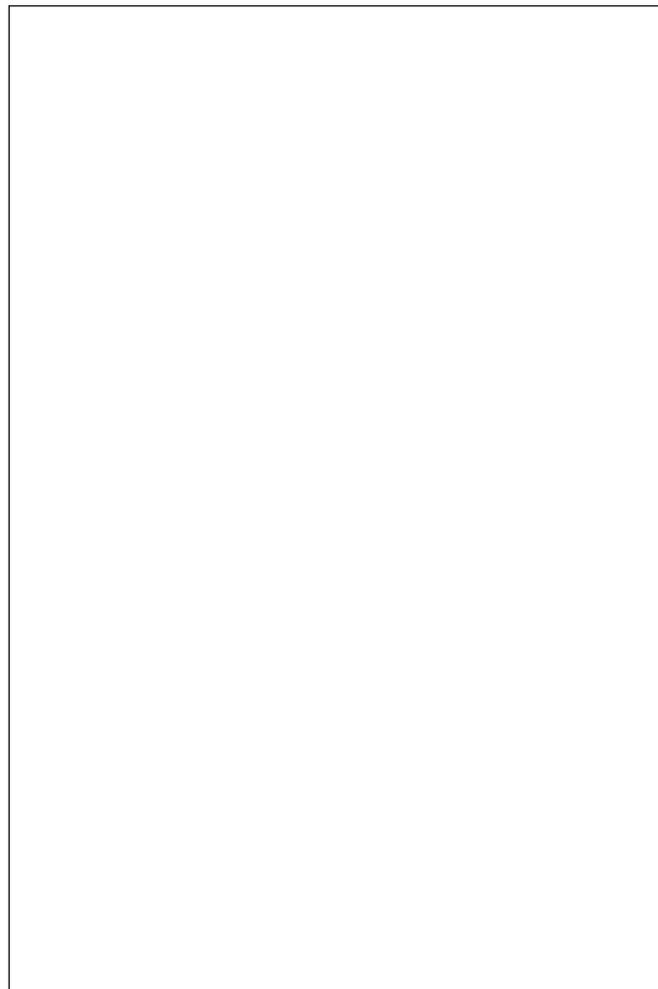
1. In accordance with College and SUNY Board of Trustees regulations, a full-time student must submit a health history and physician's examination to the Health Center prior to attendance at the college. Part-time students who fulfill these requirements may also use the services of the Health Center.

A student will not be permitted to register for a second term until these requirements have been met. In addition, the student may only receive emergency and first-aid care from the Health Center until the requirements have been met.

2. The college has a mandatory health insurance program. Therefore, all full-time students must carry some type of health insurance. The college offers an economical health insurance plan for students who need basic insurance coverage or wish to purchase additional coverage.

Full-time students are billed for health insurance each semester. The student must complete a health insurance waiver card documenting alternate coverage each semester if he or she does not wish to participate in the college plan. Information concerning health insurance is mailed directly to the student.

3. The State University requires international students entering the country for study or research, or any United States student studying abroad in a SUNY-sponsored program, to carry a SUNY health insurance policy. Information regarding insurance is mailed to these students upon their admission to the college. Additional information is available in the Health Center.



## Measles, Mumps, and Rubella

New York State Law 2165 requires that all students registering for six or more credits (graduate and undergraduate) show proof of immunity to measles, mumps, and rubella. Persons born prior to January 1, 1957, are exempt from this requirement. Students must provide the following:

- Measles: Two dates of immunization on or after the first birthday;  
or date and results of positive measles titer;
- Mumps: Date of immunization on or after the first birthday;  
or date and results of positive mumps titer;
- Rubella: Date of immunization on or after the first birthday;  
or date and results of positive rubella titer.

Students should direct requests for forms or additional information to the Health Center, phone 315/792-7172, Fax 315/792-7371.

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# Financial Assistance

## Academic Requirements for Financial Aid

To be eligible for financial aid you must be accepted into a degree program, be enrolled for at least six credit hours each semester for federal aid programs and 12 credit hours each semester for the Tuition Assistance Program (courses you have previously passed and are now repeating cannot be counted toward the required 12 hours), and be in good academic standing. These requirements are the same for undergraduate students. Please refer to the Undergraduate College Catalog for details.

## Aid Programs

- **Federal College Work-Study Program**
- **Tuition Assistance Program**
- **Federal Perkins Loan**
- **William D. Ford Federal Direct Loan Program**

More detailed information about the aid programs and the application procedures is contained in the college's financial aid booklet.

## Graduate Assistantships

Assistantships are awarded each academic year to selected students. These awards provide a full New York State tuition waiver. Graduate assistants generally enroll for 9 credit hours per semester and are assigned teaching, research, or administrative responsibilities for 10-20 hours per week.

Students interested in a graduate assistantship should indicate this interest in their application for admission. This automatically establishes an assistantship application file for the applicant. Additional material may be required to complete an assistant application. Candidates will be contacted by the screening committee if such materials are required.

Recommendations for assistantship are made to the Executive Vice President for Academic Affairs through a selection process involving each dean. A brief justification should accompany each request. All graduate assistantship appointments and notifications will be made by the Executive Vice President for Academic Affairs. The assignment of an assistantship must not be made prior to formal admission action, and no verbal or written commitment should be made to applicants before their admission is officially approved by the Office of Graduate Admissions.

A student may receive a maximum of two years of support from state funding while pursuing the master's degree. Exceptions to this policy should be directed to the Executive Vice President for Academic Affairs.

Once the assistant has been selected, the formal appointment to the position will be processed through the Personnel Office.

Graduate assistants are not expected to engage in outside employment during the term of their appointment. Exceptions based on educational need (not financial need) may be authorized by the Executive Vice President for Academic Affairs after being recommended by the student's department/school chairperson and the dean of the appropriate academic school.

Graduate assistants may not hold two assistantships or other similar awards of any kind concurrently.

Graduate assistants are expected to provide their usual services during the period of the academic year except for holidays and recesses, and be available to assist in the pre-registration and registration of students. However, assistants in certain administrative offices or departments/schools may be expected to provide services over the entire period (including recesses), provided this arrangement is understood by the student at the time of the appointment.

Each assistant and his or her supervisor must certify that the assistant has satisfactorily fulfilled the assignment and duties of his or her position. The attendance sheet should be signed at the end of each month and kept by the supervisor. At the end of each semester, it is to be returned to the Personnel Office. In addition, a brief report outlining duties and responsibilities, and performance evaluation must be submitted by the supervisor to the Executive Vice President for Academic Affairs at the end of each semester.

## Private Scholarships and Fellowships

Several source books list scholarships and fellowships awarded by private organizations. A few of these may be available through your library. They include: The College Blue Book Scholarships, Fellowships, Grants and Loans; Directory of Financial Aids for Women; The Grants Register; and Scholarships, Fellowships and Loans. (A booklet, Sources of Student Financial Assistance, is available upon request from the Admissions Office.)

In addition, you may access fastWEB, an on-line searchable database of scholarships. The direct URL is (<http://www.fastweb.com>).

### For more information:

#### Financial Aid Office

SUNY Institute of Technology at Utica/Rome  
P.O. Box 3050, Utica, NY 13504-3050  
(315) 792-7210

e-mail: [finaid@sunyit.edu](mailto:finaid@sunyit.edu)

www: <http://www.sunyit.edu>

# Tuition, Fees and Refunds

The tuition and fees for full-time and part-time students are given below. Students carrying 12 or more credits are considered full-time. Fees and other charges are subject to change without prior notice at the discretion of the college administration and the State University of New York.

## Tuition

<b>Undergraduate</b>	<b>Full-Time</b>	<b>Part-Time</b>
New York Resident*	\$1,700 per semester	\$137 per credit hour
Out-of-State Resident	\$4,150 per semester	\$346 per credit hour
College Fee**	\$12.50 per semester	\$.85 per credit hour
Student Activity Fee (U.G. students only)	\$65 per semester	\$2 per credit hour
Intercollegiate		
Athletics Fee***	\$57 per semester	\$5.25 per credit hour
Health Services Fee+	\$60 per semester	\$5 per credit hour
Technology Fee**	\$75 per semester	\$6.25 per credit hour
<b>Graduate</b>	<b>Full-Time</b>	<b>Part-Time</b>
New York Resident*	\$2,550 per semester	\$213 per credit hour
Out-of-State Resident	\$4,208 per semester	\$351 per credit hour
College Fee**	\$12.50 per semester	\$.85 per credit hour
Intercollegiate		
Athletics Fee***	\$57 per semester	\$5.25 per credit hour
Health Services Fee+	\$60 per semester	\$5 per credit hour
Technology Fee**	\$75 per semester	\$6.25 per credit hour

\* "Residence" for purposes of tuition refers to a student's principal or permanent home. In order to qualify as a New York State resident for tuition purposes, in addition to other criteria, a student must be "domiciled" in New York State for a 12 month period immediately prior to the date of registration for the academic term for which application is made. A "domicile" is defined as that place where an individual maintains his / her **permanent** home and to which he / she always intends to return. Mere presence in New York State for educational purposes does not necessarily constitute domicile, regardless of time spent in NYS.

Effective July 1, 1986, resident tuition rates are applied to members of the Armed Forces of the United States on full-time active duty, stationed in New York State, their spouses and dependents. Spouses and dependents must obtain proof of their dependent status from appropriate personnel at their base education office and present it at the Business Office each semester upon registration. Please contact the Business Office if you require further information.

\*\* The College Fee is established by the Board of Trustees of the State University of New York. It is a mandatory fee each semester for both graduate and undergraduate students and is non-refundable. The Student Activity Fee is mandatory for undergraduate students. This fee provides the funding for activities sponsored for the students, under the direction of the students' governing bodies.

\*\*\* The Intercollegiate Athletics Fee is a mandatory fee for all students. This fee provides funding to operate and sustain competitive intercollegiate athletics programs at the campus. It is not a fee for use of athletic facilities by the students.

+ The Health Services Fee is a mandatory fee assessed to all students attending classes on campus.

\*\* The Technology Fee is a mandatory campus fee assessed to all students attending classes on campus. It is used to upgrade, modify and make significant technological advances in classrooms and laboratories used by SUNY Utica / Rome students.

## Tuition Refund Policy

### Credit Courses

A student who has been granted permission to withdraw from a course (fall/spring) shall be liable for payment of tuition in accordance with the following schedule:†

#### Undergraduate/Graduate - 15 Week Schedule (Full Semester)

Liability During:	1st week of classes*	0%
	2nd week of classes*	30%
	3rd week of classes*	50%
	4th week of classes*	70%
	5th week of classes*	100%

#### Undergraduate/Graduate - Quarter or 10 Week Term

Liability During:	1st week of classes*	0%
	2nd week of classes*	50%
	3rd week of classes*	70%
	4th week of classes*	100%

#### Undergraduate/Graduate - 8 Week Term

Liability During:	1st week of classes*	0%
	2nd week of classes*	60%
	3rd week of classes*	80%
	4th week of classes*	100%

#### Undergraduate/Graduate - 7 Week Term

Liability During:	1st week of classes*	0%
	2nd week of classes*	65%
	3rd week of classes*	100%

#### Undergraduate/Graduate - 6 Week Term

Liability During:	1st week of classes*	0%
	2nd week of classes*	70%
	3rd week of classes*	100%

#### Undergraduate/Graduate - 4 Week Term

Liability During:	2nd day of classes*	0%
	Remainder of 1st week*	50%
	2nd week*	100%

† **Exceptions to this policy will be made for Title IV aid recipients who are first time attendees at a SUNY school. This exception is applicable for the student's first semester only. These refunds will be calculated in accordance with SUNY Board of Trustees Resolution 93-15, requiring pro-rata refunds, through the 9th week of classes, per Title IV Re-authorization Act stipulations. Please contact the Bursar's Office for details.**

\* The first week of class session is the first day of the semester, quarter or other term. The first week of classes, for purposes of this section, shall be considered ended after seven calendar days, **including** the first day of scheduled classes, have elapsed.

**All student fees are non-refundable once classes start** with the exception of the alumni fee. The fee is refundable by petition to the Alumni Office until the last day to withdraw without record.

Please check with the Business Office **immediately** about any refund/liability if you are contemplating withdrawing from any course. Consult with the Financial Aid Office also, as an aid package could be adversely affected by a decrease in credit hours.

No drop is considered official until the proper forms have been completed at the Registrar's Office and submitted to the Business Office.

## Pro Rata Refund Policy— Title IV Aid recipients

### Who is eligible?

The pro rata policy will apply only to Title IV recipients, attending a SUNY campus for the first time (first semester only). Students transferring from a community college to a state-operated campus are considered first-time students at the receiving campus. Transfers **between** state-operated campuses may be first-time.

### Refunds vs. Repayments

A refund is the unearned amount of institutional charges that must be returned to the student federal aid programs on behalf of a student who received federal funding under Title IV and who has ceased attending school.

A repayment is the unearned amount of a cash disbursement that a student must pay back. If the school calculates that the student has received a cash disbursement in excess of the living expenses he or she could have reasonably incurred while still enrolled, that excess must be repaid by the student.

### Refund Policy

When a first-time student withdraws during the first nine weeks of the semester, the student will be liable for reduction of tuition, college fee, student activity fee, health service fee, technology fee, and intercollegiate athletic fee charges in percentages as indicated below:

#### Pro Rata Refund (for first-time students only)

Week One	100% Refund	0% Liability
Week Two	90% Refund	10% Liability
Week Three	80% Refund	20% Liability
Week Four	80% Refund	20% Liability
Week Five	70% Refund	30% Liability
Week Six	60% Refund	40% Liability
Week Seven	60% Refund	40% Liability
Week Eight	50% Refund	50% Liability
Week Nine	40% Refund	60% Liability
Week Ten	0% Refund	100% Liability

Any amount refundable shall be credited first to outstanding loan balances and awards under federal student assistance programs order specified by Title IV of the Higher Education Act of 1965, amended. In addition to the above refund calculation, liability for repayment of funds already disbursed to a student will also be performed. **Students are responsible for repayment of any excess disbursements due as a result of the withdrawal.**

Room and Board Refunds will be calculated, also. Until adoption of mandatory state refund policies, these may be prescribed by percentages mandated in Federal Refund as follows:

### Federal Refund

The Federal Refund Policy mandates the percentage of institutional charges that must be refunded as follows:

- Withdrawal on the first day of class—**100% refund** of institutional charges (less the permitted administrative fee of the lesser of \$100 or 5% of institutional charges).
- Withdrawal after the first day of class through the first 10% of the enrollment period—**90% refund** of institutional charges.
- Withdrawal after the first 10% of the enrollment period through the first 25% of the enrollment period—**50% refund** of institutional charges.
- Withdrawal after the first 25% of the enrollment period through the first 50% of the enrollment period—**25% refund** of institutional charges.

### Non-Credit Courses

Non-credit programs are operated on a self-sustaining basis. Fees are variable. Therefore, due to the nature of these programs, **no refunds** are allowed.

### Room and Board Refunds

Room and board refunds are granted in accordance with stipulations in the current year Room and Board License issued to each resident. Room rental refunds are determined when all personal effects are removed from the room, keys surrendered, room inspected by Residential Life, all debts related to room rental incurred by the resident paid in full to the college, and the resident has signed out of the room.

Room and board refund requests **must** be in writing. Failure to terminate occupancy in the manner stipulated in the Room and Board License may result in additional charges accumulating for the period of time between termination of residency and the date of approval by the Director of Housing.

A resident who registers and occupies a room for three weeks or less receives a percentage refund of room and board charges based upon the number of weeks housed. A week is defined as beginning on Sunday and ending the following Saturday at midnight. A part week is counted as a whole week for refund purposes. Students occupying a room after the Saturday following the second full week of classes are liable for room and board charges for the entire semester.

\* *The first day of class session is the first day of the semester, quarter or other term . The first week of classes, for purposes of this section, shall be deemed to have ended when seven calendar days, including the first day of scheduled classes, have elapsed.*

## Schedule of Other Fees and Charges

	Full-time	Part-time
Room		
Charges —Semester Rate Single Room	\$1,890	n/a
—Semester Rate Premium Double Room	\$1,780	n/a
—Semester Rate Double Room	\$1,660	n/a
Board		
Charges —Semester rate-19 meals/wk.	\$1,100	\$1,100
—Semester rate-14 meals/wk.	\$1,050	\$1,050
—Semester Rate-10 meals/wk.	\$1,000	\$1,000
Parking Fee (see section entitled "Parking Fees")	\$54	\$27
Alumni Fee—voluntary, one-time charge	\$20	\$20
Diploma Cover Charge—payable when applying for diploma	\$10	\$10
Drop/Add Fee—paid per transaction	\$15	\$15
International Student Health Insurance	\$478	\$478
Domestic Student Health Insurance	\$146	Not required
ID Card Replacement Fee	\$15	\$15
Late Registration Fee	\$30	\$30
Transitions Program Charge—paid once; during first semester	Under Grad \$50 Grad \$25	\$50 \$25
Career Services Fee—voluntary; paid once (non-refundable)	\$55	\$55
Late Payment Fee—charged to accts for payments received after assigned due date	\$30	\$30
Returned Check Charge—levied against maker for checks returned unpaid or charge payments declined by cardholder bank	\$20	\$20
Transcript Fee—per transcript	\$5	\$5
Diploma Replacement Fee—per replacement	\$20	\$20
Diploma Cover Replacement Fee—per replacement	\$25	\$25
Yearbook Reservation Fee—optional, student must indicate preference on billing statement	\$10	\$10

## Required Disclosures

Please take notice, if payment is not received for obligations due to the Institute, this agency is required to pursue other collection alternatives. Pursuant to Chapter 55 of the Laws of 1992, State agencies may refer past-due accounts to a private collection agency, the New York State Attorney General's Office, or the New York State Department of Taxation and Finance. In addition, State agencies are required to charge interest on outstanding debt at the current corporate underpayment rate (9% at time of printing), compounded daily, on accounts considered more than 30 days past due. Chapter 55 allows State agencies to charge a fee on dishonored checks or like instruments.

In addition, the New York State Attorney General's Office and SUNY Central Administration have reached an agreement requiring the addition of any interest and collection fees. Students are liable for interest, late fees, a collection fee of up to 22%, and other penalties on past due debt. Collection fees will be added to new past due debts transferred, from this campus, to the Attorney General or private collection agencies, effective January 1995.

These terms and rates may be modified, without prior notice, as required by legislative action or Board of Trustees requirements.

## Deposits

Full- and part-time graduate students are not required to pay admissions deposits but must return a deposit waiver card within 30 days of acceptance to hold a seat in their graduate program.

Students who wish to reserve dormitory rooms are required to pay a \$100 dormitory deposit, due with their admissions waiver card. Requests for housing deposit refunds must be made in writing to Residential Life and Housing Office, and are subject to terms and conditions of the room and board license. Only full-time students may reserve a dormitory room.

## Health Insurance

In accordance with State University policy, health insurance is mandatory for all full-time students. The charge for health insurance purchased by the University will be added to the student's account each semester unless he/she is able to provide the college with proof of insurance coverage and fill out a Health Insurance Waiver Card by the end of the first week of classes. It is the student's responsibility to insure that the waiver card is on file, as the charge becomes final on the last day to waive. Waiver cards will then no longer be accepted and the student is responsible for the payment of the insurance fee. Part-time students may purchase coverage if they so desire. Waiver cards must be submitted **each semester**.

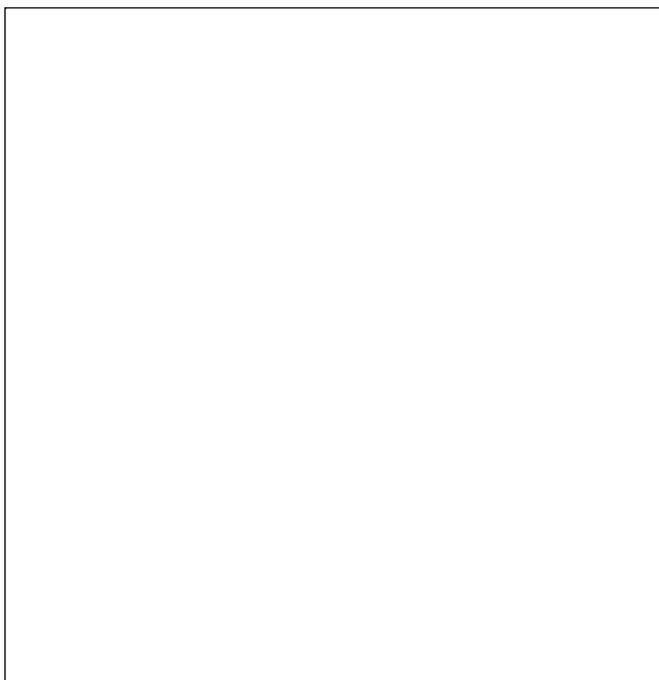
Health Insurance fee is not automatically refunded when a student drops below full time. Written request for refund will be accepted at the Business Office for the first week of classes only. After the last day to add for the semester, no further refunds of insurance will be allowed.

**All international students** (domestic students traveling abroad under an exchange program, or foreign students attending college in the U.S. on a student visa) **must purchase International Student Health Insurance** regardless of whether they are full- or part-time. International students, who have been issued an I-20 from the Institute of Technology, must be covered the entire time they remain in the U.S., whether attending classes or remaining in the country during summer break. Exemption from participation in the plan may be granted only in very few and specific circumstances.

Since both the international and domestic insurance plans are obtained through prior arrangement with insurance agencies independent of the State University of New York, cost per year is variable based on experience rating for the program. Students will be charged the appropriate rate at the time they begin attendance. Those graduating in December should contact the Health Center and Business Office in advance of registration. Current rates are as follows, but are subject to change annually:

Basic Health Insurance ..... \$146 per year  
(full-time students only)

International Student Insurance ..... \$478 per year  
(both full- and part-time students)



## Parking Fees

Effective January 1, 1991, a parking fee must be paid by all students and employees (not exempt as a result of collective bargaining agreements) who park a vehicle on campus. That vehicle must be registered with Public Safety and **exhibit a valid parking decal**. Fees are established using SUNY Parking Model Costs and Charges, and are subject to New York State and local sales taxes (currently 8%). All regulations pertaining to the use of vehicles on campus are enforceable 24 hours a day throughout the year.

Payment of the parking fee may be made at the Bursar's Office during normal business hours. The Bursar's Office will provide a receipt to be presented at the Public Safety Office, where students may obtain a valid parking decal and complete vehicle registration cards. Parking fees for various categories are as follows (including applicable sales taxes):

<i>Time Period</i>	<i>Full-time</i>	<i>Part-time</i>
Annual (full 12 month period)	129.60	64.80
Academic Year (fall/spring only)	108.00	54.00
Single Semester Only	54.00	27.00
Summer Semester Only	21.60	21.60

Parking fees are non-refundable. A full-time student is a student registered for 12 or more credit hours.

Provision for additional vehicles must be made with the Public Safety Office. Only one vehicle may be parked on college property at any given time. Each vehicle must be registered and display a valid registration decal.

Employees may opt for salary deduction for payment of the parking fee, as approved by the Office of the State Comptroller. Students who have more than enough aid to cover their appropriate semester charges may authorize the payment of their parking fee against their incoming financial aid.

## Billing Tuition Payment

Students may either register for classes at open registration, by phone, via WWW, or attend pre-registration, if they are presently enrolled or are a returning matriculated student. In accordance with requirements established by the SUNY Board of Trustees, **students registering after semester bill due date must pay for tuition and fees at that time**. Any deferrals due to financial aid or hardship require prior approval from the Financial Aid Office. No deferrals are granted based on estimates, or for programs that have not yet been applied to and awarded, as of registration date. Deferrals for veterans, clients of VESID (OVR) and DVR (federal and state vocational rehabilitation programs), and approved third parties require prior arrangement. Documentation of such must be presented, in writing, at time of payment/registration.

Students who pre-register will be billed on or at a date subsequent to the date they selected their course schedule, with a payment deadline specified on their statement. **All registered students are required to return one confirmation copy of their billing statement, with payment or deferral, by the required due date**. This serves as confirmation of student's intention to attend for the advance registered semester. **All students who have enough financial aid to reduce their balance due to zero, who are covered by Third Party Deferrals, or who participate in our time payment plan, must return the confirmation copy as evidence of their intention to return.**

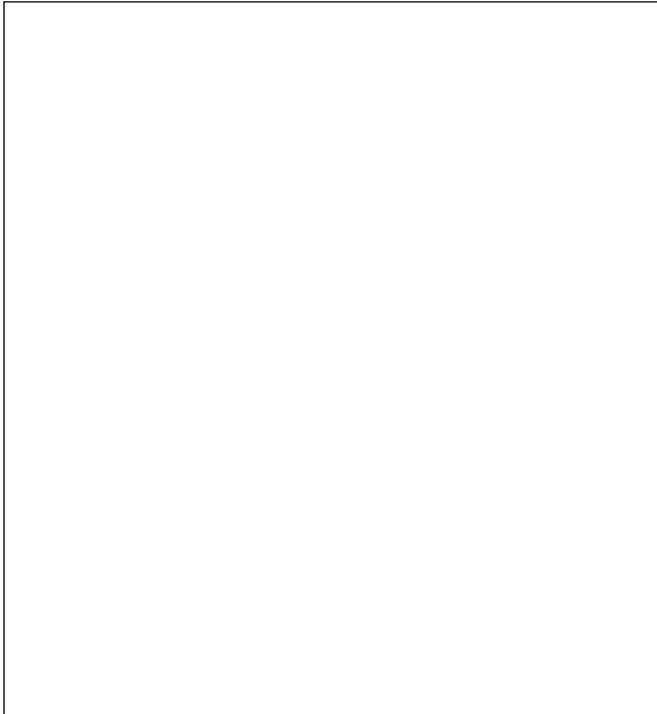
Failure to return a confirmation copy with valid deferral or full payment by payment due date, will result in the advance registration being deleted. The student may then either reinstate the records within a specified timeframe and pay a Late Payment fee (refer to Reinstatement of Deleted Records section), or re-register at a later time. However, a late registration fee will be charged regardless of when re-registration for the term occurs. This charge reflects the multiple processing of registration records for the same semester.

## SUNY Utica/Rome Time Payment Plans

SUNY Institute of Technology is pleased to offer its own Time Payment Plan as an alternative for students who find it difficult to pay all charges by the payment due date. This plan is available for the Fall and Spring semesters in either three or five payment options. The cost to you is \$25.00 per semester and is non-refundable.

### Three-Payment Option

The three-payment option is based on *actual* enrollment when you receive your initial semester billing statement. Enrollment is easy, simply sign the enrollment form which appears on the reverse of your billing statement and return it with your initial payment by the due date. The initial payment is calculated by taking one half of the amount due and adding the enrollment fee. You will then be billed in 2 equal installments for the remaining balance.



### Five-Payment Option

Beginning with the Fall 1996 semester, the Institute of Technology offers a five-payment option for students who wish to spread their payments out even further. Enrollment in this plan is based on your *estimated* tuition and fee charges at the time you join the plan. The enrollment period for Fall begins in June with equal monthly installments due on the tenth of each month, July through November. Enrollment for Spring begins in November with equal monthly installments due on the tenth of each month, December through April. Your \$25 participation fee is due with your first payment. Late enrollments will be accepted only if all past installments are paid at time of late enrollment. Contact the Bursar's/Student Accounts Office for further details.

### For All Plan Participants

Approximately two weeks prior to the payment due date for the contracted amount, an invoice will be sent to your mailing address. If you wish to have the invoice mailed to an address other than your **mailing** address, you must notify the Bursar's Office. Please notify the Bursar's Office of any changes that may arise from changes in enrollment, housing, or financial aid.

Payment for past due amounts can be included in the same check or credit card payment but cannot be deferred as part of the payment plan. Past due amounts must be paid to retain your registration status.

Any payment not **received by the due date** will be assessed a \$30.00 late payment fee. Any returned check payment will incur a \$20.00 return check fee as well as a late payment fee. We reserve the right to deny future payment plan privileges if payments are not made as agreed upon.

If you have any questions regarding the plan, please contact the Bursar/Student Accounts Office at 315/792-7529 or 7412.

## Financial Aid Deferrals

Students who have financial aid that is already verified by the Financial Aid Office will **have these** Financial Aid Credits appear on their statement, treated as credits. However, should a student be found to be ineligible for any listed aid, he/she is responsible for any unpaid balance. **Students registered for less than 12 credit hours are not eligible for TAP awards**, unless the award is made under the Vietnam Veteran's Tuition Assistance program.

If a student has a valid form of aid, not listed on the statement, it may be used as a credit if appropriate proof of award is included with your remittance. The following items are acceptable as proof: TAP Awards—enclose the school portion of the award certificate; Direct Student Loans—enclose a copy of the loan award notice; Pell, SEOG, Perkins Loans, or Nursing Loans—enclose a copy of the award letter from Financial Aid; Private Scholarships—enclose a copy of the scholarship award letter. Private scholarships must be made payable directly to the Institute of Technology.

If you are unsure of the status of a financial aid award, contact the Financial Aid Office at 315-792-7210. They may verify the amount of allowable deferral. **It is important to note that applying for aid does not automatically guarantee eligibility.**

## Other Third Party Deferrals

### Armed Forces Representatives

Present properly completed federal contract authorizations forms (DD1556; DD1227) at time of payment.

### Employers

Any third party employer arrangement is subject to approval by the college. Third party payments are acceptable only if the employer, unconditionally, agrees to pay the college upon receipt of a billing statement. No stipulations regarding student academic performance are allowable. Tuition liability is ultimately the responsibility of the student, should an employer not remit payment in a timely fashion.

Tuition reimbursement **does not** qualify for deferral. Reimbursement arrangements are strictly between the student and the employer. These students must remit payment when due, regardless of the timing of employer reimbursement.

### NYS Employees and UUP Personnel

**NYS Employees and UUP Personnel** must submit completed, approved waivers on or before payment due date. The student is responsible for payment of all tuition and fees at time of registration/payment unless the above are furnished. Subsequent authorization will entitle the student to a refund when vouchers are honored by the issuing campus.

### State or Federally Sponsored (VESID, TRA, DVR, etc.)

It is the student's responsibility to ensure that the sponsoring agency has provided the Bursar's Office with the appropriate vouchers or authorizations required to obtain payment. Confirmation, in writing, of the amount and limitations of the award(s) must be furnished on or before payment due date. TRA sponsored students must have a valid confirmation number available at time of payment/registration.

The student is responsible for payment of any tuition and fees not confirmed by the sponsoring agency at time payment is due. Subsequent authorization will entitle the student to a refund for covered amounts when voucher is honored.

### Veteran's Deferrals

If you are eligible for a veteran's deferral, the appropriate forms must be filled out each semester and on file at the college, on or before the billing due date. Note that you have a Veteran's Deferral and the amount on your semester billing statement. You will be rebilled as your tuition payments become due. Inquiries about eligibility for these deferrals should be addressed to the Registrar's Office at 315/792-7265.

### Reinstatement of Deleted Preregistration Records

Advance registered students who do not return their confirmation/remittance copy with payment (or deferral) by the required due date are assumed to be "no-show registrants." Notification will then be mailed indicating the student's advance registration records have been deleted.

These students may reactivate their advance registered status during a **limited** reinstatement period, specified in the cancellation notice. To reactivate a registration a student must notify the Student Accounts/Bursar's Office of this intention, submit the confirmation (remittance) copy of the bill along with any payment due, **plus** a \$30 late payment fee within the prescribed time frame. The late payment fee must be paid at the time of reinstatement in order to restore the original preregistration records. (Late payment fee is not deferrable.)

After the reinstatement period ends, a student whose records have been deleted, **must** re-register at a later time. **A late registration fee will be charged**, regardless of when the re-registration for the term occurs. As previously indicated, this charge reflects the multiple processing of registration records for the same semester. *Students who are re-registering are not guaranteed seats in classes for which they were originally registered!*

# Academic Procedures and Policies

Information on advisement, progression, retention, grading policies, course load, and procedures for processes such as add/drop, change of graduate status, advancement to candidacy, etc., can be obtained from the appropriate academic school.

## Academic Standards

Each graduate degree student must maintain an overall academic grade point average of 3.0 (B grade). A student may, through the advisor, submit a petition to the school to repeat a maximum of two (2) courses in which a C grade is received.

If a student does not receive a passing grade in a course, which is a prerequisite for another course in the program, the student may not proceed to take other course(s) until the prerequisite has been met.

## Grading System

Letter grades are used for the final rating in all courses. The grades and an interpretation of the quality of work follow:

A	Excellent	4.0	Quality Point Per Credit Hour
A-		3.67	Quality Point Per Credit Hour
B+		3.33	Quality Point Per Credit Hour
B	Good	3.0	Quality Point Per Credit Hour
B-		2.67	Quality Point Per Credit Hour
C+		2.33	Quality Point Per Credit Hour
C	Passing	2.0	Quality Point Per Credit Hour
F	Failing	0.0	Quality Point Per Credit Hour
I	Incomplete	This grade is granted by the instructor when a student has failed to complete course requirements on schedule. An incomplete grade must be removed by mid-semester of the following regular semester unless the student has applied in writing and has received an extension for a specified time. Approval of requests for renewal will be at the option of the faculty member and school dean. Any incomplete grade not removed within the stated time will become an F grade at the next semester midpoint.	
S	Satisfactory	Upon receipt of a Satisfactory grade the student will receive credit for the registered number of semester hours.	
U	Unsatisfactory	With an Unsatisfactory grade, the student must register again for the requisite number of semester hours in order to receive credit toward degree requirements.	
W	Withdraw	Students who find it necessary to withdraw from a course must notify the Registrar's Office within the approved time frame to receive a W for the course.	

## Academic Probation and Dismissal

At the end of each semester, the academic standing of each matriculated graduate student will be reviewed by the graduate program committee in the student's major department. Students with a GPA below 3.0 and who have two (2) or more C (or below) grades, will be placed on academic probation.

Students with a GPA of 2.3 or below, and who have more than three (3) C or lower grades, will be academically dismissed. A student may be academically dismissed without first being on academic probation. The dismissal decisions can be appealed to the school graduate program committee. Results of this review will be communicated in writing to the Registrar's Office.

## Auditing

Students must register for a course to be taken for audit, and the form must be signed by the instructor of the course and the dean of the academic school within which the course is offered. Courses to be taken for audit cannot be registered for during advance registration. Students taking courses for audit must register no later than the last day to add classes. Tuition and fees are not charged for audited courses, and there will be no notation of these courses on the college transcript.

## Academic Programs—HEGIS Code

The Higher Education General Information System (HEGIS) Taxonomy is a nationally accepted classification scheme for assuring consistency in the curriculum content of courses leading to a degree within a given HEGIS discipline category. Thus, the concept of "information science" is the same for the person studying for a degree in computer and information science, classification number 0701, whether the degree is pursued at the Institute of Technology or at another institution. Enrollment in other than the following registered, or otherwise approved, programs may jeopardize eligibility for certain student aid awards.

<i>HEGIS Classification</i>		<i>Degree</i>
0502	Accountancy	M.S. Master of Science
0925	Advanced Technology	M.S. Master of Science
0506	Business Management	M.S. Master of Science
0701	Computer and Information Science	M.S. Master of Science
1203.10	Nursing Administration	M.S. Master of Science
	Adult Nurse Practitioner	M.S. Master of Science
	Adult Nurse Practitioner	Advanced Certificate
0799	Telecommunications	M.S. Master of Science

## Continuous Registration: Computer Science Thesis

All students must maintain continuous registration, equal to or greater than one credit, while doing their thesis for CSC 599.

# Undergraduate/ Graduate Calendars

## Fall Semester 1997\*

August 21/22	(Thurs/Fri)	New Student Testing/Advisement Registration
August 25	(Mon)	<b>ALL CLASSES BEGIN - 8:00 AM</b>
August 29	(Fri)	Last Day to Register for Fall 1997 Courses
September 1	(Mon)	LABOR DAY HOLIDAY - No Classes
September 8	(Mon)	Last Day to Add a Course or Drop Without Academic Record
September 9	(Tues)	Withdrawal (W Grade) from Courses Begins
October 13	(Mon)	Last Day of Classes for First Half Semester Courses
October 14	(Tues)	First Day of Classes for Second Half Semester Courses
		Incomplete Grades from Spring & Summer 1997 Revert to "F" Grades
<b>October 27</b>	<b>(Mon)</b>	<b>Last Day to Officially Withdraw (W Grade) From Courses</b>
November 3	(Mon)	Last Day to File for May 1998 Graduation
November 10-12	(Mon-Wed)	Advance Registration - Spring 1998
November 26-30	(Wed-Sun)	THANKSGIVING HOLIDAY RECESS (Recess begins at 6:00 pm, Tuesday, November 25th)
November 27/28	(Thurs/Fri)	College Closed for ALL Business
December 1	(Mon)	Classes Resume
December 6	(Sat)	Classes End
December 7	(Sun)	Reception for December Graduates
December 8	(Mon)	Final Exams Begin
December 11	(Thurs)	Final Exams End

\*A more detailed academic calendar will be published by the Registrar's Office just prior to each semester.

## Spring Semester 1998\*

January 15/16	(Thurs/Fri)	New Student Testing/Advisement Registration
January 19	(Mon)	<b>ALL CLASSES BEGIN - 8:00 AM</b>
January 23	(Fri)	Last Day to Register for Spring 1998 Courses
January 30	(Fri)	Last Day to Add a Course or Drop Without Academic Record
February 2	(Mon)	Withdrawal (W Grade) from Courses Begins
March 6	(Fri)	Last Day of Classes for First Half Semester Courses
March 9	(Mon)	First Day of Classes for Second Half Semester Courses
		Incomplete Grades from Fall 1997 Revert to "F" Grades
March 15-22	(Sun-Sun)	SPRING BREAK
March 23	(Mon)	Classes Resume
<b>March 27</b>	<b>(Fri)</b>	<b>Last Day to Officially Withdraw (W Grade) From Courses</b>
April 1	(Wed)	Last Day to File for August 1998 Graduation
April 13-15	(Mon-Wed)	Advance Registration - Summer and Fall 1998
May 2	(Sat)	Classes End
May 4	(Mon)	Final Exams Begin
May 7	(Thurs)	Final Exams End
May 9	(Sat)	Commencement
June 1	(Mon)	Last Day to File for December 1998 Graduation

\*A more detailed academic calendar will be published by the Registrar's Office just prior to each semester.

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# Master of Science in Accountancy

## Dean's Message

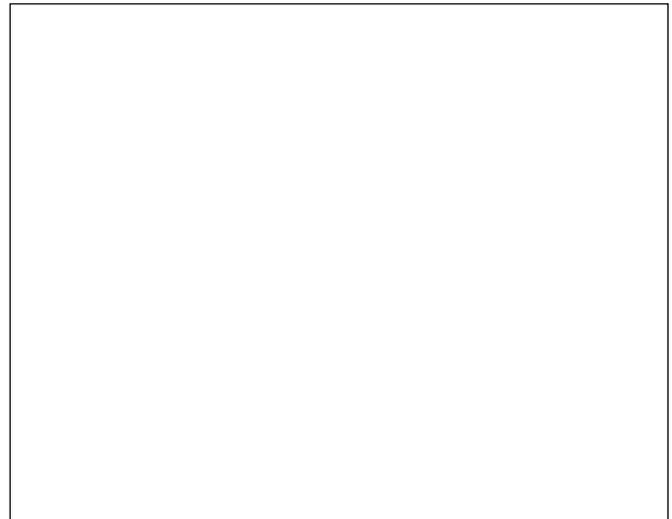
The Master of Science in Accountancy program is the newest graduate option offered by the School of Business and Public Management. It was developed in response to two demands. The first was the increasing number of accountants who held undergraduate degrees in accounting and wanted to continue developing in a wide range of professional accounting careers. These careers included public accounting, corporate accounting, not-for-profit accounting and government accounting. Additionally, in view of the 150 credit hour education requirement established by the American Institute of Certified Public Accountants (AICPA) starting in the year 2000, the program was developed to qualify students to sit for professional accounting examinations that lead to credentials such as the CPA (Certified Public Accountant) and the CMA (Certified Management Accountant) designations.

The program is primarily intended for students who have the equivalent of an undergraduate degree in accounting. The Accountancy program builds on the Institute's strengths by integrating some coursework already included in the School of Business and Public Management's successful Master of Science program in Business Management. A meaningful application of current computer capabilities and software plays both an integral and an integrated part of the program. Combining the core requirements, the available electives and the prerequisite courses results in a program which has both a specialized focus and the broad background in business management which are necessary for success in today's demanding business environment

Students who may not have a background in accounting but desire an opportunity to broaden their capabilities and specialize in this area are afforded the option of doing so. These students would be required to include a considerable amount of additional preparatory work in their program and would do that under the guidance of a faculty advisor.

The Master of Science in Accountancy degree is one of two graduate business degrees offered by the school. The other is the Master of Science in Business Management and is described elsewhere in this catalog.

***Richard Havranek***  
***Dean, School of Business***



## Admissions Criteria

Students from undergraduate accounting programs registered as CPA preparation programs will typically have no prerequisite foundation coursework. Other students will be required to complete coursework in accounting, business law, finance, statistics, economics, general business, and liberal arts as appropriate to prepare for the MS degree course requirements.

Admitted students lacking these proficiencies should consult with a graduate advisor to determine appropriate course selection. Prerequisite skills may be fulfilled in a variety of ways including transfer courses, courses at the Institute of Technology, and College-Level Entrance Program (CLEP) or Regents College Degree (RCD) examinations with appropriate knowledge, but no other documentation.

## Admissions Guidelines

Scores from the GMAT (Graduate Management Admissions Test) will follow the AACSB (American Assembly of Collegiate Schools of Business) recommended guidelines as an admission criterion as follows:

1. A total of 950 points based on 200 x undergraduate GPA + GMAT score, or
2. A total of 1,000 points based on 200 x upper division GPA + GMAT score.

The SUNY Institute of Technology will use these standards except for the following cases:

1. The applicant has been out of school for an extended period and the real meaning of his or her undergraduate grades is questionable.
2. The applicant has demonstrated, through exceptional performance in a management career, that his or her undergraduate grades were not indicative of his or her ability.
3. Conditional admission may be allowed for promising candidates who do not perform well on the GMAT. Students must maintain at least a B average in the first three courses completed in order to remain matriculated when admitted in this category.

## The Program

The degree program is a 33 semester hour program consisting of eight required core courses, a required research seminar and two elective courses that allow students to pursue their professional interests. (The total program requirements are 9 three-credit hour core courses and 2 three-credit hour electives.) The program will accommodate both full-time and part-time students. Conveniently scheduled night and Saturday classes meet the needs of working professionals; the diverse selection of course offerings also makes full-time study possible. Although it is possible to complete the program through either weekend or weekday classes, only the weekday program guarantees a composite of courses to graduate within an 18 month period. Based on individual requirements it might be necessary for some students to mix weekend classes with those offered during the week to achieve accelerated program completion.

## Program Requirements

A total of 33 credit hours distributed as follows:

ACC 611	Advanced Income Tax Research
ACC 630	Fund Accounting
ACC 650	Advanced Auditing Theory
ACC 685	Advanced Financial Accounting Theory
BUS 505	Managerial Economics
BUS 515	Systems Analysis for Information Managers
BUS 690	Research Seminar
FIN 525	Financial Planning II
MGS 511	Management Science
	Two Electives

Students must attain a grade point average of 3.0 for all graduate courses included in their program. No more than three "C" grades, regardless of overall grade point average, will be counted toward graduation.

## Course Descriptions

### ACC 630 Fund Accounting (3 credits)

Accounting principles and procedures as applied to not-for-profit entities are covered. In addition, the accounting standards and reporting requirements that relate to not-for-profit entities will be reviewed and analyzed.

### ACC 611 Advanced Income Tax Research (3 credits)

Focus on the study of federal tax legislation and IRS regulation of corporations, partnerships, estates and trusts. Special attention is given to capital gains and losses, normal tax and surtax, income and deductions for domestic, international, and multinational corporations. Tax research will be conducted through the analysis of IRS rulings and court cases.

### ACC 630 Fund Accounting (3 credits)

Accounting principles and procedures as applied to not-for-profit entities are covered. In addition, the accounting standards and reporting requirements that relate to not-for-profit entities will be reviewed and analyzed.

### ACC 650 Advanced Auditing Theory (3 credits)

Advanced review of auditing standards and techniques, computerized auditing systems, SEC regulations, legal liability, and professional ethical standards.

### ACC 685 Advanced Financial Accounting Theory (3 credits)

An examination and analysis of Generally Accepted Accounting Principles (GAAP). The course reviews Financial Accounting Standards (FAS) in detail and includes a critical review of the research that is at the theoretical foundation of GAAP. In addition, the process by which the Financial Accounting Standards Board promulgates new FAS will also be analyzed.

### BUS 505 Managerial Economics (3 credits)

Managerial economics is the application of economic theory and methodology to decision-making problems encountered by public and private institutions. Emphasis is on the identification and selection of alternative means of obtaining given objectives as efficiently as possible. It is a special branch of economics bridging the gap between abstract theory and managerial practice. Areas of study will include managerial economics and economic theory, statistical and econometric applications, demand, supply, markets, costs, profits and government and business. Prerequisite ECO 310 or equivalent.

### BUS 515 Systems Analysis for Information Managers (3 credits)

Provides the necessary analytical framework and background knowledge for the business analyst's role in the design and development of computer-based information systems. Topics include establishing criteria for information flows, analysis of record keeping and reports for information control and integration of a data base for information maintenance. Methodology lectures, discussion, case studies, and experimental applications on a computer system. Prerequisites CSC 300, or CSC 301, or CSC 302, or equivalent.

### BUS 690 Research Seminar (3 credits)

Each student will design a research project appropriate to the curriculum. The project should, when possible, provide utility for the current employment or anticipated employment of the student. The student will complete the project and submit a report using correct format.

**FIN 525 Financial Planning (Long-Term Planning)**  
**(3 credits)**

Designed to acquaint the student with the techniques and issues involved in long-term financial planning. The following topics shall be included (1) evaluation of the firm, (2) long-term forecasting methodologies (including simulation), (3) capital cost calculation techniques, (4) capital structure issues, (5) capital budgeting methods (both deterministic and stochastic), (6) dividend policy issues, and (7) the interrelationship between long-term financial planning and the macro economic environment. Prerequisites FIN 302, Financial Planning I.

**MGS 511 Management Science (3 credits)**

This survey course addresses the study of the scientific method as applied to management decisions. The forepart of this course addresses the development of basic statistics up to hypothesis testing. Topic coverage also includes (1) bivariate regression analysis, (2) multiple regression analysis, (3) PERT and CPM, (4) linear programming (graphic method only), (5) decision making under uncertainty (including maxi-max, mini-max, and maxi-min techniques) and (6) the basic elements of forecasting (including the classical time series model). Prerequisite STA 300 or equivalent.

## Elective Course Descriptions

Any two graduate courses offered by the School of Business and Public Management; selected either from the following or from courses listed in the Master of Science in Business Management Program.

**ACC 571 Advanced Management Accounting (3 credits)**

Students will learn techniques for budgeting, cost-volume-profit analysis, segment evaluation and analyzing operating constraints. They will research and develop solutions to various advanced management accounting problems through case studies and problems from the CMA Exam. Finally, the students will present their analysis and recommendations orally and in writing. Prerequisite: Management Accounting (ACC 305), Cost Accounting (ACC 470) or equivalent.

**ACC 580 CPA Problems (3 credits)**

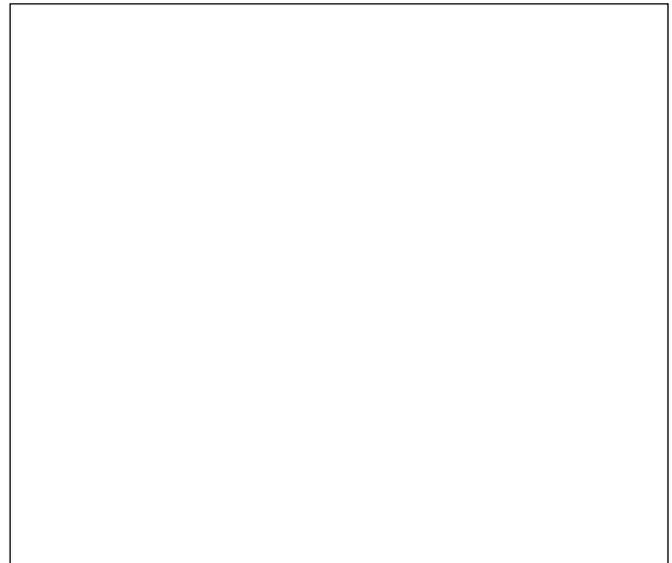
To assist students preparing for careers in public accounting. Emphasis is placed on analysis required in examinations preliminary to expressing a professional opinion as to fairness; includes examination procedures and methods of reporting results.

**ACC 591 Independent Study (3 credits)**

Extensive study and research on a particular topic of student interest under the supervision of a faculty member. The student is required to submit a written proposal which includes a description of the project, its duration, educational goals, method of evaluation and number of credits to be earned.

**ACC 595 Internship (3 credits)**

Internship placements provide students with a field experience related to their academic preparation enabling them to apply classroom instruction to the work site. Students are placed with an organization related to their major and specific area of interest to work along with, and be proctored by, experienced professionals. These are opportunities that cannot be duplicated in the classroom environment and provide an excellent transition into the field.



## Faculty

**John E. Cook**, Associate Professor; Ph.D., Syracuse University. Management.

**Richard J. Havranek**, Dean; Ph.D., Syracuse University. Strategy/Policy, Human Resource Management, computerization of personnel and other management information.

**Peter Karl**, Associate Professor; CPA, MBA, JD, Albany Law School. Accounting, Federal Taxation and Business Law.

**William Langdon**, Professor; Ph.D., Syracuse University. Quantitative methods and finance.

**Hema Rao**, Assistant Professor, D.B.A., Mississippi State University. Accounting, CPA State of Louisiana. Ethics in business and accounting; audit technology.

**Rafael F. Romero**, Associate Professor; Ph.D., West Virginia University. Finance and economics.

**Thomas Tribunella**, Assistant Professor, CPA, MBA, Rochester Institute of Technology. In the final stage of a doctoral program in decision and accounting information systems at SUNY Albany.

**Kenneth Wallis**, Associate Professor, CPA, CMA, MS, University of Akron. Accounting, former president of the Mohawk Valley Chapter of the National Association of Accountants, which was judged the best chapter in the nation while he was its leader.

**Richard Wolber**, Associate Professor, CMA, CPA, MBA, Chapman College. Accounting, professional experience with the prestigious CPA firm Deloitte, Haskins and Sells.

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# Master of Science in Advanced Technology (MSAT)

## Dean's Message

The Master of Science in Advanced Technology (MSAT) is an interdisciplinary program with an emphasis on practical applications. It is offered jointly by the Electrical, Industrial and Mechanical Engineering Technology Departments and incorporates the demonstrated strengths in these technologies and photonics.

The twelve full-time faculty members in these programs represent a wide range of academic, research and applied specialties. The faculty work closely with outside organizations with related interests. For example, the ongoing Educational Partnership Agreement between SUNY Institute of Technology and Rome Laboratory in Rome, N.Y. afford both students and faculty a variety of opportunities for collaborative research projects and personnel exchanges. These relationships also provide for a mutual sharing of computing, research and library facilities.

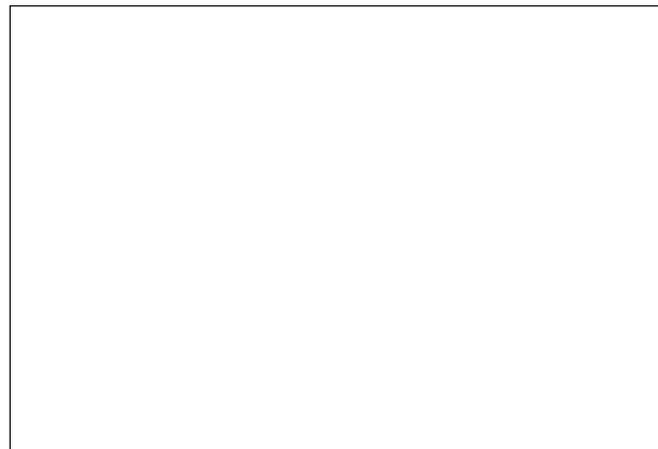
Students interested in Electrical Engineering Technology and Photonics also have opportunities to work on collaborative projects with faculty from the Institute of Technology and personnel at the Photonics Center of Rome Laboratory. In addition, Electrical Engineering Technology faculty are also involved in research sponsored by the U.S. Air Force Office of Scientific Research and other external funding agencies.

Faculty in the Mechanical Engineering Technology Department have established a working relationship involving design and research with NASA-George C. Marshall Space Center, Alabama. The Industrial Engineering department has initiated a faculty exchange program and joint research activities with two leading engineering universities in China. These collaborative efforts afford students in these disciplines opportunities for joint projects and idea exchanges with other professionals working in these fields.

The Master of Science in Advanced Technology is supported by several state-of-the-art laboratories containing a wide variety of equipment including a laboratory which is interconnected with a FDDI-based optical network. The laboratories are also supported with the latest software including ALGOR, INMASSII and MATLAB. In addition, the Institute of Technology maintains extensive library holdings in support of the Master of Science in Advanced Technology program.

The MSAT program is designed for part-time students interested in a high-quality interdisciplinary program that will facilitate career advancements in the advanced technology fields covered by this program.

**Rosemary J. Mullick, Ph.D.**  
**Interim Dean, School of Information  
Systems and Engineering Technology**



## The Program

The Master of Science in Advanced Technology (MSAT) is an interdisciplinary practice-oriented program that provides a seamless path to a Master of Science degree for students who have earned an engineering, engineering technology, physics, mathematics or similar baccalaureate degree. It will be of value to individuals interested in upgrading their academic credentials and seeking career advancement in advanced technology. The American Society for Engineering Education (ASEE) has endorsed the concept of practice-oriented master's programs.

## Degree Requirements

The MSAT is a well-rounded, 33-credit program that will provide the student with knowledge and practical know how. It is ideally suited for those individuals interested in gaining knowledge in computer integrated manufacturing, reliability and quality assurance, simulation, control systems, network and multimedia systems, robotic vision and finite element modeling. Currently, the program is being conducted on a part-time cohort basis. Two three-credit courses per term are offered for two and a half years and there is a project required as the culmination of the effort in lieu of a thesis. The three-credit project may be completed concurrently with the course work or may occur after the tenth course is taken. Whenever there is sufficient student interest generated in pursuing a MSAT degree another cohort will be initiated, either on or off campus. Once a cohort is established, the Institute will continue to offer the program until the total of ten courses is completed.

MAT 500	Topics in Applied Mathematics
MST 502	Advanced Engineering Economics
MST 503	Special Topics in Advanced Technology
MST 520	Network and Multimedia Systems
MST 576	Finite Element Theory
MST 580	Computer and Robotic Vision
MST 622	Intelligent Control Systems
MST 673	Optimization and Simulation
MST 680	Reliability and Quality Assurance
MST 682	Advanced Topics in Computer Integrated Manufacturing - CIM
MST 690	Project

## Admissions Criteria

1. A baccalaureate degree with an upper division major in engineering, engineering technology, physics, mathematics or a related area from an accredited college or university. Students who have not earned an academic degree in an appropriate discipline, but who possess significant work experience (3-5 years) in a engineering/manufacturing area will be considered for admission on a individual basis.
2. Preference will be given to students who have an average of B or better for the last 30 credit hours of undergraduate or graduate coursework (a GPA of 3.0 on a 4.0 point scale). Applicants with GPA below 3.0 for the last 30 credit hours may be considered if they can demonstrate graduate potential via other means.
3. Applicants should have submitted official scores on the Graduate Record Examination (GRE) within the past five years. The score required for acceptance into the program would vary depending upon the student's academic background, professional experience and letter of recommendation. Applicants without GRE scores are

evaluated on an individual basis and may be admissible pending receipt of scores at a later date.

4. Applicants should have submitted evidence of personal and professional qualifications via one to three professional references.
5. Applicants should have submitted a narrative statement of professional objectives for graduate study.
6. Applicants with deficiencies may be required to take appropriate additional coursework above the 33 credit hour program total as recommended by an MSAT graduate faculty advisor. These courses will be identified at the time of admission and will be built into the student's official program of study.

## Laboratory Facilities

The college supports a practice-oriented learning environment with state-of-the-art laboratories in all primary areas of academic offerings.

## Faculty

### **Digendra Kumar Das, Ph.D.** (Manchester University)

Associate Professor, MET

Digen Das has specialized in the fields of flow measurement, turbomachinery, and computer-aided design (CAD). He has published several papers in these fields, and has presented papers at international conferences in the United States, London, and Paris. He has been a consultant to UNESCO, the British Ministry of Defense, and many U.S. industries.

### **Biswa Dey, Ph.D.** (University of Calcutta)

Associate Professor, MET

Dr. Dey has specialized in solid mechanics. He previously held professional positions at the University of Illinois, Trent University and York University. He has organized and chaired several sessions at international conferences and has published numerous articles in international journals. He has also edited a book entitled, "Precipitation Phenomena: Deformation and Aging," and was previously a technical reviewer for Wiley Publishers. He was invited by a Russian University, Udmurt University, Izhevsk, for lecturing and consultation. He is the founder of SUNY Institute of Technology's WCOT-FM radio station, its Mechanical Advisory Committee and the ASME section. He has been honored for his achievements by the American Society of Mechanical Engineers, American Society of Metals and the Mohawk Valley Engineers Executive Council.

### **Atlas Hsie, M.S., C Mfg E, CRE, CQE** (University of Michigan, University of Akron)

Associate Professor, IET

Atlas Hsie's areas of expertise are in the fields of robotics, quality assurance, computer-aided manufacturing, engineering economics, and production management. Professor Hsie is a recipient of ASEE AT&T Foundation award for excellence in instruction, and Mohawk Valley Engineering Executive Council's outstanding award for professional development and student service.

### **Naseem Ishaq, Ph.D.** (London University)

Associate Professor, EET

Naseem Ishaq specialized in the fields of image processing, computer-aided design and controls. She has published papers and articles in the field of image processing and sonar imaging. She was an adjunct professor at Syracuse University before joining SUNY Institute of Technology.

### **Shun-Ku Lee, Ph.D.** (University of Illinois)

Associate Professor, MET

Dr. Lee specializes in theoretical and applied mechanics. He has published numerous articles on mechanical vibration, acoustics and noise control, structural dynamics and computer-aided design. Dr. Lee has over 20 years of industrial working experience.

### **Peter Pick, Ph.D.** (University of Sydney)

Associate Professor, Mathematics

Peter Pick's research area is elementary particle theory. He has several publications in the area of weak interactions. At present, he is interested in problems in general relativity.

### **Salahuddin Qazi, Ph.D.** (Loughborough University)

Associate Professor, EET

Salahuddin Qazi's area of expertise is in the fields of fiber optics, photonics, optical communications, digital and satellite communications. Dr. Qazi has participated as a presenter in several workshops and international conferences. His research interests are in the areas of optical communication and fiber optics, and he has recently published a number of papers on fiber amplifiers and lasers.

### **Mohamed Rezk, D.Eng.** (Concordia University)

Associate Professor, EET

Mohamed Rezk's research interests are in the areas of circuit theory, computer-aided circuit design and digital filters. In 1982, Dr. Rezk received a Dow Chemical Outstanding Young Faculty Award from the American Society of Engineering Education. Before joining the faculty of the college, Dr. Rezk was engaged in research and development for Central Dynamics.

### **Dean Richardson, Ph.D.** (University of Arizona)

Assistant Professor, EET

Dean Richardson received his Ph.D. in Optical Sciences from the University of Arizona in 1991. His research interests include: materials and devices for photonic switching, with an emphasis on multiple-quantum-well and superlattice structures; vertical-cavity surface-emitting lasers; optoelectronic modulators; ultrafast pulse generation in solid-state lasers, and femtosecond pump-probe spectroscopy. He currently serves as the coordinator of the photonics program.

### **Anglo-Kamel Tadros, Ph.D.** (University of Bradford)

Associate Professor, MET

Dr. Tadros has extensive experience as a mechanical engineer, including five years in mechanical construction and twenty years in scientific research and teaching. His areas of professional interest are the mechanics of sheet metal forming the properties of composite materials, computer-aided engineering, and recently applications of finite element analysis.

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# Master of Science in Business Management

## Dean's Message

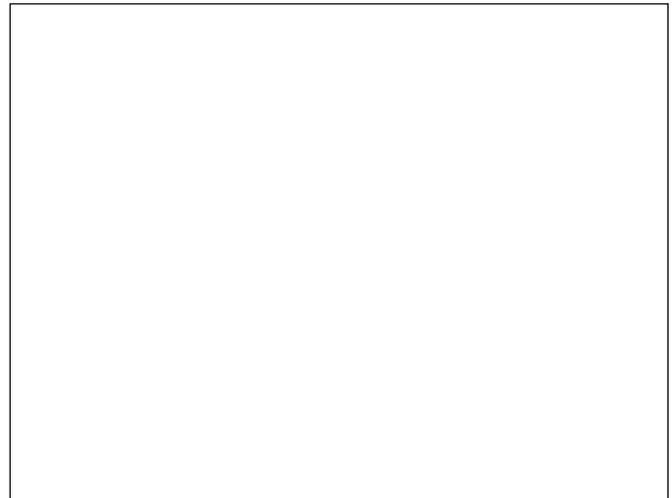
The School of Business and Public Management plays a major role in the growing graduate program of the SUNY Institute of Technology. There are opportunities for concentrated study in both quantitative and behavioral aspects of management as well as specific courses which provide for their integration. Specific concentrations focus on Management Science, Human Resource Management, Health Services Management and Management Accounting. The program is especially well suited for students who already have an undergraduate preparation in a business or management related area. Additionally, students who may have a background in technical or other non-management areas and desire an opportunity to broaden their capabilities are afforded several options to do that. A meaningful application of current computer capabilities and software plays both an integral and an integrated part of the program. Numerous opportunities exist to expand into other important areas of management such as small business management, international business and total quality management through available electives. Combining the core requirements, the available electives and the prerequisite courses results in a program which has both a specialized focus and the broad background in business management which are necessary for success in today's demanding business environment.

The Master of Science in Business Management degree is one of two graduate business degrees offered by the school. The other is the Master of Science in Accountancy and is described elsewhere in this catalog.

*Richard Havranek  
Dean, School of Business*

## The Program

The program stresses the use of modern techniques to analyze and develop solutions to a wide variety of business management situations and problems. The focus of coursework is on the use of quantitative and qualitative analyses in conjunction with financial, accounting and economic principles to solve current and future business challenges. Students have an opportunity to concentrate in one of four areas of specialization: Management Science, Human Resource Management, Health Services Management and Management Accounting. Additionally, a variety of opportunities exist to study a wide range of other business topics as electives. Combining the M.S. with the required prerequisite courses gives the student a broad background in business management skills applicable in most organizations at the managerial level.



## Program Options

### Weekday Option

The course schedule for the M.S. in business management is designed primarily for part-time students. However, full-time study may be pursued by some business graduate students. Most of the courses are scheduled for late afternoon or evening. The optimum time for full-time students to enter the program is the fall semester; since a number of courses are offered in a sequence of fall/spring/summer. Therefore, entering any semester other than fall may prevent the full-time student from pursuing the core sequence in a timely fashion. Part-time students may enter in fall, spring or summer, and take electives or alternative core courses. Students may supplement their on-campus study with weekend courses when available (see below). Students needing prerequisite skills may enter any semester, since most prerequisite courses are generally available. An assessment during the admission process will aid in determining an optimal entering point.

### Weekend Option

In the fall 1991 semester, the college began offering its M.S. program off-campus, through an agreement with Griffiss Air Force Base in nearby Rome, NY. This program was designed primarily for part-time students associated with the base, although anyone who would otherwise be entitled to take courses on-campus could have enrolled in classes offered at Griffiss Air Force Base. As a result of the Griffiss Air Force Base realignment, this program was discontinued. Our experience indicated that the program was so popular with students from the local area that we decided to continue the class schedules and hold the weekend classes on campus. Courses are conducted in four-hour blocks on Friday evenings (5:30 - 9:30 p.m.), Saturday mornings (8:00 a.m. - noon) and Saturday afternoons (1:00 - 5:00 p.m.), during a series of 10-week sessions throughout the academic year. The program includes courses which support each of the concentrations **although it might not be possible to complete the entire graduate program taking only weekend classes.**

## Admissions Criteria

Students admitted to the M.S. program in business management are expected to be proficient in a general core of prerequisite topics common to programs in business management. Prerequisites include accounting, business law, management, finance, marketing, computer use, statistics, and economics.

Admitted students lacking these proficiencies should consult with a graduate advisor to determine appropriate course selection. Prerequisite skills may be fulfilled in a variety of ways including transfer courses, courses at the Institute of Technology, and College-Level Entrance Program (CLEP) or Regents College Degree (RCD) examinations for students with appropriate knowledge, but no official documentation.

### Master of Science vs. Master of Business Administration

The popularity of graduate study in business has rapidly increased in the last 25 years. Part of that popularity is attributed to the curriculum structure adopted by most graduate business programs. Study for the master's degree in most academic fields presupposes an undergraduate major in that field. Schools of business find that over half the students applying for programs in business do not have undergraduate business majors. Curricula for the master's degree have been designed to allow for a wide variety of student background preparation.

The Master of Business Administration (M.B.A.) is a common degree designation. It is traditionally a two-year (full-time) curriculum designed to prepare generalists for corporate management. The first year of the program is designed, in most cases, to fulfill business backgrounds for students who did not complete an undergraduate business major. Many M.B.A. programs will accept appropriate undergraduate coursework and waive some or all of the first-year requirements. Other M.B.A. programs require all students, regardless of background, to complete the full two years of graduate work.

During the 1980s, the M.S. became increasingly common as a specialized degree. The M.S. in accounting, for example, is now popular because individuals desiring graduate work in accounting found the M.B.A. too general and wanted graduate work more attuned to their specialty. Additional majors are now being developed at many schools to provide an M.S. degree program with a strong specialization, as opposed to the perceived generalist M.B.A. degree.

The SUNY Institute of Technology M.S. degree was originally designed with a concentration of courses in management science. This program was developed based upon forecasts of potential employment opportunities and potential student interests. Since then the opportunity to concentrate in Human Resources Management, Health Services Management or Management Accounting has also been added in response to student interest in these areas. The curriculum is designed on the same assumption as most business programs/ a one-year program for

students with undergraduate business preparation and two years for individuals without the undergraduate prerequisites.

The SUNY Institute of Technology M.S. degree program, with an emphasis on management science, is quite similar to many M.B.A programs, which stress the quantitative skills and decision science concepts within the management science area.

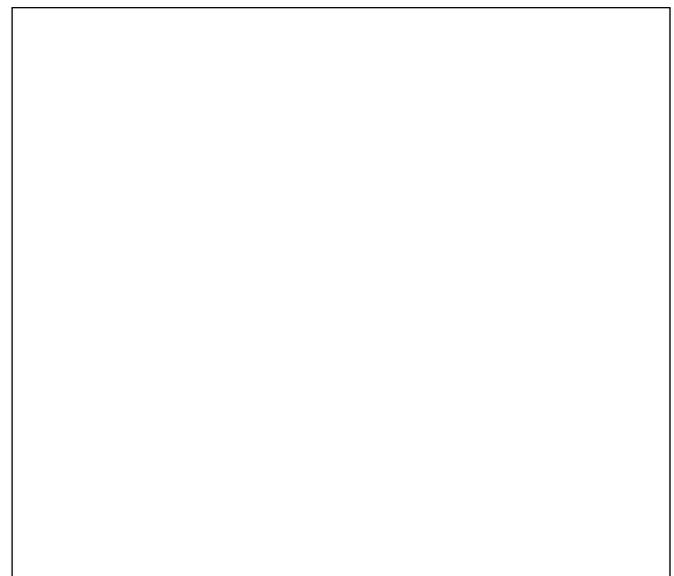
## Admissions Guidelines

Scores from the GMAT (Graduate Management Admissions Test) will follow the AACSB (American Assembly of Collegiate Schools of Business) recommended guidelines as an admission criterion as follows:

1. A total of 950 points based on 200 x undergraduate GPA + GMAT score, or
2. A total of 1,000 points based on 200 x upper division GPA + GMAT score.

The SUNY Institute of Technology will use these standards except for the following cases:

1. The applicant has been out of school for an extended period and the real meaning of his or her undergraduate grades is questionable.
2. The applicant has demonstrated, through exceptional performance in a management career, that his or her undergraduate grades were not indicative of his or her ability.
3. Conditional admission may be allowed for promising candidates who do not perform well on the GMAT. Students must maintain at least a B average in the first three courses completed in order to remain matriculated when admitted in this category.
4. When candidates have strong GPAs they may be conditionally admitted with a requirement to complete the GMAT test at the earliest possible date. This requirement may not be waived and under no circumstances can a student complete their degree program without the submission of GMAT scores.



## Degree Requirements

### Prerequisite Skills

As outlined in the admissions requirements, there are eight topical areas in which all students should have basic knowledge. In some cases these are absolute prerequisites (certain courses could not be taken without completion of the competency area, e.g., budgeting should not be attempted without prerequisite work in accounting and finance). In other cases, competencies are needed early in the program, but selective graduate coursework may be started prior to their attainment. Courses taken to fulfill these prerequisites will not be counted toward degree requirements nor will they be counted in the graduate grade point average.

### Program Requirements

The degree requirements consist of the completion of 33 credit hours to be distributed in the following manner:

Common Core Courses	12 credit hours
Specialized Core Courses	15 credit hours
Electives	6 credit hours

All students will have a program of study which identifies the specific distribution for their concentration.

Students must attain a grade point average of 3.0 for all graduate courses included in their program. No more than three “C” grades, regardless of overall grade point average, will be counted toward graduation.

### Common Core Courses

All students must complete the common core courses.

#### **BUS 505 Managerial Economics (3 credits)**

Managerial economics is the application of economic theory and methodology to decision-making problems encountered by public and private institutions. Emphasis is on the identification and selection of alternative means of obtaining given objectives as efficiently as possible. It is a special branch of economics bridging the gap between abstract theory and managerial practice. Areas of study will include managerial economics and economic theory, statistical and econometric applications, demand, supply, markets, costs, profits and government and business. Prerequisite ECO 310 or equivalent.

#### **MGS 511 Management Science (3 credits)**

This survey course addresses the study of the scientific method as applied to management decisions. The forepart of this course addresses the development of basic statistics up to hypothesis testing. Topic coverage also includes (1) bivariate regression analysis, (2) multiple regression analysis, (3) PERT and CPM, (4) linear programming (graphic method only), (5) decision making under uncertainty (including maxi-max, mini-max, and maxi-min techniques) and (6) the basic elements of forecasting (including the classical time series model). Prerequisite STA 300 or equivalent.

#### **ACC 520 Financial Planning I (Budgeting) (3 credits)**

The objective of this course is to familiarize students with the basic principles of short-term financial planning. Topic coverage

shall include (1) trends flow statement development and analysis, on both cash and working capital bases, (2) common size analysis, (3) index analysis, (4) cash budgeting, (5) working capital management, (6) pro forma statement development and analysis, and (7) general forecasting methodologies (including subjective, historical, and causal techniques). Prerequisite Accounting 305 or equivalent.

#### **BUS 690 Research Seminar (3 credits)**

Each student will design a research project appropriate to the curriculum. The project should, when possible, provide utility for the current employment or anticipated employment of the student. The student will complete the project and submit a report using correct format.

## Concentration Core Courses

Students may choose from four areas of concentration within the degree. A total of 15 credit hours selected from courses within the specialization are required. One course within the specialization must be a “capstone” course (i.e. BUS 685, HRM 685 or HSM 690). Students desiring to complete the thesis in a manner which would also satisfy the capstone experience must submit a petition requesting this through a graduate faculty advisor to the dean. A thesis might also be completed as an elective.

### Concentration in Management Science

This area of concentration provides students with an in-depth and comprehensive exposure to quantitative management tools intended to aid the decision maker. This concentration would be appropriate for students contemplating careers in manufacturing organizations or in positions which require the integration of financial, economic and strategic information relating to the success or failure of business organizations.

#### **BUS 515 Systems Analysis for Information Managers (3 credits)**

Provides the necessary analytical framework and background knowledge for the business analyst's role in the design and development of computer-based information systems. Topics include establishing criteria for information flows, analysis of record keeping and reports for information control and integration of a data base for information maintenance. Methodology lectures, discussion, case studies, and experimental applications on a computer system. Prerequisites CSC 300, or CSC 301, or CSC 302, or equivalent.

#### **MGS 615 Operations Research (3 credits)**

Use of systematic quantitative analysis as an aid in the formulation and solution of complex management decisions. Alternative solutions to business problems are generated and examined with the use of computer-based technology and sophisticated mathematical techniques. Topics include: (1) decision making using expected monetary value, (2) linear programming (including simplex, computer-generated solutions, and sensitivity analysis), (3) simulation model development and usage, (4) Markov analysis, (5) queuing models, (6) the transportation model (including the Greedy algorithm, VAM, Northwest Corner Method, Stepping Stone Method and MODI), (7) the assignment problem using the Hungarian method, and (8) and introduction to network models. Prerequisite Management Science 511.

**FIN 525 Financial Planning (Long-Term Planning)**  
**(3 credits)**

Designed to acquaint the student with the techniques and issues involved in long-term financial planning. The following topics shall be included (1) evaluation of the firm, (2) long-term forecasting methodologies (including simulation), (3) capital cost calculation techniques, (4) capital structure issues, (5) capital budgeting methods (both deterministic and stochastic), (6) dividend policy issues, and (7) the interrelationship between long-term financial planning and the macro economic environment. Prerequisites FIN 302, Financial Planning I.

**MG5 660 Production Systems & Control (3 credits)**

Problems and techniques related to the production of manufactured goods. Topic coverage includes (1) inventory models (both deterministic and probabilistic), (2) linear programming using “long hand” simplex and computer-generated solutions, (3) network models (including project scheduling, maximal flow in a capacitated network, minimal spanning tree problem, and the shortest route problem), (4) dynamic programming (both deterministic and probabilistic), (5) queuing models (including single and multiple server models), and (6) the elements of quality control (both by variables and attributes). Prerequisites Management Science 615, Financial Planning I and II.

**BUS 685 Business Environments & Strategies (3 credits)**

An integrating experience to apply the varied skills and knowledge accumulated throughout the required coursework. Special emphasis will be upon how organizations fit within the social, political, and economic environments, and managerial strategies to optimize achievement of objectives.

**Concentration in  
Human Resource Management**

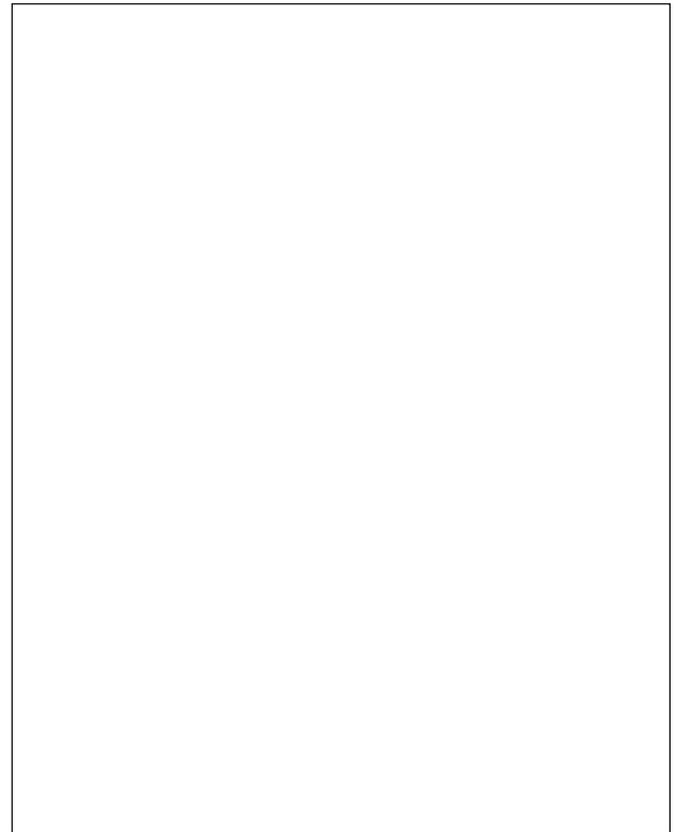
This area of concentration focuses on the management of the human resource. A variety of technical, behavioral, quantitative and strategic aspects are included to provide students with a rigorous, comprehensive capability in this critical area. This exposure would be especially appropriate for students who are contemplating positions at the upper management and executive levels either in the human resource management function or other positions requiring intense skills in managing with the firm’s human resources.

**HRM 615 Labor Relations (3 credits)**

This topic continues to have a major impact on the work place environment. A major assumption of this course is that an in-depth knowledge of the history, development, current status, legal underpinnings and skills attendant to the collective bargaining process is critical to managers in both union and non-union environments. Accordingly the curriculum addresses each of these important facets of the collective bargaining process. Attention is also given to the proper use of disciplinary action within a unionized setting, to include arbitration procedures. Prerequisite MGT 618.

**MGT 560 Total Quality Management (3 credits)**

Enables either actual or aspiring supervisors and mid-level managers to assume leading roles in their organizations’ Total Quality Management (TQM) efforts. Emphasis is more upon implementation than upon conceptualization, though the latter is also expressed. Maintains a balance between TQM methodology and strategies for organizational change.

**MGT 618 Human Resource Management (3 credits)**

Manage human resources more effectively improving analysis and planning. Focus on the development of state-of-the-art systems which support basic business objectives, as well as foster good working relations between employees and managers.

**HRM 620 Compensation (3 credits)**

Often referred to as one of the most important elements of the work place environment, the subject of compensation is examined in this course across a broad spectrum. Current theories, models and concepts are presented and analyzed in an effort to provide the basis for development of an equitable and effective pay system. Key topics included are motivation theory, performance appraisal, legal bases for pay and internal and external pay equity. Prerequisite MGT 618.

**BUS 622 Employee Benefits Management (3 credits)**

Concepts of group life, health, retirement, and emerging employer sponsored benefit plans. Emphasis is on plan design and management with special attention to cost funding, regulation and tax considerations. The impact of government programs such as Social Security on individual insurance and employee benefit programs and potential impact of proposals such as national health insurance. Prerequisite MGT 618 or HRM 620.

**HRM 630 Staffing (3 credits)**

This course focuses on determining the human resource needs of an organization and identifying potential techniques for satisfying those needs. Emphasis is placed on the role of the staffing function in obtaining, developing, and retaining a qualified work force. Current related theory and research is analyzed and used as the basis for recommended practices. Topics include: legal issues, strategic human resource planning, recruitment, selection, orientation and socialization, and performance appraisal. Prerequisite MGT 618.

**HRM 640 International Human Resource Management  
(3 credits)**

The importance of including the global perspective in current strategic thinking and planning has become readily recognized. Human resource managers must also support this strategic direction by developing personnel programs which are specifically geared to exigencies of the international economy. The course reviews the basic functional areas of human resource management with special attention to considerations which must be taken to exist and thrive in an international business environment. Prerequisite MGT 618.

**HRM 650 Human Resource Information Systems  
(3 credits)**

The need to integrate human resource management with the overall stream of strategic decisions and techniques demands the support of a current and responsive human resource information system. Although the course recognizes that human resource information systems can run the gamut from paper and pencil manual systems to the most sophisticated mainframe systems, the emphasis is on microcomputer applications to which the student will be able to relate based on the comprehensive course curriculum. Concepts developed in the course focus on bridging the needs of the most senior executives in an organization with those of the operating personnel manager. Prerequisite MGT 618.

**HRM 685 Human Resource Management  
Environments & Strategies (3 credits)**

An integrating experience to apply basic business management skills to comprehensive problems and cases dealing with human resource interaction with current business environments and strategy. Students must demonstrate knowledge of both quantitative and behavioral techniques to achieve quality management of the human resource. Prerequisite: Permission of the dean.

**HRM 699 Thesis in Human Resource Management  
(3 credits)**

The thesis in human resource management requires a student to combine knowledge and expertise developed in the specialized core curriculum along with the common core courses of the Master of Science in Business Management program. Emphasis is on development of a paper which is based on convincing logic, supported by primary and/or secondary research and integrated with the body of knowledge which comprise the program of study. A key aspect of the thesis is the ability to integrate fundamentals of the degree program in an independent effort consistent with study at the graduate level. Prerequisite: completion of HRM 690.



**Concentration in  
Health Services Management**

Students in this specialty meet the basic curriculum requirements of all graduates students in the Master of Science in Business Management program. In addition to the specialized courses in the concentration, some other undergraduate prerequisites are needed to prepare the student for this specialty. The MS program in Business with a specialty in Health Services Management will prepare students for a variety of management positions in the health professions, including: administrative positions in hospitals; nursing home administration; ambulatory care administration; health care consulting; and management level positions in health insurance such as Blue Cross/Blue Shield, health maintenance organizations, preferred provider organizations; government; and others.

**HSM 501 Health Policy (3 credits)**

Federal and state governments, as well as many health care organizations, engage in ongoing and significant decision-making which will determine the course of health care. The purpose of this course is to present the process, intent and consequences of policy. Past, present and potential policy decisions will be studied. Prerequisites: HSM 301 and HSM 310 or permission of program advisor.

**HSM 502 Finance for Health Care Organizations  
(3 credits)**

Departmental operations will be examined to enable management to organize and coordinate the efforts of each service and achieve cost effective patient care. Operational problems will be solved through the use of cash flow analysis, capital budgeting, capital finance (sources and management), feasibility analysis and cost determination. Special emphasis will be placed on the regulation affecting financing of health care, understanding alternative reimbursement systems and the applications of decision support systems. Prerequisite: FIN 302

**HSM 509 Legal Aspects of Health Care (3 credits)**

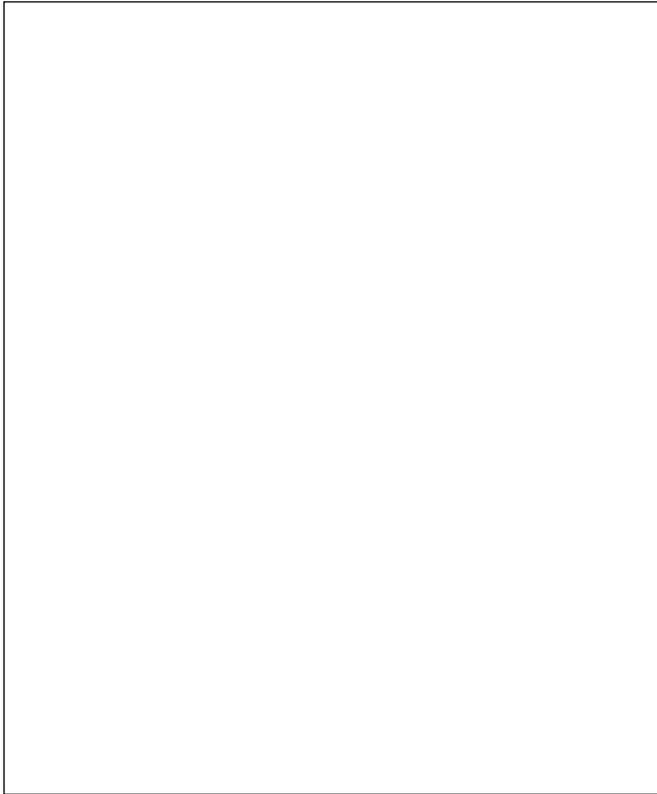
The course is designed to explore legal issues that affect the operation of health care facilities. Covered topics include malpractice, licensure, staff privileges, federal/state regulatory mechanisms, hospital liability, risk management, decisions at the end of life and obligations to patients and the community. Preventative measures will be examined that minimize risks to health, safety and the environment. A special emphasis will be on legal issues that improve operational performance and regulatory compliance.

**HSM 510 Managed Care (3 credits)**

Managing patient care has become a significant factor in health care delivery, as efforts to provide only appropriate care and contain costs gain momentum. The most notable type or organization involved in managed care is the health maintenance organization, although managed care principles are employed in other sectors of the health care system. This course will examine managed care from several perspectives, including its advantages and disadvantages. Prerequisites: HSM 301 and HSM 310 or permission of program advisor.

**HSM 522 Nursing Home Administration (3 credits)**

Aging of the United States population has expanded the need for long-term care services. This course will examine the nursing home as an integral part of the long-term care continuum. This



course is intended to provide the foundation necessary for students preparing for an internship and subsequent career as a nursing home administrator.

#### **HSM 523 Long-term Care Policy (3 credits)**

Long-term care services are expanding commensurate with the growth of the elderly population. As the service sector increases, the regulatory environment becomes more complex. This course will familiarize the student with the development of long-term care policy and corresponding applicable state/federal regulations on providers. There will be particular emphasis on nursing facilities and other service providers and consumers.

#### **HSM 525 Marketing Health Care (3 credits)**

Decision making, relative to facility planning and financial integrity, has become extremely complex in the health care field. Health care marketing is one of the tools available to the health professional which provides guidance and support to these efforts. This course will address many of the planning and marketing variables that should be addressed, as well as how to coordinate these activities.

#### **HSM 530 Ambulatory Care Administration (3 credits)**

The provision of health services has dramatically moved outside the confines of the institution. This course will examine alternative delivery systems that emphasize ambulatory care services versus inpatient institutional services, and the specifics of management in an ambulatory care setting.

#### **HSM 531 Financial Management in Ambulatory Care (3 credits)**

Designed for the health care administrator who will work primarily in ambulatory facilities. The course will focus on financial reimbursement issues which the administrator must understand in providing strategic financial and operational direction to his/her facility.

#### **HSM 590 Seminar in Health Services Management I (3 credits)**

Students are presented with a variety of problems that health care managers face in various health care settings and under a number of organizational arrangements. These management challenges will be thoroughly analyzed through a case study approach and within a conceptual framework. Skills useful in improving individual and organizational effectiveness such as leadership, organization design, coordination and organization changes are covered. A quantitative basis for making decisions will be stressed. The aim is to provide skills and instill confidence that students can use to face and solve problems of their own.

#### **HSM 600 Quantitative Methods for Health Services Management (3 credits)**

Technical decision making in the health field requires the comprehension of disparate data. The student will analyze health status data, utilization statistics and financial data using basic statistical methods including correlation, regression, analysis of variance and nonparametric tests. Statistics will be applied to operational and problems of concern to management, such as treatment outcomes, health status instruments, planning and financial management as well as techniques of systematic analysis and cost effectiveness analysis. An introduction to the use of computer packages for health data analysis will include file analysis, data manipulation and basic statistical analysis.

#### **HSM 690 Seminar in Health Services Management II (3 credits)**

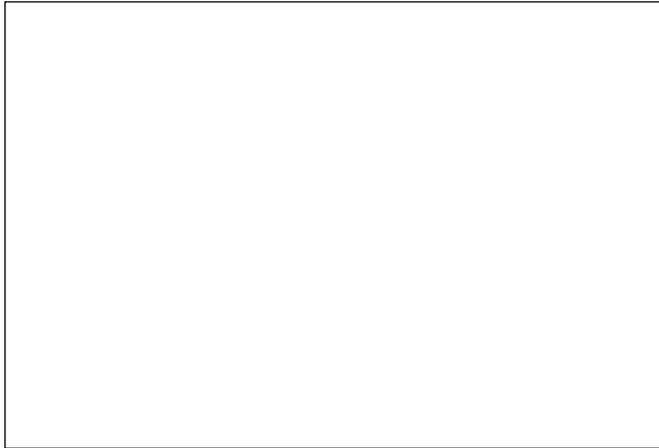
As the capstone event of the MS in Business Management-Health Services Management, this course packs years of health administrative experience into one semester of computer simulated "real life". Teams of students define, analyze and solve significant senior management-level operational problems in fictitious New York State health facilities. Students compete to see which facility will be the most successful. They expand or limit services, merge with other facilities, apply for loans, negotiate labor disputes and track their overall performance. Prerequisite: Permission of Instructor, completion of all core courses.

#### **HSM 692 Internship (3 - 12 credit hours)**

Internship placements provide students with a field experience related to their academic preparation enabling them to apply classroom instruction to the work site. Students are placed with an organization related to their major and specific area of interest to work along with, and be proctored by, experienced professionals. These are opportunities that cannot be duplicated in the classroom environment and provide an excellent transition into the field. Prerequisite: Permission of Program Director.

#### **HSM 699 Thesis in Health Services Management (3 credits)**

The thesis option in health services management requires a student to combine knowledge and expertise developed in the specialized core curriculum along with the common core courses of the Master of Science in Business Management program. Emphasis is on the development of a paper which addresses a convincing research question in the health care field, and is supported with primary and/or secondary data. Topic areas include improving the delivery of health care services to a subgroup of the population, or advancing health service delivery in an organization or a geographic region. Prerequisite: Completion of HSM 690.



### **Concentration in Management Accounting**

This concentration is especially well suited for students who are interested in accounting but do not intend to pursue the C.P.A. credential. The curriculum combines the traditional broad based business management focus with an emphasis on accounting and finance. Students in this concentration are well prepared to fill key management positions which require a strong underpinning in accounting. In addition to the common core courses this concentration requires five three-credit hour specialized courses, and two three-credit hour elective courses.

#### **ACC 571 Advanced Management Accounting (3 credits)**

Students will learn techniques for budgeting, cost-volume-profit analysis, segment evaluation and analyzing operating constraints. They will research and develop solutions to various advanced management accounting problems through case studies and problems from the CMA Exam. Finally, the students will present their analysis and recommendations orally and in writing. Prerequisite: Management Accounting (ACC 305), Cost Accounting (ACC 470) or equivalent.

#### **ACC 630 Fund Accounting (3 credits)**

Accounting principles and procedures as applied to not-for-profit entities are covered. In addition, the accounting standards and reporting requirements that relate to not-for-profit entities will be reviewed and analyzed.

#### **BUS 685 Business Environments & Strategies (3 credits)**

An integrating experience to apply the varied skills and knowledge accumulated throughout the required coursework. Special emphasis will be upon how organizations fit within the social, political, and economic environments, and managerial strategies to optimize achievement of objectives.

#### **FIN 525 Financial Planning (Long-Term Planning) (3 credits)**

Designed to acquaint the student with the techniques and issues involved in long-term financial planning. The following topics shall be included (1) evaluation of the firm, (2) long-term forecasting methodologies (including simulation), (3) capital cost calculation techniques, (4) capital structure issues, (5) capital budgeting methods (both deterministic and stochastic), (6) dividend policy issues, and (7) the interrelationship between long-term financial planning and the macro economic environment. Prerequisites: FIN 302, Financial Planning I.

## **Electives**

All students will have the opportunity to select two electives. Normally these courses may be selected from any of those graduate courses offered in the School of Business and Public Management. Students may also select courses being offered in other schools at the graduate level which are consistent with their programs of study. Approval of the dean is required for any courses not listed in this section of the catalog.

#### **ACC 505 Introduction to Accounting (3 credits)**

An accelerated introduction to the principles of accounting, coverage of the recording process, financial statement preparation, and introduction to management accounting. Topics include cost behavior, cost-volume-profit relationships, segmented reporting and budgeting.

#### **ACC 530 Accounting and Budgeting for Not-for-Profit Organizations (3 credits)**

Attain a working knowledge of fund accounting and budgeting. Preparation of a budget for an agency or division or a large not-for-profit organization.

#### **BUS 509 Strategies in National/International Business (3 credits)**

A review of business theories and principles utilized in shaping current, private, and public management decisions. National and international business problems will be addressed, along with strategies being pursued to alleviate them. The course will demand extensive research in current publications.

#### **BUS 551 Business & Society (3 credits)**

Analysis of forces external to the firm which influence its goals, structure, and operation; including legal and regulatory constraints, primarily as they reflect the philosophical backgrounds of free enterprise and managerial enterprise viewpoints current in American business. The social, political and technological factors which influence managerial/non-managerial behavior in the firm and the firm's impact on society. Actual cases influencing the firm or industry objectives, and the philosophy of private enterprise will be covered. (Offered concurrently with BUS 451; students cannot earn credit for both courses.)

#### **BUS 575 Small Business Management (3 credits)**

The characteristics of management functions unique to a small business firm are explored in the course. Small Business Management offers students an opportunity to work on "live" problems being experienced by small businesses. Students enrolled in the course will observe and analyze assigned cases in the field, define problem areas, and recommend remedial action. Prerequisite: permission of instructor.

#### **BUS 651 Business Ecology (3 credits)**

Business organizations operate within the context of an environment. Various aspects of that environment (economic, social, political, geographical, physical, ethical, etc. issues) impact upon the decisions made in those environments. Appropriate issues will be addressed and will likely vary each semester based upon current events.

#### **ECO 510 Microeconomics (3 credits)**

A study of how the market system works. Topics include consumer preference and choice theory; demand; market equilibrium; production technological change; cost; the behavior of the firm;

perfect competition; monopoly and the other forms of imperfect competition; pricing and non-price competition under oligopoly; factor markets; the theory of rent; market imperfections, with special emphasis on externality; economics of information; special topics.

#### **FIN 502 Corporation Finance (3 credits)**

A study of theoretical concepts of corporate finance and the application of these concepts to real world case studies. Covers the basics of financial activities of the firm including financial planning, the structure of financing, and asset selection. Knowledge of principles of finance and accounting.

#### **FIN 632 Investment Strategy (3 credits)**

Investment analysis includes statistical and field research; examination of companies, industries, and financial products; and the management of investment portfolios. Concepts include risk and reward, safety and yield, quality and competitive position, and suitability within an investor's objectives and circumstances. Techniques include analysis of earnings trends; critical study of corporate shareholder and government reports; relationship to the economic and securities market environments; timing, computer supports, indexing, and diversification.

#### **MGT 505 Management and Administration Theory (3 credits)**

This course proposes to study and analyze the basic science, theory and principles of administrative management and how they relate to the practice of management. Consideration is given to the essential functions of planning, organizing, coordinating, commanding and controlling in the practice of management. The course includes the managerial challenges in today's ever-changing environment ranging from classical to behavioral school of thought.

#### **MGT 507 Organization Development (3 credits)**

A study of transforming an organizational design into reality using theory and experience in behavioral science, the following concepts will be considered social: systems, group dynamics, planned change, the role of consultants and change agents, human relations, training and client systems. Prerequisite MGT 307 or equivalent (Offered concurrently with MGT 407; student cannot earn credit for both courses.)

#### **MGT 540 Organizational Communication (3 credits)**

Both theory and practice are emphasized in this advanced communication course. Communication and organizational theory are studied along with analytical techniques and their application to organizational problems. Skills in interviewing, small group communication, and in written and oral reports will be practiced.

#### **MGT 607 Organizational and Management Theory (3 credits)**

Analyze major schools of management through traditional, behavioral, and contingency. Explore managerial roles, power styles, conflict with respect to contemporary organizational systems through lecture, discussion, case analysis and experiential exercises.

#### **STA 500 Statistical Methods**

Descriptive statistics, probability and probability distributions, decision theory, independence, sampling distributions, estimation, hypothesis testing, analysis of variance, regression and correlation, time series, index numbers.

## **Research Experience Requirement**

Each of the three areas of concentration require a significant research experience and an integrative activity which provides the student the opportunity to demonstrate an appropriate level of knowledge in both the core and specialized areas of study.

All students must complete, in addition to a research seminar, a "capstone" course (either BUS 685, HRM 685 or HSM 690). If students intend to complete their capstone experience through completion of a thesis (in lieu of an integrative capstone course) they must submit a petition to do this. It is possible for a thesis to include aspects which would include the integrative aspects of a capstone course. The petition will describe how the thesis will do this. For these students the research seminar will provide the basis for completing a literature search, a background discussion and a thesis proposal. Subsequently the student will register for the thesis and complete the remaining thesis project. Completion of thesis requirements will be documented and reported as described in the Graduate Studies Policies and Procedures Manual.

Students may also pursue the thesis as an elective. In this case the capstone course would also be taken to satisfy the integrative capstone experience.

## **Faculty**

**John E. Cook**, Associate Professor; Ph.D., Syracuse University. Management.

**J. Allen Hall**, Associate Professor; Ph.D., University of Iowa. Communications for business.

**Richard J. Havranek**, Dean; Ph.D., Syracuse University. Strategy/Policy, Human Resource Management, computerization of personnel and other management information.

**Randall F. Jarmon**, Assistant Professor, Ph.D., Rensselaer Polytechnic Institute. Human Resources Management and labor relations. Dr. Jarmon has ten years of human resources management work experience, most of it with Caterpillar and GE.

**Sarah B. Laditka**, Assistant Professor; Ph.D., Syracuse University. Quantitative Methods, Financial Management, Health Policy, Strategic Management.

**William Langdon**, Professor; Ph.D., Syracuse University. Quantitative methods and finance.

**Edward Petronio**, Associate Professor; Ph.D., Syracuse University. Business policy and organizational behavior.

**Hema Rao**, Assistant Professor, D.B.A., Mississippi State University. Accounting, CPA State of Louisiana. Ethics in business and accounting; audit technology.

**Rafael F. Romero**, Associate Professor; Ph.D., West Virginia University. Finance and economics.

**Craig A. Tunwall**, Assistant Professor; Ph.D., University of Iowa. Human Resources.

**Sanjay Varshney**, Assistant Professor; Ph.D., Louisiana State University. Finance, capital structure and firm performance.

**Kenneth Wallis**, Associate Professor; M.S., University of Akron; C.P.A., States of New York and Ohio. Accounting.

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# Master of Science in Computer and Information Science

## Dean's Message

The Master of Science program in Computer and Information Science provides students with a strong theoretical and application-oriented education. Graduates from the program have been equally successful in entering the work force and continuing their graduate education. Students from this program have gone on to pursue their doctoral degrees from institutions such as Binghamton University - State University of New York, Cornell University, University of Massachusetts, Northwestern University, Syracuse University and the University of Southern California.

The Computer Science Department is the largest within the School of Information Systems and Engineering Technology. The nine full-time faculty members have diverse areas of academic expertise. They support the graduate program and two undergraduate programs, while continuing to pursue research and scholarly activities in their respective areas of interest.

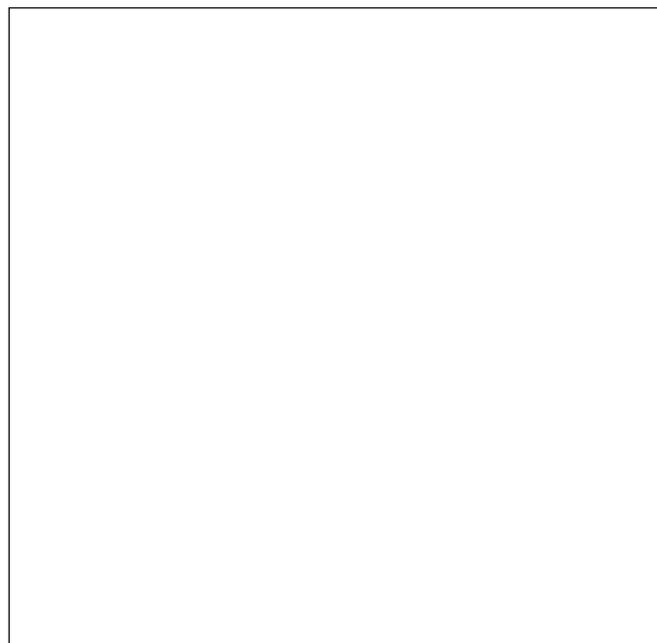
The Computer Science Department has the distinction of having used a distance learning environment to offer a Master of Science degree to seven Russian students residing in Moscow. This first ever international venture, required the collaboration of two institutions of higher education located half a world apart and contained a series of historic firsts. One of the most noteworthy of the several innovations involved the use of the Internet and multicast backbone, M-bone technology. This technology was used by four students in Moscow to defend their theses to the faculty at SUNY Institute of Technology.

The program regularly offers a wide variety of courses including systems theory, formal languages, artificial intelligence, computer vision and courses emphasizing information storage and retrieval. The courses are complemented by several state-of-the-art laboratories employing a variety of computing environments. A complete description of the computing resources are located in the section entitled Academic Computing Facilities.

The program is also supported by extensive library holdings. Over 200 journals maintained by the library, directly support the graduate program in Computer and Information Science.

The Master of Science in Computer and Information Science program is designed for full- and part-time students seeking a quality education in preparation for employment and career advancement in this rapidly advancing field.

***Rosemary J. Mullick, Ph.D.***  
***Interim Dean, School of Information  
Systems and Engineering Technology***



This program is designed to provide students with a broad overview of the major areas in the discipline and in-depth specialization in one area. Course offerings stress the principles and problem solving methodology required by computer professionals working in industry and education.

## Admissions Criteria

A computer science background is required for admission to the program. However, students with an insufficient background may amend this deficiency by taking designated "bridge" courses. These courses are intended to provide students with fundamental knowledge in mathematics and computer science as appropriate and serve to prepare students for advanced coursework. Although some students may be advised to take up to five bridge courses, only two of these may be counted toward the elective component of the degree requirements. The use of bridge courses allows students with technical backgrounds other than computer science to complete their graduate program within a reasonable period of time.

## Bridge Courses

- CSC 500 Discrete Structures
- CSC 501 Continuous Methods in Computer Science  
(Also listed as CSC 420)
- CSC 502 Machine Structures (Also listed as CSC 332)
- CSC 503 Data Structures (Also listed as CSC 340)
- CSC 504 Computational Methods in Linear Algebra  
(Also listed as CSC 421)

Students who need to make up deficiencies or enroll in bridge courses should consult with a graduate advisor to determine appropriate course selection.

GRE general test scores are also part of the admission criteria. Information on this test appears in the general information section of this catalog.

## Degree Requirements

The basic requirements are completion of 33 semester hours of graduate study including successful completion of either a project (CSC 598) or a thesis (CSC 599).

1. Coursework in which a B (3.0) average must be maintained shall include:

**Core courses** (complete at least 3 of these 5 courses):

CSC 511: Formal Methods in Programming

CSC 521: Analytical Models for Operating Systems

CSC 531: Automata, Computability & Formal Languages

CSC 541: Information Storage and Access

CSC 551: Introduction to Systems Theory

### Regular Offerings

Five additional courses from the regular offerings of the department.

### General Electives

Two courses, which may be chosen from among any of the graduate offerings of the institute.

2. After consulting with a faculty advisor, graduate students must select one of two options. Option I consists of 9 three-credit courses plus 6 credits of Thesis (CSC 599). Option II consists of 10 three-credit courses plus 3 credits of Project. The thesis involves a significant investment of time and effort. These are defended publicly, before a committee of three faculty members, one of whom serves as thesis advisor. The project also involves three faculty members, but is not defended formally; however, a student may choose to present his or her results at an informal colloquium or a meeting of CSC 600.

## Regular Offerings

### CSC 511 Formal Methods in Programming (3 credits)

Formalisms for program expression; data and control abstractions and their interrelation are considered. Advanced control constructs including backtracking and nondeterminism, concurrent programming, the effects of formal methods for program description. Major approaches and techniques for proving programs correct are described. Prerequisite: CSC 500; CSC 503; coursework in two high-level languages.

### CSC 512 Theory of Programming Languages (3 credits)

A formal treatment of both programming languages (translation and compiler design concepts, formal semantics) and programming concepts; theoretical aspects of topics such as parsing and translation specifications presented along with those based on consideration of programs as machine independent entities. Prerequisites: Discrete Structures; Data Structures; coursework in two high-level languages.

### CSC 513 Compiler Construction (3 credits)

An introduction to the major methods used in compiler implementation. The parsing methods of LL(k) and LR(k) are covered, as well as finite state methods of lexical analysis, symbol table construction, internal forms for a program, run time storage management for block structured languages, and an introduction to code optimization. Prerequisites: Discrete Structures and CSC 531.

### CSC 515 Object-Oriented Software Development (3 credits)

An exposition of current object-oriented software design methodologies. Topics covered include object modeling, component protocols, interaction and visibility graphs, class design and inheritance graphs, data dictionary design, object persistence, exception handling, application frameworks and design patterns. These general concepts are illustrated with examples from currently practiced methods such as Booch, OMT and Fusion. General software engineering principles, including reusability, are also discussed. Prerequisites: CSC 500 and CSC 503, or equivalent.

### CSC 516 Functional Software Development (3 credits)

An exposition of the fundamental principles underlying the applicative programming paradigm. Topics covered include lambda and general calculi, techniques of functional programming, types in functional languages, correctness of functional programs, and parallelism. A survey of major functional languages is also provided, along with representative applications. Prerequisites: CSC 500 and CSC 503, or equivalent.

### CSC 521 Analytical Models for Operating Systems (3 credits)

Review of major concept areas of operating systems principles, including networks of operating system modules, pipelining, and parallelism; development of approaches and examination of the major models that have been used to study operating systems and the computer systems which they manage. Introduction to the fundamentals of queueing theory; perti nets, dataflow diagrams, and other models of parallel behavior will be studied. Prerequisites: Discrete Structures, Probability and Statistics, Linear Algebra, Calculus.

### CSC 522 Computer Networks and Distributed Processing (3 credits)

A study of networks of interacting computers, including basic network topologies, equipment configurations, and local networks.

The problems, rationales, and possible solutions for both distributed processing and distributed databases will be examined. Major national and international protocols will be presented. Prerequisite: Discrete Structures.

**CSC 523 Large Computer Architecture (3 credits)**

A study of large computer systems which have been developed to make special types of processing more efficient or reliable. Examples include pipelined machines, array processing, and tightly coupled multiprocessors. Prerequisites: Discrete Structures, Linear Algebra.

**CSC 524 Real Time Systems (3 credits)**

An introduction to the problems, concepts, and techniques involved in computer systems which must interface with external devices. These include process control systems, computer systems embedded within aircraft or automobiles, and graphic systems. Areas will include data acquisition, analog-digital conversion, digital signal processing, and operating systems software for these systems. Prerequisites: Calculus, Linear Algebra.

**CSC 525 Distributed Systems (3 credits)**

This course concerns distributed multiprocessor systems in their fullest scope. It considers both the functional and analytical structures of specialized processors performing portions of the same task, nonspecialized processors with limited number of states sharing a common memory, and multicomputers geographically distributed but linked through a communications network. It provides a foundation to evaluate the economics and feasibility of distributed systems. Prerequisite: CSC 522.

**CSC 531 Automata, Computability and Formal Languages (3 credits)**

The stress in this course is on formal models of computation and the development of students' skills in utilizing rigorous concepts and definitions in computing environments to analyze broad classes of problem situations. Classical concepts from theoretical computer science (such as state minimization, formal languages and their acceptors, and the theory of computable functions) will be reviewed and/or developed. Prerequisite: Discrete Structures.

**CSC 532 Applied Combinatorics and Graph Theory (3 credits)**

A study of combinatorial and graphical techniques for complexity analysis including, generating functions, recurrence relations, Polya's theory of counting, planar directed and undirected graphs, and NP-complete problems. Applications of the techniques to analysis of algorithms in graph theory, and sorting and searching. Prerequisite: Discrete Structures.

**CSC 533 Theory of Computation (3 credits)**

A survey of formal models for computation, providing the basis for a rigorous understanding of the capacities and the limitations of computing devices. Includes Turing Machines, partial recursive functions, recursive and recursively enumerable sets, the recursion theorem, abstract complexity theory, program schemes, and concrete complexity. Prerequisites: Discrete Structures, CSC 531 co-requisite.

**CSC 534 Combinatorial Optimization (3 credits)**

A study of the class of algorithms for optimization of combinatorial structures. Complexity of problems such as linear programming and the traveling salesman problem. NP-completeness, approximation algorithms, worst-case and probabilistic analysis of algorithms, and local search. Prerequisite: Discrete Structures.

**CSC 535 Error Correcting Codes (3 credits)**

An introduction to coding for reliable data storage and transmission. Topics include linear, BCH, Cyclic, Reed-Mueller, and Reed-Justensen codes; dual codes and their weight distribution; encoding and decoding algorithms. Prerequisites: Discrete Structures, Linear Algebra.

**CSC 541 Information Storage and Access (3 credits)**

Review of database and database management concepts. Advanced data structures, file structures, databases, and processing systems for access and maintenance. For explicitly structured data, interactions among these structures, accessing patterns, and design of processing/access systems. Data administration processing system life cycle, system security. Prerequisite: Discrete Structures.

**CSC 542 Information Systems Design (3 credits)**

Introduction to the formalization of the information systems design process. Concepts and theories relating to module design, module coupling, and module strength with emphasis on techniques for reducing a system's complexity. The course is intended to be especially useful for those working in a technically advanced information systems environment. Prerequisite: CSC 551.

**CSC 543 Distributed Database Systems (3 credits)**

A consideration of the problems and opportunities inherent in distributed databases on a network computer system. Includes file allocation, directory systems, deadlock detection and prevention, synchronization, query optimization, and fault tolerance. Prerequisites: Discrete Structures, CSC 522, CSC 541 co-requisite.

**CSC 544 Computer Graphics (3 credits)**

An introduction to modeling and rendering used in 3D computer generated imaging. Topics include: animation; parallel and perspective projections; geometric and viewing transformations; bicubic spline surfaces; color and shading models; hidden surface removal, and ray tracing. Prerequisite: Linear Algebra.

**CSC 545 Logic Programming (3 credits)**

A study of the syntax, the declarative and procedural semantics of logic programs and an introduction to logic programming using the language PROLOG. Prerequisite: Discrete Structures.

**CSC 551 Introduction to Systems Theory (3 credits)**

This course develops a conceptual basis and techniques for the study of systems and system properties useful in all areas of computer science. Some of the properties covered are: behavior, state, dynamics, organization, structure, hierarchy, feedback regulation and control, complexity, information, communication, and performance. The course also develops a number of examples and emphasizes the ability to use the abstract systems concepts to model and study information processing systems. Prerequisite: Discrete Structures.

**CSC 552 Introduction to Information Theory (3 credits)**

Basic results of information theory with application to storage, compression, and transmission of data; entropy and entropy-based measures. Block and variable length codes, noiseless and noisy channels, channel capacity. Real and computer-simulated data studies to illustrate problems of statistical characterization of sources and channels. Prerequisites: Probability and Statistics, Linear Algebra, Calculus, Discrete Structures.

**CSC 553 Data Security (3 credits)**

Theories and techniques for encrypting and decrypting stored and transmitted data. Topics include classical cryptographic methods, stream and block ciphers, public key systems, the Data Encryption Standard, automata-theoretic and shift-register models of security systems, analog security systems. Prerequisite: Discrete Structures.

**CSC 554 Modeling and Simulation (3 credits)**

Discrete and continuous techniques for modeling and simulating complex systems. Model formulation; class of models; statistical simulation; simulation languages; model-based simulation; model stability, verification and interpretation; and decision support systems. Prerequisites: Probability and Statistics, Linear Algebra.

**CSC 555 Models and Metrics for System Performance Evaluation (3 credits)**

Issues involved in developing quantitative indices of merit assessment. General framework and principles for systems evaluation; study of appropriate metrics for software systems, software development cycle, hardware-software complexes, command and control systems. Prerequisites: Probability and Statistics, CSC 551.

**CSC 556 Pattern Recognition and Image Processing (3 credits)**

Design of automated and interactive classification systems. Feature extraction methods, linguistic and relational representation of objects, inductive inference, maximum likelihood decision; measures of quality; transform methods, fast algorithms, image operations such as enhancement, smoothing, sharpening, windowing, filtering. Prerequisites: Discrete Structures, Linear Algebra, CSC 552.

**CSC 557 Artificial Intelligence (3 credits)**

Survey of basic concepts and techniques of artificial intelligence. Knowledge representation, constraints and capabilities of different notational systems; search strategies; problem representation and problem solving methods; expert systems. Applications and illustrations from medicine, science, robotics, computer vision. Prerequisite: Discrete Structures.

**CSC 558 Operations Research (3 credits)**

An introduction to the theory of linear programming, network analysis, dynamic programming and integer programming with emphasis on computer implementation. Prerequisites: Linear Algebra, Discrete Structures.

**CSC 559 Fuzzy Sets and Systems (3 credits)**

A study of uncertainty, vagueness, and inexactness. This course presents: 1) a historical perspective; 2) fundamental principles of fuzzy logic, an extension to two-valued logic, and fuzzy systems theory; 3) application areas for uncertainty theory.

**Other Courses****CSC 507 Data Analysis**

Selection and implementation of research strategies, including selection and application of proper statistical techniques using a personal computer as a research and decision-making tool. Students will attain proficiency in the use of a commercial statistical analysis package in the solution of quantitative research problems. Designed to support graduate programs in nursing administration and telecommunications; not intended for computer science graduate students.

**CSC 580 Computer Vision and Image Analysis (3 credits)**

The course is designed to give the student an insight into the intrinsic image information and the internal model of vision systems. Classification of objects is performed by extracting linear curves and regions in images, using boundary information, texture analysis and 3D scene analysis. Geometric and relationship structures involving complex symbolic descriptions of image and world structures are studied and various applications are introduced.

**CSC 581 Seminar in Computer Science (3 credits)**

Students must choose from a list of topics and explore the literature, make formal presentations, and submit a final report on the topics. Prerequisites: Advanced graduate standing and permission of instructor.

**CSC 585 Special Topics (variable credit)**

Topics will vary from semester to semester. In-depth development of topics reflecting current research areas of faculty. Example topics: remote sensing, cartographic systems, models of the brain, modeling of sociotechnical systems, adaptive programming, optimization models and methods, decision theory and decision support systems, mathematical systems theory, fuzzy systems and fuzzy programming, high-level computer architecture, legal issues in computing.

**CSC 591 Independent Study (variable credit)****CSC 598 Project (3 credits)****CSC 599 Thesis (1-6 credits)****CSC 600 Colloquia in Computer Science (3 credits)**

Speakers from fields in computing and its applications present their current research activities and findings. Students are required to attend a designated number of colloquia each semester and to write reaction papers to those presentations in areas of their interest. May be taken repeatedly, but it does not count toward the 33 credit hour requirement for the M. S. degree.

## Bridge Courses

### **CSC 500 Discrete Structures (3 credits)**

This course provides the mathematical tools which serve as a basis for the description and understanding of the major components of computer science. Topics include: sets, relations (binary, n-ary), relational algebra, functions, properties of relations, propositional and predicate calculus. The presentation of this and other material is based on its utility for describing and investigating the objects of study in computer science, e.g., abstract models of machines (finite state automata - deterministic, nondeterministic, pushdown stores - Turing Machines), of strings and languages, etc. Counting techniques, recurrence relations and algorithm analysis will be studied - algebraic structures (monoids, groups, etc.; Boolean Algebras, lattices) and mapping between them; operations on n-ary relations suitable for database design; fundamentals of the study of switching circuits; proof techniques and an introduction to proving program correctness; elements of graph theory; and an introduction to the study of fuzzy sets and systems.

### **CSC 501 Continuous Methods in Computer Science (3 credits)**

Basic techniques of numerical computation. Topics include: computer arithmetic and error control, solution of non-linear algebraic equations including some non-linear optimization, polynomial interpolations including splines, curve fitting, integration, and an introduction to differential equations. Emphasis will be on non-formal settings with a view toward applications.

### **CSC 502 Machine Structures (3 credits)**

Computers as a hierarchy of levels. Coverage includes digital logic, microprogramming, and conventional machine levels. Emphasis is given to those aspects of computer hardware that affect programming. Prerequisite: Permission of instructor.

### **CSC 503 Data Structures (3 credits)**

A study of data structures through programming assignments and then in a language independent setting. The levels of data description and their roles in data structure design are examined. Prerequisite: Permission of instructor.

### **CSC 504 Computational Methods in Linear Algebra (3 credits)**

Computational aspects of linear algebra including linear optimization models are explored. Topics include different algorithms for solution of sets of linear algebraic equations, the eigen-value problems, linear programming, clustering techniques, and software requirements. Prerequisite: Permission of instructor.

## Faculty

**Bruno Andriamanalimanana**, Associate Professor; Ph.D., Lehigh University. Combinatorics, coding theory and cryptography.

**Roger Cavallo**, Professor; Ph.D., State University of New York at Binghamton. Systems theory, systems methodology, conceptual modeling, and probabilistic database theory.

**Raymond G. Jesaitis**, Professor; Ph.D., Cornell University. Distributed systems, UNIX operating system, numerical methods.

**Louis Mazzucco**, Assistant Professor, Ph.D., University of Connecticut. Business systems, database design and applications.

**Rosemary Mullick**, Associate Professor; Ph.D., Wayne State University. Operating systems, artificial intelligence, computer networks, parallels between human cognition and artificial intelligence and human engineering.

**Jorge Novillo**, Associate Professor; Ph.D., Lehigh University. Combinatorics, complexity, and artificial intelligence.

**Michael Pittarelli**, Associate Professor; Ph.D., State University of New York at Binghamton. Systems science, artificial intelligence, statistics, and database theory.

**Ronald Sarner**, Professor; Ph.D., State University of New York at Binghamton. Data modeling, statistical inference in the social sciences, and instructional computing.

**Saumendra Sengupta**, Associate Professor; Ph.D., University of Waterloo. Systems modeling, computer networks and distributed systems, pattern recognition.

**Scott Spetka**, Assistant Professor; Ph.D., University of California, Los Angeles. Distributed database systems and distributed query processing.

**Naseem Ishaq**, Adjunct Associate Professor; Ph.D., London University. Computer vision and computer-aided design.



## Academic Computing Facilities

Academic programs at the Institute of Technology are supported by over 250 computing stations (personal computers and workstations) in open locations or general purpose laboratories, and many more in laboratories dedicated to particular functions. Computing labs can be found in both academic buildings (Donovan Hall and Kunsela Hall); all dormitory rooms are wired to provide private, high-speed, ethernet data connections for each bed, and a number of dial-up telephone lines provide off-campus access. Several labs in Kunsela Hall provide late night and weekend computer access.

Payment of the Technology Fee entitles students to unlimited access of computing facilities although nominal additional charges apply for the production of high-quality color overhead transparencies and for short-term checkout of laptop computers. At present there are no time quotas for student connection to time-shared systems. All enrolled students are automatically assigned accounts on time-shared computer systems and are granted initial disk storage quotas which may be increased upon approval of an application. The Institute's policies with respect to computer use are published in the Computer User's Guide available from Information Services.

The Institute has a fiber-optic backbone between buildings and a copper wiring plant within buildings. The backbone has recently been upgraded to a speed of 155 mb/sec (ATM) speed; segments run at either 10 mb/sec or 100 mb/sec.

## Internet

The Institute of Technology is assigned a Class B Internet address with the domain name **sunyit.edu**. In late 1996 the Institute's Internet connection was upgraded from a single T1 (1.5 mb/sec) to a dual T1, thus maintaining the Institute's status as one of the highest bandwidth connections in upstate New York. Internet services are extensively used throughout the curriculum, and student use is strongly encouraged. An extensive WWW site is maintained (<http://www.sunyit.edu>). The Institute's Library catalog is internet-accessible (<http://unicorn.sunyit.edu>) as is the college's BANNER WEB registration system (<http://www.sunyit.edu/register.html>). Real-time registration activities such as course add/drop, schedule inquiry, grade inquiry, and billing inquiry are all supported from WWW enabled computers, on or off-campus.

The Institute currently has reciprocal access agreements with many state-operated SUNY campuses. Through these agreements Utica/Rome students may request computer accounts at the host campus near their homes to permit them to connect their home computers to Utica/Rome time-sharing systems without incurring substantial long-distance phone charges. In return, Utica/Rome provides similar access to students from those campuses who live in the Mohawk Valley. The issuance of these accounts is subject to the computer use policies on the respective campuses and to whatever qualification restrictions are imposed by the host campus.

## College-Wide Time-Shared Systems

The Institute maintains a number of centrally administered time-shared systems that have a common, integrated NIS file service permitting transparent access to user-owned files from any of the constituent host machines. While upgrades are anticipated during the lifetime of this catalog, the configuration at the time of printing is as follows:

**Hewlett Packard 9000/735** - three systems known as *Demeter*, *Zeus*, and *Hera* respectively, each with 160 megabytes of memory, shared disk array, a DAT tape drive and CD-ROM running the *HP/*

*UX 9.0* version of UNIX. This system provides Internet access, supports almost the entire product line from SAS, Inc. (including statistical analysis and operations research modules) and the Oracle DBMS system. These systems also manage electronic mail, news, and network printer queues throughout the campus.

**SUN SPARC 10** - known as *Phoenix* with 128 megabytes of memory, shared disk array running SUN's *Solaris 2.3* version of UNIX. This system hosts engineering technology software for the client machines in the SUN lab and server for X-window applications invoked from the client machines.

**SUN ULTRA ENTERPRISE 3000** - known as *Persephone* this system's main function is to host large library databases for a consortium consisting of Utica/Rome together with the Upstate Colleges of Technology (Alfred, Canton, Cobleskill, Delhi, and Morrisville). This system has dual Ultra-SPARC processors and a 29 gigabyte disk array and runs the Sun *Solaris* operating system.

## Personal Computing Labs

The Institute has over twenty computer laboratories on the campus; some are dedicated to a particular curriculum or purpose, others are general-purpose. PC labs primarily consist of Pentium and 486-based computers (some older machines are still employed in specialized settings where their use is appropriate) that are interconnected through file servers running the Novell, Windows/NT, or UNIX operating systems. The Institute has adopted a single integrated office applications suite as its standard package. The adoption is for a two-year period (the next review is scheduled for Spring, 1998). Microsoft Office 4.3, consisting of Word, Excel, PowerPoint, and Access, is the current standard. In addition, the Institute currently holds a site license for all Borland software products including the C++ and Pascal language compilers and for Berkeley Systems Design Inc.'s BSD/OS version of UNIX. SPSS (Statistical Package for the Social Sciences) is widely used throughout the campus. Substantial upgrades to computing labs are anticipated during the lifetime of this catalog. Lab environments include:

**Kunsela Hall Public Lab (Kunsela Hall C-003)** - consisting of over twenty-five PC's (currently Pentium 133s), two Macintosh computers, high speed laser printers and a color printer. Available software includes Microsoft Office, Microsoft Publisher, the Borland language products, Lahey FORTRAN 77 and many specialized applications. This lab is open for extended night and weekend hours.

**DogNET Labs and DogNET Multimedia Lounge (Kunsela Hall C-012 and Kunsela Hall C-107 and C-122)** - provides public access to UNIX workstations (that are named after dogs, of course). Twenty-one Pentium-based computers in the DogNET Lab (Kunsela Hall C-012) running the FreeBSD operating system provide access to over 800 programs for Internet access, multimedia applications, language compilers, etc. Many of the systems are equipped with sound cards for applications like the mbone (Internet audio/video broadcast/conference system). The lab is supported by three file servers, including a Dual PentiumPro 200, with a total of more than 35GB of disk storage. Each server has 128 MB of main memory. In addition to providing disk storage (without quota) to students, the servers support the computer science departmental World Wide Web server (<http://www.cs.sunyit.edu>) and news service. The public DogNet Lab is one of three labs managed by computer science students under the supervision of computer science faculty. The DogNET Multimedia Lounge (Kunsela Hall C-122) contains Pentium-based computers and SUN workstations equipped with video cameras for conferencing and other multimedia applications. One of the SUN workstations is also used as an Oracle server. The Multimedia

Lounge accommodates small groups of students and faculty working collaboratively on projects. Another SUN/Pentium DogNET lab (Kunsela Hall C-107) is used in computer science courses for experiments in operating systems, networking, and system administration.

**Terminal Lab (Kunsela C-013)** - currently equipped with fifteen high resolution workstations (Hewlett-Packard, SUN and personal computers) running Xterm software. This equipment is used in a number of Electrical Engineering Technology courses and for Internet access. This lab also houses some character-mode terminals. This lab is open for extended night and weekend hours.

**Windows/NT Lab (Kunsela Hall C-014)** - consists of twenty Pentium (currently P-90) computers each with 32Mb of memory and 1 GB local storage interconnected using 100Mbps ethernet technology. Servers for this lab consist of two dual PentiumPro 200 based systems, each having in excess of 9GB of storage. All systems use the latest version of Windows/NT Workstation and Windows/NT Server (currently 4.0). This lab is managed by faculty in the Department of Computer Science and by student assistants. It supports instruction and experimentation on client-server and distributed computing (networking, system administration and interoperability with other platforms), collaborative computing (WWW and FTP servers, videoconferencing). Programming environments supported include Powerstation FORTRAN 90, Lahey Personal FORTRAN 77 and FORTRAN 90, Borland and Microsoft's Visual C++, Visual Java++ and other Java versions, PROLOG and LISP. Currently supported applications include Microsoft Office Professional, Microsoft Publisher, and FrontPage. Access to the following applications is also provided: Mathematica, GPSS, IMSL libraries, Corel Draw, TeX. This lab is open for extended night and weekend hours.

**Multimedia Lab (Kunsela C-109)** - several PC compatible workstations with dedicated boards and multimedia attachments. The lab supports instruction and research in multimedia instruction design, multimedia databases, image and speech processing, and pattern recognition.

**CIM Lab (Donovan G-225 and G-225A)** - approximately twenty 486 and Pentium computers and an assortment of printers and plotters. Currently installed software includes Algor Supersap, Autobook, AutoCad, Hydrain, Microstation 5.0, and Microsoft Office. This lab supports courses in Civil Engineering Technology and Mechanical Engineering Technology.

**Advanced CAD Lab (Donovan 1159)** - ten Pentium-based computers, printers, and plotters used in support of courses in Civil Engineering Technology and Industrial Engineering Technology. Currently installed software includes Algor Supersap, Autobook, AutoCad, Hydrain, Microstation, SmartCam, TKSolver, and Microsoft Office.

**Technical Writing Lab (Donovan 1146)** - twenty-two 486 computers and associated laser printers used extensively in support of courses in report and technical writing. Currently installed software includes Microsoft Office, internet tools (telnet, ftp, and Netscape), Grammatik as well as several legacy word processors.

**Advanced Writing Lab (Donovan G161)** - twenty Pentium based computers together with laser printers and a color printer used in support of advanced coursework in technical communications. Currently installed software includes Microsoft Office, internet tools (telnet, ftp, and Netscape), HyperWriter, Internet Assistant, PaintShop Pro, Pagemaker, SPSS PC+, Storyboard Live and several legacy word processors.

**Donovan Hall Public Lab (Donovan 1149)** - thirteen 486-based computers and associated peripherals. Currently installed software includes Abdominal Pain, Borland C++, ChestPain, EKG,

EKG2, internet tools (telnet, ftp, Netscape), HEART, Hypertension Management, Iliad, MDChallenge, Nursing Research CAI, SPSS PC+, statistics tutorials and Microsoft Office. Several Macintosh computers are also in this lab. Macintosh software includes Correct Grammar, EndNotes, Excel, Filemaker Pro, Grammatik, Heart lab, MacDraw II, MacWrite II, Microsoft Works, WriteNow, and Microsoft Word.

**Business Lab (Donovan 1157)** - twenty-four 486-based computers and associated peripherals, this lab is often used for hands-on instruction in courses in the School of Business and the School of Nursing. Currently installed software includes Microsoft Office, Abdominal Pain, Chest Pain, EKG, EKG2, Finance for Nursing, internet tools (telnet, ftp, Netscape), HEART, Hypertension Management, Iliad, MD Challenge, Nursing Research, and legacy word processors.

**Telecommunications Lab (Donovan 1190)** - ten 486-based PCs, one P-100 file server, and a SUN SparcStation file server known as *Ruby*. This lab operates in a Novell Netware environment and provides access to COMNET III (a simulation package), NEUSTAR and WINMIND (network design packages). There are also a number of computer-based tutorial packages (data communications primer, SMDS/Frame Relay tutorial, Novell CNE tutorial, etc). The SUN SparcStation is used to run the ALLLINK Network Operations Management program and a network simulation program named BONeS (Block Oriented Network evaluation System).

**Telecommunications PC Lab (Donovan 1240)** - fifteen PCs on a Novell-based local area network supporting Northern Telecom's DMS-10 computer-based training program.

**Macintosh Lab (Donovan G-238)** - ten Macintosh IIxv computers an associated file server and peripherals. This lab is largely used in support of courses in the Department of Psychology. Currently installed software includes Eyelines, MacLaboratory, and Hypercard.

**Applied Mathematics Lab (Donovan 2143)** - seventeen Pentium and 486 class computers running the Linux (a variant of UNIX) operating system in a customized computing facility built to support modeling, simulation, and educational activities associated with the applied mathematics program. The unique characteristics and configuration of this lab make it an ideal environment for performing distributed computing tasks. Access is provided to a suite of tools that aid in visualization and exploration of many interesting and challenging topics. As a facility for applied mathematics students, the laboratory offers a high-quality, dedicated environment for mathematics education and research. The lab supports exploration in a variety of topics including: scientific computing, advanced visualization, virtual reality, signal processing, parallel processing, groundwater modeling, and computational geometry.

**Physics Lab (Donovan 2107)** - features ten 75MHz networked Macintosh PowerPC computers with Netscape Navigator and Microsoft Office. This lab is primarily used by physics lab courses which use software for video analysis and scientific graphing. Access to CD-ROM drives and laser printing is also provided.

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# Master of Science in Nursing

## Dean's Message

Throughout the early years of the next century, the demand for nurses with advanced nursing education preparation will exceed the projected supply of nurses with graduate degrees. These nurses will be particularly needed in arenas that specialize in primary care and administration across health care settings. Recognizing this imperative, the School of Nursing offers the Master of Science in Nursing degree with a choice of two majors, that is, adult nurse practitioner or nursing administration. These majors are complementary; neither competes with the other. Adult nurse practitioners provide primary health care to adults emphasizing health promotion, health maintenance, health restoration, and disease prevention. Nursing administrators create and sustain practice environments that facilitate the delivery of quality nursing services and health care. Thus, depending upon the professional goals of aspiring advanced practice nurses, the School of Nursing's two graduate majors are responsive to the projected nursing needs for the next decade.

*Elizabeth Kellogg Walker*  
*Dean, School of Nursing*

## Statement of Purpose and Program Goals

The faculty of the School of Nursing are preparing nurses at beginning and advanced levels of professional nursing practice within a diverse, changing, and complex society. The goals of the program are to:

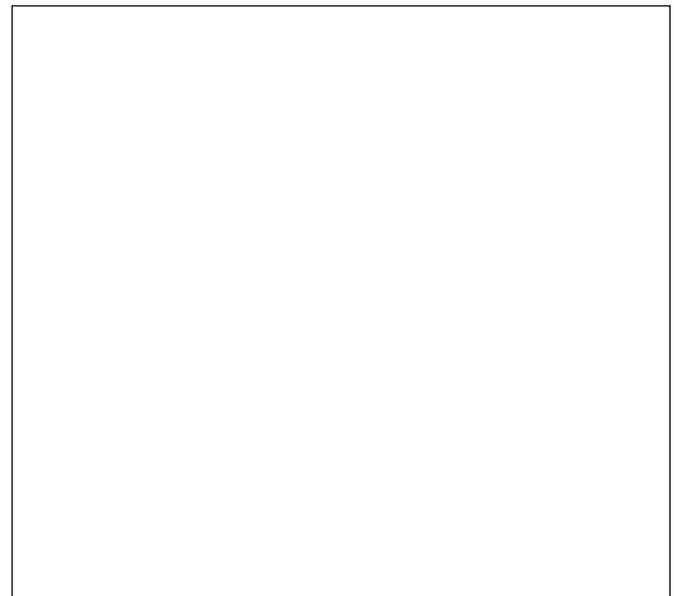
Prepare a graduate to integrate knowledge from nursing theories, the arts, and the natural, social, and behavioral sciences to support professional nursing practice;

Prepare a graduate capable of assisting culturally diverse families and communities to maximize wellness throughout the life span;

Prepare a graduate capable of utilizing critical thinking, collaboration, research, and decision making in the delivery of health care;

Prepare a graduate capable of commitment to professional and self growth and enhancement of professional standards; and

Enhance the foundation for continuing study in nursing.



## Curricular Goals for the Master of Science in Nursing Degree

Derived from the School of Nursing's program goals are the curricular goals specific to the Master of Science in Nursing degree to prepare the graduate for advanced professional practice. The goals for graduate education in the School of Nursing are to:

Apply knowledge gained from nursing, the arts, and the natural, social, and behavioral sciences to advanced clinical practice promoting quality, cost effective health care and enhancing the discipline of nursing;

Prepare advanced practice nurses capable of assisting culturally diverse families and communities to maximize wellness throughout the life span;

Prepare advanced practice nurses capable of utilizing critical thinking, collaboration, research, and decision making in the delivery of health care;

Prepare advanced practice nurses who demonstrate commitment to professional and self growth and utilize professional standards in their practice; and

Instill the desire for continuing formal and informal study in nursing.

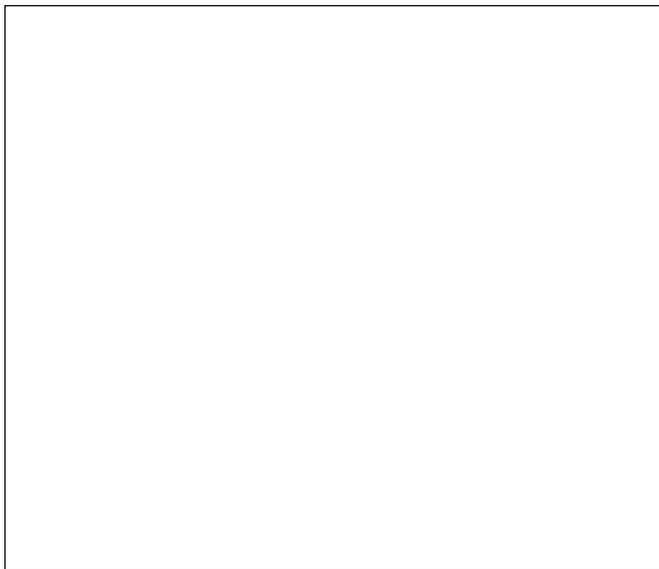
## Sigma Theta Tau International

Iota Delta Chapter of Sigma Theta Tau International, honor society of nursing, includes in its membership students, alumni, faculty, and community leaders in nursing. The purposes of this society are to recognize superior achievement and the development of leadership qualities, foster high professional standards, encourage creative work, and strengthen commitment to the ideals and purposes of the profession. Eligibility is determined by scholastic achievement, evidence of professional potential, and/or marked accomplishment in the field of nursing.

## Admission Requirements

To be considered for matriculation in the master's program, potential candidates must:

- hold a baccalaureate degree with a major in nursing from an NLN accredited program,
- have a minimum 3.0 grade point average (on a 4.0 scale) for the last 30 hours of undergraduate or graduate level coursework,
- demonstrate successful completion of a course in descriptive statistics,
- (for Adult Nurse Practitioner applicants only) demonstrate successful completion, within five years prior to NUR 565 enrollment, of an undergraduate health assessment course (for those whose undergraduate health assessment course was more than five years ago, NUR 514 (2 credits) is available),
- submit official scores from the Graduate Record Examination that reflect a total of 1200 points from the combined verbal, quantitative, and analytical subsections (applicants whose scores are lower will be individually evaluated),
- currently be licensed or eligible for licensure as a Registered Professional Nurse in New York State,
- have completed a minimum of one year's work experience as a professional nurse,
- submit two letters of recommendation from professional nurses such as recent employers, faculty with whom the applicant has studied, or any other individual who can give evidence of the applicant's past and potential contribution to the profession,
- in writing, discuss concisely their reasons for seeking admission to the master's program, identify immediate and long-term professional goals, and relate intended contributions to the professional field after completion of the master's program (please type response in a maximum of two double-spaced pages on the form provided at the back of this catalog),
- participate in a personal interview with a member of the full-time faculty.



## Admission Procedures

Once the Admissions Office receives the completed application, the applicant's credentials will be reviewed by faculty in the School of Nursing. This review occurs approximately February 1, June 1, October 1, and December 1. Selection is based on the applicant's qualifications and potential for growth and contribution to nursing. Applicants will be notified of the selection decision.

## Health

All students must meet the health requirements of the nursing program and health agencies. Satisfactory health clearance must be complete and on file in the School of Nursing prior to participation in each of the placements in agency settings for practica and/or clinical experiences.

## Degree Requirements

1. Adult nurse practitioner majors must complete a minimum of thirty-nine (39) semester hours of study and nursing administration majors must complete a minimum of thirty-three (33) semester hours of study applicable toward the Master of Science in Nursing degree.
2. Final responsibility rests with the student to assure all requirements are satisfied for the advanced degree. It is also the responsibility of the student to file an application for conferral of the advanced degree with the Registrar's Office at the beginning of the anticipated final semester of study.
3. Graduate students may repeat a graduate nursing course only once.
4. Graduate students may have no more than two Cs on their record at the time of graduation.

## Master of Science in Nursing with a Major in Adult Nurse Practitioner

The curricular goals specific to the Master of Science in Nursing with a major in adult nurse practitioner are to:

1. Apply knowledge gained from nursing, the arts, and the natural, social, and behavioral sciences to the practice of the adult nurse practitioner to promote quality, cost effective health care and to enhance the discipline of nursing;
2. Prepare nurse practitioners capable of providing health care for adults emphasizing health promotion, health maintenance, and health restoration utilizing a socio-cultural perspective;
3. Prepare nurse practitioners who utilize critical thinking, collaboration, research, and decision making in the delivery of health care to adults;
4. Prepare adult nurse practitioners who demonstrate commitment to the profession of nursing and utilize professional standards in their advanced practice; and
5. Prepare adult nurse practitioners who demonstrate a desire for ongoing study in nursing, both informally and formally.

**Program of Study**

	<i>Credits</i>
NUR 500 Theoretical Foundations for Nursing Practice	3
NUR 503 Advanced Nursing and the Health Care Delivery System	3
NUR 520 Conceptual Framework of Adult Nurse Practitioner Practice	2
PSY 555 Advanced Health Psychology	3
NUR 555 Clinical Pharmacology	3
NUR 560 Nursing Research Methods	3
NUR 565 Advanced Practice Nursing	3
BIO 570 Pathophysiology	3
NUR 575 Adult Health Nursing I	3
NUR 590 Clinical Experience I	3
NUR 592 Clinical Experience II	2
NUR 650 Adult Health Nursing II	3
NUR 660 Adult Health Nursing III	2
NUR 690 Clinical Experience III	2
NUR 692 Culminating Seminar for Nurse Practitioners	<u>1</u>
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**Advanced Certificate in Adult Nurse Practitioner**

The School of Nursing is authorized by the New York State Education Department to offer an advanced certificate in adult nurse practitioner to registered nurses who already possess both baccalaureate and master's degrees in nursing from accredited programs. Admission requirements for this post-master's certificate program are the same as for the School's graduate program (except applicants must have a minimum 3.2 grade point average (on a 4.0 scale) for all graduate level work completed and they do not have to submit scores from the Graduate Records Examination).

Requirements for the advanced certificate total 27 credits. Enrollees follow the same program of study for the master of science in nursing with a major in adult nurse practitioner except they are not required to take NUR 500, NUR 503, NUR 560, and PSY 555. The faculty realize that students in the post-master's certificate program will come with a variety of backgrounds and experience. Students will need to meet with an advisor early in the course of study to determine specific clinical needs. Every effort will be made to provide students with both necessary and desired clinical experiences.

**Master of Science in Nursing with a Major in Nursing Administration**

The curricular goals specific to the Master of Science in Nursing with a major in nursing administration are to:

1. Apply knowledge gained from nursing, the arts, and the natural, social, and behavioral sciences to the specialty practice of nursing administration to administer human and material resources within a health care system to promote quality, cost effective health care and to enhance the discipline of nursing;
2. Prepare nursing administrators capable of leading and managing health care personnel in culturally diverse community based organizations to promote wellness within the health care delivery system;
3. Prepare nursing administrators who utilize critical thinking, collaboration, and decision making in the operationalization of research protocols and findings in the advanced practice of nursing administration;
4. Prepare nursing administrators who demonstrate responsibility and accountability for the advanced practice of nursing administration by demonstrating commitment to professional and self growth and enhancement of professional standards; and
5. Prepare nursing administrators who demonstrate a desire for ongoing study in nursing, both informally and formally.

**Program of Study**

	<i>Credits</i>
NUR 500 Theoretical Foundations for Nursing Practice	3
NUR 503 Advanced Nursing and the Health Care Delivery System	3
CSC 507 Data Analysis	3
NUR 510 Nursing Administration Seminar	3
NUR 511 Nursing Administration Practicum	3
NUR 522 Financial Management for Nurse Managers	2
NUR 524 Program Planning and Development	2
NUR 526 Legal and Regulatory Issues in Nursing	2
NUR 560 Nursing Research Methods	3
MGT 607 Organizational and Management Theory	3
MGT 618 Human Resource Management	3
NUR 624 Grant Proposal Seminar	<u>3</u>
	33

## Course Descriptions

### Core Courses

#### **NUR 500 Theoretical Foundations for Nursing Practice (3 credits)**

The course provides the opportunity for students to examine the historical influences that have impacted upon the development of nursing. Students develop knowledge, skill, and disposition for theory-based nursing as they discuss and analyze the relevance and significance of nursing as an art and science. Philosophical views of selected nurse theorists are critically examined for application to nursing practice, administration, and research. The development of nursing theory within the paradigm of caring is related to practice within the health care delivery system, research, and moral reasoning, the ethic of care and moral standards, and standards of professional nursing practice.

#### **NUR 503 Advanced Nursing and the Health Care Delivery System (3 credits)**

This course prepares the student to evaluate and integrate power, management, and leadership theories in the implementation of advanced nursing practice for culturally diverse communities, families, and individuals within the health care delivery system. Essential tools to facilitate the development of strategies to impact on health care policies are discussed. The historical and current role of the caring and learned profession of nursing is explored. Trends in the macrosystem are critically evaluated for their political and social impact on health care delivery systems and the environment. Political implications and the action of the advanced nurse as clinician, administrator, leader, manager, community based partner, change agent, and consultant are analyzed and researched. The central focus is the development of advanced professional practice.

#### **NUR 560 Nursing Research Methods (3 credits)**

This course examines the research process and prepares the student to write a research proposal. The methods of scientific inquiry, problem identification, use of underlying theories and conceptual models, research design, measurement, data collection and analysis, and ethical considerations will be discussed. Critical analysis of existing research studies and student reports will be used to promote development of research skills. The significance of research findings and the need for continuing research activities will be explored as they relate to nursing.

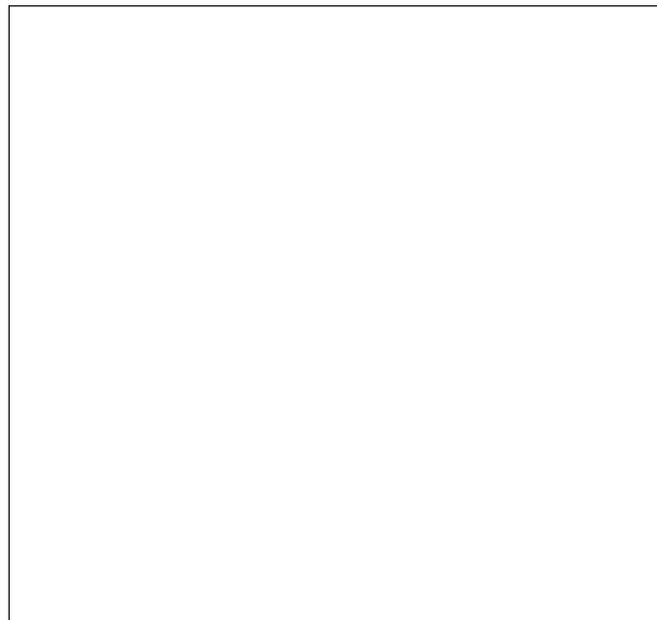
### Cognate Courses for Adult Nurse Practitioner Major

#### **BIO 570 Pathophysiology (3 credits)**

Identify the physiological basis of common and specific health and disease states encountered in primary care nursing practice and distinguish those processes that are ongoing in the human body that can be altered by interventions from those that cannot.

#### **NUR 555 Clinical Pharmacology (3 credits)**

This course is designed to provide graduate nursing students with the opportunity to focus on the clinical application of the major classifications of drugs. This course will emphasize pharmacology and therapeutics for primary, acute, and long-term care patients. The legal parameters for prescription writing and protocols will be covered. Theory and research findings related to treatment modalities and compliance will be examined.



#### **PSY 555 Advanced Health Psychology (3 credits)**

Examine the physical, cognitive, social, and emotional development of individuals throughout adulthood.

### Specialty Courses for Adult Nurse Practitioner Major

#### **NUR 520 Conceptual Framework of Adult Nurse Practitioner Practice (2 credits)**

The development and growth of the professional nurse practitioner role will be studied. Societal forces and contemporary health care policies and issues will be discussed for their impact on advanced nursing practice. The impact of the nurse practitioner role on health care services will be studied. A foundation for critical thinking and health care management models essential to the nurse practitioner will be provided.

#### **NUR 565 Advanced Practice Nursing (3 credits)**

Master advanced assessment skills needed to develop clinical problem solving, critical thinking, and decision making. Students will demonstrate their competencies in on-campus laboratory experiences and in faculty supervised clinical experiences in a variety of facilities. Prerequisite: undergraduate health assessment course within the past five years or NUR 514. Pre/Corequisites: NUR 500, NUR 520, PSY 555, BIO 570. Prerequisites: matriculated status, current New York Registered Professional Nurse license, current CPR certification, complete health clearance on file.

#### **NUR 575 Adult Health Nursing I (3 credits)**

The graduate nursing student will be offered the opportunity to deal with those situations most commonly experienced in practice, particularly those situations facing young adults. The content will provide the theory and research background needed to manage clients with a variety of problems facing the primary care provider. The roles of the nurse practitioner as case manager, educator, and consultant will be explored to enhance the health and well being of young adults and their families from a variety of socioeconomic and cultural backgrounds. Prerequisite: NUR 565 with a minimum grade of B. Pre/Corequisites: NUR 555, NUR 503, NUR 560, NUR 590 (at least two (2) credits).

**NUR 590Y Clinical Experience I (1 credit)****NUR 590M Clinical Experience I (1 credit)****NUR 590O Clinical Experience I (1 credit)**

Clinical experiences will provide the graduate student an opportunity to deliver primary care to specific age related groups (Y-Young, M-Middle, and O-Older) with a variety of cross cultural health care needs within a number of health care settings. Overall guidance is provided by graduate faculty, in association with physicians and nurse practitioners under contract with the School of Nursing. The student will complete five (5) contact hours per week per credit. The student must complete one (1) credit in each clinical - 590Y, 590M, 590O. Prerequisite: NUR 565 with a minimum grade of B. Corequisite: NUR 575. Prerequisites: matriculated status, current New York Registered Professional Nurse license, current CPR certification, complete health clearance on file.

**NUR 592E Clinical Experience II (1 credit)****NUR 592Y or NUR 592M or NUR 592O Clinical Experience II (1 credit)**

Clinical experiences for the graduate nurse practitioner student will be varied and emphasize cultural diversity within a community based setting. This clinical course will target a specific age related group (young, middle, or older) and concentrate on the unique wellness lifestyle and health care problems demonstrated by clients within this group. Opportunities to deliver primary care to these clients will provide the students with challenges to expand their knowledge and skills, as well as explore judgment making and priority setting abilities. Guidance in this critical thinking will be provided by the graduate faculty, physicians, and other nurse practitioners. The student will complete five (5) contact hours per week per credit. The student may elect the clinical experience for one course credit (592E) and the faculty will determine the experience for the other one credit (592Y or 592M or 592O). Prerequisites: NUR 575 and at least two (2) credits of NUR 590 with minimum grades of B. Corequisites: NUR 650 and the last one (1) credit of NUR 590 (if not completed previously). Prerequisites: matriculated status, current New York Registered Professional Nurse license, current CPR certification, complete health clearance on file.

**NUR 650 Adult Health Nursing II (3 credits)**

The graduate nursing student will have the opportunity to explore increasingly challenging situations commonly experienced in practice, particularly those situations facing middle-age adults. The content will provide the theory and research background needed to manage clients with a variety of problems facing the primary care provider. The professional roles of the nurse practitioner as case manager, educator, and consultant will be explored to enhance the health and well being of middle-age adults and their families from a variety of socioeconomic and cultural backgrounds. Prerequisites: NUR 575 and at least two (2) credits of NUR 590 with minimum grades of B. Corequisite: the last one (1) credit of NUR 590 (if not completed previously).

**NUR 660 Adult Health Nursing III (2 credits)**

Content will provide the graduate nursing student with the opportunity to gain the knowledge needed to manage the more complex situations commonly experienced in practice settings providing care to culturally diverse older clients and their families. Theory, research, and complex decision making skills will be explored through the roles of educator, case manager, and consultant. Prerequisites: NUR 575 and three (3) credits of NUR 590 with minimum grades of B. Pre/Corequisites: NUR 650; must also take at least one (1) credit of NUR 592.

**NUR 690 Clinical Experience III (2 credits)**

This clinical is designed to be the culminating clinical experience for the students in the adult nurse practitioner major. The students will identify a culturally diverse client population they anticipate working with after graduation and arrange with their instructors precepted clinical experiences in a community-based practice setting. Opportunities to deliver primary care will provide the student with challenges to synthesize their knowledge and skills, as well as analyze judgment making and priority setting abilities. The student will fully implement the roles and functions of a nurse practitioner as a wellness oriented primary health care provider, manager, and consultant in the chosen practice setting. Prerequisites: NUR 590 and NUR 575 with minimum grades of B. Pre/Corequisites: NUR 660, NUR 650, NUR 592. Prerequisites: matriculated status, current New York Registered Professional Nurse license, current CPR certification, complete health clearance on file.

**NUR 692 Culminating Seminar for Nurse Practitioners (1 credit)**

The graduate nursing student will explore and analyze practical and professional issues of importance to the nurse practitioner. The purpose of this seminar is to allow the student to apply the knowledge achieved in the areas of professional practice, research, theory, and critical thinking toward the development of an active role in a changing and challenging health care system. Prerequisites: NUR 575 and NUR 590 with minimum grades of B. Pre/Corequisites: NUR 650, NUR 592, NUR 660, NUR 690.

**Cognate Courses for Nursing Administration Major****MGT 607 Organizational and Management Theory (3 credits)**

Analyze major schools of management thought: traditional, behavioral, and contingency. Explore managerial roles, power styles, and conflict with respect to contemporary organizational systems through lecture, discussion, case analysis, and experiential exercises.

**MGT 618 Human Resource Management (3 credits)**

Manage human resources more effectively by improving analysis and planning. Focus on the development of state-of-the-art systems which support basic business objectives as well as foster good working relations between employees and managers.

**CSC 507 Data Analysis (3 credits)**

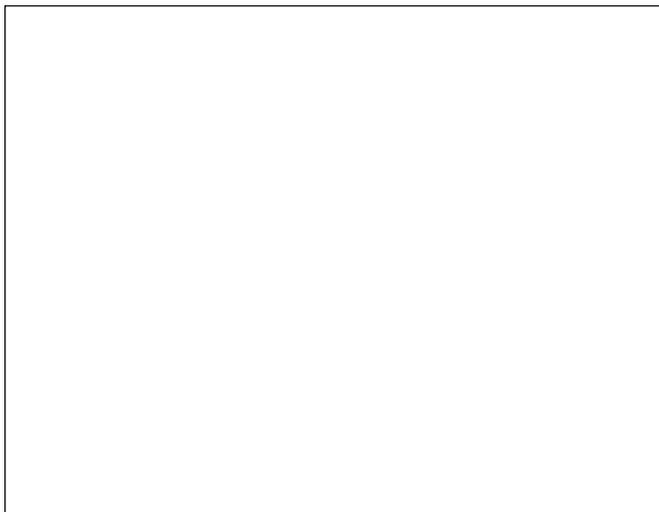
Become proficient in the application of statistical methods. Prepare for "computerized" administrative environments. Prerequisites: Descriptive statistics and computer literacy.

**Specialty Courses for Nursing Administration Major****NUR 510 Nursing Administration Seminar (3 credits)**

Management processes within the nursing division will be examined. The students' knowledge, skill, and disposition are developed by examining the role of the nurse administrator in relation to strategies utilized for professional practice, effective leadership, critical thinking, conflict resolution, and resource management.

**NUR 511 Nursing Administration Practicum (3 credits)**

Under the aegis of a nurse administrator the student will experience the application of management principles in culturally diverse health care delivery systems. The student will assess and analyze the role of the nurse administrator in relation to strategies utilized



for professional practice, effective leadership, critical thinking, conflict resolution, and resource management. The practicum will also provide the opportunity for students to analyze the effectiveness of their own management processes.

The student will participate in appropriate aspects of planning and other managerial processes. The student will have the opportunity to demonstrate knowledge, skill, and disposition through the development and implementation of the practicum objectives. Within the framework of the objectives, each student will design, implement, and evaluate an administrative project. Pre/Corequisite: NUR 510. Prerequisites: matriculated status, current New York Registered Professional Nurse license, current CPR certification, complete health clearance on file.

#### **NUR 522 Financial Management for Nurse Managers (2 credits)**

The nurse manager examines budgets and budgeting, reimbursement and regulation, strategic planning and monitoring, management information systems, and business plans.

#### **NUR 524 Program Planning and Development (2 credits)**

This course will provide a concise, practical approach to planning, managing, and evaluating health programs within an acute or community based health care delivery system. Three models will be presented: a health program planning model, an evaluation model, and a documentation model. Combined, they will provide a comprehensive, integrated methodology for health program planning and evaluation.

#### **NUR 526 Legal and Regulatory Issues in Nursing (2 credits)**

This course examines the legal/regulatory issues which impact the professional practice of nursing administration. The student will explore the origins of law and the judicial system to appreciate the various legal aspects of the health care delivery system including state codes, nurse practice acts, licensure, disciplinary bodies, civil liability, malpractice, and other relevant areas such as ethical codes and standards of practice on nursing and health care.

#### **NUR 624 Grant Proposal Seminar (3 credits)**

The purpose of this seminar is for the student to write a proposal under the guidance of graduate faculty. Students will be expected to identify an appropriate funding source and prepare a proposal for submission to a funding agency. Prerequisite: NUR 560. (Note: students must have only six hours left to complete degree requirements at the end of NUR 624.)

## **Other Courses**

#### **NUR 501 Health Policy (3 credits)**

Federal and state governments, as well as many health care organizations, engage in ongoing and significant decision-making which will determine the course of health care. The purpose of this course is to present the process, intent, and consequences of policy. Past, present, and potential policy decisions will be studied.

#### **NUR 514 Health Assessment (2 credits)**

Complete health assessment is explored through seminar discussion and laboratory practice. Content focuses on the acquisition of assessment skills of the healthy and ill individual. Prerequisite: Undergraduate health assessment course; registered nurse. (Note: this course will act as a refresher course for those registered nurses whose undergraduate health assessment course was greater than five years ago.)

#### **NUR 591 Independent Study (variable credit)**

#### **NUR 626 Thesis or Project (1-3 credits)**

Student has the option of implementing an approved research or project proposal for up to 3 credits. Prerequisites: NUR 500, CSC 507, NUR 560.

## **Faculty**

**Esther G. Bankert**, Associate Professor; Ph.D., State University of New York at Albany.

**Cathryn Jones Barns**, Assistant Professor; Advanced Certificate, State University of New York Institute of Technology at Utica/Rome; M.S., Syracuse University.

**Mary Lou Wranesh Cook**, Associate Professor; Ph.D., State University of New York at Albany.

**Louise Dean-Kelly**, Associate Professor; D.N.S., State University of New York at Buffalo.

**Maria Pappas-Rogich**, Assistant Professor; Dr.P.H., University of Pittsburgh.

**Victoria E. Rinehart**, Associate Professor; Ed.D., Teachers College, Columbia University.

**Pamela W. Slagle**, Lecturer; M.S., State University of New York at Stony Brook.

**Deborah A. Southwick**, Lecturer ; Clinical Coordinator, Adult Nurse Practitioner major; M.S., State University of New York at Binghamton.

**Carole E. Torok**, Associate Professor; Ph.D., State University of New York at Albany.

**Elizabeth Kellogg Walker**, Dean; Ph.D., University of Rochester.

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# Master of Science in Telecommunications

## Dean's Message

The Master of Science in Telecommunications is an interdisciplinary program. It is based on a solid core of telecommunications course work including advanced telecommunication technologies, network design and simulation, project management and issues associated with international telecommunications policy and trade. This core is combined with computer science/information systems and business related components to provide students with the breadth of knowledge and skills necessary to deal with the design, management and maintenance of complex telecommunication systems.

The faculty in the telecommunications department have strong academic and industry backgrounds. Their diverse research and consulting activities extend beyond North America to Europe and the Asia-Pacific region as well.

The M.S. program in Telecommunications receives support from both academic and industrial organizations. The telecommunications department is a charter member of the Telecommunications Education Research Network, a consortium of 30 universities engaged in the application of advanced broadband telecommunications networks for research and instructional purposes. In addition, it is advised by a dynamic, thirty-person advisory board comprised of members who are active in the telecommunications industry. The telecommunications program has been the recipient of over six million dollars of equipment donated by industry. This equipment has been used to develop three state-of-the-art voice, data and network operations laboratories.

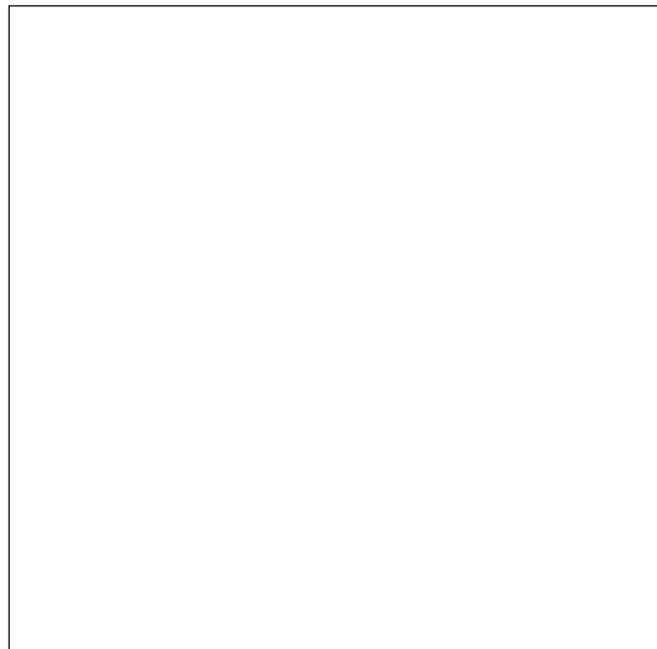
The extensive holdings in the Institute of Technology library also support the M.S. in Telecommunications program. A large number of journals and books are dedicated to telecommunications and related subject areas.

The M.S. in Telecommunications is designed to meet the needs of full- and part-time students seeking high-caliber education in preparation for career advancement in the rapidly growing, trillion dollar per year, world-wide telecommunications industry.

***Rosemary J. Mullick, Ph.D.***  
***Interim Dean, School of Information  
Systems and Engineering Technology***

## Admissions Criteria

A baccalaureate degree with an upper division major in telecommunications, engineering, engineering technology, computer science, photonics, business or a related area from an accredited college or university is required. Applicants with deficiencies in mathematics, computer science/information systems, business or telecommunications may be required to take appropriate prerequisite coursework.



## Prerequisite Coursework

- Calculus I or equivalent.
- Applied Statistical Analysis or equivalent.
- An introductory course in principles of management, or equivalent experience in management of a competitive enterprise.
- TEL 300 Introduction to Telecommunications, or equivalent industry experience.
- Students who require prerequisite coursework or wish to apply substitute professional industry experience should consult with a graduate advisor to determine appropriate course selection or substitution.

## Other Admissions Criteria

1. Graduate Record Examination (GRE) test scores taken within the past five years. Information on this test appears in the general information section of the Graduate College Catalog.
2. Evidence of personal and professional qualifications via three professional references.
3. A narrative statement by the applicant describing his/her professional objectives for graduate study.
4. Applicants must have maintained an average of B or better for the last thirty credit hours toward a baccalaureate degree or graduate coursework (a GPA of 3.0 on a 4.0 scale). If undergraduate GPA is between 2.8 and 3.0, applicants may be considered if they can demonstrate graduate potential via other means. Applicants possessing undergraduate GPA's below 2.8 may be considered for discretionary admission after completion of non-degree coursework as required by the Department of Telecommunications.

## Degree Requirements

Students will successfully complete 33 semester hours of graduate study, including either a research project or thesis.

(33 CREDITS TOTAL)

### Data Research Methodology (3 credits)

CSC 507-Data Analysis

### Information Systems (3 credits)

CSC 508- Decision Support Systems

### Telecommunications Core (21 credits)

PREREQUISITE: TEL 300 or equivalent industry experience

TEL 501 International Telecommunications Policy and Trade

TEL 505 Network Design and Simulation

TEL 520 Telecommunications Systems Analysis and Project Management

*Note: This course is currently TEL 420 (4 credits), and is cross-listed as TEL 520 (3 credits). Students who have previously taken TEL 420 could not take it again as TEL 520, and must instead take an additional TEL 590 Selected Topics course.*

TEL 530 Telecommunications Law and Policy

TEL 540 Integration of Telecommunications and Computer Systems

TEL 580 Strategic Integration of Telecommunications

TEL 590 Selected Topics in Advanced Telecommunications

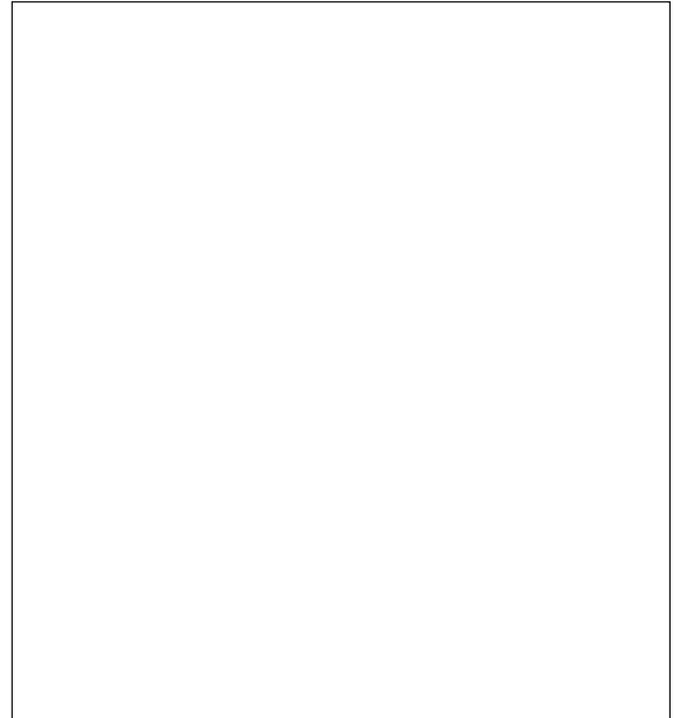
*\* Note: curriculum action for TEL 580 has been submitted to the Graduate Council*

### Telecommunications Research and Thesis (3-6 credits)

TEL 597-Research Project ( 3 credits)  
OR

TEL 599-Thesis ( 6 credits)

A student performing a Research Project will select an additional TEL 590 Selected Topics course.



## Course Descriptions

### CSC 507 Data Analysis (3 credits)

Applications of statistical methods in computerized administrative environments.

### CSC 508 Decision Support Systems (3 credits)

Techniques for decision making applied to quantitative business management systems. Computer tools and models that aid managers in analyzing problems in a highly integrated business environment (decisions involving several management subsystems).

### TEL 501 International Telecommunications Policy and Trade (3 credits)

A course investigating trade in services and equipment policies of the United States, the European Community, Japan and other major governments, as well as international trade agencies, international carriers, and transnational corporate users of telecommunications. Topics include competition and privatization, bilateral and multilateral negotiations including GATT and NAFTA, international technical standards, intellectual property and global marketing alliances of new telecommunications operators and outsourcers. This course also analyzes the reorganization and global responsibilities of the International Telecommunications Union.

### TEL 505 Network Design and Simulation (3 credits)

A course investigating network design and simulation modeling which enables telecommunications system developers to evaluate the performance of existing and proposed networks under different hardware, configurations, or operating constraints. Simulation modeling minimizes risks of unforeseen network bottlenecks, under utilization or overuse of system resources.

### TEL 520 Telecommunications Systems Analysis and Project Management (3 credits)

A study of project management techniques and processes from a corporate user perspective. Topics include strategic planning, needs assessment, development of requests for proposals, security

and disaster planning, financial evaluation techniques, negotiation with vendors, outsourcing, implementation and system changeover planning, and creation of validation and acceptance test procedures.

**TEL 530 Telecommunications Law and Policy (3 credits)**

A graduate-level seminar in the regulation of telecommunications in the U.S. and Canada. Designed to give students an understanding of the regulatory environment and its implications for the information industry. Since regulation is rooted in the underlying legal and political systems, this class will also teach students how to use law libraries and legal reference documents. Class material is divided into four sections: the political environment and finding the law; fundamentals of regulation and ratemaking; divestiture, access charges, and tariffs; and current national and international issues. The social and political issues relating to telecommunications regulation will be integrated into all relevant topic areas. At the end of the course, students will be able to find common carrier laws and regulations; explain the impacts of regulatory actions on the industry and society, and understand events in terms of the basic regulatory framework in the U.S. and Canada.

**TEL 540 Integration of Telecommunications and Computer Systems (3 credits)**

Introduce students to why and how telecommunications systems are integrated with computing systems. It will include the principles, applications, implementations, and practices of integrating a telephone with a computer and a telephone system with a computer system.

**TEL 580 Strategic Integration of Telecommunications into a Competitive Environment (3 credits)**

Capstone experience for the M.S. Telecom program. Examines the role of the telecommunications manager as the integrator of information technologies into the modern business organization. Includes a review of strategic management, competition in an information age, and practical application of telecom technologies. Extensive use of case studies.

**TEL 590 Selected Topics in Advanced Telecommunications (3 credits)**

A course investigating research, development, deployment, and planning of new networks, signaling systems, transmission media and switching systems. Topics include wireless personal communications systems; satellite networks with an emphasis on the impact of fixed and mobile satellite systems on the economy and society; frame relay; Broadband ISDN; ATM; SONET; AIN; and voice and data compression techniques.

**TEL 597 Research Project (3 credits)**

Upon approval of the advisor, student will search, design, solve and implement a graduate project.

**TEL 599 Thesis (3 or 6 credits)**

Upon approval of the advisor, the student will research and write an original work on a significant topic in the field of telecommunications.

## Faculty

**Patrick W. Fitzgibbons**, Associate Professor of Telecommunications; Ph.D., State University of New York at Buffalo. Network design, simulation and management.

**Larry Hash**, Assistant Professor of Telecommunications; Ph.D., North Carolina State University. Wireless networks and services.

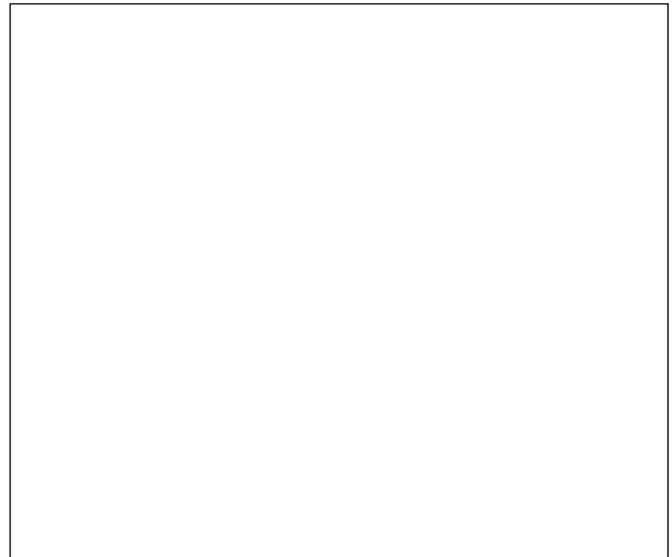
**Eugene J. Newman**, Associate Professor of Telecommunications; Ph.D., University of Wisconsin. International telecommunications policy and trade issues, project management.

**Michael Pittarelli**, Associate Professor of Computer Science; Ph.D., State University of New York at Binghamton. Systems science, artificial intelligence, statistics, and database theory.

**Ronald Sarner**, Professor of Computer Science; Ph.D., State University of New York at Binghamton. Data modeling, statistical inference in the social sciences, and instructional computing.

**Rosemary Mullick**, Associate Professor; Ph.D., Wayne State University. Operating systems, artificial intelligence, computer networks, parallels between human cognition and artificial intelligence and human engineering.

**James Coliz**, Assistant Professor of Telecommunications; Ph.D., University of Indiana. Signaling systems, U.S. Regulation and Policy.



## Telecommunications Institute

The mission of the Telecommunications Institute, located at the college, is to develop and extend research and training in the telecommunications industry. The Institute was established through the joint efforts of the Institute and NYNEX Systems Marketing.

NYNEX and other telecommunications organizations provide an Executive-in-Residence for the Telecommunications Institute. This is a valuable resource for collaborative education efforts by the Department and industry.

The Telecommunications Institute focuses on providing both training and information to professionals in the field of telecommunications. The Institute's seminars deal with a wide variety of topics in telecommunications, including equipment, voice/data networks, system management, and cabling/wiring technology. These sessions may incorporate teleconferencing and other distance learning techniques, as well as equipment demonstrations. The Institute also draws on the college's extensive telecommunications laboratory and its integrated voice and data network to enhance its educational pursuits outside of the classroom.

## Telecommunications Advisory Board

The Advisory Board, comprising 30 industry executives that include users, vendors, consultants, academicians, and policy makers, meets on a regular basis to shape the program's continued growth and development. These members give their time and effort to keep the Institute of Technology's Telecommunications programs on the leading edge of this fast-paced industry.

Current members of the advisory board come from such companies and organizations as NYNEX, United Parcel Service, NORTEL, CIGNA, Lucent Technologies, International Communications Association, GTE Telephone Operations, General Electric Company, New York State Independent Telephone Association, MCI Telecommunications Corporation, Advantis, IBM, Corning Glass, Wall Street Telecom Association and Compaq Computers.

## Facilities

The telecommunications program is supported by more than \$6 million in modern facilities and equipment. Most of this has been donated by industry, reflecting its strong support for the Department and its programs.

The Telecommunications Department maintains three "hands-on" laboratories for student and faculty experimentation. These include a digital telephone switching and transmission laboratory (Donovan Hall Room 1240), a data communications laboratory (Donovan Hall Room G143), and a network operations laboratory (Donovan Hall Room 1196).

The digital telephone switching and transmission laboratory includes the following equipment:

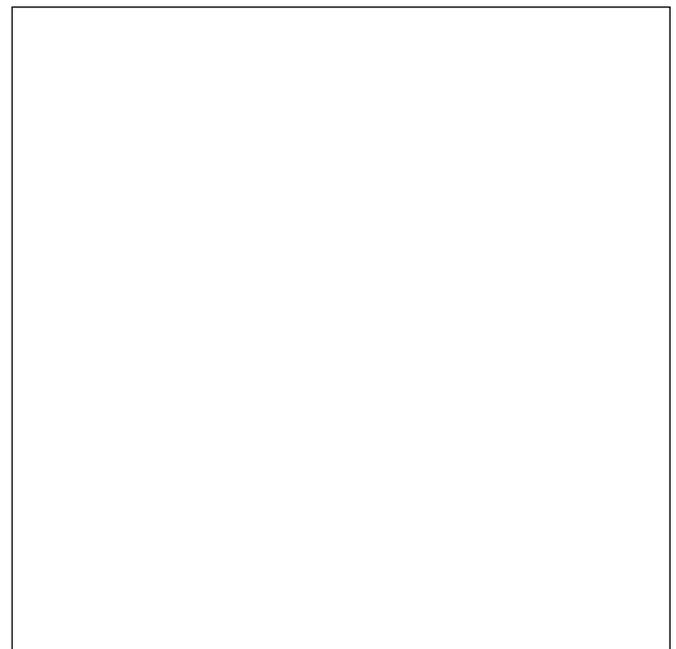
- AT&T Definity G3i PBX
- Northern Telecom DMS-10 Central Office Switching System
- Northern Telecom Meridian 1 PBX System - fully optioned
- Northern Telecom Meridian Link Adjunct Processor
- Northern Telecom D4E Smart Channel Banks
- Northern Telecom DMS-1 Urban Digital Loop Carrier System
- Octel Voice Messaging System with Automated Attendant
- Newbridge MainStreet Channel Bank
- Tie Data/Star PBX System
- Redcom Labs MDX Central Office Switching System
- Redcom Labs Teletraffic Generator
- TTI Digital Access and Cross-Connect System
- Moscom Centrex Scanner
- Moscom Discovery/1 Call Detail Recorder
- ADC Communications Analog Patch Panel and Test Bay
- ADC Fiber Patch Panel
- ADC Fiber Optic Loop Terminator
- NEC Fiber Optic Channel Multiplexors
- NEC ND4A Channel Banks
- TTC Firebird 400/Firebird 6000 Digital Transmission Sets
- Dialogic Corp. D4/X Voice Processing Application Platforms
- Application Software from TRT, Inc.
- Centramax Trading Turret
- Xiox Hacker-Preventor

The data communications laboratory includes the following equipment:

- AT&T BNS 2000 SMDS Switching Platform
- General DataCom Megamux T-1 Multiplexors
- Racal DataCom OmniMux T-1 Multiplexors
- 3COM Network File Server
- Racal-Data Network Resource Planning Software Program
- Racal-Data CMS Network Management Software
- Racal Data CSU's, Link Encryptors, Network Controller
- Quintessential Solutions Link Analysis and Design Software
- LYNX Technologies International Tariff Data Base Access
- Comdisco BONEs Designer Simulation Software Program
- CACI COMNET II.5 Simulation Software/LANNET Software
- Network Analysis Center Modular Interactive Network Design
- Progressive Computing ISDN PC-based TEL/SCOPE Analyzer
- Progressive Computing LM-1 PC-based Protocol Analyzer
- Hewlett Packard 4961A WAN Protocol Analyzer
- Tekelec Chameleon-32 WAN Protocol Analyzer

The network operations laboratory includes the following:

- Network Operations Console
- NYNEX ALLINK Network Management Platform
- SUN SparcStation (SUN 4/OS) File Servers
- Novell Netware File Server - 12-node Ethernet 10 Base-T LAN
- Motorola Altair Wireless Local Area Network



SUNY Institute of Technology  
at Utica/Rome  
P.O. Box 3050  
Utica, New York 13504-3050

## GRADUATE SCHOOL REFERENCE REPORT

Name of Applicant \_\_\_\_\_ Social Security Number \_\_\_\_\_

Current Address \_\_\_\_\_

Applying for the \_\_\_\_\_ (degree) in the Department/School of \_\_\_\_\_

in the \_\_\_\_\_ program.

Name and title of person supplying reference:

\_\_\_\_\_  
Name Title

**AUTHORIZATION FOR WAIVER: TO BE READ AND SIGNED BY APPLICANT: This waiver is not required as a condition of admission.**

*I understand my right under the U.S. Family Education Rights and Privacy Act of 1974 to review confidential appraisals placed in my file on or after January 1, 1975 that are submitted with reference to admission to a graduate or other school.*

I do  do not waive my right to review this reference report.

\_\_\_\_\_  
Date Signature of Applicant

TO THE APPLICANT: Complete the above information and send this form with a reference envelope to the individual who will be providing your reference.

TO THE EVALUATOR: In the space below please comment on the following: 1. How long and in what capacity you have known the applicant. 2. The applicant in terms of talents, abilities, potential, organizing and communicating ideas, seriousness, and maturity and stability in the face of prolonged and difficult work. 3. Other relevant information not found elsewhere in the application materials. Return this form in the envelope provided.

\_\_\_\_\_  
Signature Position/Title Date

\_\_\_\_\_  
Name and Address (Please type or print)

# **APPLICATION FOR GRADUATE ADMISSION**

SUNY Institute of Technology at Utica/Rome

## **STATEMENT OF EDUCATIONAL OBJECTIVES**

Applicants to the graduate programs in Advanced Technology, Nursing (Adult Nurse Practitioner, Nursing Administration), and Telecommunications must submit a written statement of reasons for seeking admission to the master's program, identifying immediate and long-term professional goals and relating intended contributions to the professional field after completion of the master's program.

*Please type response in a maximum of two double-spaced pages, using this form.*



24. Answering "yes" to the questions listed below will not automatically prevent admission, the institution may use this information to insure campus safety. An applicant who responds "yes" to either of these questions will be requested to provide further information for admission consideration. The information will be reviewed by a campus committee. Any deliberate falsification or omission of data may result in a denial of admission.

Have you been convicted of a felony?  Yes  No

Have you been dismissed from a college for disciplinary reasons?  Yes  No

**PREVIOUS EMPLOYMENT**

25. \_\_\_\_\_

Position held	Employing Firm	From (Mo./Yr.)	To (Mo./Yr.)
Position held	Employing Firm	From (Mo./Yr.)	To (Mo./Yr.)

**FOREIGN STUDENT INFORMATION**

26. My present U.S. nonimmigrant status is:  
 Student F-1  or J1  \_\_\_\_\_ with an expiration date of \_\_\_\_\_  
NAME OF ISSUING COLLEGE OR UNIVERSITY Month and Year Alien Registration Number

Permanent Resident   
 Visitor  with termination date of \_\_\_\_\_ Other  \_\_\_\_\_  
Month and Year State Type, Conditions and Termination Date

**AGREEMENT:** I HAVE REQUESTED EACH OF THE SCHOOLS LISTED IN QUESTION 19 TO SEND OFFICIAL TRANSCRIPTS TO THE INSTITUTE OF TECHNOLOGY. THE INFORMATION SUPPLIED IN THIS APPLICATION IS COMPLETE AND ACCURATE, TO THE BEST OF MY KNOWLEDGE.

**X** \_\_\_\_\_  
 Signature of Applicant and Date

**OFFICE USE ONLY**

Admission _____ <small style="margin-left: 100px;">Dept./Status/Degree</small>	Program Chair _____ <small style="margin-left: 100px;">Signature and Date</small>
Conditions: _____	Division Dean _____ <small style="margin-left: 100px;">Signature and Date</small>
_____	Graduate Dean _____ <small style="margin-left: 100px;">Signature and Date</small>

**Application Fee: \$50. Make checks payable to: SUNY Institute of Technology.**