

President's Message

Graduate studies at the Institute of Technology find their genesis in a recognition by the State University of New York Board of Trustees that the opportunity for one to pursue advanced study is deserving of high priority.

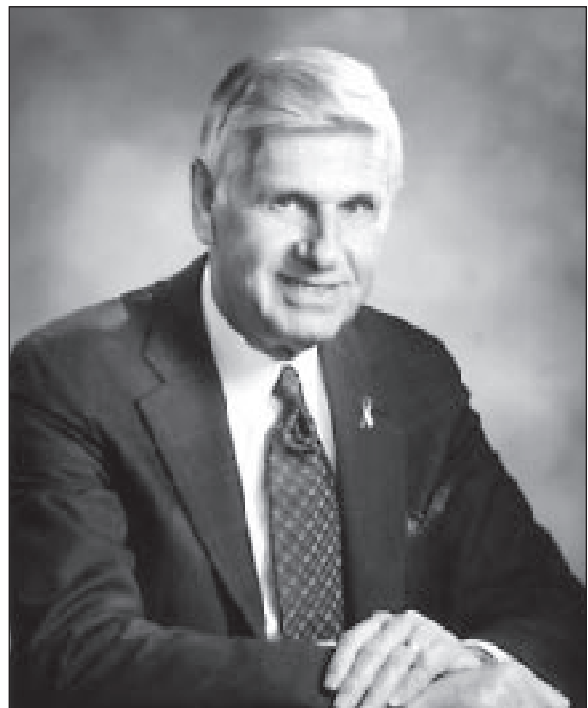
The breadth and depth of any specialized program can best be measured by its reputation and substance and so it is at the Institute that the teacher and the student collaborate in the quest for intellectual stimulation and discovery.

Our campus welcomes the serious learner who wishes to extend his/her undergraduate preparation to a higher level of progressive academic achievement.

As a graduate student, an extraordinary experience awaits you.



Peter J. Cayan
President



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 unique member of the SUNY family, serving students in its role as the state's only upper-level institution. In 1966 the State University established the Upper Division College to meet the needs of transfer and graduate students. In that capacity, the Institute of Technology has been offering two-year college graduates and master's degree students a support system geared exclusively to their needs and interests.

For more than 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. The Institute of Technology has earned an exceptional reputation for serving students making the transition from community and junior colleges, colleges of technology, and other institutions.

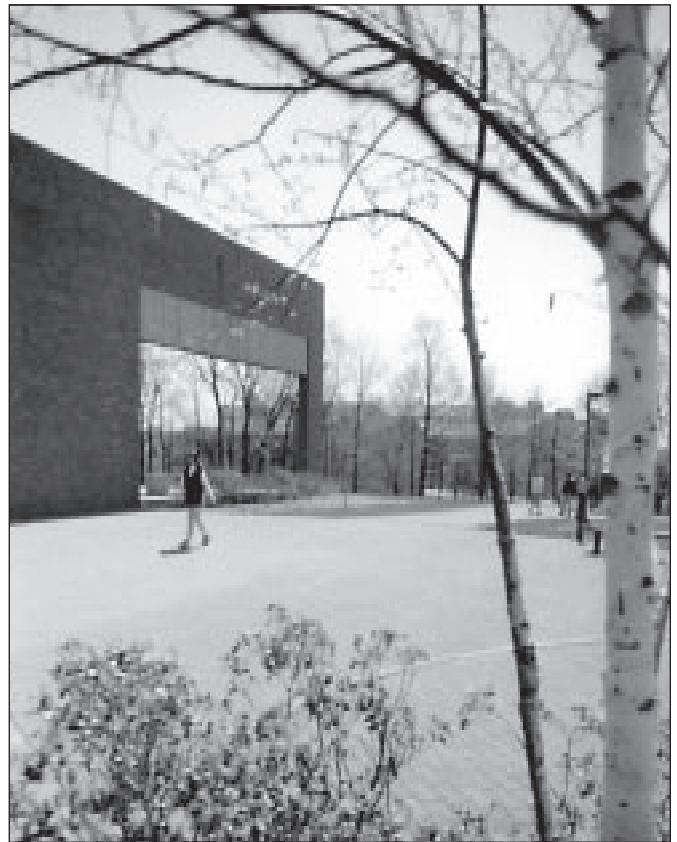
In addition to the rich human resources the college provides, the Institute of Technology offers students the many assets of the State University system's most modern campus. The campus is both spacious and intimate, modern and established. For example, although established in 1966, the \$60 million dollar campus complex was completed in 1988. Governor George Pataki officially broke ground during a campus visit in 1998 to announce a \$14 million library complex to be opened by 2001.

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, and take advantage of state-of-the-art equipment.

The academic 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 highly-rated residence halls that include all of the conveniences of apartment living. These complexes have been ranked 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.

More than 16,000 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, Advanced Technology, Applied Sociology, Business Management, Computer and Information Science, Information Design and Technology, Nursing Administration, Telecommunications, and an Advanced Certificate in Adult Nurse Practitioner.

The college offers 20 bachelor's and nine master's 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.

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 is available at nearby Oneida County Airport.

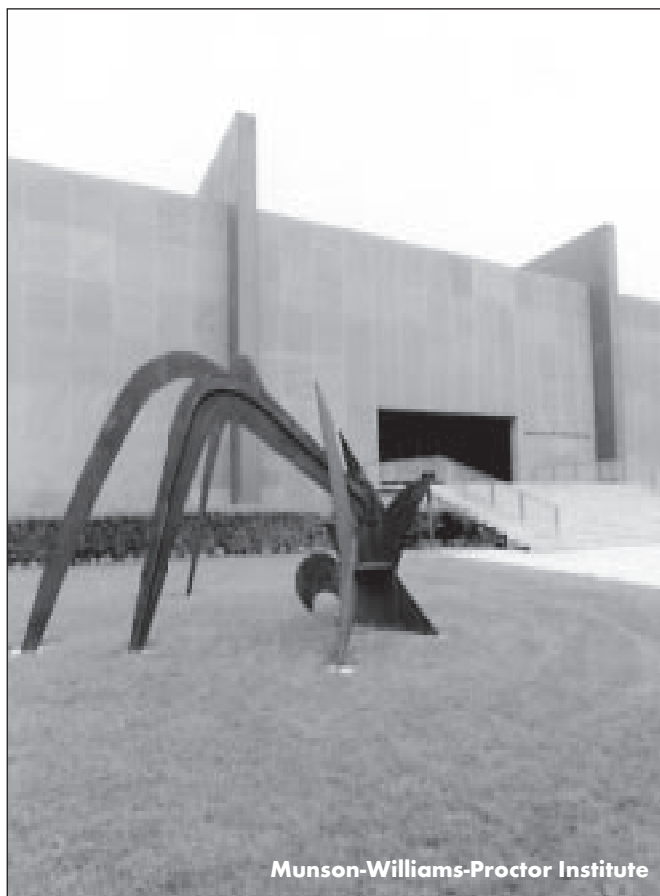
Cultural Highlights

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.

Summer also brings the streets alive through "Utica Monday Night," a weekly series of musical, cultural and history-oriented happenings throughout the downtown area.



Munson-Williams-Proctor Institute

Sports and Recreation

Utica and the surrounding area offers something for everyone throughout the entire year. In professional sports, the city is home to the Utica Blue Sox (affiliated with the Florida Marlins), members of the New York Penn League, and the Mohawk Valley Prowlers, of the United Hockey League. 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.

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.

A limited number of one-year Residential Scholarships are available to new students who meet the cumulative GPA requirements. Contact the Admissions Office for details.

Appointments in the Residential Life Office can be made on an individual basis throughout the year. 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. The housing deposit is not refundable after May 1 for the fall semester. However, if a student deposit is accepted after May 1, a refund request will be considered for up to 30 days after payment of the deposit. For the spring semester, the housing deposit is not refundable after 30 days following payment of the deposit. 1999-2000 semester rates for on-campus housing are as follows:

Premium Single	\$2,200/semester
Standard Single	\$1,950/semester
Premium Double	\$1,750/semester
Standard Double	\$1,600/semester
19 meals/week & 100 pts.	\$1,100/semester
14 meals/week & 100 pts.	\$1,050/semester
7 meals/week & 300 pts.	\$1,100/semester
Block Plan-125 meals & 200 pts.	\$1,100/semester

Students living on-campus are required to purchase a meal plan. 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. 1999-2000 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:

■ Application/Application Fee

Submit the Graduate Application and 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.

■ Transcripts

Graduates of colleges other than SUNY Utica/Rome must forward official transcripts of all undergraduate and graduate work to the Admissions Office. A bachelors degree is required for consideration. A 3.0 undergraduate GPA is typically required for admission.

■ GRE/GMAT Scores

GRE/General Test scores are required for Adult Nurse Practitioner, Advanced Technology, Computer Science, Nursing Administration, and Telecommunications.

GMAT Test scores are required for Accountancy and Business Management.

■ Professional References

Professional references must be submitted for an admission decision to be rendered.

One letter of reference is required for the following programs: Accountancy, Computer Science and Business Management.

Two letters are required for the following programs: Nursing Administration and Adult Nurse Practitioner.

Three letters are required for the following programs: Telecommunications and Advanced Technology (1-3 letters for MSAT).

■ Narrative Statement

Narrative statement of objectives for graduate study must be submitted for the following programs: Nursing Administration, Adult Nurse Practitioner, Telecommunications and Advanced Technology. Refer to back page of this catalog.

■ **Nursing Administration and Adult Nurse Practitioner applicants** must also submit: A) a transcript demonstrating successful completion of a basic statistics course, and (for Adult Nurse Practitioner applicants only) an undergraduate health assessment course, and B) evidence of current licensure as a registered professional nurse in New York State.

■ Interview

A personal interview with a faculty member is required for MS in Nursing candidates. A personal interview with the Admissions Office is encouraged as part of the admissions process for all graduate programs. An interview may be required for marginal applicants.

Once the Admissions Office receives all required documents, the credentials will be reviewed and a final decision will be forwarded to the applicant. After formal admission, a student

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 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 and complete the "Application For A Graduate Assistantship" form. This automatically establishes an assistantship application file for the applicant. Applicants should submit the necessary materials by March 1.

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

Standardized Examinations

Graduate Record Examination

Scores from the Graduate Record Examination (GRE/General Test) 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 (2896) must be used for scores to be reported to the SUNY Institute of Technology.

These examinations are offered through computer-based testing. Score reports take approximately four to six 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.

Further information may be found in the GRE Information Bulletin available at the Admissions Office, or by calling GRE at 1 800 753-3160; or on-line at www.gre.org.

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 exclusively through computer-based testing. 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.

Further information may be found in the GMAT booklet, available at the Admissions Office, or by calling GMAT at 1 800 GMAT NOW; or on-line at www.gmat.org.

Health Center

The Health Center, conveniently located in the Campus Center, provides evaluation and treatment of health-related problems for full and part-time students. The Health Center is staffed by registered nurses, a nurse-practitioner, a physician and support personnel. There are regularly scheduled hours for physician visits. Routine gyn exams are available by appointment. The Health Center is open daily Monday through Friday with the hours of service posted each semester.

The nurse-practitioner and the physician 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 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 an electronic waiver form on the Institute's web site 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.

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 complete the "Application for Graduate Assistantship" form in the back section of this catalog. This automatically establishes an assistantship application file for the applicant. Additional material may be required to complete the assistantship application. Candidates will be contacted by the screening committee if such materials are necessary.

Recommendations for assistantship are made to the Executive Vice President for Academic Affairs through a selection process involving each dean. 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.

A student may receive a maximum of two years of support from state funding while pursuing the master's degree (upon discretion of the department and academic standing). 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 depart-

ment/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. 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 Office of Human Resources. 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.

Underrepresented Graduate Fellowship Program

A limited number of Underrepresented Graduate Fellowships are available (pending SUNY funding) to full-time students who qualify for admission. The Underrepresented Graduate Fellowship Program assists African-American, Hispanic/Latino American and Native American students with tuition and stipend support.

Please contact the Admissions Office for additional information.

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
Internet: 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

Undergraduate	Full-Time	Part-Time
New York Resident*	\$1,700 per semester	\$137 per credit hour
Out-of-State Resident	\$4,150 per semester	\$346 per credit hour
Comprehensive Student Fee	\$287.50 per semester	\$21.95 per credit hr.

Graduate	Full-Time	Part-Time
New York Resident*	\$2,550 per semester	\$213 per credit hour
Out-of-State Resident	\$4,208 per semester	\$351 per credit hour
Comprehensive Student Fee	\$222.50 per semester	\$17.95 per credit hr.

* "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 Comprehensive Student Fee supports services not provided by tuition dollars or state subsidy that enrich the quality of a student's total experience at the Institute of Technology. All components of the Comprehensive Student Fee are mandatory. The typical Comprehensive Student Fee supports activities at the following levels:

	Full-time	Part-time
College Fee	12.50	.85
Intercollegiate Athletics	75.00	5.85
Student Activities	65.00	4.00
Health Services	60.00	5.00
Technology Applications	75.00	6.25
	\$287.50	\$21.95

The College Fee is established by the Board of Trustees of the State University of New York.

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 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 used to support the services provided by the Health Center. Students must provide a health history and physical examination to be eligible for routine medical care

The Technology Fee is used to upgrade, modify and make significant technological advances in classrooms and laboratories used by SUNY Utica/Rome students.

First-time, new students are assessed a one-time Transitions Program fee of \$40 used to support activities and programs which aid the student transition to a new academic campus environment.

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 - 5 Week Term

Liability During:	1st week of classes*	0%
	2nd week of classes*	75%
	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%

* 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 Of-

How Receipt of Federal Title IV Funds (Pell, Direct Student Loans, Perkins Loans, Nursing Loans, and SEOG) Affects Student Refunds

In accordance with the Higher Education Amendments of 1998, a portion of Title IV grant or loan funds, but not Federal Workstudy Funds **must** be returned to the Title IV Program upon a student's withdrawal from school. The law does not specify an institutional refund policy. This may result in a student incurring a liability to SUNY after the Title IV funds are returned.

Withdrawal Date

Regulation requires the Institute to determine a withdrawal date from the student's official notification to the institution. For unofficial withdrawals (dropping out without notification), the withdrawal date becomes the mid-point of the semester, unless the school can document a later date. If circumstances beyond the student's control (illness, accident, grievous personal loss) caused the unofficial withdrawal, **and can be documented**, the school may use discretion in determining an appropriate withdrawal date.

Earned Title IV Aid

Regulation provides a formula for the calculation of the amount of Title IV aid that the student has "earned" and the school may retain. This depends on the percentage of the enrollment period that the student has completed up to withdrawal. This percentage is calculated by dividing the number of **calendar days (not weeks)** completed by the total number of calendar days in the period. Up through the 60% point of the enrollment period, the student is eligible for the actual percentage of aid this calculation provides. For example, if a student attends for 15 days out of a 75 day semester, he/she is eligible for 20% of their total Title IV aid package ($15/75 = .20$). After the 60% point of the semester, 100% of the Title IV aid is considered "earned" by the student. The earned percentage is applied to the total amount of Title IV grant and loan assistance that was disbursed (and could have been disbursed) to the student.

Application of Unearned Percentage

Any amount in excess of the allowed percentage must be returned to the appropriate Title IV program by the school, the student, or both. The school must return the lesser of the unearned Title IV assistance or an amount equal to the total liability incurred by the student multiplied by the unearned percentage. Using the above example, if a student had received \$1,000 in Title IV loans and grants, and \$500 had been applied to the account and \$500 had been applied to the student, the earned portion of the aid package is \$200 ($.2 \times \1000) and the unearned portion is \$800 ($.8 \times \1000). \$800 must be returned to the Title IV programs. Of this \$800, \$500** must be returned by the school.

** \$500 is the lesser of \$500 vs \$1590. ($\$1987.5 \text{ tuition} \times .8 \text{ unearned \% applied to institutional costs} = \1590)

Student Responsibility

Students must return unearned Title IV assistance less any amount returned by the school. The student above is responsible for returning the remaining \$300.

Special Rule

The student would not need to repay amounts in excess of 50% of any grant monies received. If the \$300 the student was to return came from a Pell disbursement, the student would only need to

return \$150, or not more than 50% of the grant funds received.

Order of Return of Title IV Funds

Title IV Funds must be returned in the following order:

- Unsubsidized FFEL Loans
- Subsidized FFEL Loans
- Unsubsidized (other than parent loans) Federal Direct Loans
- Subsidized Federal Direct Loans
- Federal Perkins Loans
- FFEL PLUS Loans
- Federal Direct PLUS Loans
- Federal Pell Grants
- Federal SEOG
- Other Title IV assistance for which a return is required

Leaves of Absence

A leave of absence is not to be treated as a withdrawal and no return of Title IV funds is calculated. A student may take a leave of absence from school for not more than a total of 180 days in any 12-month period. The school formal leave of absence policy must be followed in requesting the leave. The leave must be approved by the school in accordance with this policy. **However, if the student does not return at the expiration of an approved leave, then the school calculates the amount of Title IV**

Other Refunds

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 are 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 Premium Single Room	\$2,200	n/a
— Semester Rate Standard Single Room	\$1,950	n/a
— Semester Rate Premium Double Room	\$1,750	n/a
— Semester Rate Standard Double Room	\$1,600	n/a
Board		
Charges*— Semester rate-19 meals/wk. + 100 points	\$1,100	\$1,100
— Semester rate-14 meals/wk. + 100 points	\$1,050	\$1,050
— Semester Rate-7 meals/wk. + 300 points	\$1,100	\$1,100
— Semester Block Plan-125 meals + 200 points	\$1,100	\$1,100
\$1,100		
Parking Fee (see section entitled “Parking Fees”)	\$54	\$27
Career Services Fee — voluntary, paid once (non-refundable)	\$55	\$55
Alumni Fee — voluntary, annually charged	\$20	\$20
Diploma Cover Charge — payable when applying for diploma	\$10	\$10
Drop/Add Fee — paid per transaction	\$15	\$15
International Student Medical Insurance*	\$478	\$478
Domestic Student Medical Insurance	\$156	Not
required		
ID Card Replacement Fee	\$15	\$15
Late Registration Fee	\$30	\$30
Transitions Program Charge — paid once; during first semester	\$40	\$40
Late Payment Fee — charged to accts for payments received after assigned due date	\$30	\$30
Returned Item 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



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.

Medical Insurance

In accordance with State University policy, medical insurance is mandatory for all full-time students. The charge for medical 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 Medical Insurance Waiver Form before the end of the second week of classes. It is the student's responsibility to insure that the waiver form is on file, as the charge becomes final on the last day to waive. Waiver forms 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 forms must be submitted on the Web **each semester**.

If you have Medical Insurance information with you when you web register:

1. Press the *Medical Insurance Waiver* link at the bottom of the Registration Page,
2. Complete the *Medical Insurance Waiver Form*,
3. Press *SUBMIT/ Wait for message: "Your waiver has been successfully submitted."*

The cost of Student Medical Insurance will be deducted from your bill after approval by Health Center Director.

If you have already registered but have not yet done your waiver on the web:

1. Go to SUNY's Home Page on the web: *www.sunyit.edu*,
2. Select *Campus Intranet* web page,
3. Select *Student info login*,
4. Enter your SSN and PIN,
5. Press *LOG IN*,
6. Re-enter your PIN (security measure),
7. *SUNY Information Main Menu* will appear,
8. Select *Personal Information Menu*,
9. Select *Medical Insurance Waiver*,
10. Fully complete the waiver form,
11. Press *SUBMIT/ Wait for message: "Your waiver has been successfully submitted."*

The cost of Student Medical Insurance will be deducted from your bill after approval by Health Center Director.

Medical Insurance fee is not automatically refunded.



When a student drops below full time, written request for refund will be accepted at the Business Office. 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 Medical 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 Medical Insurance.....\$156 per year
(full-time students only)

International Student Insurance\$504.25 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 University Police 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 University Police Department, 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 University Police Department. 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 the Internet at www.sunyit.edu, 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 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 the confirmation portion 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 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 also 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, may result in the advance registration being deleted. The student then re-registers at a later time. However, a late registration fee will be charged when re-registration for the term occurs. This charge reflects the multiple processing of registration records for the same semester. Students who are re-registering are **NOT** guaranteed spots in courses for which they originally registered.

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* charges when you receive your initial semester billing statement. 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

The five-payment option is 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 clients must obtain deferral/promissory note from the Financial Aid Office and return the Bursar's Copy with confirmation/remittance portion of the billing statement prior to billing due date.

NYS Employees and UUP Personnel

NYS Employees and UUP Personnel must submit

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

Required Disclosures

Please take notice, if payment is not received for obligations due to the Institute, this agency is required to use 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 (8% 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.



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.

Dual Masters Degrees

1. A student possessing a masters degree from another institution may earn a second masters degree from the Institute of Technology by completing the specific degree requirements and the college residency requirement. Both requirements may be satisfied simultaneously.
2. A student may earn two masters degrees from the Institute of Technology, and must satisfy all degree requirements for each program. A student wishing to complete more than one masters degree may transfer a different set of courses for each degree but in no case is a student allowed to transfer more than 6 credit hours for each degree. A student may use up to 9 credits, taken at SUNY Institute of Technology, to apply towards the 27 hour residency credit requirement of the second degree program.

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</i>	<i>Classification</i>	<i>Degree</i>
0502	Accountancy	M.S. Master of Science
0925	Advanced Technology	M.S. Master of Science
2208	Applied Sociology	M.S. Master of Science
0506	Business Management	M.S. Master of Science
0701	Computer and Information Science	M.S. Master of Science
0799	Information Design and Technology	M.S. Master of Science
1203.10	Nursing Administration Adult Nurse Practitioner	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

Graduate/Undergraduate Academic Calendars

Fall Semester 1999 *

August 27	(Fri)	New Student Transitions/Registration
August 30	(Mon)	ALL CLASSES BEGIN Add/Drop Begins Late Registration Begins
September 3	(Fri)	Last Day to Register for Fall 1999 Courses
September 6	(Mon)	LABOR DAY HOLIDAY - No Classes
September 13	(Mon)	Last Day to Add a Course or Drop Without Academic Record
September 14	(Tues)	Withdrawal (W Grade) from Courses Begins
October 18	(Mon)	Last Day of Classes for First Half Semester Courses
October 19	(Tues)	First Day of Classes for Second Half Semester Courses Incomplete Grades from Spring & Summer 1999 Revert to "F" Grades
October 29	(Fri)	Last Day to Officially Withdraw (W Grade) From Courses
November 1	(Mon)	Last Day to File for May 2000 Graduation
November 15-16	(Mon-Tue)	Advance Registration - Spring 2000
November 24-28	(Wed-Sun)	THANKSGIVING HOLIDAY RECESS *(Recess begins at 6:00 pm, Tuesday, November 23rd)
November 25-26	(Thurs/Fri)	College Closed for ALL Business
November 29	(Mon)	Classes Resume
December 11	(Sat)	Classes End
December 13	(Mon)	Final Exams Begin
December 16	(Thurs)	Final Exams End
December 18	(Sat)	December Commencement

Spring Semester 2000 *

January 14	(Fri)	New Student Transitions/Registration
January 17	(Mon)	ALL CLASSES BEGIN Add/Drop Begins Late Registration Begins
January 21	(Fri)	Last Day to Register for Spring 2000 Courses
January 28	(Fri)	Last Day to Add a Course or Drop Without Academic Record
January 31	(Mon)	Withdrawal (W Grade) from Courses Begins
March 3	(Fri)	Last Day of Classes for First Half Semester Courses
March 6	(Mon)	First Day of Classes for Second Half Semester Courses Incomplete Grades from Fall 1999 Revert to "F" Grades
March 12-19	(Sun-Sun)	SPRING BREAK
March 20	(Mon)	Classes Resume
March 24	(Fri)	Last Day to Officially Withdraw (W Grade) From Courses
April 3	(Mon)	Last Day to File for August 2000 Graduation
April 10-11	(Mon-Tue)	Advance Registration - Summer and Fall 2000
April 29	(Sat)	Classes End
May 1	(Mon)	Final Exams Begin
May 4	(Thurs)	Final Exams End
May 6	(Sat)	Commencement
June 1	(Thurs)	Last Day to File For December 2000 graduation

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

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 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 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 School of Management participates in the "SUNY Learning Network," a consortium of campuses who have joined together to offer graduate and undergraduate on-line courses. Currently, it is possible to complete the M.S. Accountancy program entirely on-line (via the World Wide Web). On-line course information is available in the SUNY Learning Network Course Guide and in the Institute of Technology Course schedule.

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.

Sanjay Varshney
Interim Dean, School of Management



Admissions Criteria

Students graduating from undergraduate accounting programs registered as CPA preparation programs will typically have no prerequisite foundation coursework. **Students without a baccalaureate degree 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.

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.

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. It is possible to complete the program through either week-day, weekend or on-line courses. Students who intend to pursue full-time study (and complete the program within an 18 month period) should plan on some combination of these three venues. A program of study will be developed with an advisor which responds to student desires and the plan for course schedules.

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 Management Problems
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 Management Problems (3 credits)

Provides the student with in-depth experience with the subject of Corporation Finance for their future development as practicing

executives. Students solve cases and problems faced by financial managers in the real world, that focus on major financial decisions and such current issues as corporate governance, securities issuance, globalization, privatization, financial analysis and planning, capital budgeting, capital structure, cost of capital, valuation, dividend policy, short/long term financing, financial markets, firm performance, and corporate restructuring. Prerequisites: FIN 302/FIN 502.

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 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

Thomas T. Amlie, Assistant Professor; Ph.D., University of Maryland. Accounting, managerial compensation and accounting education issues.

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

Richard J. Havranek, Associate Professor; 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.

Sanjay B. Varshney, Assistant Professor; Ph.D., Louisiana State University. Chartered Financial Analyst with the New York Society of Security Analysts. Market micro structure trading analysis, corporate governance, security valuation and issuance.

Thomas Tribunella, Associate Professor; Ph.D., University at Albany. Experienced in both public and corporate accounting environments.

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.

Robert S. Yeh, Assistant Professor; Ph.D., Purdue University. Quantitative marketing models, statistical applications and



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 Air Force Research Laboratory, Rome Site, N. Y., afford both students and faculty a variety of opportunities for collaborative research projects and personnel exchanges. These relationships also provide for mutual sharing of computing, research and library facilities.

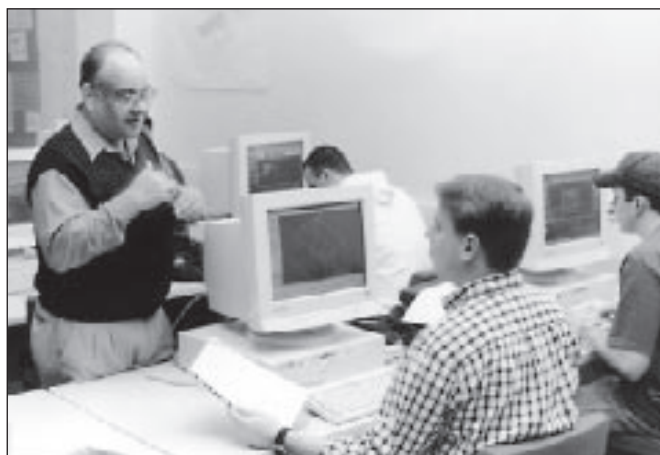
Electrical Engineering Technology faculty are involved in research sponsored by the U.S. Air Force Office of Scientific Research and other external funding agencies.

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 FDDI-based optical network. The laboratories are also supported with the latest software including AutoCad, ALGOR, Smartcam, INMASSII, MATLAB, SIMULINK and COMNET III. 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 Technology for Multimedia Systems
MST 576	Finite Element Theory
MST 580	Computer and Robotic Vision
MST 622	Intelligent Control Systems
MST 673	System Simulation
MST 680	Reliability and Quality Assurance
MST 682	Advanced Topics in Computer Integrated Manufacturing - CIM
MST 690	Project

Course Descriptions

MAT 500 – Topics In Applied Mathematics (3 credits)

This course will introduce students to several topics in the area of mathematical methods. Topics include; complex numbers, determinants and matrices, ordinary differential equations, Fourier series, partial differentiation, multiple integrals and vector analysis.

MST 502 – Advanced Engineering Economics (3 credits)

Study of the application of technical and economic analysis, with the goal of deciding which course of action best meets technical performance criteria and uses scarce capital in a prudent manner. Applied software technology will be used to analyze the economy of new product designs, structures, systems, qualities, reliabilities, and services. Prerequisite: Engineering Economy or equivalent or consent of instructor.

MST 503 – Recent Advances in Technology (3 credits)

This course will analyze current and future trends and original research advances in the two concentration areas of the MSAT program. The course will include seminars, invited lectures and visits. It will be taught by a team of instructors.

MST 520 – Network Technology for Multimedia Systems (3 credits)

The course deals with the study of networking for automated manufacturing, medical and commercial systems. Protocols, configurations, topologies, such as for broadband cable and for dynamic networks are discussed. Use of optical networks for interactive video, wireless networks and virtual reality for industrial usage will also be introduced.

MST 570 – Design and Analysis of Experiments (3 credits)

The use of experiment design early in the product cycle can substantially reduce development lead time and cost, leading to processes and products that perform better in the field and have higher reliability than those developed by using other approaches. Students will learn principles as well as implementation of experimental design in developing products and manufacturing processes that are robust to environment factors and other sources of variability.

MST 576 – Finite Element Theory (3 credits)

In-depth study of Finite Element Theory and its application. Emphasis will be given to discretization, modeling and interpretation of results. Software packages such as ALGOR/INERTIA will be extensively used. Two hours of lecture and two hours of laboratory per week. Prerequisites: MST 500, MAT 322 or equivalent.

MST 580/CSC 580 – Computer and Robotic Vision (3 credits)

Two and three dimensional systems, image formation, sensor devices, illumination, processing of images, feature extraction & recognition, robotics inspection, actor devices.

MST 622 – Intelligent Control Systems (3 credits)

First, the traditional control techniques are introduced and contrasted with intelligent control. Fuzzy logic then, is introduced as one of the methods for representing and processing information. Advantages of fuzzy logic over other techniques are pointed out, while indicating some limitations as well.

MST 673 – System Simulation (3 credits)

The course addresses the following topics: Overview of computer modeling and simulation, systems and models, queuing theory, simulation of discrete and continuous systems, simulation software packages.

MST 680 – Reliability and Quality Assurance (3 credits)

This course is a study of applications of reliability-maintainability models, reliability testing and analysis, and quality engineering-design, process, control and quality transformation. Prerequisite: Statistics, Statistical Quality Control or equivalent or consent of instructor.

MST 682 – Advanced Topics in Computer Integrated Manufacturing (CIM) (3 credits)

An overview of the components of CIM Enterprise, System Design, Material Handling, Materials Requirement Planning (MRP), Manufacturing Resource Planning (MRPII), Manufacturing Database and Management, Expert Systems for Manufacturing. Two hours of lecture and two hours of laboratory per week. Prerequisites: An undergraduate course in CAD or CAM or CIM, or consent of instructor.

MST 690 – Project (3 credits)

The course deals with the design or in depth analytical or experimental study of a topic chosen from the area of advanced technology. Oral examination and formal, bound report is required. Project will be conducted under the guidance of appropriate faculty. It will be assigned on the basis of faculty interest and preparation of the students. Prerequisite: Graduate status.

Faculty

Digendra Kumar Das, Associate Professor, Ph.D., University of Manchester Institute of Science and Technology.
CAD/CAM/CIM, fluid/prognostics, turbomachinery and thermal sciences and MEMS.

Atlas Hsie, Associate Professor, CmgfE, CQE, CRE, M.S., University of Michigan. M.S., University of Akron.
Quality & Reliability Engineering, engineering economics, production management, CAM & robotics.

Naseem Ishaq, Associate Professor, Ph.D., London University.
Vision, VLSI and networking

Salahuddin Qazi, Associate Professor, Ph.D., Loughborough University of Technology.
Fiber optics, optical and wireless communications.

Mohamed Rezk, Associate Professor, D.Eng., Concordia University.
Circuit theory, computer-aided circuit design and digital filters.

Dean Richardson, Assistant Professor, Ph.D., University of Arizona.
Materials and devices for photonic switching, femtosecond pump-probe spectroscopy.

Anglo-Kamel Tadros, Associate Professor, Ph.D., University of Bradford.
Mechanics of sheet metal forming, computer-aided engineering, finite element analysis.

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 earned a baccalaureate degree in a discipline other than mentioned above, but who possess significant work experience (3-5 years) in an engineering/manufacturing area will be considered for admission on an 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.



Master of Science in Business Management

Dean's Message

The School of 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, Management Accounting, Finance and Marketing. 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.

Sanjay Varshney
Interim Dean, School of Management

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 six areas of specialization: Management Science, Human Resource Management, Health Services Management, Management Accounting, Finance and Marketing. 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

Our experience has shown that weekend classes are popular with many students. Accordingly, in response to demand and based on faculty availability certain courses are offered on weekends. There are usually opportunities to complete many of the common core courses on weekends as well as some of the specialized courses within individual programs. 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, organizational behavior, finance, marketing, computer use, statistics, and economics. There are minor variations in prerequisite courses based on the concentration which will be pursued. These variations are highlighted in the evaluation conducted by the admissions office in conjunction with the application process; and in the final program of study developed within the School of Management.

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. **Specialized one-credit modules are also offered at the graduate level to provide equivalent exposure to some of these topics.** The modules are described on page 31 in the section on course descriptions.

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, Management Accounting, Finance or Marketing 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 certain topical areas in which all students (within a concentration) 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 course work 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 following four courses. Note that it is desirable to complete three of them (BUS 505, MGS 511 and ACC 520) as early in the program as possible, while the fourth (BUS 690) should not be taken until the student has completed at least half (six courses) of their 33 hour graduate program.

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 Accounting for Managers (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, HSM 690 or FIN 685). 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 Management Problems (3 credits)

Provides the student with in-depth experience with the subject of Corporation Finance for their future development as practicing executives. Students solve cases and problems faced by financial managers in the real world, that focus on major financial decisions and such current issues as corporate governance, securities issuance, globalization, privatization, financial analysis and planning, capital budgeting, capital structure, cost of capital, valuation, dividend policy, short/long term financing, financial markets, firm performance, and corporate restructuring. Prerequisites: FIN 302/FIN 502.

MGS 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 MGS 615, ACC 520 and FIN 625.

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 concentration focuses on 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 upper management and executive levels either in the human resource management function or other positions requiring intense skills in managing the firm's human resources.

In addition to the common core courses (see above) students in this concentration must take a total of 15 credit hours from the HRM specialty courses listed below. One of these must be HRM 518 (The basic survey/introductory course.) All students must also take Compensation (HRM 620) and Labor Relations (HRM 615). These three courses are considered so critical to the discipline that students must have a comprehensive exposure to them. Students who may have been introduced to these topics either through on-the-job experience or through comparable course work taken previously should meet with their advisor to determine if alternate selections might be appropriate. A fourth HRM Core Course will be selected by the student from the choices below, and the fifth course in the concentration will be the capstone course, HRM 685 (HRM Environments and Strategies). As with the other concentrations, students must complete the remainder of the 33 hour degree requirement with two electives. Electives can include selections from the other available HRM courses or other classes listed as electives in this catalog.

A student may complete BUS 685 (Business Environments and Strategies) in lieu of HRM 685. If this is done, at least one of the electives must be selected from the list of HRM electives to insure that a minimum of five courses will be completed from the HRM Core Group. Otherwise, the two electives may be selected from any of the “three-credit” graduate courses offered by the School of Management as long as they do not duplicate a course previously completed. In some cases a course offered outside of the School of Management can be applied as an elective upon the recommendation of an HRM faculty advisor and with approval of the dean. Upon matriculation into the program all HRM students must meet with their graduate advisor to insure that a program of study is developed and agreed upon.

HRM 518 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 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 HRM 518.

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 HRM 518.

HRM 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 HRM 518 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 HRM 518.

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 HRM 518.

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 HRM 518.

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.

(Note: Students intending to take the thesis option should refer to the section on “Research Experience Requirement.”)

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.

Concentration in Health Services Management

Students in this specialty meet the basic curriculum requirements of all graduate 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 health maintenance organizations, preferred provider organizations; government; and others. On-line courses are available.

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 permission of program advisor.

HSM 502 Health Finance (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 of 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 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 and Regulation (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 Health Care Marketing and Strategic Planning (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 Organizations (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 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 (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. On-line courses are available.

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.

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 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 Management Problems (3 credits)

Provides the student with in-depth experience with the subject of Corporation Finance for their future development as practicing executives. Students solve cases and problems faced by financial managers in the real world, that focus on major financial decisions and such current issues as corporate governance, securities issuance, globalization, privatization, financial analysis and planning, capital budgeting, capital structure, cost of capital, valuation, dividend policy, short/long term financing, financial markets, firm performance, and corporate restructuring. Prerequisites: FIN 302/FIN 502.

Concentration in Finance

The Finance Concentration provides an opportunity for students to become more intensely involved with financial markets and operations. It was developed to help contribute to local needs, as well as respond to the desire among graduate students to focus on the broader financial services community. There is a valuable synergy between accounting and finance—from which both concentrations in our graduate program benefit. On a broad basis the course work included in the finance concentration provides students the ability to pursue prestigious credentials in the financial community such as the Certified Financial Planner, Certified Financial Counselor and the Chartered Financial Analyst. This program of study also provides opportunity for series six/seven licenses which are required by various agencies in the local area. In addition to the common core courses this concentration requires five three-credit hour specialized courses and two three-credit hour elective courses.

FIN 525 – Financial Management Problems (3 credits)

Provides the student with in-depth experience with the subject of Corporation Finance for their future development as practicing executives. Students solve cases and problems faced by financial managers in the real world, that focus on major financial decisions and such current issues as corporate governance, securities issuance, globalization, privatization, financial analysis and planning, capital budgeting, capital structure, cost of capital, valuation, dividend policy, short/long term financing, financial markets, firm performance, and corporate restructuring. Prerequisites: FIN 302/FIN 502.

FIN 532 – Introduction to Stock Market Investing (3 credits)

Introduces current trends and strategies for investment management in the stock market. Topics include (1) stock/securities market structure, (2) risk-return tradeoffs on instruments, (3) auction/negotiation/online trading mechanisms, (4) mutual fund investments, (5) asset pricing and valuation theory, (6) security/industry/company analysis, (7) stock market/equity/technical/financial statement analysis, (8) capital market theory, and (9) combining stocks with other alternative investments.

FIN 541 - Financial Institutions and Markets (3 credits)

Provides the conceptual framework to analyze and understand the public securities markets, and the operation and interaction of financial institutions within. Students learn about commercial versus investment banks, insurance companies and the non-banks, interest rates and their impact on fixed income investments and mortgage markets, risk management and duration gap management as undertaken by commercial banks and insurance companies, and the role of the Federal Reserve in money supply and the overall health of the financial markets.

FIN 633 - Portfolio Management (3 credits)

Introduction modern investment theory and the dynamics, framework, and philosophy of portfolio management. Topics include: (1) the theory of investor behavior, (2) portfolio analysis, (3) capital market theory, (4) valuation theory, (5) managing equity portfolios, (6) managing fixed income portfolios, and (7) the use of options and futures.

FIN 685 - Financial Environments and Strategies (3 credits)

An integrating experience to apply the varied skills and knowledge accumulated throughout the required course work to make the student competitive in the Finance profession. Special emphasis will be upon mastery of body of financial knowledge including significant current developments on the economic and financial scene. Students acquire greater understanding of global capital markets, demonstrate the ability to use the tools and techniques of investment analysis in the valuation of financial assets, and provide a synthesis of all previous related course work.

Concentration in Marketing

Marketing is a crucial function to most business organizations. For many business entities, maximizing customer satisfaction is the winning competitive advantage. Marketing plays the role of intermediary between the organization and the customers. Our program of marketing concentration will prepare students for a variety of careers and entry positions in the area of marketing. The curriculum designed for the marketing concentration involves a comprehensive study of the most updated marketing technology and strategic planning. Courses included in this concentration area provide students well-rounded academic training as well as on-hands experiences. Graduates with this concentration are expected to have career opportunities in new product research and development, sales management, advertising administration, marketing research, brand management, product management, and many other areas in the business environment.

MKT 510 Marketing Survey Design and Data Analysis (3 credits)

Provide prospective managers with an understanding of marketing survey procedures and data analysis techniques. Various quantitative and strategic approaches in marketing are introduced and applied in case studies and problem solving. Topics of this course include: formulation of marketing survey design, comparison of survey designs, preparation of marketing data, quantitative techniques of marketing decision analysis, managerial aspects of coordinating survey projects, and the implementation of derived strategy.

MKT 520 International Marketing and Trade (3 credits)

Offers students an integrated treatment of theories and policies in international marketing and trade. A knowledge and understanding of these interdependent subjects is beneficial for all those who plan to pursue a career in an international business environment. Topics in this course include theories that seek to explain the causal factors that determine the composition of international marketing and trade activities, policies that encompass the role of governments in their efforts to regulate, restrict, promote, or influence the conduct of international trade and investment, and functions of multinational enterprises that undertake production in many countries in pursuit of a global business strategy.

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.

FIN 525 Financial Management Problems (3 credits)

Provides the student with in-depth experience with the subject of Corporation Finance for their future development as practicing executives. Students solve cases and problems faced by financial managers in the real world, that focus on major financial decisions and such current issues as corporate governance, securities issuance, globalization, privatization, financial analysis and planning, capital budgeting, capital structure, cost of capital, valuation, dividend policy, short/long term financing, financial markets, firm performance, and corporate restructuring. Prerequisite: FIN 302/FIN 502

FIN 532 Introduction to Stock Market Investing (3 credits)

Introduces current trends and strategies for investment management in

the stock market. Topics include (1) stock/securities market structure, (2) risk-return tradeoffs on instruments, (3) auction/negotiation/online trading mechanisms, (4) mutual fund investments, (5) asset pricing and valuation theory, (6) security/industry/company analysis, (7) stock market/equity/technical/financial statement analysis, (8) capital market theory, and (9) combining stocks with other alternative investments.

MKT 550 Marketing Research and Technology (3 credits)

Explore applications of modern technology and research methods in marketing. Marketing intelligence and information research structure is closely examined. Advantages and disadvantages of marketing decisions are compared through scientific research methods and technology.

MKT 640 Marketing Management (3 credits)

Emphasizes a managerial approach in marketing decision making. Topics in this course include marketing mix, marketing problem solving, marketing staff arrangement, direct marketing, marketing plan implementation. Students learn these topics and many other relative subjects through teamwork and course projects.

MKT 650 Marketing Quantitative Methods (3 credits)

Designed for prospective managers to investigate the structure of representative marketing models, to determine the critical factors in marketing decisions, and to assess the accuracy of managerial applications through various decision analysis methodologies. Focused areas of this course include: explanation of marketing decision procedures, interpretation of quantitative results, and implementation of marketing decisions.

BUS 685 Business Environments and Strategies (3 credits)

An integrating experience to apply the various 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.

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 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 elective courses which are not offered by the School of Management. These requests should be submitted on a "Petition" form. The following are courses which can be applied as electives in addition to those other School of Management courses described elsewhere in this 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 issues, etc.) 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 532 Introduction to Stock Market Investing (3 credits)

Introduces current trends and strategies for investment management in the stock market. Topics include (1) stock/securities market structure, (2) risk-return tradeoffs on instruments, (3) auction/negotiation/online trading mechanisms, (4) mutual fund investments, (5) asset pricing and valuation theory, (6) security/industry/company analysis, (7) stock market/equity/technical/financial statement analysis, (8) capital market theory, and (9) combining stocks with other alternative investments.

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 585 Current Aspects of Management in High Technology Environments (3 credits)

While principles of management have demonstrably withstood the test of time, to remain viable they must also respond to the demands of changing environments. As the speed with which technology changes becomes greater, management faces dramatically new challenges. Key areas of management and production will be examined and the impact of rapid technological advances on them will be analyzed. Appropriate responses will be developed and discussed. Intended for

graduate students in management or technology oriented programs who have already completed some graduate work in their primary discipline—or who have already completed a bachelor's degree in a management or technology related field.

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.

Course Descriptions for One-Credit Hour Modules:

One of the several ways students can satisfy the undergraduate prerequisite course requirements is to complete compressed introductory modules offered at the graduate level. The following are currently available for that purpose. These courses each carry one graduate credit hour but cannot be used toward the 33 hour program requirement.

ACC 501 Accounting Fundamentals

The course will focus on the study, interpretation, and application of Generally Accepted Accounting Principles (GAAP). Topics include transaction recording, as well as the preparation and analysis of financial statements through the use of information technology. There are no prerequisite courses required. However, the instructor assumes that all enrolled students have a solid grasp of graduate school level math and English.

BUS 501 Business Economics

An examination of the role of the price system in the economy, the factors underlying demand and supply and the behavior of firms under various market structures. In other words, we are going to take an in-depth look at how prices are determined in an economy similar to that in the United States, describe how the model of supply and demand works, and explain how to use it.

FIN 501 Finance Fundamentals

An overview of the basic concepts in corporation finance. Students will gain a quick but comprehensive understanding of the problems and decisions faced by financial managers. Topics include firm/stock/bond valuation, risk and return, capital budgeting, capital structure and financing, dividend policy, corporate agency problems, financial restructuring, and the market for corporate control (mergers, acquisitions, takeovers).

MG5 501 Fundamentals of Business Statistical Applications

Introduce scientific approaches to management decision making based on statistical analysis. The objective of this course is to acquaint graduate students, especially those without any academic training in statistics during their undergraduate studies, with statistical techniques in management planning and problem solving.

MIS 501 Management Information Systems Fundamentals

In this course students will learn to manage and use information technology. The MIS course provides concepts, methods, and techniques to identify an organization's information needs and to employ systems to meet these needs. The course introduces business students to topics such as information systems, database management, information technology, management science, expert systems, and decision support systems.

MKT 501 Marketing Fundamentals

This course is designed as an introductory graduate course in marketing management. It introduces students to the developments of marketing theories and practices. Topics included in this one-credit course efficiently guide students through scientific approaches and managerial structures in marketing management. Therefore, students, especially those without any previous academic training in the marketing area, are prepared to take other graduate courses in marketing by successfully completing this course.

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

Thomas T. Amlie, Assistant Professor; Ph.D., University of Maryland. Accounting, managerial compensation and accounting education issues.

Lisa J. Calongne, Assistant Professor; Ph.D., Virginia Polytechnic Institute and State University. Human Resource management, adult learning and needs assessment.

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, Associate Professor; Ph.D., Syracuse University. Strategy/Policy, Human Resource Management, computerization of personnel and other management information.

Peter Karl, Associate Professor; J.D., Albany Law School; M.B.A., Rensselaer Polytechnic Institute, CPA State of New York. A nationally recognized speaker on federal taxation.

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.

Kenneth Martin, Associate Professor; M.B.A., San Diego State University. Well-known in the marketing field.

James Morey, Associate Professor; M.B.A., George Washington University; CPA State of New York. Hospital merger/consolidations; nursing home establishment, expansion and acquisition, and operational analysis.

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.

Gary Scherzer, Associate Professor; M.P.H., University of Tennessee. Public health, planning, marketing, and health policy.

Thomas Tribunella, Associate Professor, Ph.D., University at Albany. Experienced in both public and corporate accounting environments.

Sanjay B. Varshney, Assistant Professor; Ph.D., Louisiana State University. Chartered Financial Analyst with the New York Society of Security Analysts. Market micro structure trading analysis, corporate governance, security valuation and issuance.

Robert S. Yeh, Assistant Professor; Ph.D., Purdue University.

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 Mbone 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 is located in the section entitled Academic Computing Facilities.

The program is also supported by extensive library holdings. Over 200 journal titles 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 developing 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 the opportunity to specialize in a particular area. Course offerings stress the principles and problem solving methodologies required by computer professionals.

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 (CSC 598). The thesis involves a significant investment of time and effort. Theses 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



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; Petri 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 Parallel Computing & Computers (3 credits)

Algorithms and programming for parallel programming environments. Application to several architectures, including: virtual parallel environments; tightly and loosely coupled multiprocessors; pipelined and array processors.

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.

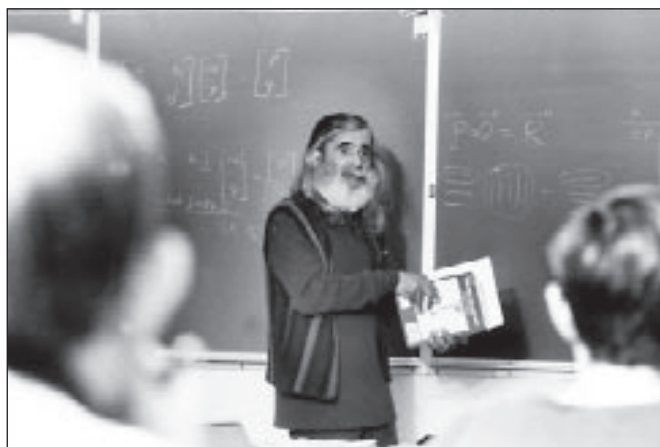
CSC 558 Operations Research (3 credits)

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.

John Gallagher, Assistant Professor; Ph.D., Case Western Reserve University. Robotics and autonomous systems.

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

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. Artificial intelligence 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

The use of computers is widely integrated into almost all facets of life at the Institute of Technology. Computing is used for instruction, research, communication, and the registration and business functions of the college. Students use a world wide web browser to register for classes (virtually eliminating registration lines). E-mail accounts are automatically established for all students. Students should expect that most of their classes will involve some use of computing, and that e-mail will be an important part of their out-of-class communication with instructors as well as with campus offices.

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 are located in both academic buildings (Donovan Hall and Kunsela Hall), and in the Mohawk Residence Hall Complex; all dormitory rooms are wired to provide private, high-speed ethernet data connections for each bed, and a small 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 mandatory Technology Fee entitles students to access computing facilities, although nominal additional charges apply for the production of high-quality color output on special media and for short-term checkout of laptop computers. At present there are no time quotas for student connections to the time-shared systems. All enrolled students are automatically assigned accounts on time-shared computing systems and are granted initial disk storage quotas that may be increased upon approval of the Director of Information Services. The Institute's policies with respect to computer access are published in the Computer User's Guide, available from Information Services and posted on the college's web site.

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

Internet Access

The Institute of Technology holds the domain name **sunyit.edu**. In 1996 the Institute's Internet connection was upgraded from a single T1 (1.5 mb/sec) to a dual T1 (3 mb/sec). A further upgrade to four T1 lines is expected in late 1999, thus maintaining the Institute's status as having one of the highest bandwidth connections in upstate New York. Internet services are extensively used throughout the curriculum, and student use is strongly encouraged. Several course sections are taught over the Internet in lieu of some class meetings, and several other sections are offered exclusively over the Internet. An extensive WWW site is maintained (**www.sunyit.edu**). The Institute's Library catalog is internet accessible (**unicorn.sunyit.edu**), as is the college's BANNER WEB registration system (**www.sunyit.edu/register.html**). Real-time registration activities such as course add/drop, schedule inquiry, grade inquiry, unofficial transcript production, and billing inquiry are all supported from WWW enabled computers, on or off-campus.

A discount service plan is presently in place with a local Internet Service Provider to assist off-campus students in obtaining inexpensive Internet access. 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 computer 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 reside in the Mohawk Valley. The issuance of these accounts is subject to the computer use policies on the respective campuses and to whatever qualification or service 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:

Ultra-Sparc II Systems – seven systems (the primary system is known as *Demeter*), each with 512 megabytes of RAM, SUN Ultra-Sparc II 300 mhz processors, shared disk arrays, DAT tapes, and CD-ROM running Sun Microsystems *Solaris 7* operating system. These systems support electronic mail, news, web services, and provide access to the SAS, Inc. statistical analysis system, and to the Oracle database management system. These systems also support campus-wide printer queues.

SUN SPARC 10 – known as *Phoenix*, with 128 megabytes of memory, shared disk array, running the *Solaris* version of UNIX. This system hosts engineering technology software and acts as a server for the Solaris Lab.

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 University Colleges of Technology (Alfred, Canton, Cobleskill, Delhi, and Morrisville). This system has dual Ultra-SPARC processors and a large disk array, and runs the *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 consist primarily of Pentium and Pentium-II class computers (some older machines are still employed in specialized settings, such as controlling a machine, where that use is appropriate) that are interconnected through file servers running the Novell Netware, Microsoft Windows/NT, or UNIX operating systems. The Institute has adopted a single integrated office applications suite as its standard package. The adoption is typically for a two-year period (the next scheduled review is in Spring 2000). Microsoft Office, consisting of Word, Excel, PowerPoint, and Access, is the current standard. In addition, the Institute currently holds a site license for all Imprise (Borland) software products including the C++ and Pascal language compilers. SPSS (Statistical Package for the Social Sciences) is widely used throughout the campus. Approximately 500 computer based training (CBT) modules, covering numerous topics in programming, networking, and internet specialties are available. Subject to available funding, many labs are on a replacement cycle averaging three aca-

demic years or less. Substantial upgrades to computing labs are anticipated during the lifetime of this catalog. Current lab environments include:

Mary Planow Public Lab (Kunsela Hall C-003) – consisting of over twenty-five PCs (currently AMD K6/300 processors) with 17" monitors, one Macintosh, a high speed monochrome laser printer, a color laser printer, and a scanning station. Available software includes Microsoft Office, the Imprise language products, Lahey FORTRAN, SPSS, the CBT training modules, and numerous specialized applications. This lab is open for extended night and weekend hours.

DogNET Labs and DogNET Multimedia Lounge (Kunsela Hall C-012, C-107, and C-122) – provides access to UNIX workstations (that are named after dogs, of course). Twenty-one workstations (currently Pentium II/300 with 17" monitors) are in C-012, running the FreeBSD operating system, and providing access to over 800 programs for Internet access, multimedia applications, language compilers, etc. Many of these systems are equipped with sound cards for applications like mbone (Internet audio/video broadcast/conference system). The lab is supported by three file servers. In addition to providing disk storage (without quota) to computer science and information systems majors, the servers support the computer science departmental WWW server (www.cs.sunyit.edu) and news service. The public DogNET lab is one of four labs managed by computer science students under the supervision of computer science faculty. The DogNET Multimedia Lounge (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 an Oracle server. The Multimedia Lounge accommodates small groups of students working collaboratively on projects. Another SUN/Pentium DogNET lab (C-107) is used for computer science courses in operating systems, networking, and system administration. The ground floor DogNET lab (C-012) is open for extended night and weekend hours.

Solaris Lab (Kunsela C-013) – twenty workstations (currently Pentium II/400) with 17" monitors running the SUN *Solaris* operating system, providing both text mode and graphical access to the UNIX environment. This lab is open for extended night and weekend hours.

Advanced Environments Laboratory (Kunsela C014 & C228) – 27 workstations (currently Pentium III/500 with 128MB of memory) and 3 Servers interconnected with 100TX ethernet technology. All systems run the latest version of Windows Workstation and Server. Lab supports instruction and experimentation in object-oriented programming, client-server and distributed computing (networking, system administration and interoperability with other platforms), collaborative computing (web development, videoconferencing, multimedia). Programming environments supported include SUN Java 2, Visual Studio (C++, Java, InterDev, Visual Basic), Fortran 90, Prolog, Lisp, ML - Object Caml. Application software supported includes Office 2000 with FrontPage, Publisher, Project, Simulink. Access to assorted applications is provided on a more limited basis in C228 - Mathematica, Matlab, GPSS, IMSL libraries, Corel Draw, TeX, Macromedia Director, NetObjects Fusion, ColdFusion, Adobe Photoshop, FrameMaker, MS BackOffice(SQL, SMS), Oracle, Exceed. The lab is managed by Computer Science faculty and students and is open for extended night and weekend hours.

CIMLab (Donovan G-225 and G-225A) – approximately twenty-five computers (currently Pentium III/450) with 17" monitors and an assortment of printers and plotters. Currently installed software

includes Algor Supersap, Autobook, AutoCad, Hydrain, Microstation, and Microsoft Office97. This lab supports courses in Civil Engineering Technology and Mechanical Engineering Technology.

Advanced CAD Lab (Donovan 1159) – ten computers (currently Pentium III/450), 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 Office97.

Technical Writing Lab (Donovan 1146) – twenty-two computers (currently Pentium-based) with 17" monitors and associated laser printers used extensively in support of courses in report and technical writing. Currently installed software includes Microsoft Office97, internet tools (telnet, ftp, and Netscape Communicator), Grammatik, as well as several legacy word processors.

Advanced Writing Lab (Donovan G-161) – twenty computers (currently Pentium-based) with 17" monitors, monochrome laser printer and color laser printer used in support of advanced coursework in technical communications. Currently installed software includes Microsoft Office97, internet tools (telnet, ftp, and Netscape), HyperWriter, Internet Assistant, PaintShop Pro, Photoshop, Pagemaker, SPSS/PC+, Storyboard Live, and several legacy word processors.

Donovan Hall Public Lab (Donovan 1149) – thirteen computers (currently Pentium and Pentium-II based) with 17" monitors 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 Office97.

Business Lab (Donovan 1157) – approximately twenty-four computers (currently Pentium and Pentium-II based) with 17" monitors 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 Office97, Abdominal pain, Borland C++, ChestPain, EKG, EKG2, internet tools (telnet, ftp, Netscape), HEART Hypertension Management, Iliad, MDChallenge, Nursing Research CAI, SPSS/PC+, and statistics tutorials.

CBT Lab (Donovan 1190) – approximately twenty computers (currently Pentium 233) with 17" monitors, primarily used to host CBT (computer-based training) modules for general computing applications, as well as for data networking.

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

Physics Lab (Donovan 2107) – features ten computers (currently Pentium II/400) with 17" monitors. This lab is primarily used by physics lab courses which use software for video analysis and scientific graphing.

Learning Center (Donovan G-155) – approximately fifteen computers (currently Pentium II/400) with 17" monitors and associated peripherals. Most of the applications available in other labs are also available here. The Learning Center also provides assistance in the use of the various software packages.

Local Area Network Lab (Donovan G-143) – approximately twenty-four computers (currently Pentium II/400) with

Master of Science in Nursing

Dean's Message

Throughout the early years of the new 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*

Accreditation

The M.S. in Nursing program is registered by the New York State Education Department and is accredited by the National League for Nursing Accreditation Commission (NLNAC, 61 Broadway, New York City, NY, 212-363-5555) and has been granted preliminary approval by the Commission on Collegiate Nursing Education (CCNE, 1 Dupont Circle NW, Washington, DC, 202-887-6791).

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,

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 566 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 practical 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 sociocultural 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

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
PSY 555 Advanced Health Psychology	3
NUR 555 Clinical Pharmacology	3
NUR 560 Nursing Research Methods	3
NUR 566 Advanced Practice Nursing Lecture	3
NUR 567 Advanced Practice Nursing Clinical	2
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	1

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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

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
HRM 518 Human Resource Management	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
NUR 624 Grant Proposal Seminar	3
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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.

49 555 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 566 Advanced Practice Nursing Lecture (3 credits)

Health assessment will focus on the in-depth assessment needed by nurse practitioners: history taking; communication, physical examination, and psychological, cultural, and social assessment. Advanced assessment skills needed to develop clinical problem solving, critical thinking, and decision making will be discussed. Knowledge from the behavioral and health sciences, nursing theory, and research will be drawn upon to assist the student in formulating therapeutic interventions that will promote, maintain, or restore health. Corequisite: NUR 567. Prerequisites: matriculated status and undergraduate health assessment course within the past five years or NUR 514. Pre/Corequisites: NUR 500, PSY 555, BIO 570.

NUR 567 Advanced Practice Nursing Clinical (2 credits)

Data about the assessment, diagnosis, management, and evaluation of common and simple problems facing client populations will be explored through clinical experiences and computer simulations. Students will master advanced assessment skills needed to develop clinical problem solving, critical thinking, and decision making and will demonstrate their clinical and decision making competencies in on-campus laboratory experiences and in faculty supervised clinical experiences in a variety of facilities. Laboratory and /or clinical experiences are two (2) contact hours per week per credit. Corequisite: NUR 566. Prerequisites to the faculty supervised clinical experiences: 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. Prerequisites: NUR 566, NUR 567 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. Prerequisites: NUR 566, NUR 567 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.

HRM 518 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)

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.

Deborah A. Hayes, Clinical Assistant Professor; Clinical Coordinator, Adult Nurse Practitioner major; M.S., State University of New York at Binghamton.

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, Clinical Assistant Professor; M.S., State University of New York at Stony Brook.

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

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

Master of Science in Telecommunications

Director's Message

The M.S. in Telecommunications is an interdisciplinary, application oriented program designed to accommodate those individuals with a technology, business or general studies baccalaureate degree, and who are seeking graduate level telecommunications education in order to secure entrance to, or advancement within, the rapidly growing field of telecommunications.

The Master of Science program in telecommunications requires from 33-36 credit hours of graduate coursework in telecommunications, business and computer information systems in combination with one of the following: thesis, research project or capstone seminar. Courses and advisement are conveniently offered so that both full and part time students can complete the degree in reasonable time.

Instruction is applications oriented, and takes place both in lectures and in hands-on laboratory exercises, as well as in three state of the art telecommunications laboratories. Students are also strongly encouraged to participate in the Telecommunications summer internship program.

The Telecommunications program at SUNY Institute of Technology has gained a national reputation for its quality telecommunications industry-oriented program. Advised by a dynamic thirty-person telecommunications industry advisory board, the Master of Science in Telecommunications is an interdisciplinary program combining computer science/information systems and business courses around a solid core of telecommunications coursework. This core investigates critical areas of advanced telecommunications technologies, network design and simulation, project management, regulation and international telecommunications policy and trade issues. Students are also required to complete a research project, a thesis, or a capstone option.

The Department possesses an academically and industry experienced faculty with research, teaching and consulting achievements in the core telecommunications subject areas. The faculty's experience and current activities are diverse and global, having been obtained in North America, Europe and the Asia-Pacific region.

The Department has created rewarding relationships with industry associations. Among these are a Cisco Networking Academy which is a cooperative venture between higher educational institutions and Cisco, the world's leading networking company. In a lab setting that closely corresponds to the corporate workplace, students get their hands on the building blocks of today's global information networks, learning by doing as they design and bring to life local and wide-area networks.

The telecommunications department is also an educational partner of the Global Wireless Education Consortium. GWEC is a collaboration of wireless industry companies



and academic institutions. GWEC is focused on expanding wireless technology curriculum in two-year and four-year academic institutions.

SUNY Institute of Technology is an Education Partner of both the Communications Managers Association (CMA) and the International Communications Association (ICA). Both of these prestigious organizations encourage excellence in telecommunications management; providing a forum for the evaluation of emerging technologies and their business applications; stimulating peer-to-peer relationships and the sharing of information; providing ongoing insight into regulatory and trade issues; and fostering constructive relationships between telecommunications end users and a select group of higher education institutions that offer telecommunications degree programs. These organizations also sponsor seminars and workshops, conferences, trade shows and field trips.

The Institute of Technology possesses extensive library holdings in support of the telecommunications program. This includes a large number of periodicals in telecommunications subject areas. The M.S. in the Telecommunications program is designed to meet the needs of part- and full-time students seeking quality education and preparation for career advancement in the dynamic one trillion dollar per year global telecommunications industry.

Financial aid may be available for academically qualified students.

Eugene Newman, Ph.D.

Director-M.S. in Telecommunications Program

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

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.
- TEL 305 Basic Data Communications.
- Students who require prerequisite coursework or wish to apply to 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 GPAs below 2.8 may be considered for discretionary admission after completion of non-degree coursework as required by the Department of Telecommunications.



Degree Requirements

MASTER OF SCIENCE TELECOMMUNICATIONS PROGRAM GUIDE (33-36 Credits Required)*

Areas	Possible Courses
QUANTITATIVE DATA ANALYSIS <i>6 hours required</i>	CSC 507 - Data Analysis MGS 511 - Management Science
RESEARCH METHODOLOGY <i>(required if selecting Thesis or Research Project Option)</i>	TEL 598 - Research Methods in Telecommunications
TELECOMMUNICATIONS CORE COURSES <i>18-21 hrs. required**</i>	TEL 501 - International Telecommunications TEL 505 - Network Design and Simulation TEL 520 - Telecom. Systems Analysis & Project Management TEL 530 - Telecommunications Law and Policy TEL 540 - Integration of Telecommunications and Computer Systems TEL 580 - Strategic Integration of Telecommunications in a Competitive Environment TEL 590 - Selected Topics in Advanced Telecommunications***
RESEARCH PROJECT OPTION <i>6 hrs. required</i>	TEL 597 - Research Project+
THESIS OPTION <i>6 hrs. required</i>	TEL 599 - Thesis+
CAPSTONE OPTION <i>9 hrs. required</i>	<i>The Capstone option consists of two additional three-credit hour courses# (i.e. 6 hrs) plus the 3 credit hour Capstone seminar (TEL 592)</i>
* Minimum to graduate: 33 credit hours in combination with Thesis or Research Project. If selecting Capstone Option, the minimum is 36 credits.	
** A minimum of 18 credits from the Telecommunications Core is required if selecting Thesis or Research Project Option. A minimum of 21 credits from Telecommunications Core is required if selecting Capstone Option.	
*** Students may take additional sections of TEL 590, as long as the Selected Topics covered are not the same.	
+ A student must choose one of the following: <ul style="list-style-type: none"> • Thesis Option • Research Project • Capstone Option 	
# MGT 585 (Current Aspects of Management in High Technology Environments) and MKT 550 (Marketing Research and Technology)	

Course Descriptions

TEL 501 International Telecommunications Policy and Trade

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 trade agreements including GATT and NAFTA, international technical standards, intellectual property, global marketing alliances, and the competitive satellite industry. This course also analyzes the reorganization and global responsibilities of the International Telecommunications Union.

TEL 505 Network Design and Simulation

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

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

A seminar in the regulation of telecommunications in the United States. Designed to provide students with an understanding of the regulatory and antitrust environment and its impact on competition and services. Social and political issues affecting telecommunications regulation will also be addressed.

TEL 540 Integration of Telecommunications and Computer Systems

Analyzes the principles, operations, and implementation of computer integrated-telecommunications in various corporate environments.

TEL 580 Strategic Integration of Telecommunications in a Competitive Environment

Examines the role of the telecommunications manager as the purveyor of information technologies within the modern corporate environment. Includes a review of strategic telecommunications system analysis and design. Relies on extensive use of case studies.

TEL 590 Selected Topics in Advanced Telecommunications

A course investigating current topics related to the 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; Broadband ISDN; ATM; SONET; AIN; and voice and data compression techniques.

TEL 592 Telecommunications Capstone Seminar

An interdisciplinary experience in researching, writing, and presenting a specific topic as a team.

TEL 597 Research Project

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

TEL 598 Graduate Seminar in Research Methods

Reviews the major considerations and tasks involved in undertaking a thesis or research project. The goal is for students who complete this course to be able to successfully complete their thesis or research project requirement.

TEL 599 Thesis

Upon approval of the advisor, the student will research and write an original

Faculty

Patrick W. Fitzgibbons, Associate Professor of Telecommunications; Ph.D., State University of New York at Buffalo. Network design, simulation and management. Member of the IEEE Communications Society.

Larry Hash, Assistant Professor of Telecommunications; Ph.D., North Carolina State University. Wireless telecommunications systems, data networks, and internetworking. Member of the IEEE, American Society of Engineering Educators, and the Interactive Media Association.

Eugene J. Newman, Associate Professor of Telecommunications; Ph.D., University of Wisconsin. International telecommunications policy and trade issues, project management. Member of the IEEE Communications Society, the International Telecommunications User Group, and the Pacific Telecommunications Council.

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.

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, consisting of over 30 industry executives including those representing the end-user community, service and equipment suppliers, 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, as well as arranging for scholarships and equipment donations.

Current members of the advisory board come from such companies and organizations as MCIWorldcom, Sprint, United Parcel Service, AT&T, Northern Telecom, Citigroup, Intermedia Communications Inc., Securities Industry Association, GTE, New York State Telecommunications Association, Communications Managers Association, NYSERNET, Corning Glass, GN Nettet, Cigna and IBM Global Services.

Internships

All telecommunications students are encouraged to participate in the Department's active summer internship program.

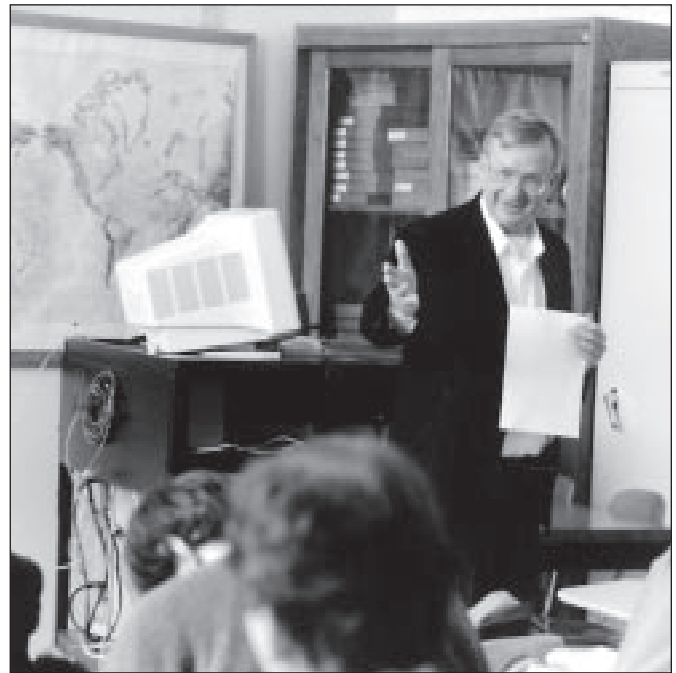
Facilities

The telecommunications program is supported by more than \$5 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 four "hands-on" laboratories for student and faculty experimentation. These include a digital telephone switching and transmission laboratory (Donovan Hall Room 1240), a Local Area Network laboratory (Donovan Hall Room G143), Router and Switching lab (Donovan Hall Room G145) and a Computer Based Training lab (Donovan Hall Room 1190).

An abbreviated list of the telecom laboratory resources follows:

- Nortel-Bay ATM Centillion 50 switching platform
- 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 and Teletraffic Generator
- TTI Digital Access and Cross-Connect System
- ADC Fiber Patch Panel and Optical Loop



Terminator

- NEC Fiber Optic Channel Multiplexors and Channel Banks
- TTC Fireberd 4000, 6000 and 224 Digital Transmission Sets
- Dialogic Corp. D4/X Voice Processing Platforms
- AT&T BNS 2000 SMDS Switching Platform
- Cisco Network Academy File Server
- Mil3 OPNET Simulation Softwar
- Cadence BONEs Designer Simulation Software Program
- CACI COMNET III Simulation Software
- Network Analysis Center Modular Interactive Network
- Network Sniffer LAN Analyzer

APPLICATION FOR GRADUATE ADMISSION

SUNY INSTITUTE OF TECHNOLOGY AT UTICA/ROME

PLEASE PRINT		PERSONAL INFORMATION	
1. Name:	Last (Family), First, Middle	Maiden Name	9. Social Security Number: _____
1a. Do you have any educational records under a different name? Former name: _____	2. Street Address: _____	3. City, State or Country, Zip: _____	10. Date of Birth: _____
3a. County of Residence: _____	4. In case of Emergency Notify: _____	5. Present Employer: _____	11. Home Telephone: () _____
6. Employer's Address: _____	7. Position: _____	8. Number of years at this position: _____	11a. E-Mail Address: _____
			12. Business Telephone: () _____
			13. Emergency Telephone: () _____
			14. State or Country of Birth: _____
			15. Country of Citizenship: _____

16--Your response to the following racial/ethnic question is voluntary, but federal civil rights legislation and implementing regulations require the institution to submit counts of its student body by racial/ethnic categories. Your cooperation is appreciated.

- White, Non-Hispanic
 Black, Non-Hispanic
 American Indian/Native American
 Hispanic/Latino
 Asian or Pacific Islander
 Not listed

APPLICANT INFORMATION			
17. I wish to enroll in:	<input type="checkbox"/> Fall <input type="checkbox"/> Spring <input type="checkbox"/> Summer of 19 <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/>	<input type="checkbox"/> Full Time <input type="checkbox"/> Part Time <input type="checkbox"/> Degree <input type="checkbox"/> Non-Degree	I have taken the <input type="checkbox"/> GRE Date _____ <input type="checkbox"/> GMAT Date _____ <input type="checkbox"/> TOEFL Date _____

17a. My desired course of study is _____ 17b. My choice of concentration is _____

18. I desire housing: Yes No

EDUCATIONAL INFORMATION						
19.	College	City & State or Country	From (Mo./Yr.)	To (Mo./Yr.)	Major	Degree and Year
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

20. This is my first application to an Institute of Technology Graduate Program Yes, or I last applied _____/_____/_____. I last attended _____/_____/_____.

21. I am applying for an assistantship: Yes No Assistantship candidates must complete Application for Assistantship included in catalog.

22. I have applied for the following additional assistance which would be applicable to my Institute of Technology studies: _____

23. List other schools to which you are applying (this is for internal use only and will not prejudice your application): _____

CONTINUED ON BACK

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.)
_____	_____	_____	_____

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 _____

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 _____

Conditions: _____ Dept./Status/Degree

Program Chair _____ Signature and Date

Division Dean _____ Signature and Date

Graduate Dean _____ Signature and Date

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

APPLICATION FOR A GRADUATE ASSISTANTSHIP

Name of Applicant _____

Address _____

Telephone Number _____ Graduate Program _____

Undergraduate Degree/Major _____ Undergraduate GPA _____

*Please write a brief narrative outlining the reasons you are requesting a graduate assistantship.
(If more space is needed, attach an additional page.)*

Reviewed by:

Recommended by:

Faculty/Advisor

Dean/Department Chair

Date

Date

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)

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

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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.

