

**2013 - 15** MOHAWK VALLEY  
COMMUNITY COLLEGE  
CATALOG

## Correspondence Directory

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Mohawk Valley Community College  
 1101 Sherman Drive  
 Utica, NY 13501-5394  
 Telephone: 315.792.5400 Fax: 315.792.5666  
 Toll Free Number: 1.800.SEE.MVCC (1.800.733.6822) is for  
 Admissions inquiries for callers within New York State

Mohawk Valley Community College  
 1101 Floyd Avenue  
 Rome, NY 13440-4699  
 Telephone: 315.339.3470 Fax: 315.339.6934

Note: All phone numbers begin with area code 315.

Admissions.....	Utica 792.5354 Rome 334.7709
Adult Learner Services.....	Utica 792.5326
Alumni Office .....	Utica 792.5340
Athletics .....	Utica 792.5573
Bookstore.....	Utica 792.5442/735.2945 Rome 339.1437
Business Office.....	Utica 792.5475 Rome 334.7708
Child Care.....	Utica 792.5594
College Libraries.....	Utica 792.5408 Rome 334.7728
Corporate and Community Education Department	Utica 792.5300
Corporate Programs .....	Utica 731.5732
Counseling Office.....	Utica 792.5326 Rome 334.7709
Disability Services.....	Utica 792.5413V/TTY Rome 334.7709V/TTY
Financial Aid .....	Utica 792.5415 Rome 334.7709
Health Center.....	Utica 792.5452
High School Programs.....	Utica 731.5780
Housing (on/off campus) .....	Utica 792.5361
Placement Testing.....	Utica 731.5802
Records: Registration .....	Utica 792.5336 Rome 334.7708

(TTY/TDD users may use the New York State Relay Service at 1.800.662.1220)

### Notice

This edition of the Mohawk Valley Community College Catalog reflects MVCC's 2013-2014 programs and services at the time of printing. Information contained herein is accurate as of May 1, 2013 (unless otherwise indicated), and may have changed since that time. Please see the college's website, [www.mvcc.edu](http://www.mvcc.edu), for the most up-to-date information. It is the student's responsibility to be familiar with this information as it is the guide to the academic experience at MVCC. Mohawk Valley Community College reserves the right at any time to make changes deemed advisable in the calendar, regulations, tuition and fees, and to add, modify or cancel any course or program as necessary.

### Student Retention

Typically 79 percent of the freshmen who start as full-time associate degree students in the Fall continue their education at MVCC during the following Spring semester. About 59 percent of that freshman class returns the following fall.

For the freshman class of full-time students beginning in the Fall of 2006, about 43.5 percent either graduated from MVCC or transferred to another college before graduating, by the Fall of 2009. About 13 percent of the Fall 2006 entering freshmen were still attending MVCC in the Fall of 2009.

### Notice of Non-Discrimination Policy

MVCC is committed to equal opportunity in educational programs, admissions and employment. It is the policy of Mohawk Valley Community College to provide equal opportunity for all qualified applicants, students and employees; and to prohibit discrimination on the basis of race, color, sex, religion, national origin, ancestry, age, disability, marital status, sexual orientation, criminal record or veteran status. The college's Affirmative Action Officer and Title IX Coordinator is the Director of Human Resources, Room 113 of the Academic Building, Utica Campus, telephone 792.5496. Coordinator of Disability Services and Section 504/ADA Coordinator is Tamara Mariotti, Room 153 of the Academic Building, Utica Campus, telephone 792.5413(V/TTY).

### Statement of Principle

The College community does not discriminate on the basis of race, color, religion, creed, sex, age, sexual orientation, marital status, national origin, ancestry, disability, veteran status, or criminal record. Mohawk Valley Community College is committed in policy, principle, and practice to maintaining an environment which is free of intolerant, illegal, or discriminatory behavior toward any person. This commitment is consistent with federal and state laws and College policy.

### Drug-Free Workplace Act of 1988

Mohawk Valley Community College is committed to maintaining a drug-free environment in accordance with the Drug-Free Workplace Act of 1988, and will not tolerate the unlawful possession or use of controlled substances on either of its two campuses. (Adopted by MVCC Board of Trustees May 1989)

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Mohawk Valley Community College is sponsored by Oneida County, New York, and is affiliated with the State University of New York.



## A Message from the President

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### To our students:

On behalf of everyone at Mohawk Valley Community College, it is my pleasure to welcome you to a new academic year. Whether you chose MVCC as a starting point for your education or as a vehicle to further your career, we are unwaveringly dedicated to your success. MVCC has been changing lives with exceptional academic programs, activities, support, and athletics for more than 60 years, and we are perpetually looking forward. In a rapidly changing world, we recognize the importance of not only keeping up, but staying ahead of economic and societal trends, keeping our programs current and classes relevant to best prepare you for what the future holds.

Every day, we enthusiastically pursue our mission of student success. Our range of educational options, combined with a supportive learning environment and vibrant campus life, ensures that your experience at MVCC will provide a solid foundation for your own exciting future. Dedicated faculty and staff are here to help you learn and grow. Extra-curricular activities offer many opportunities for social and cultural involvement. Championship athletics are a great source of spirit and pride. Become a full partner in learning by dedicating yourself to your studies. Make MVCC your own.

We know that our success as a College is best measured by your experience, and we wouldn't be here without you. We are here to help you achieve your educational goals. Best wishes for a productive year, and thank you for choosing Mohawk Valley Community College.

A handwritten signature in black ink that reads "Randall J. VanWagoner." The signature is written in a cursive style.

**Randall J. VanWagoner, Ph.D.**  
**President**

# Academic Calendar 2014-15

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## FALL 2014

Aug 15	Payment due and schedule cancellation
Aug 20	Faculty return
Aug 21	Professional Development Day
Aug 26	Last day for 100% refund (15 week courses and Term A)
<b>Aug 26</b>	<b>Last Day For Registration</b>
Aug 27	First day of instruction
Sep 1	Labor Day (College Closed)
Sep 3	Last day for 75% refund (15 week courses)
	Last day for 25% refund (Term A)
Sep 10	Last day for 50% refund (15 week courses)
	Submit application for graduation Fall 2014 (Sept 11- Oct 31)
Sep 17	Last day for 25% refund (15 week courses)
Oct 6	Last day to withdraw (Term A)
Oct 13	Columbus Day (College open. Classes in session)
Oct 20	Last day of instruction (Term A)
	Last day for 100% refund (Term B)
	Midterm of the semester (15 week courses)
Oct 21	Instruction begins (Term B)
Oct 24	Midterm grades due
Oct 27	Last day 25% refund (Term B)
	Priority registration Spring 2015 (SIRS) starts
Nov 5	Spring 2015 open registration to all students
Nov 13	Last day to withdraw (15 week course)
Nov 25	Last day to withdraw (Term B)
Nov 26	College is open. No classes
Nov 27-28	Thanksgiving recess (College closed)
Dec 15	Last day of instruction
Dec 16-18	Final Exams
Dec 19	Fall 2014 Commencement
Dec 19	Grades due (Noon)
Dec 24-Jan 1	College Closed

## INTERSESSION

<b>Dec 19</b>	<b>Last Day For Registration</b>
Dec 22	Instruction begins
Jan 16	Instruction ends

## Important Information for Applicants and Students at Mohawk Valley Community College

MVCC students and applicants for admission to MVCC are entitled under Federal regulations to receive information on a variety of topics. Included is information about students' graduation, completion and transfer-out rates; tuition and fees; cost of room, board, books, supplies and other expenses; withdrawal and refund policies and procedures; financial aid availability, eligibility, application, selection, academic progress requirements, and disbursements, including Title IV grants and loans; instructional programs, facilities and personnel; college and program accreditation, facilities and services for students with disabilities; and campus crime information and security policies.

The majority of this information is contained in this catalog or in the College's Student Handbook, available from the Admissions Office (Room 101, Payne Hall, Utica Campus, telephone 792.5354) or the Rome Campus Student Services Office (Room A30, Plumley Complex, telephone 334.7709). Campus crime statistics and important safety information can be found at [www.mvcc.edu](http://www.mvcc.edu), or in a publication titled "Your Right to Know," or from offices, including Admissions, Registrar, Public Safety, and Marketing & Communications.

## SPRING 2015

Jan 9	Payment due and schedule cancellation
Jan 13	Faculty return
Jan 14	Professional Development Day
Jan 19	MLK Day. College open. No classes.
	Last day for 100% refund (15 week courses and Term A)
	<b>Last Day For Registration</b>
Jan 20	First day of instruction
Jan 26	Last day for 75% refund (15 week courses)
	Last day for 25% refund (Term A)
Feb 2	Last day for 50% refund (15 week courses)
	Submit application for graduation Spring 2015 (Feb 3- Mar 31)
Feb 6	Web Pre-scheduling for Summer 2015
Feb 9	Last day for 25% refund (15 week courses)
Feb 25	Last day to withdraw (Term A)
Mar 11	Last day of instruction Term A
	Last day for 100% refund (Term B)
	Midterm of the semester (15 week courses)
Mar 12	Instruction begins Term B
Mar 16-20	Spring Break
Mar 25	Midterm grades due
Mar 25	Grades Due (Term A)
	Last day 25% refund (Term B)
Apr 13	Priority registration Fall 2015 (SIRS) starts
	Last day to withdraw (15 week course)
Apr 22	Fall 2015 open registration to all students
Apr 24	Last day to withdraw (Term B)
May 11	Last day of instruction
May 12-14	Final Exams
May 15	Spring 2015 Commencement
May 18	Grades due (noon)

## SUMMER 2015

### First 5 Week Session

<b>May 26</b>	<b>Last Day For Registration</b>
May 27	First Day of Instruction
June 30	Last Day of Instruction
July 3	Grades due

### Second 5 Week Session

<b>July 3</b>	<b>Last Day For Registration</b>
July 7	First Day of Instruction
Aug 8	Last Day of Instruction
Aug 12	Grades due

### First 8 Week Session

<b>May 26</b>	<b>Last Day For Registration</b>
May 27	First Day of Instruction
Jul 17	Last Day of Instruction
Jul 21	Grades due

# Mohawk Valley Community College

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Mohawk Valley Community College, a unit of the 64-campus State University of New York, is a publicly-supported community college.

The College offers two-year degree programs, on campuses in Utica and Rome as well as online, that prepare students for technical and semi-professional careers in business, industry, social service, health care, and many other fields, and for further college study. Shorter length certificate programs are also offered.

MVCC currently enrolls approximately 6,500 full-time and part-time students.

## The Community College Concept

Community colleges are a uniquely American institution. Their mission is to provide access to higher education to everyone regardless of race, gender, social status, income and geographic location. In support of this goal, community colleges have a tradition of open admissions and low tuition. Public support enables them to keep tuition low and quality high.

Across the U.S., over 10 million students attend community colleges to improve their future — and that of their families. In return, they improve the country's ability to compete with the rest of the world, and they become the educated populace on which a free nation depends. For this reason, community colleges have been referred to as "democracy's colleges."

Community colleges are teaching institutions. As such, their entire focus is on creating a learning environment that is student centered. Classes are kept small and opportunities for interaction between instructor and student are frequent. Community colleges are leaders in developing new programs and new instructional techniques.

Community colleges are strongly oriented toward meeting the needs of the areas they serve. They are actively involved in providing continuing education for adult students, and training needed to support employers. MVCC's comprehensive programming, broad network of support services, Center for Corporate and Community Education and two campuses are all the result of its commitment to this orientation.

## Organization and Support

Mohawk Valley Community College is sponsored by Oneida County, New York, and is governed by a ten-member Board of Trustees. All regular Board members reside within Oneida County and serve rotating terms. A Student Trustee is elected annually by the student body.

The operating funds of the College come from three principal sources: Oneida County for students who are legal residents of the County (or from other New York counties in which students are legal residents), New York State and students' tuition. State and County support enables MVCC to offer an excellent educational value.

## Accreditation

Since 1960, the College has enjoyed accreditation by the Middle States Commission on Higher Education. (3624 Market Street, Philadelphia, PA 19104. Telephone: (267) 284.5000. Fax: (215) 662.5501. Website: [www.msche.org](http://www.msche.org))

- The Civil, Mechanical and Electrical Engineering Technology curricula, and the Surveying Technology curriculum are accredited by the Engineering Technology Accreditation Commission of ABET. (Website: [www.abet.org](http://www.abet.org))

- The Nursing Program is accredited by the Accreditation Commission for Education in Nursing (ACEN). (3343 Peachtree Road, NE Suite 850 Atlanta, Georgia, 30326. Phone: 404-975-5000, Fax: 404-975-5020, Website: [www.acenursing.org](http://www.acenursing.org)). The ACEN is a resource for information regarding tuition, fees and length of program.
- The Radiologic Technology program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT). (20 N. Wacker Drive, Suite 2850, Chicago, IL 60606-3182. Telephone (312) 704-5300. Website: [www.jcert.org](http://www.jcert.org))
- The Respiratory Care program is accredited by the Commission on Accreditation for Respiratory Care (CoARC). (1248 Harwood Road, Bedford, TX 76021. Telephone (817) 283.2835. Website: [www.coarc.com](http://www.coarc.com).)
- The Dual Credit Program is accredited by the National Alliance of Concurrent Enrollment Partnerships (NACEP). (126 Mallette Street, Chapel Hill, NC 27516. Telephone: (919) 593.5205. Fax: (877) 572.8693. Website: [www.nacep.org](http://www.nacep.org).)

## Mission, Vision and History

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### Mission Statement:

Mohawk Valley Community College promotes student success and community involvement through a commitment to excellence and a spirit of service.

### Vision Statement:

To transform lives by creating an innovative learning environment that meets the rapidly changing needs of our communities.

### Statement of Purpose:

As a diverse institution with a global view, Mohawk Valley Community College provides opportunities for affordable education, with support from Oneida County and the State of New York, and offers career, transfer and transitional education, programs for personal and cultural enrichment, and supports community and economic development.

### History

Mohawk Valley Community College was the first community college established in New York State. Founded in 1946 as the New York State Institute of Applied Arts and Sciences at Utica, it was one of five post-secondary institutions established on an experimental basis after World War II. The two-year public college offered programs leading to technical and semi-professional employment in business and industry.

In 1948, the State University of New York was created and authorized to recommend the establishment of community colleges. The College became a constituent unit of the State University in 1950. The following year, the College was authorized to grant the Associate in Applied Science degree.

In 1953, the County of Oneida assumed the sponsorship of the College, then known as Mohawk Valley Technical Institute, under the Community College Law section of the 1948 Education Law. This section authorized the cost of operating a community college to be shared equally through student tuition, state aid and charges to the counties of New York State.

The following year, MVCC began offering classes in Rome, New York, to better serve the needs of northern and western Oneida County. Classes were offered at the former Griffiss Air Force Base from 1954 to 1958 and again from 1969 to 1974. In 1974, a branch campus was established in Rome at the current location on Floyd Avenue.

As a community college, MVCC saw its enrollment and facilities grow. From 1946 to 1960, the College occupied temporary quarters in New Hartford and downtown Utica. In 1960, the College moved to new buildings on an 80-acre site in southeast Utica.

The Utica Campus completed a Master Plan in 2002 that included renovating virtually every building on campus and adding an Information Technology/Performing Arts/Conference Center building.

The College's academic offerings have continued to expand in response to the community needs determined through community surveys. The College now offers an exceptionally wide variety of transfer, career and vocational programs.

## **The Region**

The Mohawk Valley is composed of Fulton, Herkimer, Schenectady, Montgomery and Oneida Counties and boasts some of the best scenery in the nation, with near and distant mountains and hillsides and a stunning valley dissected by the Mohawk River.

The City of Utica has a population of about 60,000. Its cultural and recreational advantages are many. Munson-Williams-Proctor Arts Institute maintains an excellent art gallery and museum, there are numerous public parks, 10 golf courses, one of which is municipally owned and operated, as well as city swimming pools, a zoo, public tennis courts, and picnic grounds.

Rome, a city of approximately 35,000, was the starting point for construction of the Erie Canal. A reconstructed Fort Stanwix, important in the American Revolution, is located in the heart of the city. Lake Delta State Park is nearby.

Utica and Rome are centrally located in New York State, and are served by the New York State Thruway, along with bus and train lines. Close to the Adirondacks, the area is rich in recreational activities including a variety of water sports, camping, hunting, skiing, and snowmobiling.

## **Utica Campus**

The Utica Campus of Mohawk Valley Community College is located at 1101 Sherman Drive, in southeast Utica. The campus is on level ground and all buildings are accessible to persons with disabilities. Buildings include:

### **Information Technology/Performing Arts/Conference Center**

This building includes a 500-seat theater. It is wheelchair accessible and offers headsets for the hearing impaired. The 58-foot high proscenium features a hydraulic orchestra lift and computer-operated lights and sound. The facility hosts College and community cultural events, presentations by the MVCC Drama Club and Readers Theater; by visiting groups, and is home to specialized instruction related to theater and the arts. The building also houses a 120-seat lecture hall with Internet connections, a number of "smart" classrooms, computer laboratories, and the Excellus BlueCross BlueShield Conference and Training Center.

### **Academic Building**

The Academic Building houses most classrooms on the MVCC Utica Campus, as well as computer laboratories, fine arts studios, and laboratories for nursing, respiratory care, biology, physics, and graphic arts. Offices for Security, Disability Services, High School Services and the Learning Center are also located here.

### **Science and Technology Building**

The Science and Technology Building features a variety of laboratories, including those for chemistry, welding, heating, refrigeration, air conditioning, metallurgy, electricity, and machine tools courses.

### **Payne Hall**

Payne Hall, named for MVCC's late President Emeritus Albert V. Payne, houses a comprehensive Student Service Center, including

Admissions, Advisement, Business Office, Counseling, Financial Aid, and Registrar's Office, as well as a special Help Desk. Many faculty members and administrators have their offices in Payne Hall. The main library is located on the second floor.

### **Alumni College Center**

The Alumni College Center serves as the hub of the Student Activities Program. This facility contains recreation rooms, a snack bar ("MV Commons"), dining halls for resident and commuter students, conference facilities, the Bookstore, Student Congress Offices, Student Activities Office, and the Student Health Center.

### **Robert R. Jorgensen Athletic/Events Center**

The Robert R. Jorgensen Athletic/Events Center houses a main gymnasium which accommodates more than 750 spectators for athletic events and the 27,000-square-foot field house featuring an indoor track, three athletic courts and fitness center catering to free weights, aerobic and Nautilus equipment. Both the gymnasium and field house serve as instructional facilities for physical education classes and team practices. Special activity areas include two handball-racquetball courts, swimming pool, multi-purpose rooms and classrooms. The Child Care Center is also located in the Jorgensen Center. Adjoining athletic fields include an all-weather track, soccer, and softball fields, as well as six lighted tennis courts.

### **Residence Halls**

The residence hall complexes on the Utica Campus provide housing for over 500 students. Modified rooms for students with disabilities are available. The Willis V. Daugherty Residence Hall is named for an MVCC Trustee Emeritus. Three others are named for New York State historical figures: Thomas D. Penfield; Edward Huntington; and John Butterfield. The newest residence hall, which opened in 2005, will be named in the future.

## **Rome Campus**

MVCC's Rome campus is located at 1101 Floyd Avenue in Rome, NY, and consists of the John D. Plumley Science and Technology Complex and the Rome Academic Building. MVCC also operates an Aviation Training Center at Griffiss Business and Technology Park and is a partner with SUNY Canton in the Dental Hygiene Training Clinic at the Griffiss Veterans Administration Facility. The Rome Campus offers all services available on the Utica Campus with the exception of student housing. The Rome Campus Student Services Center is a one-stop-shop for all services including admissions, advisement, financial aid, counseling, disability accommodations, payments, student activities, and more.

### **Plumley Science and Technology Complex**

The Complex houses a full-service library, learning center, classrooms, laboratories, and administrative and student services offices. The building also features a 100-seat auditorium and community commons in the Atrium. There is a fitness center, café, carpentry and masonry laboratory, interactive television classroom, photography lab, and much more.

### **Academic Building**

The Rome Academic Building includes general purpose classrooms, specialized laboratories, faculty offices and the Bookstore. Hospitality and culinary students prepare for their futures in the building's instructional kitchen, baking lab, and 100-seat restaurant-style dining room. The MVCC-Sage Tractor-Trailer driving program is also headquartered in the Rome Academic Building.

The Rome Campus offers a wide range of credit-bearing courses and non-credit workshops. Many of MVCC's associate degree programs are available in Rome in their entirety. The MVCC Cultural Series brings films, lectures, and performances to Rome campus audiences.



## Assessment

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MVCC is committed to and conducts assessment activities to obtain information for the improvement of student learning, programs, services and the overall effectiveness of the College. These activities may include surveys and questionnaires, exams, focus groups, research projects, and standardized tests. Members of the College community are expected to participate. MVCC Principles of Assessment can be found on the Assessment Handbook page of the MVCC Institutional Effectiveness website.

### Competencies

The College is committed to providing opportunity for students to gain knowledge and to use it effectively. To accomplish this goal, degree and certificate candidates will follow a course of study that addresses the competencies listed below. The course of study lays the groundwork for further learning. Students are expected to be responsible partners in the learning process. By the time of program completion, students will have demonstrated, at a level appropriate to their degree or certificate, the ability to:

- I. Communicate effectively with others.  
Students will:
  - a. produce coherent texts meeting standards appropriate to academic programs
  - b. demonstrate the ability to understand and use the language of their academic programs
  - c. effectively use the oral discourse of the academic program
  - d. research a topic and develop an oral or written argument and evaluate an oral presentation according to established criteria
- II. Organize information, evaluate alternatives, distinguish fact from opinion and reach logical conclusions.  
Students will:
  - a. effectively frame questions and develop hypotheses
  - b. obtain, evaluate, and organize information
  - c. research and present logical conclusions
- III. Interact effectively within a diverse society.  
Students will:
  - a. demonstrate an awareness of and respect for the differences among individuals and for other cultures in the global society
  - b. demonstrate an understanding of how different cultures interact in the global society
  - c. appropriately participate with diverse groups and with individuals with different points of view
- IV. Think logically and solve quantitative problems by using various computational and other mathematical techniques.  
Students will:
  - a. express mathematical information symbolically, visually, numerically, and verbally
  - b. use mathematical processes to solve quantitative problems and draw reasonable conclusions
  - c. interpret and draw inferences from mathematical models such as formulas, graphics, tables and schematics
- V. Identify and locate information from a variety of sources and understand the related legal and ethical uses.  
Students will:
  - a. use traditional and contemporary information technology
  - b. identify, access, and appropriately use authoritative sources of information

## Preparation for the Global Community

In the classroom and the broader community, the College emphasizes an appreciation of individual differences. These include, but are not limited to race, ethnicity, cultural background, gender, sexual orientation, socioeconomic class, academic ability and interest, age, religious background and belief, and physical ability. The College recognizes that students need to understand how different cultures interact and must be appreciated in the world today. The College holds a global view that perceives the interconnectedness of technological, ecological, economic, social, health, and political issues that must be understood and addressed from an international perspective. Students will develop an intercultural awareness and respect for other points of view, and will be prepared to participate in an increasingly global community.

## Admissions

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### General Information

The Admissions Office assists:

- Individuals who seek to enroll in a degree or certificate program (matriculated). If an individual intends to receive a degree or certificate from the College and any financial aid for which they may become eligible, they must file an application for admission, and be accepted to the College in a degree or certificate program prior to the semester in which they wish to begin their studies.
- International students, who will need an F-1 or M-1 visa to enter the United States and enroll (matriculated student), should contact the Coordinator of Services for International Students at the International Admissions address listed below.

### Services

We recommend that all potential applicants make an interview appointment to discuss their program options and preparation.

The following information and services are also available:

- College catalogs and brochures
- Interviews and/or tours: individual or group visitations by appointment
- Online and print applications
- Prospective students with disabilities who need materials provided in alternative formats should contact Disability Services.

### Contact Information

Address applications or correspondence to either:

Admissions Office  
Mohawk Valley Community College  
1101 Sherman Drive  
Utica, NY 13501-5394  
315.792.5354  
Toll free number (New York State): 1.800.733.6822  
Fax: 315.792.5527  
e-mail: [admissions@mvcc.edu](mailto:admissions@mvcc.edu)

Coordinator of Services for International Students  
Mohawk Valley Community College  
1101 Sherman Drive  
Utica, NY 13501-5394  
315.792.5350  
Fax: 315.792.5527  
e-mail: [international.admissions@mvcc.edu](mailto:international.admissions@mvcc.edu)

## For assistance with Admissions on the Rome Campus:

Student Services Center - Rome Campus  
Mohawk Valley Community College  
1101 Floyd Avenue  
Rome, NY 13440-4699  
315.334.7709  
Fax: 315.334.7726

## Admissions Policy Information

### Open Admissions

MVCC is an open admissions institution as are all community colleges within the State University of New York system. We will provide educational services to all who can demonstrate that they can benefit from them. The open admissions format does not require that applicants compete for space based on past performance, superior grades or standardized test scores.

Many of our programs have prerequisite requirements. These prerequisites are stated so that applicants are aware of the level of difficulty within the program. If applicants do not possess the appropriate prerequisite background, it may be recommended that they begin their college program in an alternate major or they may be required to take remedial courses equivalent to those entry prerequisites. The need to take remedial course work can extend the time needed to complete a degree or certificate.

The College does not require that applicants take either the SAT or ACT for Admission. However, students may be exempt from some or all portions of the placement test based on SAT or ACT scores, and should check the College's placement testing exemption policy.

### Regular Admission

High school graduates, high school seniors, General Equivalency Diploma (GED) recipients, home schooled students or students attending unregistered high schools who can provide evidence of equivalent education in New York State, and immigrants who possess Foreign Diploma Credentials can apply for regular admission.

- In order to be considered for regular admission as a high school graduate, applicants who have been home schooled must provide documentation of completion of "Equivalent Education" in New York State. If available, certification must be in the form of an original letter from the superintendent in whose district the equivalent education has taken place. The letter must include the name of the applicant, name of the home school and how the education was considered equivalent to that of the school district.
- Applicants who have earned a Foreign Diploma must provide an official copy of the diploma and a certified English translation of their documentation to verify graduation. If documents are not available, then applicants will need to apply under the special admissions category.

Special Notice: The one-year Airframe and Powerplant Technology Certificate program does not follow the College's standard academic calendar due to the required training schedule.

### Special Admission (admission of non-high school graduates)

Undocumented immigrants, non-high school graduates, home schooled students who cannot provide evidence of "equivalent education," correspondence diploma recipients, students who attend a non-registered high school, and those who have completed an Individualized Education Program (IEP) Diploma are considered non-high school graduates and must apply for admission under the Special Admission category. All applicants in this category must

take and pass an "Academic Opportunity Assessment" (AOA) test before being accepted into a degree or certificate program.

Contact the Admissions Office at 315.792.5354 or the Rome Student Services Center at 315.334.7709 to arrange for an interview to discuss the requirements you must meet in order to enroll as a non-high school graduate.

### Important note for students granted Special Admission

Completing the General Education Degree Equivalency Diploma is required by New York State Education Law, which states a student must possess a high school diploma or an equivalency diploma (GED) before they can be authorized to receive a degree or certificate from a college or university. The equivalency diploma can be earned by either:

- 1) Passing a standard GED test, or
- 2) completing twenty-four (24) college credit hours in subjects specified by the N.Y. State Education Department and receiving an equivalency diploma. A detailed discussion of the 24 credit hour requirement will be a part of the Admissions Interview. Those granted special admission will be enrolled in a special section of our Liberal Arts and Sciences: General Studies Major. Student Advisement will be coordinated by and through the Advisement Center Staff in the Student Service Center; Payne Hall on the Utica Campus. They must remain in this major until they have completed the GED requirements. Information and applications for earning the GED by completing college credit can be obtained from staff in the Admissions Office, the Office of Records and Registration, the Advisement Center and/or directly from the New York State Education Department website at [www.emsc.nysed.gov/ged](http://www.emsc.nysed.gov/ged). Upon receiving the GED, the student must present a copy of the GED to the Admissions Office who will update the student record to a high school equivalent graduate status.

### International Student Admission

Persons who are citizens of a foreign country, have completed the equivalent of a U.S. high school education and who must apply for an F-1 or J-1 visa in order to attend college in the United States, are eligible to apply for admission as an international student. International students attend college with the intention of returning to their home country after their education has been completed. Contact the Coordinator of Services for International Students at 001.315.792.5350 or [international.admissions@mvcc.edu](mailto:international.admissions@mvcc.edu).

### MVCC English Language Test Statement

International students who wish to study at MVCC are not required to take the Test of English as a Foreign Language (TOEFL) or other standardized English proficiency exams. However, students who enter MVCC in the fall 2014 semester or thereafter will be fully admitted into college-level coursework if they submit scores of 500 on TOEFL, 173 on computer-based TOEFL, 61 on TOEFL iBT or 5.5 on IELTS. Scores are on standardized tests are valid for two years, so the test date must not exceed two years prior to the date of admission.

### - Advanced Standing Opportunities -

MVCC recognizes that prospective students can earn college credit in a number of different ways, including MVCC's extensive Dual Credit Program. Therefore, the College provides opportunities for applicants to enroll with advanced standing that reflects their prior learning and academic credit. Only credits meeting the requirements of the MVCC major can be accepted for inclusion in the major. The College may accept a maximum of seventy-five percent (75 percent) of all credits completed through the opportunities described below to complete MVCC degree or certificate requirements for graduation. Twenty-five percent (25 percent) of a student's graduation credits must be taken at MVCC. The advanced standing opportunities described below may only be posted to the student's MVCC transcript once the student has matriculated, with the exception of dual credit, College Connection,



AP Course	Minimum Score	MVCC Credit Given
<b>STEM Center</b>		
Calculus AB	3	MA151
Calculus BC	3	MA151, MA152
Chemistry	3	CH141
	5	CH141, CH142
Physics B	3	PH151
	5	PH151, PH152
Physics C: Electricity & Magnetism	3	PH151
	5	PH151, PH152
Physics C: Mechanics	3	PH261
	5	PH261, PH262
Statistics	3	MA110
<b>Center for Life &amp; Health Sciences</b>		
Biology	3	B1141
	5	B1141, B1142
Environmental Science	3	B1105
Psychology	3	PY101
<b>Center for Language &amp; Learning Design</b>		
Chinese & Culture	3	FL111
	4	FL111, FL112
French & Culture	3	FR101
	4	FR101, FR102
German & Culture	3	GR101
	4	GR101, GR102
Japanese & Culture	3	FL141
	4	FL141, FL142
Latin: Vergil	3	FL151
	4	FL151, FL152
Spanish Language	3	SP101
	4	SP101, SP102
Spanish Literature	3	FL2XX
<b>Center for Arts &amp; Humanities</b>		
Art History	3	HU204
	5	HU204, HU205
English Language/Composition	3	EN101
	4	EN101, EN102
English Literature/Composition	3	EN102
	4	EN101, EN102 (or EN1XX)
European History	3	H11XX
Human Geography	3	GE101
Studio Art: 2D Design	3	FA105
Studio Art: 3D Design	3	FA108
Studio Art: Drawing	3	FA103
U.S. History	3	H1111
	4	H1111, H1112
World History	3	HI101
	4	H1101, H1102
<b>Center for Social Sciences, Business &amp; Information Sciences</b>		
Computer Science A	3	CI110
	5	CI110, CI245
Macroeconomics	3	BMI15
Microeconomics	3	BMI10
Government & Politics Comparative	3	PS101
Government & Politics	3	PS202

and Bridge Programs. See Residency Requirements: Page 22.

### • AP Course Credits

Applicants completing Advanced Placement Course work in high school may be eligible for MVCC credit according to the chart

seen above. Applicants must request that the College Board send an official copy of their AP score report to the MVCC Admissions Office in order for potential AP credit to be evaluated.

### • Articulation Agreements

An articulation agreement serves as an understanding between MVCC and a specific secondary school. It provides pathways for students to enter specific academic programs with advance standing. The College maintains agreements with regional BOCES and local school districts. These agreements are subject to occasional change. Students should consult their high school counselors for agreement information.

### • Credit by Examination

The College may grant credit for course equivalent work completed through the following examinations:

- College-Level Examination Program (CLEP) Exams, general and subject. CLEP is sponsored by The College Board. For more information, go to [www.collegeboard.com](http://www.collegeboard.com). The American Council on Education (ACE) recommends a scaled score for the granting of college credits by completing CLEP examinations. However, the Council also recognizes the right of each college and university to set its own standards for the granting of credit. At MVCC, CLEP examination credits are evaluated by the Center Dean in charge of either the course or program in which the credits are intended to be used. Original score reports are required for evaluation.
- New York College Proficiency Exams
- MVCC Credit by Examination: designed and administered by MVCC, available only to matriculated students. Interested students must apply through their Academic Center Dean. There is a fee associated with Credit by Examination.

### • Credit for Non-Collegiate Instruction

An assessment of credits earned through non-collegiate instruction is available to matriculating MVCC students. Evaluations will be completed by the appropriate Academic Center Dean. Training certificates or transcripts should be presented at the time of application.

### • Credit for Experiential Learning

Assessments of applicable Credit for Experiential Learning (CEL) are available only to MVCC matriculated students. CEL materials are available from the Registrar's Office and must be submitted through the student's Academic Center Dean. Refer to the fee table on page 27 for costs associated with CEL.

### • Transfer Credit

Applicants transferring to MVCC from other regionally accredited institutions or providing documentation of appropriate instruction may receive whole or partial credit for college courses completed. Acceptance of transfer credits is the prerogative of the appropriate Academic Center Dean. Transfer applicants must request that an official transcript from each college where credit was earned be sent to the Admissions Office to complete the application. In the case where an applicant has attended another college after high school and has not earned transferable credit, the student must apply as a transfer and should indicate on their application that no transcript will be forwarded for evaluation. After the student has enrolled in a degree or certificate program, all requests for transfer credit evaluation should be processed through the Office of Records and Registration. Only official transcripts from each prior college will be considered for transfer credit evaluation.

MVCC will accept a minimum grade equivalent to 2.0 on a 4.0 scale. The college accepts transfer credit only; grades are not listed for transfer credit courses.

Matriculated students may be permitted to transfer credit back from other colleges to complete an MVCC degree provided prior written approval is obtained from the Academic Center Dean. A minimum 25 percent of required program credits must be completed at MVCC.

If a student transfers more than 30 credits to MVCC from other institutions, the ED 100 course will be waived.

Students who need to make up deficiencies in quality point requirements and lack no more than two (2) courses, with a maximum of nine (9) credit hours, may complete a degree by taking or repeating courses at another college. In these cases, grades and quality points may be transferred with prior written approval of the Academic Center Dean.

Applicants seeking transfer credit for academic work completed in a foreign educational system should contact the Coordinator of Services for International Students for direction.

### **- Additional Advanced Standing Opportunities - for High School Students**

- **Dual Credit Courses**

High school juniors and seniors with an 80 or above high school average may also enroll in college courses through the MVCC Dual Credit Program. Dual credit courses cover the same content as those taught on the college campus but, because they are taught in the high school, offer convenience and accessibility. Dual credit courses are offered tuition-free to Oneida County residents. Since dual credit course offerings vary by high school, interested students should consult their guidance counselors to help select appropriate courses.

- **College Connection**

MVCC offers opportunities for high school students to receive college credit as part-time students by allowing eligible juniors and seniors to take one or two courses per semester, fall, spring and summer semesters only. Through College Connection, high school students who maintain a minimum 80 high school average and who have the high school counselor's recommendation may take courses on either MVCC campus. Guidance counselors work closely with the Director of Student Engagement and Outreach to select courses that are transferable to the college of choice while fulfilling high school requirements. Students in participating districts may qualify for full tuition scholarships, with only minimal fees and book purchases to be covered by students.

- **High School—College Bridge (part-time or full-time)**

High school students, usually seniors, can begin to sample college courses on a part-time or full-time basis by "Bridging." Students who wish to bridge must have a minimum high school average of eighty (80) to participate. Unless specifically stated, there is no financial aid available to students who are enrolled as bridge students.

- **Magnet Bridge (full-time, Proctor High School-Utica only)**

Proctor High School seniors who participate in a careful scholarship selection process may be invited to join the Magnet Bridge Scholarship Program. Sponsored by the Utica School District, this program provides funding of tuition and fees for accepted students to attend MVCC as full-time college students throughout their senior year of high school. Students are carefully advised to take courses that complete their high school requirements while giving them a start in their chosen college majors. Interested students should contact the Proctor Guidance Office or the Office of Student Engagement and Outreach.

## **Academic Terms You Should Know**

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### **Academic Year**

The College academic year consists of two traditional semesters: Fall and Spring. There are also Summer and Intersession course offerings.

### **Matriculated**

Matriculation is the process by which a prospective student applies for admission, submits all required documentation to support the application, and is officially accepted by the Admissions Office into a degree or certificate program prior to the start of classes. Acceptance of transfer credit is not complete until the approval from the Academic Center Dean is received and the paperwork has been processed and recorded by the MVCC Office of Records and Registration.

The deadline for matriculation is the end of the last business day prior to the start of classes. Matriculation terminates with graduation, dismissal, deactivation of a program, or lack of registration for four consecutive semesters exclusive of summers and intersessions.

As long as a student maintains continuous enrollment, the catalog under which they matriculated will apply. If courses have been eliminated, or if requirements have changed, the administrator in charge of the affected program will work with the student to identify substitute courses. If a student ceases enrollment for four (4) consecutive semesters, that student must meet with an advisor in the Advisement Center to process a re-matriculation form. The course completion requirements will be those that appear for the new program in the catalog that is in use at the time (semester) of re-matriculation.

Graduation requirements for a matriculated student are based on the catalog in effect at the time of matriculation, re-matriculation, or change of major into the degree or certificate program.

### **Non-matriculated**

A student who enrolls in either credit or non-credit courses without applying to or being accepted by the college into a degree or certificate program. Non-matriculated students are not eligible to receive State or Federal financial aid.

If you wish to enroll as a non-matriculated student, please see Options for Non-Matriculated Student Enrollment on page 12.

### **Semester**

A semester is a sixteen (16) week period that includes both instructional and exam periods. See page 4, Academic Calendar for semester starting dates.

Special Notice: The one-year Airframe and Powerplant Technology Certificate program does not follow the College's standard academic calendar due to the required training schedule.

### **Process and Procedures for Matriculation**

#### **Applications and Processing**

To access any of the MVCC applications available from our website, both Domestic and International, applicants can go to: [www.mvcc.edu/application](http://www.mvcc.edu/application).

Hard copy applications for Domestic (non-international) students are available from the Admissions Office, the Rome Campus Student Services Office, and Guidance Offices in most Central N.Y. high schools and are printable from the online site listed above. There is no application fee required to process an MVCC application.

Domestic and International applicants can, if they choose, use any of the application formats available from the State University of New York (SUNY). However, applicants should be aware that they will be responsible for paying any applicable fees to SUNY for the processing of their applications.

### **A complete application must include:**

An official final high school transcript

**OR**

A General Equivalency Diploma (GED)

**OR**

For those who have completed their high school education in a foreign country, they must supply a copy of the original document and a certified English translation of the diploma or transcript.

**AND,**

As appropriate for all applicants, an original copy of any/all: Advanced Placement (AP) reports; CLEP exam scores; N.Y State College Proficiency Exam Scores; DANTES score reports; certificates issued for the completion of non-collegiate instruction.

### **Transfers**

An official transcript for each college from which transfer credit is being requested. If no transfer credit is being requested and/or transcripts are unavailable, you still must report yourself as a transfer for Admission and Financial Aid purposes.

Notice: Applicants who have earned a Master's, Bachelor's, or an Associate degree from an accredited institution need not supply a copy of their high school transcript, diploma, or GED except in the case where the applicant is requesting admission to select programs where specific prerequisites are required for admission. However, on your application, please list your former high school's name, address, and graduation date, or GED and completion date, as appropriate.

### **Former matriculated MVCC Students**

Contact the Utica Campus Advisement Center, Room 104B, Payne Hall, or the Rome Campus Student Services Office, Room A30, Plumley Complex for appropriate guidance on re-enrollment.

### **Application Review Processing**

#### **Rolling Admission**

MVCC uses a rolling admissions process for accepting students. Applications are reviewed as soon as they are considered complete. Students are notified of their acceptance once the completed application is reviewed. Notifications begin:

- For Fall (August) semester - on December 1 prior to requested term
- For Spring (January) semester - on October 1 prior to requested term
- For Summer (May) semester - on March 1 prior to requested term

#### **Admissions Reservation Form (no-fee deposit)**

All accepted applicants receive an Admissions Reservation Form along with their acceptance letter. The Admissions Reservation Form, used in place of an admissions deposit, confirms the fact that an accepted applicant plans to enroll at the college for the semester indicated on their application. This acknowledgement is used by administrators to help plan sufficient class availability for expected students.

The following rules apply:

- 1) Fall Applicants accepted prior to March 15, should return the form by April 1. Applicants requesting on-campus housing should return the form as soon as possible after acceptance. The sooner the applicant confirms their plan to attend, the sooner their request will be posted to the Residence Hall on-campus housing request list.

- 2) Fall Applicants accepted after March 15, should return the form within two weeks from the date listed on the acceptance letter.
- 3) Spring Semester (January) or Summer Semester (May/July) Applicants should return the form within two weeks of the date listed on the acceptance letter. Again, applicants interested in Spring Semester on-campus housing should return the form as soon as possible.

Important Notice: Failure to return the Admissions Reservation Form according to the timelines listed above can jeopardize your opportunity for enrollment to a particular major, especially majors in which applications exceed space available, and/or your opportunity to secure an on-campus Residence Hall room for the semester requested.

### **Pre-Enrollment Notifications**

After acceptance to the College, applicants will begin to receive a number of communications from the Office of the First Year Experience. Those that will be delivered in letter format will include notification of your MVCC Student Number, your MVCC student e-mail address, information on placement testing and class scheduling, and notification of your MVCC Student Information and Registration System (SIRS) pin number.

The Admissions Office will supply you with a pre-enrollment information guide and health record forms in your acceptance package. The information guide is provided to assist you through the admissions process with important information that you must do prior to the start of classes for your first semester.

### **Placement Testing**

MVCC wants every student to be successful at the College. To ensure appropriate course placement, admitted students are required to take placement tests to determine their mathematics skills and English reading and writing proficiency. The tests are not used for the purpose of determining an applicant's eligibility for admission to the college. If it is determined that there is need to take developmental or remedial course work in preparation for required courses in a program, it may take longer than the time listed in the catalog to complete the degree or certificate. Persons wishing to take courses for personal enrichment (non-matriculated) are also required to take the MVCC placement test before scheduling a course with a required test score prerequisite.

Students with an associate's degree or higher or who have earned 60 semester hours or more with a grade point average of 2.0 or greater from a regionally accredited college or university are not required to take placement tests at MVCC. Should a student, meeting the above criteria, request testing for appropriate placement, testing will be available.

If the student has completed college course work that is equivalent to MVCC course work or a required prerequisite for an MVCC course, the student may be exempt from all or part of the MVCC placement testing. To have status assessed:

- 1) Applicants for matriculation should submit official transcripts to the Admissions Office to document course completion. An assessment of placement testing needs will be completed during the review of the application prior to acceptance. Students who have earned college credit in mathematics but apply for a program requiring a sequence of math courses may still be required to take a placement test in math to determine their course placement.
- 2) Those seeking to enroll as non-matriculated will need to supply a copy of a grade report or transcript to show proof of equivalent prerequisite or course completion. Applicants are advised to provide a catalog description of the completed course when a course title does not adequately describe the material covered.

Non-native speakers of English may be required to take an English proficiency exam in addition to the placement test.

A schedule of placement testing dates, time and locations for each semester is available on the College website. All questions concerning placement testing should be directed to our Placement Testing Coordinator, Payne Hall Room 104A, Utica Campus, telephone 315.731.5802.

### **Waiting List**

MVCC reserves the right to develop a waiting list for enrollment when qualified applicants for a program exceed available space.

- 1) Applicants will be placed on the waiting list as soon as their application is determined to be complete and reviewed.
- 2) Applicants will have a date/time stamp placed on their wait list decision according to the data entry date/time of their decision on the MVCC student computer system.
- 3) Waiting list applicants will be notified via correspondence from the Admissions Office. Those who choose to remain on the waiting list will be notified of available space in the order in which they were assigned to the waiting list. There is no guarantee that space will become available for the term requested. Waiting list applicants cannot register for classes in the requested program until space becomes available. Should space not become available for enrollment in the term requested, the student can either attend the College as a matriculated student in another program where space is available or they may enroll as a non-matriculated student until matriculation becomes available.
- 4) Should a waiting list applicant choose to enroll in an alternate curriculum, they are removed from the waiting list entirely.

### **Options for Non-Matriculated (non-degree)**

#### **Student Status and Enrollment**

**Please note:** Students enrolling as non-degree students or who are currently in high school are not eligible to receive standard financial aid assistance.

### **MVCC provides academic supplements to high school and college students through the following grant-funded programs:**

#### **Mohawk Valley Upward Bound**

Mohawk Valley Community College's Upward Bound is a federally funded, academic enrichment program for students at T.R. Proctor High School, grades 9-12. Upward Bound provides fundamental support to participants in their preparation for college entrance. The program provides opportunities for participants to succeed in their precollege performance and ultimately in their higher education pursuits. Upward Bound serves high school students from low-income families; and high school students from families in which neither parent holds a bachelor's degree. The goal of Upward Bound is to increase the rate at which participants complete secondary education and enroll in and graduate from institutions of postsecondary education. Program activities include tutoring, college visitations, financial literacy workshops, mentoring, career exploration workshops, cultural and social events. Students are also paid stipends for participation in the program.

#### **Utica GEAR UP**

Mohawk valley Community College's Utica GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) is a federally funded partnership six year matching grant designed to increase the number of low-income students who are prepared to enter and succeed in postsecondary education. These grant and matching funds are designed to provide services to the Utica City School District's graduating class of 2017, with services beginning in the 7th grade through high school graduation. Services include, tutoring, mentoring, career and financial literacy workshops, and cultural and social events. Being a partnership grant, community partners actively provide services to GEAR UP parents as well.

### **Science and Technology Entry Program (Utica City School District)**

The Science and Technology Entry Program (STEP) is designed to foster seventh through twelfth graders' interest in the fields of math, science, health, technology and licensed professions. The program goals include fostering academic excellence, nurturing students in their preparation for college, cultivating students' independence, and providing opportunities for historically underrepresented populations to flourish in the aforementioned fields of study. Program activities include tutoring, job shadowing, research projects, workshops, seminars, college visits and educational field trips.

### **CCED Non-Credit Courses**

MVCC's Corporate and Community Education Department (CCED) offers an array of short term, non-credit courses. A full description of CCED courses can be found on the College's website at [www.mvcc.edu/cced](http://www.mvcc.edu/cced).

### **Home Schooled Students**

Students being home schooled who wish to enroll in college courses on a part-time basis, must contact: Director of Admissions OR Associate Dean for Student Enrollment and Retention for a pre-enrollment interview. Interested students will be required to take the MVCC Placement Test. Upon the receipt of the placement testing score report, students should schedule an appointment to meet with the Vice President to determine academic and social readiness. Students under the age of 17 will be required to provide a copy of their Individual Home Instruction Plan (IHIP) at the time of their interview. The contact number is 315.792.5456.

### **Non-High School Graduates, No GED, and Under Age 19**

Those who have not completed high school, do not possess a GED and wish to attempt college level course work must contact: Director of Admissions OR Associate Dean for Student Enrollment and Retention for a pre-enrollment interview. Interested students will be required to take the MVCC Placement Test. Upon the receipt of the placement testing score report, the student should schedule an appointment to meet with the Vice President to determine academic and social readiness. A GED or high school diploma is required to graduate from MVCC. The contact number is 315.792.5456.

### **Senior Citizen Audit**

Oneida County residents who are sixty years of age or older can sign up to audit certain courses tuition free. Audit is on a space available basis and should be requested no more than two days prior to the start of classes. Classes which cannot be audited are those that are non-credit or laboratory classes which would require additional instructional equipment or supplies, such as in the sciences or culinary classes.

Those auditing classes are not formally enrolled as students at MVCC. They attend classes without participating in testing. There is no grade or credit received for the course. Textbooks are purchased at the student's expense. MVCC is not responsible for any other expense that may be incurred. All inquiries regarding Senior Citizen Audit should be directed to the Office of Records and Registration at 315.792.5336.

### **Cooperative Programs**

#### **CollegeWorks**

CollegeWorks is a collaborative educational project between The Arc, Oneida-Lewis Chapter NYSARC and Mohawk Valley Community College. It is a non-degree, non-credit, two-year college-based program for individuals with intellectual and developmental disabilities. CollegeWorks does recognize that traditional college course work and instruction may be unmanageable for students with varying degrees of ability. Therefore, a specialized curriculum is available that focuses on vocational skill building and life skill development.



While at MVCC, CollegeWorks students have the opportunity to join clubs, activities and to participate in the extra-curricular life of the college. First year students receive a full year of Work Life Skills instruction and four career exploration modules. Second year students receive a year of Work Life Skills instruction with emphasis on more advanced vocational skills such as resume writing, interviewing, job seeking skills and a community-based internship. To be considered as a candidate for admission, students must submit a complete application packet, including a signed physician's report, educational assessments and three letters of recommendation. For students who qualify, there is funding available. For more information, or to obtain an application packet, please call 315.792.5465.

### **Mohawk Valley College Consortium (Cross-Registration)**

This is a cooperative effort among the following Mohawk Valley colleges: Empire State College at Utica, Hamilton College, Herkimer County Community College, Mohawk Valley Community College, SUNY Institute of Technology at Utica/Rome, SUNY Morrisville, and Utica College.

Full-time matriculated students may be eligible to take selected courses (one per term) at other member institutions. Selected courses must be applicable to the student's degree program, and must not be available on the student's home campus during the term of registration. Registrations will be processed on a space-available basis, after all home campus students have had an opportunity to register for the course. Students must follow policies, procedures, and calendars of both the home and host institution. Approval of the appropriate home campus official is required. Other restrictions, including course prerequisites and special fees, may apply. Consortium cross registration is not available for summer courses. For additional information, contact the MVCC Office of Records & Registration.

### **Servicemember's Opportunity College (SOC)**

MVCC has been designated as an institutional member of Servicemember's Opportunity Colleges (SOC), a group of over 400 colleges and universities providing voluntary post-secondary education to members of the military throughout the world. As an SOC member, MVCC recognizes the unique nature of the military lifestyle and has committed itself to easing the transfer of relevant course credits, providing flexible academic residency requirements, and crediting learning from appropriate military training and experiences.

SOC has been developed jointly by educational representatives of each of the Armed Services, the Office of the Secretary of Defense and a consortium of 13 leading national higher education associations. It is sponsored by the American Association of State Colleges and Universities (AASCU) and the American Association of Community and Junior Colleges (AACJC). Further information may be obtained by contacting the MVCC Admissions Office.

### **U.S. Army ConAp Program**

MVCC has joined the United States Army and over 600 Servicemember's Opportunity Colleges across the country in the Concurrent Admissions Program (ConAp). The program allows new recruits, who enlist in the Army or the Army Reserves, to enroll in a college or university at the time of their enlistment. These soldiers earn money toward college through the Montgomery G.I. Bill for educational benefits, and are guaranteed admission at a selected college up to two years after completion of active military service.

Eligible students are permitted to take as little as 25 percent of their courses in residence at MVCC, with the remaining credits available through transfer, independent or correspondence classes and credit for specialized training or life experience. MVCC will provide ConAp students with counseling and with program planning assistance and evaluation. For more information about the program, contact the MVCC Veteran's Office, telephone 315.792.5502.

### **U.S. Army ROTC or U.S. Air Force ROTC**

MVCC offers either U.S. Army or U.S. Air Force ROTC through Syracuse University. Students travel to Syracuse to participate in Military Science classes and Leadership Labs one afternoon per week. ROTC offers leadership training and practical experience toward becoming an officer in the U.S. Army or U.S. Air Force. Scholarship opportunities are available.

#### **Contact Information:**

Army ROTC:  
308 Archbold Gym  
Syracuse University  
Syracuse, NY 13244-1140  
Telephone: 315.443.2462  
Fax: 315.443.1742  
Web page: <http://armyrotc.syr.edu/>

Air Force ROTC:  
303 Archbold North  
Syracuse University  
Syracuse, NY 13244  
Telephone: 315.443.2461  
Web page <http://afrotc.syr.edu>

## **Academic Information**

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### **Advisement**

Academic advisors help students understand program requirements, select appropriate courses, prepare for careers or transfer, and gain access to any special resources needed (tutoring, counseling, etc.). Students are encouraged to see an academic advisor regularly, and especially before pre-scheduling each term.

### **Attendance**

There is a direct correlation between student attendance and academic success. Students are strongly encouraged to make all necessary arrangements to be in attendance and on time for all classes. Faculty will include attendance policies in the class syllabus. Please note that policies may vary from course to course, so it is critical to read the syllabus for each class. Also note that repeated absences may result in failing the course.

The State University of New York regulations require evidence of pursuit of prescribed course work. Regular attendance is considered evidence. Students who fail to satisfy those regulations may be withdrawn from the class and also risk losing financial aid.

### **Dropping a course**

Drop Forms received by the Office of Records & Registration prior to the end of the third week of classes will result in no grade posted on the student academic record (for 15-week courses). The same policy applies for drops processed using SIRS. See the academic calendar for the last day to drop a course as posted by the Office of Records and Registration at [www.mvcc.edu](http://www.mvcc.edu).

### **Change of Major**

Currently matriculated students wishing to change their program of study via the change of major process should contact the Utica Campus Advisement Center, Room 104B, Payne Hall, or the Rome Campus Student Services Center, Room A30, Plumley Complex. Changes of Major initiated by the end of the third week of classes are in effect for that semester. Changes of Major initiated after the third week of the term go into effect for the following semester.

### **Criminal Background Checks**

Criminal background checks and/or drug screening may be required by various agencies in programs that require internships, clinical, field or student teaching experiences. Please see your program advisor for further information.

## Independent Study

Most academic centers offer an Independent Study course (listed as 300 levels in this catalog). These are courses in areas where the College does not currently offer sections. Enrollment in 300 level courses requires registration following academic center approval.

## College Resources

### College Libraries

The MVCC Libraries strive to provide students, faculty, and staff with access to excellent information resources and services. Members of the college and local communities will find a broad and varied collection supportive not only of all the programs of study offered at MVCC, but of individuals' personal growth, learning, and leisure time needs as well.

The Libraries on the Utica and Rome campuses have a combined collection of approximately 103,000 print volumes, almost 9,000 audiovisual items, 597 print periodical titles, and almost 29,000 unique electronic periodical titles, as well as over 24,000 electronic books (ebooks). The primary focus of the collection and primary function of the library staff is to support the teaching, learning and recreational interests of the College community as well as to promote information literacy. The Utica Campus Library houses several special collections including bestsellers, educational (documentary, how-to) and feature films (movies, television programs), books on tape and CD, music CDs, children's and young adult books, and a Career Center.

Students can access resources through the library website ([www.mvcc.edu/library](http://www.mvcc.edu/library)). All books, videos, audiobooks, DVDs and music CDs, and most electronic books, are listed in our online catalog; a list of our magazines and journals is available as well. The libraries' 74 online full-text indexes and databases are available to current students both on-campus and off-campus, the latter requiring only logging on with a college user name and password. Additionally, the library web site provides access to 191 research guides (LibGuides), a new acquisitions list, bibliographies, library information, and numerous links to web resources, search engines, and electronic texts. Books or articles not owned by the Libraries may be obtained through our free interlibrary loan service. The Utica Campus Library has a low-vision study room containing two machines, a Kurzweil Personal Reader Automatic Scanner and an Aladdin Personal Reader; for those students with visual impairments. In addition, it has three small study rooms, two mid-sized, and one large study room for group study and projects. Tables, study carrels, and comfy chairs provide other work places. Both campuses are also equipped with scanners and photocopiers for student use, and book returns located outside the library for bringing back items when the Libraries are closed.

Students may communicate with librarians for research assistance or other needs in multiple ways, including via instant messenger service, phone, email, the Libraries' Facebook page, and the national AskUs 24/7 chat service, as well as by in-person contact with a librarian on campus. Librarians are available during open hours for individual and group instruction. A quality instructional program designed to assist students in learning how to conduct research and develop information literacy skills is also provided. The libraries on both campuses contain computer labs which are available when not being used for a class. In addition, the Utica Campus Library is equipped with computers in the reference area for non-word processing purposes.

Both libraries operate on an abbreviated schedule during vacation periods and summer months, and on an extended schedule during exam periods. Notice of changes in library hours is posted in the Libraries and on the Libraries' website.

### The Utica Campus Library is open seven days a week during the fall and spring semesters. Its hours, subject to change, are:

Monday through Thursday:	8:00 a.m. - 9:00 p.m.
Friday:	8:00 a.m. - 5:00 p.m.
Saturday:	12:00 noon - 5:00 p.m.
Sunday:	4:00 p.m. - 9:00 p.m.

### Utica Campus Library phone numbers:

Circulation and Reserve Desk	315.792.5408
Director	315.792.5399
Fax	315.792.5666
Information Desk	315.792.5561
Interlibrary Loan	315.792.5669

### The Rome Campus Library hours during the fall and spring semesters, subject to change, are:

Monday through Thursday:	8:30 a.m. - 8:30 p.m.
Friday:	8:30 a.m. - 4:30 p.m.
Saturday and Sunday:	Closed

### Rome Campus Library phone numbers:

Circulation and Reserve Desk	315.334.7728
Librarian	315.334.7714
Fax	315.339.6934

The MVCC Libraries strive to be a vital part of the campus community, enhancing faculty instruction, meeting student research needs, and offering resources for leisure and lifelong learning moments. The staff welcomes everyone to stop in and experience this place where all times, cultures, peoples, places, and subjects meet and commingle in various forms—the Libraries!

### Computer Labs: Utica Campus

The College maintains 26 PC computer labs and two Mac labs on its Utica Campus for academic use, each equipped with between twelve and 20 computers. The majority of the computers are Pentium 4 Dual Core machines, and each lab has at least one laser printer; some with scanners and color printers. While all PC labs support the latest Microsoft Office Suite, there are many specialized applications such as QuarkXpress, The Adobe Creative Suite, Macromedia Studios, 3D Studio Max, Microsoft Visual Basic and AutoCAD available for specific departmental programs in specific labs. All academic computers at MVCC have high speed Internet access via a gigabit Fiber Optic Ethernet backbone.

The College provides network connectivity in every classroom and many have been converted to "Smart Classrooms" where instructors can employ various multimedia presentations including direct access to the Internet. MVCC also maintains a wireless network on both the Utica and Rome Campuses which is available for student use. Each student has access to an individual logon account complete with network storage and e-mail. Students enjoy a dedicated open lab as well as numerous open lab hours in the departmental labs.

MVCC has a comprehensive website that provides a variety of information, including program and course listings as well as department pages and the ability to register for courses, check Financial Aid and make payments online. It also provides access to MV Online, our Internet-based distance learning environment. Check out our site at [www.mvcc.edu](http://www.mvcc.edu) for the latest information.

### Computer Labs: Rome Campus

The Rome Campus provides a 25-seat Open Lab equipped with computers and laser printers. Students on the Rome Campus enjoy the same access to the Internet as the Utica Campus and all computer applications required for their specific program.



## Learning Center

### Utica Campus

Academic Building, Room 151  
and Information Technology Building, Room 131  
315.792.5517 or 315.792.5610

### Rome Campus

Plumley Complex, Room L43 315.334.7733

The mission of the MVCC Learning Center is to support, encourage and empower students to become independent, self-advocating, and resourceful learners.

Mohawk Valley Community College provides academic tutoring services through the Learning Center. Professional and peer tutors help students in many subject areas, including reading, writing, math, chemistry, and biology. Also, the Center supports informal student study groups targeting particular courses. Services at the MVCC Learning Center are free. For information on specific Learning Center Services and tutoring schedules on either campus, contact the Center or visit the website at [www.mvcc.edu/academics/learning/](http://www.mvcc.edu/academics/learning/).

## General Education

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### Aims

In an academic setting, general education, which consists of liberal arts and science courses, is primarily concerned with the continuing intellectual development of the students. These courses are both general (not program specific) and liberal (not vocational or technical). The principal aim is to present students with courses designed to enable them to demonstrate that they:

- a. Can communicate effectively.  
**Students will:** Produce coherent texts with common college-level written forms; Demonstrate the ability to revised and improve such texts; Research a topic, develop an argument, and organize supporting details; Develop proficiency in oral discourse; Evaluate an oral presentation according to established criteria.
- b. Can use mathematical processes to acquire and convey knowledge.  
**Students will:** Interpret and draw inferences from mathematical models such as formulas, graphs, tables, and schematics; Represent mathematical information symbolically, visually, numerically, and verbally; Employ quantitative methods such as arithmetic, algebra, geometry, or statistics to solve problems; Estimate and check mathematical results for reasonableness; Recognize the limits of mathematical or statistical methods.
- c. Have a basic knowledge and understanding of the natural world.  
**Students will:** Demonstrate: Understanding of the methods scientists use to explore the natural world, including observation, hypothesis development, measurement and data collection, experimentation, evaluation of evidence, and employment of mathematical analysis; Application of scientific data, concepts, and models in one of the natural sciences.
- d. Have a basic knowledge of society, including an understanding of individuals, cultures, and the relationships between them.  
**Students will:** Demonstrate: Understanding of the methods social scientists use to explore social phenomena, including observation, hypothesis development, measurement and data collection, and/or experimentation, evaluation of evidence and employment of mathematical and interpretive analysis; Knowledge of major concepts, models and issues of at least one discipline in the social sciences.
- e. Understand human nature and the human condition as expressed in the humanities.

## General Education Component Liberal Arts and Science Courses

As determined by the State Education Department, the general education component of an A.A.S. degree program requires a minimum of one-third of the credit hours (based on 60 credits) to be in the arts and sciences; an A.S. degree program, a minimum of one-half; and an A.A. program, a minimum of three-quarters of 60 credits. A.O.S. and Certificate programs are not required to include general education courses.

The General Education program at MVCC is divided into five (5) Categories. Within these Categories, Core General Education courses (designated as bolded courses) which, beside the specific content of the course, incorporate the following elements of common knowledge: (a) an historical overview of the subject area; (b) a general understanding of the nature of the subject area, its object, scope, logic or methodology, and relation to other disciplines; and (c) the use and development of the intellectual skills, thinking, language, and, where appropriate, mathematics.

Students in AAS, AS and AA degrees must take one Core course in each of the five (5) Categories as determined by their program. The number of additional general education courses is prescribed by the degree. (See chart titled General Education Requirements on page 31.)

### SUNY General Education

The State University of New York (SUNY) has implemented a policy designed to enhance and coordinate general education on all SUNY campuses. Any student graduating with a four-year baccalaureate degree from a SUNY campus must complete a minimum of 30 credit hours in coursework from at least seven of the ten knowledge areas: Mathematics, Natural Science, Social Studies, American History, Western Civilization, Other World Civilizations, Humanities, The Arts, Foreign Language and Basic Communication. SUNY requires that courses from the Mathematics and Basic Communication areas must be included within the general education coursework. SUNY also strongly encourages students to have courses within the Natural Science, Social Science, and the Humanities areas. In addition, students must demonstrate competence in the skill areas of critical thinking and information management.

Every student graduating from MVCC must complete the General Education courses required by their degree. The student who is planning on transferring to a SUNY campus for a bachelor's degree would find it advantageous to complete as much coursework as possible towards fulfilling the minimum of 30 credit hours from at least seven of the SUNY areas. SUNY has recognized the MVCC courses listed as meeting the criteria for particular knowledge areas within its structure. As students select General Education electives within their chosen programs, they are encouraged to consult with their advisors to compile the most beneficial transfer package. Not doing so may result in transferring students having to spend an additional semester or longer at a SUNY institution in order to meet general education requirements.

The chart titled General Education Courses, on page 31, indicates all courses at MVCC which have General Education status.

## Grades

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Grades consist of the following:

- A Excellent
- B Good
- C Satisfactory
- D Poor
- F Failure
- W Withdrawn prior to the official last date established by the Office of Records and Registration
- S Satisfactory (midterm only)
- U Unsatisfactory (midterm only)
- I Incomplete (temporary)
- AU Audit
- NR is not a grade, but a symbol indicating that a grade was not submitted.

The grade of I (incomplete) may be assigned when students have not completed a small portion of the course for reasons beyond their control. The instructor in consultation with the student will establish, in writing, a plan which will include how the outstanding work will be completed. It is the student's responsibility to meet with the instructor, who will establish a time limit to complete the work. The completion of the work will not be later than the end of the following regular semester. The instructor will submit a grade by the next to the last day of classes of that term. If no grade is submitted, the Director of Student Records and Registration will convert the I (Incomplete) to an F.

W grade appears on the record but does not affect the student's grade point average. W grades count in attempted hours. See "Dropping a Course" (page 13) or "Withdrawal from a Course," (page 22).

Students expelled from a specific course, or expelled or suspended from the college, will receive a final grade for each course as determined by the faculty member's grading policy. However, a grade of Incomplete is not an option. Any assignments not completed as of the date of suspension (expulsion) will be factored into grade calculations as zeros.

### Audit

The audit policy is established to deal with unusual circumstances. Benefit from an audited course requires more than the usual degree of self-discipline and motivation. It is not recommended for routine situations or for matriculated students.

The audit policy enables a student who is not on academic probation to register for a course on an audit basis. An auditor receives no formal grade and does not participate in examinations or other methods of evaluations except at the option of the instructor. Audited courses will be identified on the transcript with the designation AU. The designation has no effect on the GPA and will not be considered when applying the Standards of Academic Progress. Courses taken on an audit basis may not be used to satisfy graduation, certificate, or license requirements.

Students who wish to audit a course must obtain the permission of their Academic Advisor and the appropriate Academic Dean. Regular tuition charges apply. Course registration during the term of the audit may be changed from audit to credit no later than the end of the first week of classes of the regular semester. Changes from credit to audit may not be initiated after the end of the third week of classes for a regular semester.

The auditing policy for senior citizens has additional criteria. Please see page 12.

### Mid-Term Grades

Mid-term grades are not official and do not appear in any permanent record. They are intended to inform students of their progress. Students may view their midterm grades via the Web using the Student Information and Registration System (SIRS). Students have a responsibility to see their academic advisor during the 9th week of classes and discuss mid-term grades.

### Final Grades

Students should view their final grades via the Web using the Student Information and Registration System. Students may request a printout of their final grades from the Office of Records and Registration.

Alleged errors should be reported immediately to the Office of Records and Registration. Students have one year from the end of any semester in which to request, in writing, a correction to their official transcript, and must provide appropriate documentation to support the request for change based on alleged error.

## Graduation Requirements

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In order to graduate, students must meet the following criteria:

- A final High School Transcript showing graduation information or GED Certificate must be on file.
- Students must pass all courses required for the program or certificate in which they have matriculated, and must achieve at least a 2.0 program grade point average. Courses should be completed as specified in the catalog including general education requirements.
- Students must complete ED 100 within the first fifteen hours of instruction. If a student transfers more than 30 credits to MVCC from other institutions, this requirement will be waived.
- First-time matriculated and re-matriculated students must complete the Diversity/GlobalView component. Consult an academic advisor for details.
- Residency Requirement: A minimum of 25 percent of the required program credits for graduation must be successfully completed at Mohawk Valley Community College.
- Students expecting to have transfer credit to count toward graduation should have all official transcripts on file. All transfer courses must be posted on your official transcript prior to graduation.
- Financial obligations to the college must be fulfilled.
- Students are responsible for satisfying all requirements leading to a degree or certificate for the curriculum in which they are enrolled.

- Matriculation is terminated by graduation. Students intending to pursue another degree or certificate need to matriculate in the new degree or certificate.
- Students must complete ED100 within the first fifteen hours of instruction.
- A student must have completed at least 70% of the total credits in their degree program or 50% of their certificate program before applying for graduation. Any exceptions must be approved by the Center Dean or Assistant Dean.

### Calculation of GPA

Grades of A, B, C, or D are given respectively 4, 3, 2, or 1 quality points per credit hour. A grade of F is given no quality points.

A grade of "A" in a three credit course would provide 3 (number of credit hours) X 4 (number of quality points per hour) or 12 quality points in all. A student's overall average is calculated by dividing the total number of quality points earned by the total number of credit hours taken. For example, a student who has accumulated 50 credit hours and a corresponding 125 quality points would have an overall average of 125/50 or 2.50.

### Dual Degree

Providing that all requirements are fulfilled for both programs, including at least a 2.0 GPA in both, a student may concurrently or consecutively undertake a second degree program at the same level as the first. A second degree will be awarded only in those cases where the second program requires at least 15 semester credit hours of specific courses which are not part of the requirements of the first.

### Physical Education

A passing grade in two credit hours of the Instructional Program in Physical Education is a graduation requirement for students in most degree-granting programs at Mohawk Valley Community College. This requirement applies to all matriculated students. Students with physical limitations or disabilities should consult with a member of the Physical Education faculty to discuss their specific needs. Although physical education courses may be repeated for credit, any given course may be counted only once toward the two-credit requirement (e.g., PE154 may only count as one credit of the graduation requirement no matter how many times it is taken). Students having met the physical education requirement for graduation may elect to participate further in the physical education program. The application of elective credits earned in physical education is the prerogative of the degree-granting program in which the student is enrolled. Some physical education courses may have additional fees attached.

### DegreeWorks

Together, students and their academic advisors track academic progress and requirements for graduation using DegreeWorks. It contains the course requirements for the student's program, and lists courses completed, pre-scheduled, and in progress. Courses that do not count toward graduation will be found under "courses not applied to program."

Students can view their Mohawk Valley Community College progress using SIRS.

### Repeating Courses

If a course is repeated, only the highest grade will count in the computation of the Grade Point Average.

### Residency Requirements

Residency Requirement: A minimum of 25 percent of the required program credits for graduation must be successfully completed at Mohawk Valley Community College.

### Diversity and Global View Graduation Requirement

In order to graduate, all degree- and certificate-seeking students must fulfill Diversity and Global View requirements.

Degree-seeking students must complete:

- One DGV-designated course
- Four online Blackboard tutorials
- Confirmed attendance at four DGV-designated events

Certificate-seeking students must complete:

- One DGV class
- Two Blackboard tutorials
- Two DGV events

From the Fall 2008 semester forward, all incoming students, students who change their majors, and re-matriculated students must fulfill the DGV requirement for graduation.

This requirement is fundamental to MVCC's commitment to raising student awareness of the increasingly diverse, globalized environment in which we all live.

Students may track their own progress in completing this graduation requirement by logging on to their SIRS account and clicking on DegreeWorks. Students should also check with their academic advisor if they have questions about the DGV requirements or their progress. More information can be found at <http://www.mvcc.edu/dgv>.

## Honors

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Mohawk Valley Community College takes great pride in the academic achievements of our students. The following programs reinforce that pride.

### Phi Theta Kappa International Honor Society

Phi Theta Kappa, International Honor Society for the Two-Year College, is the largest honor society in American higher education. The purpose of the organization is to recognize and encourage scholarship among two-year college students. The Lambda Beta Chapter at MVCC was formed in 1960 and welcomes new members each semester. Eligible students are sent an invitation to join the chapter. Membership is offered to currently-enrolled students who have an overall GPA of 3.5 or higher with at least 12 credit hours toward an A.A., A.S., A.A.S., or A.O.S. degree. Chapter activities provide opportunities for individual growth and development through participation in honors, leadership, service, and fellowship programming.

### Honors Program

The Honors Program at MVCC is designed to motivate exceptional students in all fields of study to develop to their fullest potential. The program is designed to enrich students' learning experience through independent research, challenging projects, and collaborations with faculty and peers – all while preparing them for further study or a vibrant career, and a lifetime of achievement. The program will emphasize deep learning, support of students in becoming independent, creative and self-confident learners. Students must complete three steps to earn the Honors Distinction, which is noted on their transcript and diploma: First, they must

take Introduction to Honors (HP 101), which will prepare them to conduct an independent research project and help build community among the Honors Program students; second, they must choose either an Honors Independent Research Project or Honors Seminar; and third, complete an Honors Independent Research Project.

### **Students must meet one of the following criteria to be eligible for the Honors Program:**

- A GPA of 3.5 (90) or higher from an accredited high school
- An SAT score of 1,170 or higher (or comparable ACT score)
- Top 10 percent standing in graduating class at an accredited high school
- A GPA of 3.5 or higher with a minimum of 12 credits earned at MVCC or another college

Interested students may apply to the Honors Program before the start of each fall or spring semester. Applications are available through the Registrar; Phi Theta Kappa, and advisors.

For more information about the Honors Program, visit [www.mvcc.edu/honors](http://www.mvcc.edu/honors).

### **Graduation with Honors**

A cumulative Grade Point Average (GPA) of 3.75 is required for Graduation with Honors.

### **President's and Vice President's Lists**

These lists recognize those matriculated students who successfully complete a semester with a term GPA of:

- 3.75 or higher for President's List
- 3.50 - 3.74 for Vice President's List

## **Academic Integrity**

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The College is committed to a spirit of intellectual inquiry rooted in the ethical behavior of its participants. Unethical acts which affect the integrity of learning are not permissible. Engaging in dishonest or unethical behavior will result in disciplinary action taken against the student by the instructor, or other appropriate college official. Following are categories of prohibited behavior in the classroom, studio, laboratory, library, computer labs, internships, online academic sites, or other areas of college learning.\*

### **Plagiarism**

The MLA Handbook for Writers of Research Papers defines plagiarism as using "another person's ideas or expressions in your writing without acknowledging the source..." Of course, common sense as well as ethics should determine what you document. For example, you rarely need to give sources for familiar proverbs ("You can't judge a book by its cover"), well-known quotations ("We shall overcome"), or common knowledge ("George Washington was the first president of the United States"). But you must indicate the source of any appropriated material that readers might otherwise mistake for your own" (5th Edition, pp. 30, 33).

Plagiarism may range from isolated formulas, sentences, or paragraphs to entire articles copied from books, periodicals, web sites, speeches, or the writings of other students. Honesty requires that any work or materials taken from another source for either written or oral use must be acknowledged. Any student who fails to give credit for ideas or materials obtained from another source is guilty of plagiarism. Plagiarism, in any of its forms, whether intentional or unintentional, violates standards of academic integrity. Plagiarism can occur in written, oral, electronic, and/or creative works.

Examples of plagiarism include, but are not limited to:

- Direct quotation of any source material whether published or unpublished without giving proper credit through the use of quotation marks, footnotes and other customary means of identifying sources. This includes complete sentences or paragraphs, or an entire piece of written work;
- Paraphrasing another person's ideas, opinions, or theories from books, articles, web sites, etc., without identifying and crediting sources and/or "cutting & pasting" from various sources without proper attribution;
- Borrowing/copying facts, statistics, graphs, diagrams, photographs, or other illustrative or visual materials without identifying and crediting sources;
- Copying another student's essay or test answers;
- Submitting papers written by another person or persons;
- Working together on an assignment and then submitting individual copies of the assignment as one's own individual work without course instructor approval;
- Buying, selling, downloading, or exchanging term papers, examinations, or other written assignments, or any part of them;
- Offering false, fabricated, or fictitious sources for papers, reports, or other any other assignment;
- Or any other act of plagiarism as defined by faculty within their syllabus.

### **Cheating**

Cheating includes, but is not limited to: using unauthorized notes, study aids, or information on an examination, test, assignment, etc.; altering a graded work after it has been returned, then submitting the work for re-grading without the instructor's consent; or allowing another person to do one's work and submitting that work under one's own name. Cheating also includes the possession and/or utilization, without authorization, of copies (in whatever form, e.g. hard copy, electronic, pictures, etc.) of tests, answer sheets, or other materials, however obtained, that could interfere with fair, accurate testing, as well as retaining, possessing, using or circulating previously given examination materials without authorization.

### **Duplicate Submission of the Same Work**

Submitting the same work for more than one course is a violation unless the professor(s) assigning the work gives consent in advance. This includes work first produced in connection with classes at either MVCC or other institutions attended by the student.

### **Collusion**

Collusion includes cooperation that results in the work or ideas of others being presented as one's own (i.e., rather than as a group effort). However, ordinary consultation of faculty, library staff, tutors or others is legitimate unless the instructor has imposed stricter limits for a particular assignment.

### **False Information and Lying**

This includes consciously furnishing false information to other students, faculty members and their representatives, advisors, administrators or representatives of the college with the intent to mislead. Instances would include but are not limited to misrepresenting activity outside of the classroom (reports on field work, internships, etc., activity within the classroom (falsifying data, research, etc.) and/or improperly seeking special consideration or privilege (e.g., for postponement of an examination or assignment deadline, etc.).

### **Falsifying Academic Documentation and Forgery**

This includes any attempt to forge or alter academic documentation (including transcripts, letters of recommendation, certificates of enrollment or good standing, registration forms, drop/add forms, withdrawal forms, and medical certification of absence) or to falsify other writing in academic matters (i.e., any documentation provided to instructors) concerning oneself or others.

### **Theft, Abuse and Destruction of Academic Property**

This comprises unauthorized removal, retention, mutilation or destruction of common property of the college that deprives others of equal access to these materials. Such property includes but is not limited to library materials, laboratory materials, computers and computer software, etc. This includes also sequestering library materials for the use of an individual or group; a willful or repeated failure to respond to recall notices from the library; and the removal or attempt to remove library materials from the library without authorization. The theft, mutilation or destruction of another student's academic work, including books, notes, computer programs, papers, reports, laboratory experiments, etc. also falls under this type of violation. This also covers the unauthorized recording, sale, purchase, or use of academic lectures, academic computer software, or other instructional materials.

### **Unauthorized Use of Information Technologies**

In the context of the completion of a course and/or assignments (contained within a course), the unauthorized use of computers or the college's computer network (e.g., the unauthorized use of software, access codes, computing accounts, electronic mail and files) or other electronic devices (calculators, personal digital assistants, pagers, etc.) is prohibited.

### **Aiding and Abetting Academic Dishonesty**

This includes intentionally: (a) providing material, information, or other assistance to another person with knowledge that such aid could be used to commit any of the proscribed acts noted above; or (b) providing false information in connection with any inquiry regarding academic integrity.

### **Bribery**

Offering or giving any article of value or service to an instructor in an attempt to receive a grade or other benefits not legitimately earned or not available to other students in the class.

Academic dishonesty may result in penalties including, but not limited to, lower grades, failing grades, expulsion from the class or expulsion from the college.

\* Adapted from Canisius College's Code of Academic Integrity. Adapted and reprinted with the permission of Canisius College. Please note that MVCC complies with Federal regulations regarding nondiscrimination and equal opportunities for persons with disabilities. Portions of this policy will be waived to meet those regulations as stated in Section 504 of the Rehabilitation Act of 1973.

### **Computer Use Policy**

All Mohawk Valley Community College electronic communication systems, including but not limited to facsimiles, computers, network file servers, network or system peripherals, computer data and program files, e-mail and Internet accessibility, as well as software furnished to students are the property of Mohawk Valley Community College and are intended for academic use only. Access to the Internet and shared system resources is a privilege and not a right.

The following regulations shall apply to all Mohawk Valley Community College students regarding the use of the aforementioned systems:

- Mohawk Valley Community College prohibits the illegal duplication of software and documentation. Privately owned or non-standardized software may not be installed on any Mohawk Valley Community College computer or network without the approval of the Instructor and the Executive Director of Information Technology.
- Students are not permitted to use any code or password issued to another student or faculty member in order to

access, view, or retrieve information from any computer, network file server, network or system peripheral, e-mail account, Internet site, computer or program file, either inside or outside the College's network system.

- Students shall not gain access to any computer, network file server, network or system peripheral, e-mail account, Internet site, computer or program file, either inside or outside the College's network system without specific authority or rights to such access.
- Students shall have no expectation of privacy regarding computer files, e-mail or Internet usage. Mohawk Valley Community College reserves the right to monitor all computer files, e-mail and Internet use without prior notice to the student.
- Students shall not download, view, store or forward pornographic images or any other obscene or offensive materials.
- Mohawk Valley Community College prohibits the use of computers, e-mail, Internet access or any other electronic communication system in ways that are disruptive, offensive or harmful to others, i.e., sexually explicit messages, cartoons and jokes. This misuse shall also include, but is not limited to, ethnic slurs, racial comments, off-color jokes or anything which may be construed as harassment, disrespect of others or may lead to the creation of a hostile educational environment.
- Mohawk Valley Community College prohibits its students from using its electronic communications system for commercial gain or profit or as an advertising medium for any non-Mohawk Valley Community College interest.
- Mohawk Valley Community College does not provide a guarantee of any kind regarding system reliability.
- Mohawk Valley Community College does not provide a guarantee or warranty of any kind that any information obtained from its electronic communications system is correct and free of errors.
- Mohawk Valley Community College is not responsible for any personal damage as a result of loss of data, inaccuracy of data, delays in processing of data or non-delivery of data over its electronic communications system.
- Mohawk Valley Community College prohibits the use of its electronic communications system for any illegal activity.

### **Research Policy**

Any research proposal involving human subjects must be forwarded to the Office of Institutional Research and Analysis for review and approval by the Research Review Team.

### **Separation**

Every reasonable effort will be made by the college to provide appropriate courses for students including, if advisable, developmental courses. However, if a student is not profiting by his or her stay at college, or whenever the student's influence is considered by the college to be detrimental to its better interests or when a student is not deemed to be showing satisfactory aptitude for the field of study, the student may not be permitted to continue. All students admitted into the college are expected to conform to its rules and regulations. Failure to do so may result in dismissal. The college reserves the right to be the sole judge in such matters when it considers such action necessary.



## Standards

All students at MVCC are expected to make reasonable progress toward the completion of their degree or certificate. In order to support students in successfully reaching Mohawk Valley Community College's academic standards, the College will review students' academic progress regularly.

The student's academic standing\*\*\* is determined on the basis of the cumulative grade point average (GPA) and total number of hours\* according to the following table:

Total hours Attempted	Unsatisfactory Progress Cumulative GPA	Minimum Progress Cumulative GPA
0.50-12.00	0-1.49	1.50
12.5-36.00	0-1.64	1.65
36.5-48.00	0-1.79	1.80
48.5-60.00+	0-1.99	2.00

- 1) The first review will occur at the end of the matriculated student's first semester (fall, spring) or term (summer).
- 2) After the first review, the student's grade point average (GPA) will be reviewed each semester or term that the student is enrolled.
- 3) The student will be assigned one of the following academic standings after each review:
  - Good academic standing
  - Intervention
  - Probation
  - Dismissal
- 4) A student who does not meet the "Minimum Progress" cumulative grade point average (as indicated on the table above) will be placed on academic intervention\*\* for the next semester.
- 5) A student on academic intervention standing will be placed on academic probation\*\* by the College if she/he does not earn a minimum of 1.5 term grade point average for the intervention semester or term.
- 6) A student on academic probation will be academically dismissed\*\* by the College if she/he does not earn a minimum of 1.5 term grade point average for the probationary semester.
- 7) A student is not excused from academic intervention, probation or dismissal by changing the program of study.
- 8) A student placed on academic dismissal\*\* loses her/his matriculated status.
- 9) A dismissed student may not be re-matriculated for one academic semester (fall, spring). However, she/he may register as a non-matriculated student after dismissal for no more than two courses to a maximum of 9 hours. (Student is not eligible for Financial Aid.)
- 10) If a student is re-matriculated after an academic dismissal, she/he will be placed automatically on academic probation.\*\*
- 11) Action taken under the Standards of Academic Progress will be automatic unless the Vice President for Learning and Academic Affairs acts to make an exception based on the Academic Center's or Advisement Center's recommendation.
- 12) An Academic Appeals Committee will act on appeals from dismissed students.\*\*

\* Total hours include: credits and equivalent credit hours taken at Mohawk Valley Community College.

\*\* See Student Handbook.

\*\*\*Please note that academic standing is calculated differently than financial aid standards of academic progress.

## Religious Holidays

Mohawk Valley Community College complies with State regulations regarding religious holidays. State Education Law S224-a: Students unable because of religious beliefs to register or attend classes on certain days.

- 1) No person shall be expelled from or refused admission as a student to an institution of higher education for the reason that he or she is unable, because of his or her religious beliefs, to register or attend classes or participate in any examination, study or work requirement on a particular day or days.
- 2) Any student in an institution of higher education who is unable, because of his or her religious beliefs, to attend classes on a particular day or days shall, because of such absence on the particular day or days, be excused for any examination or any study or work requirements.
- 3) It shall be the responsibility of the faculty and of the administrative officials of each institution of higher education to make available to each student who is absent from school, because of his or her religious beliefs, an equivalent opportunity to register for classes or make up any examination, study or work requirements which he or she may have missed because of such absence on any particular day or days. No fees of any kind shall be charged by the institution for making available to the said student such equivalent opportunity.
- 4) If classes, examination, study, registration or work requirements are held on Friday after four o'clock post meridian or on Saturday, similar or makeup classes, examinations, study or work requirements or opportunity to register shall be made available on other days, where it is possible and practicable to do so. No special fees shall be charged to the student for these classes, examinations, study or work requirements or registration held on other days.
- 5) In effectuating the provisions of this section, it shall be the duty of the faculty and of the administrative officials of each institution of higher education to exercise the fullest measure of good faith. No adverse or prejudicial effects shall result to any student because of his or her availing himself or herself of the provisions of this section.
- 6) Any student, who is aggrieved by the alleged failure of any faculty or administrative officials to comply in good faith with the provisions of this section, shall be entitled to maintain an action or proceeding in the supreme court of the county in which the institution of higher education is located for the enforcement of his or her rights under this section.
  - 6a. It shall be the responsibility of the administrative officials of each institution of higher education to give written notice to students of their rights under this section, informing them that each student who is absent from school, because of his or her religious beliefs, must be given an equivalent opportunity to register for classes or make up any examination, study or work requirements which he or she may have missed because of such absence on any particular day or days. No fees of any kind shall be charged by the institution for making available to such student an equivalent opportunity.
- 7) As used in this section, the term "institution of higher education" shall mean any institution of higher education, recognized and approved by the Regents of the University of the State of New York, which provides a course of study leading to the granting of a post-secondary degree or diploma. Such term shall not include any institution which is operated, supervised or controlled by a church or by religious or denominational organization whose educational programs are principally designed for the purpose of training ministers or other religious functionaries or for the purpose of propagating religious doctrines. As used in this section, the



term "religious belief" shall mean beliefs associated with any corporation organized and operated exclusively for religious purposes, which is not disqualified for tax exemption under section 501 of the United States Code.

## Terminology to be Familiar With

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### Full-Time Registered Student

One registered for 12 or more credit or equivalent hours in any semester.

### Adding a Course Once the Semester Begins

Students requesting permission to enroll in courses after the first week of classes must use the Late Enrollment Request Form. Enrollment in courses during the second week of classes requires course instructor permission. Enrollment in courses after the second week of classes requires permission of both the course instructor and the appropriate academic dean.

### Dropping a Course Once the Semester Begins

Students can drop a course any time during the refund period assigned for the course. No grades are assigned to courses dropped during these times. See Academic Calendar established by the Office of Records and Registration.

### Late Registration

Mohawk Valley Community College is committed to the success of each student. All students (new and continuing/returning) are required to schedule and complete payment for all courses before the semester officially opens.

### Part-Time Registered Student

One registered for fewer than 12 credit or equivalent hours in any semester.

### Payment

The process by which a student settles their financial obligation to the College.

### Registration

Registration dates are published each semester by the Office of Records & Registration. A late registration fee is charged to students registering after the publicized registration period each semester. All financial obligations must be satisfied by the student before he or she may register for a succeeding semester. Registration is not complete until a valid Certificate of Residence is on file and all tuition and fees for the semester are paid and validated. Currently enrolled matriculated students can pre-schedule for classes using a Priority Registration system. Students are assigned their date and time based on the number of credit hours earned at MVCC. Students are notified through their Mohawk Valley Community College student e-mail account as to their personal time and date to schedule. During Web pre-scheduling, students have an option to place themselves on a wait list for a particular section through the SIRS system.

### Release of Student Information

In releasing information about students, Mohawk Valley Community College follows the provisions of the Family Educational Rights and Privacy Act. A complete statement of the college's policy is contained in the Student Handbook or on [www.mvcc.edu](http://www.mvcc.edu).

### Schedule Cancellation

The process of deleting students' schedules from the database. Students who have not made payment by the due date have their class schedules cancelled. Classes are available on a space-available basis. The College reserves the right to close, cancel or split classes as appropriate. Instructor assignments listed in the class schedule are subject to change.

### Scheduling

The process by which courses are entered into the database under the student identification number.

### Section Cancellation Policy

The College makes every effort to run sections as scheduled. However, there is the possibility that a class section may be cancelled up through the first meeting time at the College's discretion.

### Student Information & Registration System (SIRS)

Mohawk Valley Community College uses a Web-based Student Information & Registration System (SIRS). The system is available to all students and is accessible through the College's website, [www.mvcc.edu](http://www.mvcc.edu). With a College-issued Personal Identification Number (PIN) students can choose from four options to manage their information: Personal Information, Academic Records, Registration, and Financial Aid. Personal Information - Students can revise their PINs, mail and telephone information, e-mail address, and emergency contact information. Academic Records - Students can view or print out an unofficial academic transcript, view midterm or final grades, view holds, and check degree progress. Registration - Students can Add/Drop classes (during limited time periods), find their priority date and time for pre-scheduling, view or print class schedules, view or print account summaries, and contact the Office of Records & Registration or the Advisement Center. Financial Aid - Students can read messages, check financial aid eligibility, check award information, or contact the Financial Aid Office.

All enrolled students are also given a Blackboard account. Blackboard is a course management software system that allows students and faculty to access course content and interact in a secure online environment asynchronously. Students will need to access Blackboard in order to complete the tutorial portion of the Diversity and Global View requirement. Please see page 17 for more information.

### Transcript Request

Official transcripts are produced on security paper and sent by standard U.S. mail in a sealed envelope. The envelope is stamped "Official Transcript Enclosed" and sealed with a multicolored signature. In addition, when the transcript is issued to the student, the transcript is stamped "Issued to Student." Once the envelope is opened, the transcript is no longer considered official. MVCC will issue one official transcript per student at no charge. Each additional transcript is \$10.00. Transcripts may be faxed at a cost of \$15.00, but faxed transcripts are generally not considered official.

Mohawk Valley Community College has retained Credentials Inc. to accept transcript orders over the Internet.

Please go to [www.mvcc.edu/registrar/transcripts](http://www.mvcc.edu/registrar/transcripts) to get the link to request, or you can type the following url in to get directly into the site. Visit [www.credentials-inc.com/tplus/?ALUMTRO002871](http://www.credentials-inc.com/tplus/?ALUMTRO002871) to enter your order. If you are uncomfortable placing an order over the Internet, you can call Credentials Inc. at 847-716-3005 to place your transcript request. There is an additional operator surcharge for placing orders over the telephone. Financial obligations must be met prior to the release of an official transcript.

## Wait List

When a course section is filled to capacity, a student may put her/his name on a Wait List. If a seat opens in that section, the student is assigned to that section and notified through MVCC student email.

## Withdrawal from the College

Students who feel that it is necessary to withdraw from the college must notify the Counseling Office. An exit interview is required in order to constitute official withdrawal. Grades will then be assigned for official withdrawals from the college on the same basis as for official withdrawal from a course.

## Withdrawal from a Course

Students who officially withdraw from a course after the third week of classes (for 15-week courses), but prior to the deadline established by the Office of Records & Registration (OR&R) will be assigned a grade of W. In order to officially withdraw, a student must submit a Drop Form to the OR&R. Withdrawal deadlines for courses of length other than 15 weeks will be prorated. See the academic calendar dates posted by the Office of Records & Registration at [www.mvcc.edu](http://www.mvcc.edu). Students who do not officially withdraw from a course are not eligible for a grade of W. Such students will be graded by the instructor on the basis of the student's fulfillment of course requirements. In special circumstances (discipline, illness, etc.) the above may be waived by the Vice President for Learning and Academic Affairs. Academic and Financial Aid advice is strongly suggested prior to withdrawal from a course.

## Costs

These figures are accurate as of May 1, 2013 and may have changed since that date.

### Full-Time Expenses

Full-time tuition is \$3,580 per year for New York State residents with a valid certificate of residence, at the rate of \$1,790 for each regular semester. Tuition rates are subject to final approval by the State University of New York. Annual tuition for out-of-state residents, and students unable to provide a valid certificate of residence from their home county, is \$7,160.

### Expenses for Part-Time Study

Tuition is \$130 per credit hour or equivalent, as of this printing, for students who have a current Certificate of Residence on file with the Business Office. New York State residents who do not present a Certificate of Residence from their own county will be charged \$260 per credit hour.

### Part-time students pay an activity fee of \$7 per credit hour.

### County Certificate of Residence

To qualify for New York State residency and the in-state tuition rate, a student must be permanently domiciled in New York State for a minimum of 12 months, in accordance with New York State Education law, Section 6305 and permanently domiciled in their home county for a period of six (6) months prior to start of classes.

### Instructions for students to complete the Certificate of Residence requirement:

Full-time students: (12 credit hours or more)

Oneida County residents only — Certificate of Residence is NOT required if the student is a permanently domiciled legal resident of Oneida County for a minimum of 6 months AND New York State for 12 months prior to the start of classes. MVCC may request documentation before granting New York State and/or Oneida County residency.

New York State residents from outside of Oneida County  
Students are required to provide a Certificate of Residence (form SUNY B-81) ANNUALLY from their home county Treasurer's office prior to the start of classes, but not earlier than 60 days preceding

the start of classes, to avoid double tuition charges. Applications for Certificate of Residence can be downloaded from the college website at [www.mvcc.edu](http://www.mvcc.edu) to complete and bring to your home county Treasurer's office.

### Part-time students: (under 12 credit hours)

Oneida County residents only — Not required as noted above.  
Herkimer & Lewis County residents only—Each semester, part-time students must complete a short AFFIRMATION/APPLICATION FOR CERTIFICATE OF RESIDENCE FORM attached to the student Class Selection Form or similar form contained in the MVCC Semester Credit Course booklet. This form can be downloaded from the [www.mvcc.edu](http://www.mvcc.edu) to complete and submit to the Business Office.

### Students living in Multiple Counties:

In the event that a student qualified for New York State residency, but has been a resident of two or more counties in the state during the six months immediately preceding his/her application for a Certificate of Residence pursuant to Education Law, Section 6305, the student will be required to submit a SUNY B-81 Form from each of the two or more counties to the MVCC Business Office in accordance with the above instructions.

### Living Expenses

Estimates of room and board costs are listed below for the purpose of general financial planning. More detailed information will be provided to students requesting on-campus housing.

### All costs are per semester

#### 2012-2013 Room Costs:

Regular Double	\$2,750
Compact Double	\$2,500
Triple Room	\$2,300
Suite Double	\$3,050
Suite Single	\$3,450

Room cost includes all utilities, cable, TV, High-Speed Internet and Telephone Service.

### Meal Plan: Four Available (\$1,550-\$1,925)

### Social Fee: \$25

### Residence Hall Orientation: \$45

A security/damage deposit of \$100 must be paid to reserve a room. This will be refunded if the reservation is canceled by May 1.

### MasterCard/VISA/Discover

The college will accept Discover MasterCard, and VISA. However, students under 21 years of age must also present a signed statement from their parents authorizing the use of the parents' Discover, MasterCard or VISA.

### Other Payment Options

**Payment Plan** - MVCC offers a convenient budget plan, called E-Cashier, for students who do not receive financial aid or for whom financial aid is insufficient to cover their tuition and fees. This plan allows students to pay their tuition charges in monthly installments. The plan is available for the Fall and Spring Semesters only. Payments are due on the 5th of each month and there is a \$25 nonrefundable enrollment fee due with the initial payment. Enrollment information is available in the Business Office or at [www.mvcc.edu](http://www.mvcc.edu).

**Employer Deferral** - This plan is available to students whose employer will reimburse them after successful completion of their course(s). Students must remit payment within 45 days after the semester ends. It is the student's responsibility to secure reimbursement from their employer. Promissory notes for deferral are available in the Business Office.

# How to Apply for Financial Aid

## Step 1: Obtain a PIN before Completing a FAFSA (Free Application for Federal Student Aid)

If you do not already have a PIN, apply for one at [www.pin.ed.gov](http://www.pin.ed.gov). This will be your electronic signature for your FAFSA and student loans. It will also allow you to check the status of your FAFSA, and to make any necessary changes electronically. If a parent is required to provide information on the FAFSA, then they should also apply for a PIN.

When you apply for a PIN electronically, you will be given the opportunity to choose your own four-digit PIN; if you do so, it will be activated immediately, and you can use it to sign your FAFSA. If you do not choose your own PIN at this time, it will be mailed to you within 1-5 days. Your PIN is confidential and should not be shared. It does not expire.

## Step 2: Completing the FAFSA (Free Application for Federal Student Aid)

There is a worksheet available at [www.fafsa.gov](http://www.fafsa.gov) which many applicants find helpful to complete before actually completing the FAFSA online.

There is no fee to complete the FAFSA; if you are on a site that states a charge for completion, it is not the official Department of Education website ([www.fafsa.gov](http://www.fafsa.gov)). When you go to the website select "Start Here" and follow the instructions. Be sure you apply for the correct academic year. The Mohawk Valley Community College federal school code is 002871.

If you do not sign electronically with you PIN, print out the signature page, sign (parent signature if needed) and mail. Your application cannot be processed by the Department of Education until the signature is obtained (either electronically, or through the mail). If the signature page is mailed, it will delay the processing time.

When you have completed the application, please review it carefully, make any necessary changes if needed. When you are ready, click "Submit My FAFSA Now" on the last page. Once you have submitted your application, you will be taken to a Confirmation Page that shows your Confirmation number, and the Estimated Family Contribution (EFC). You should print a copy of this page for your records.

**Please note: the FAFSA must be filed for each academic year; for Financial Aid purposes the academic year begins with the summer semester, and ends after the following Spring semester.**

## Step 3: After the FAFSA is Submitted

You will receive an electronic student aid report (SAR) in approximately five (5) days if you provide an e-mail address on your FAFSA. If you do not list an e-mail address, the SAR will be mailed to you within approximately two (2) weeks of filing the FAFSA. The colleges listed on your FAFSA will receive your information at this time also.

## Step 4: New York State TAP Grant

A full-time student (minimum of 12 credit hours), who is a resident of New York State, may be eligible for the Tuition Assistance Program (TAP) through the New York State Higher Education Services Corporation (HESC). When the FAFSA has been completed, students can link to the Tap on the Web form from the Confirmation page. The form will be pre-filled with the FAFSA data that was provided by the student. If Tap on the Web is not completed at this time, the student will be sent a notice from HESC with instructions how to establish a HESC PIN and how to complete the online application. The MVCC NYS school code is 2105.

The HESC website is [www.hesc.com](http://www.hesc.com), and the telephone number to reach them is 1.888.697.4372.

Students with less than 12 hours, but at least six (6) credit hours may be eligible for a part-time TAP award. The Aid for Part-Time Study application is available on the MVCC website, and must be completed by the first day of classes.

## Step 5: Financial Aid Award Letter

When the college has received and reviewed the electronic information, as well as any requested documents, an award letter will be sent. This will indicate any estimated eligibility for financial aid funds. Financial aid awards are based on full-time enrollment status and will be adjusted at the time of payment according to the number of credit hours the student is attending.

## Step 6: Extenuating Circumstances

The FAFSA uses the prior year family income to determine eligibility. If a family has experienced circumstances beyond their control - loss of employment, significant decrease in income, death in family, separation/divorce, etc. - it may be possible for the Financial Aid office to make adjustments.

The MVCC Special Condition form can be found on the MVCC website, and is available in the office. It should be completed as thoroughly as possible with any supporting documentation attached.

## FEDERAL PROGRAMS

**Federal PELL Grant:** This is a grant program which does not need to be paid back. Students must be matriculated in a degree or certificate program to be eligible, and must not have received a Bachelor's Degree, or be in default of a student loan. The awards are need based, that is, based on family income, assets, number in household, cost of education, etc.

**Federal Supplemental Education Opportunity Grant (SEOG):** FSEOG are grants that do not have to be repaid; they are based on need as defined by the Department of Education (see above). The student must be PELL eligible to qualify. Funding is limited and priority is given to early applicants.

**Federal William D. Ford Direct Subsidized/Unsubsidized Stafford Loans: Subsidized Loans:** The current rate on subsidized loans is 4.5 percent fixed; no interest is charged on the loan while the student is in school, or during the grace period, however, to qualify for the subsidized loan there must be a financial need as outlined above. There are no payments due while the student is in school at least half time. There is a grace period before repayment begins of six (6) months after completing a degree or certificate program, or after the student has fallen below half time.

**Unsubsidized Loans:** The current rate on unsubsidized loans is 6.8 percent fixed; interest is charged while the student is in school and during the grace period when the student has completed school.

**PLUS (Parent) Loans:** The current interest rate is 7.9 percent fixed; payments on the loan may be deferred while the student is in school, however, interest accrues beginning with the disbursement of the loan. PLUS loans are credit based. The loan cannot exceed the cost of attendance, and takes into account any other financial aid resources the student may have.

**Loan Limits:** Dependent Students for first-year students: annual combined subsidized and/or unsubsidized loan of \$3,500, plus an additional \$2,000 unsubsidized. Total available: \$5,500.

**Dependent Students for second-year students (30 cumulative hours):** annual combined subsidized and/or unsubsidized loan of \$4,500, plus an additional \$2,000 unsubsidized. Total available: \$6,500.

**Independent Students (per Federal criteria): first-year students:** annual combined subsidized and/or unsubsidized loan of \$3,500, plus an additional \$6,000 unsubsidized. Total available: \$9,500.

**Independent Students (per Federal criteria):** Second-year students (30 cumulative hours): annual combined subsidized and/or unsubsidized loan of \$4,500, plus an additional \$6,000 unsubsidized. Total available: \$10,500.

**Total Combined Loan Limits:**

Dependent Undergraduate Students: Subsidized Loans: \$23,000  
Total Subsidized & Unsubsidized: \$31,000  
For additional information on Federal Student Loans, including current interest rates, log on to [www.dl.ed.gov](http://www.dl.ed.gov).

**Independent Undergraduate Students: Subsidized Loans:** \$23,000  
Total Subsidized & Unsubsidized: \$57,500

**Interest Rates on Student Loans**

Stafford Unsubsidized student loans have a fixed rate of 6.8 percent; Parent Plus loan rates are currently fixed at 7.9 percent. For additional information on any Federal Direct Loans, log on to [www.dl.ed.gov](http://www.dl.ed.gov).

**Perkins Loans:** Federal Perkins Loans are available to students as funds allow. Unlike other Federal Loan programs, funds may be limited. Students are encouraged to file FAFSA's early if they wish to be considered.

The loan has a fixed rate of 5 percent, and the student must have a financial need as determined by the Department of Education. There is a nine (9) month grace period for the Perkins loan.

**PLEASE NOTE:** The Federal Government sets the eligibility amount for student loans. The student cannot exceed the cost of attendance at MVCC with the combination of grants, loans, and other resources. Students must be in good academic standing to receive a student loan.

**Loan Contact Information**

General Information  
1.800.4.FED.AID  
[www.studentaid.ed.gov](http://www.studentaid.ed.gov)

**Information on Repaying Your Loan**

Borrower Services  
Direct Loan Servicing Center  
1.800.848.0979  
<http://www.dl.ed.gov>

**Direct Loan Consolidation Center**

1.800.557.7392  
[www.loanconsolidation.ed.gov](http://www.loanconsolidation.ed.gov)

**Applying For a Student Loan**

Complete the FAFSA online.  
Submit all requested documents to the financial aid office.  
Accept the loans online through SIRS.  
Complete online entrance counseling.  
Complete the online Master Promissory Note (MPN)

Parent PLUS loan applications can be found at <http://www.mvcc.edu> or obtained at the financial aid office. Students are urged to consider loans carefully, and not borrow more than is needed.

**Completing the Master Promissory Note (MPN)**

MVCC cannot disburse a student loan until this entire process has been completed. All borrowers are required to electronically sign the MPN. By signing, the student is agreeing to pay back any loan funds received for educational expenses. You will complete the

MPN only once while a student at MVCC; it will be used for any additional borrowing while you are student here.

The MPN can be accessed at <http://www.dlenote.ed.gov>, click on Complete New MPN for Student Loans, select the Subsidized/ Unsubsidized option, and click on Proceed to MPN login. Students will need their four-digit federal PIN to sign electronically, this is the same PIN used to sign the FAFSA electronically. If the PIN is not remembered, go to [www.pin.ed.gov](http://www.pin.ed.gov) and request a duplicate PIN.

Completing the MPN takes approximately 30 minutes. All nine (9) steps must be completed and a confirmation page received. Once the session is completed, an electronic confirmation will be sent to MVCC; this may take up to four (4) days.

**Entrance Counseling**

Before receiving a student loan for the first time, borrowers must complete an online Entrance Counseling Session. This session provides useful tips and tools regarding loan responsibilities, interest rates, and payment options. Students can access the session at [www.dl.ed.gov](http://www.dl.ed.gov), click on Entrance & Exit Counseling, and complete the Stafford Loan Tutorial & Quiz.

The session takes approximately 20-30 minutes; the session must be completed, and a confirmation message received. Unless the session has been completed, the electronic confirmation will not be sent to MVCC. As this is a federal requirement, the loan cannot be paid without this confirmation.

**Exit Counseling**

When you have completed your studies, you will be required to receive exit counseling. This will give you an overview of your rights and responsibilities as a borrower, as well as information regarding payment options. After leaving school (or studying less than half time), you will be notified by the loan servicer that holds the loans. The notification will include payment options, where to send payments, and contact information.

**NEW YORK STATE PROGRAMS**

**NYS Tuition Assistance Program (TAP):** The NYS Tuition Assistance Program (TAP) grant is available to NYS residents enrolled full time in a degree/certificate program of study. As a grant, it does not have to be repaid. The amount of TAP is based on the NYS budget guidelines, the tuition charges of the school, and the documented net taxable income. Information provided on the FAFSA, along with income tax information is used to calculate the award. After the calculation is made by NYS Higher Education Services Corporation (HESC), the schools responsibility is to verify the following:

- Full-time enrollment status of 12 hours or more.
- Matriculation into an approved program.
- Student is meeting of the State Standards of Progress.

After filing the FAFSA, complete the TAP application through the link to the HESC website; paper applications will no longer be mailed. If you do not complete the TAP application online, you will be sent a reminder postcard from HESC with instructions. The HESC website is [www.hesc.com](http://www.hesc.com), and the telephone number to reach them is 1.888.697.4372.

**Please review the following items regarding TAP payments:**

- Notification of an award amount from HESC does not automatically mean you will receive the grant; the school must certify your eligibility for the award.
- To be eligible for the payment of the award, you must be in attendance of all classes, in other words, if you have one late starting class, the award cannot be paid until the class has started.



- If you have late start classes, at least one three-credit hour class must be a full-term (15-week) class.
- Tap awards are limited to eight (8) semesters of study. Six (6) of these semesters can be used at a two-year college such as MVCC. If you are planning to continue your education at a four-year institution, plan carefully so you do not exhaust your TAP eligibility. Check with the Financial Aid Office for additional information.

**Part Time TAP:** A part-time TAP award may be available if you have a documented disability. The Financial Aid Office, as well as the Office for Students with Disabilities can provide additional information.

**Aid for Part-Time Study:** This award is available if you are taking less than 12 credit hours, but at least six credit hours in a semester. You must be matriculated in a degree or certificate program, be a NYS resident, have tuition of at least \$100 per year, and be in good academic standing.

Applications are available online, or in the Financial Aid Office, and must be submitted no later than the first day of class; a copy of your NYS Tax Return must accompany the application. MVCC will determine your eligibility based on mid-term grades. Individual awards are based on the amount of funding available to the school, and the number of applicants eligible.

#### Other NYS Programs:

- Vietnam Veterans Tuition Awards (VVTA)
- Persian Gulf veterans Tuition Awards
- Regents Awards for children of deceased, or disabled veterans
- Regents Awards for children of deceased police officers, and firefighters
- SUNY World Trade Center Memorial Scholarship

For additional information please contact NYS Higher Education Services Corporation (HESC) at 1.888.697.4372, or visit their website at [www.hesc.com](http://www.hesc.com).

Standards of Academic Progress apply to all NYS awards. Funding is also available through the NYS Office of Vocational and Educational Services for Individuals with Disabilities (VESID). For additional information please contact the office for Services to Students with Disabilities at MVCC.

**Repeated Courses:** If a course is repeated in which the grade was acceptable to the degree or certificate program, it cannot be used as a part of your full-time status to determine TAP eligibility for the semester. In other words: if you have a total of 12 credit hours for a semester, and three (3) of the hours are a class being repeated to achieve a higher grade, that class cannot be used in determining full-time status for a TAP award. If the class being repeated was an F, or your program of study requires a grade higher than a D, it can be counted.

Academic departments reserve the right to determine if course content is no longer current, thereby making it necessary for the student to repeat the course so it will be relevant to their degree or certificate program. The student, however, must meet all other eligibility criteria.

#### Audits

Audited courses cannot be counted as part of a student's full or part-time enrollment status for financial aid.

#### Standards of academic progress for financial aid

**Federal:** Students are responsible to maintain eligibility for Financial Aid funding. If a student is having academic difficulties, there are alternatives: ask instructors for help, contact the learning center for

information on tutors, talk to an academic advisor. Federal requirements for financial aid requires colleges to look at three areas to determine if a student can continue to receive financial aid, including Subsidized and Unsubsidized Direct Stafford student loans, Perkins loans and grants (Pell, SEOG Work Study). The three areas are:

- The Qualitative Standard: this is the Grade Point Average (GPA) which is determined at the end of each semester.
- The Quantitative Standard (Pursuit of Program): students must be earning passing grades toward their degree or certificate according to the attached chart.
- Maximum Time Frame: in order to retain eligibility for federal financial aid, students must complete their programs of study within a maximum time frame of 150 percent of the length of the program.

**Please note:** the Total Credits Attempted include all courses including failures and withdrawals. The GPA is calculated according to the College's published academic policies. All transfer hours accepted at MVCC are also included in calculations.

If you are not meeting the guidelines the following will occur:

#### 1. Financial Aid Warning: (No Appeal Required)

- a. If you have attempted 15 credit hours or less, (per your MVCC transcript), and have not met the standards of academic progress, you will be placed on Financial Aid Warning for the following semester. If you receive notification from the Financial Aid Office that you are on financial aid warning, federal aid will automatically be reinstated, and you do not need to file a financial aid appeal.
- b. If you are a student that has not attended MVCC for two (2) years, and did not meet the standards of academic progress when you last attended, you are automatically placed on financial aid warning.

#### 2. Financial Aid Probation (Approved Appeal Required)

- a. If you have attempted a total of 16 hours or more, (per your MVCC transcript), and do not meet the standards of academic progress, you will be placed on financial aid probation. If you receive notification from the financial aid office that you are on financial aid probation, you must file an appeal requesting that federal financial aid be reinstated for the probationary semester. The appeal must include the circumstances that prevented you from succeeding, the semester in which this occurred, and what has changed. The College reserves the right to request an academic plan for students on probation who are requesting an appeal, or to limit the number of credit hours while on probation. Please note: approvals are not guaranteed.

#### Requesting a Federal Financial Aid Appeal:

Financial aid appeals can be considered when a student does not succeed because of extenuating circumstances that caused an extended and prolonged disruption to the semester:

- The death of a relative of the student.
- An injury or illness of the student or close family member.
- Other special circumstances out of the students control.

The financial aid office may ask for documentation, however, appeals will not be automatically approved. Lack of written documentation reduces the chance that the appeal will be granted, however, the appeal may be submitted without documentation.

If a student continues to make progress, but still does not meet the standards of progress, additional waivers will be considered, as long as all courses have received passing grades.

#### Maximum Timeframe:

- Associate Degree students will be eligible to receive Federal aid through the semester in which they attempt their 99th credit hour as long as academic progress has been consistent.

- Certificate program students will be eligible to receive federal aid through the semester in which they attempt credit hours equal to 150 percent of the length of the program.

Students that exceed the maximum timeframe as stated above and on the progress chart are no longer eligible to receive federal financial aid funds (loans or grants) and cannot be appealed unless there are mitigating circumstances. Situations that would be considered include:

- Students in programs that require prerequisites and generally take longer than most programs.
- Students who return after not having attended for two (2) or more years.
- Students in a dual degree program who can demonstrate they will complete both degrees within two (2) semesters, as evidenced by the student's advisor.
- Students who can demonstrate the degree will be completed in the following semester and must be verified by the individual student's advisor.

**Please note:** the above circumstances do not guarantee the approval of an appeal.

**Procedure for Filing a Federal Financial Aid Appeal:**

You will be notified by MVCC if you have lost eligibility for federal financial aid via your college e-mail; the status can also be viewed through your SIRS account. This will occur after grades have been processed by the Office of the Registrar. The notice you receive will contain a due date for the appeal to be filed, appeals after that date will not be considered.

As much information and support documentation should be submitted with the appeal; decisions will be available for viewing on SIRS within approximately 72 hours of submission of the request, and all supporting documentation.

**Standards of academic progress for financial aid:**

**State:** New York State aid includes the Tuition Assistance Program (TAP), Aid for Part Time Studies (APTS) and Veterans Assistance Programs (VVTA). With all programs, standards of academic progress apply, however, be aware that they differ from the Federal standards.

If you have attempted this many credit/remedial hours	You must have passed this many credit/remedial hours	And achieved a cumulative GPA of not less than
3	0	.00
6	3	1.50
12	6	1.50
18	10	1.65
24	14	1.65
30	18	1.65
36	25	1.65
42	29	1.80
48	33	1.80
54	37	2.00
60	42	2.00
66	46	2.00
72	50	2.00
78	54	2.00
84	58	2.00
90	63	2.22
96	67	2.00
99	69	2.00

Additional differences are as follows:

- A total of eight (8) semesters of TAP is available for undergraduate studies; six (6) of those semesters can be used at a two-year college; if the six (6) semesters have been used, there is no appeal available to regain eligibility.
- Only one (1) appeal is allowed for NYS aid.

<b>Standards prior to 2010-2011</b>						
<b>Associate Program – this standard applies to students whose first payment of a TAP award was prior to the 2010 – 2011 financial aid year. ( OLD STANDARDS Prior to 2010-2011 )</b>						
<b>Before Being Certified for This Payment</b>	<b>1st</b>	<b>2nd</b>	<b>3rd</b>	<b>4th</b>	<b>5th</b>	<b>6th</b>
A Student Must Have Accrued at Least This Many Credits	00	03	09	18	30	45
With at Least This Cumulative Grade Point Average	.00	.50	.75	1.3	2.0	2.0
And Must Have Finished This Many Semester's Credits	0.0	6.0	6.0	9.0	9.0	12
<b>Standards beginning 2010-2011</b>						
<b>Associate Program – this standard applies to students whose first payment of a TAP award began in the 2010 – 2011 financial aid year. ( NEW STANDARDS beginning 2010-2011 )</b>						
<b>Before Being Certified for This Payment</b>	<b>1st</b>	<b>2nd</b>	<b>3rd</b>	<b>4th</b>	<b>5th</b>	<b>6th</b>
A Student Must Have Accrued at Least This Many Credits	00	06	15	27	39	51
With at Least This Cumulative Grade Point Average	.00	1.3	1.5	1.8	2.0	2.0
And Must Have Finished This Many Semester's Credits	0.0	6.0	6.0	9.0	9.0	12



# MOHAWK VALLEY COMMUNITY COLLEGE

## TUITION AND FEES

### Approximate Costs Per Semester (as of May 19, 2014)

#### For Full-Time Students - Subject to Change

(Does not include room, board, travel or personal expenses)

Tuition (full-time, NY residents - per semester)	\$1,905
Tuition (out-of-state, students with no certificate of residence)	\$3,810
Books, Supplies & Equipment	\$200-\$325
Student Activity fee (full-time, required)	\$130
Student Activity fee (part-time, required)	\$10

#### Administrative

Credit By Examination/Life Experience	
Per Credit Hour	\$103
Delayed Payment Fee (full-time)	\$20
Delayed Payment Fee (part-time)	\$5
Replacement Diploma Fee	\$25
Late Registration (full-time)	\$20
Per Course (part-time)	\$5
Parking Fines – First Violation	\$5.00 to \$50
Parking Fine – Handicapped Areas	\$50
Protested/Returned Checks	\$25
Payment Plan Fee (per semester)	\$25
Student Support Fee (part-time/full-time)	\$12/\$24
Transcript Fee	First Copy FREE
Others Paid in Advance	\$10
Fax	\$15

#### Instructional

Technology Fee	
Full-Time	\$140/semester
Part-Time	\$44/semester
AP Nursing Proficiency Exam	\$50
Airframe & Powerplant Lab (3 terms)	\$1,500 per term
Airframe & Powerplant Part-Time (up to 11 credit hours)	\$125
Air Frame & Powerplant Student Badge Fee	\$65
Air Frame & Powerplant FAA Makeup Fee	\$30.00 per hour
NCLEX Prep & Curriculum Support 1st Year	\$498
NCLEX Prep & Curriculum Support 2nd Year	\$468
National Student Nurses Association Membership	
1st year students only	\$70
Nursing Name/ID Badge	\$6
101 Nursing Lab Fee	\$125
102 Nursing Lab Fee	\$100
103 Nursing Lab Fee	\$100
201 Nursing Lab Fee	\$125
202 Nursing Lab Fee	\$125

#### Library Fees

Periodical Damage Fee –	Per Issue \$10
Mutilated Book Fee	\$10 (Plus Replacement Cost)
Lost Books	\$10 (Plus Replacement Cost)
Late Fee for Library Reserve Material	\$1/Day

### Professional Liability Insurance (Per Semester)

Nursing, Respiratory Care, Health Information Technology, Medical Assistants, Phlebotomy, EKG, Home Health Aide, Human Services Intern, Medical Coding Certificate, Medical Claims Management Certificate, Medical Laboratory Assistant Certificate, Medical Transcript Certificate, Health Unit Coordinator Certificate, Recreation & Leisure Services, Sports Medicine	\$12.50
Respiratory Lab Fee	\$50
Respiratory Clinical Practicum	\$295
Ropes Facility User Fee	\$10
Science Lab Fee	\$25 per person (\$50 cap)
Studio Lab Supply Fee	\$20-\$60
Study Abroad Fee	\$1,500-\$5,000
Field Geology Fee	\$300 to \$2,000
Web-based course Fee	\$13/credit hour
Welding Fee	\$35/Course, \$100 Maximum/Semester

### Student Services

Child Care Registration Fee	\$35
Full Day	\$33
Half Day	\$20
Toddler Room - Full Day	\$35
Toddler Room - Half Day	\$22
ID Card Replacement	\$5
ID Proximity Card Replacement	\$10
Student Accident Insurance – Full-Time (Per Semester/Mandatory)	\$8.50
Allied Health Student Insurance - Part Time (Per Semester/Mandatory)	\$8.50
International Student Health Insurance (annual)	\$1,263.24
International Student Health Insurance (annual-Fall only/Mandatory)	\$526.35
International Student Health Insurance (Spring/Summer/Mandatory)	\$736.89
International Student Health Insurance (Summer/Mandatory)	\$315.82

### Part-Time Students Only

Tuition (NYS residents with Certificate of Residence) is	\$155/credit hour
Tuition (non-Oneida County residents without Certificate of Residence)	\$310/credit hour
Student Activity fee (required)	\$10 credit hour

All financial obligations must be satisfied before students may register for a succeeding term. In addition, transcripts and diplomas will be withheld until all financial obligations are met, including all fees enumerated above, and those associated with on-campus housing/meals. Students who incur a debt to the school will be responsible for all fees associated with the collection of that debt, including collections costs which will be a minimum of 33.5 percent of the debt plus attorney and court costs. Students have one year from end of any semester in which to appeal charges for tuition and fees. All fees are non-refundable once classes begin.

## MVCC Scholarships

The MVCC Foundation awards more than \$280,000 annually in scholarships to more than 350 MVCC students. Awards range in size from \$100 to full tuition. All may be used for tuition. Many may be used for books, fees and other purposes. Each of the more than 90 scholarship funds has unique eligibility criteria, and nearly every student will find one or more scholarships for which they qualify! Scholarships are available to incoming freshmen, second-year students and part-time students.

Students graduating in the top 10 percent of Oneida County high school classes qualify for the full-tuition, less aid, Presidential Scholarship. Students graduating in the top 10 percent of high school classes outside of Oneida County may qualify for the Exceptional Student Scholarship, less aid. Several other scholarships offer full-tuition, less aid, and many others offer awards of \$1,000 or more. All prospective students are encouraged to inquire further.

For more information, contact the Office of Institutional Advancement at 315.792.5555.

## Refunds

Registered part-time students who withdraw from one or more courses during the refund period may be granted a partial refund. Full-time students who drop below 12 credit hours or the equivalent during the refund period are eligible for a refund only if they have their registration changed to part-time status at that time. The official date of withdrawal from the college is the date the Counseling Office receives notification from the student. The official date of withdrawal from a course is the date the change of student class schedule form (drop/add) is received by the Office of Records & Registration. See chart titled MVCC Refund Policies for details.

## Refund of Residence Hall Payments

The residence Hall Room and Board Agreement is financially binding for the full academic year, or in the event of mid-year admission, the remaining portion thereof. All Residence Hall related costs will appear on the College bill and are due by the official payment date prior to each semester. Residence Hall Room and Fee Reductions are limited to the first three weeks of a student's first semester of occupancy, unless the student is granted a Room and Board Agreement Release. Meal Plan fee reduction will equal the number of full days left in the semester, less a \$20 service charge for processing the meal plan cancellation.

## Corporate and Community Education

The Center for Corporate and Community Education (CCED) at MVCC is the Mohawk Valley's first choice for education, personal enrichment, and professional development. We are committed to providing the programs and services you need to help you grow as an individual, an employee, an entrepreneur, employer, or valuable member of our community. Whether you are looking to expand upon a current expertise or change your career entirely, you will find the services and support you need at CCED. Programs are available on our Utica and Rome campuses, at client training sites, and online for busy adults seeking flexible learning options.

## Contract Training and Workforce Development

- Customized Training designed to meet the needs of companies throughout the Mohawk Valley
- Vocational and Technical education programs such as: Welding, CNC, Machining, HVAC, Carpentry/Masonry, Advanced Manufacturing, Electronics, Surveying
- Certification and retraining courses in Insurance, Real Estate, Security Guard, Infection Control, and Certified Nursing Assistant (CNA)

## Tuition & Fee Refund Policies

### Refund Percentage Withdrawal Date (Last Day of Attendance)

#### Prior to start of classes

9-15 Week Term - 100% 8 Week or Less Term - 100%

#### During the first calendar week of classes

9-15 Week Term - 75% 8 Week or Less Term - 25%

#### During the second calendar week of classes

9-15 Week Term - 50% 8 Week or Less Term - 0%

#### During the third calendar week of classes

9-15 Week Term - 25% 8 Week or Less Term - 0%

#### After the third calendar week of classes

9-15 Week Term - 0% 8 Week or Less Term - 0%

### All Students Receiving Title IV Federal Financial Aid

Per Section 484B of the Higher Education Act, there is no longer a separate Federal Refund Policy of Tuition and Fees for students receiving Title IV Federal Financial Aid.

Title IV Federal Financial Aid includes Pell Grants, Supplemental Educational Opportunity Grants, Perkins Loans and Direct Loans.

Effective with the Fall 2000 semester, all Title IV Aid is based on student attendance. Not until week 10 (60% of term) will Title IV Aid be fully earned and disbursed to a student account. Example: If a student attends nine days of a 75-day term, the federal government will only pay 12% of the total Federal Aid package to cover any student liability. A \$3,000 aid package will now be changed to \$360.

No money shall be refunded unless application for the refund is made within one year after the end of term for which the tuition requested to be refunded was paid to the college. The first day that classes are offered, as scheduled by the college, shall be considered the first day of the semester, quarter or other term, and 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.

### Outstanding Financial Obligations

Students who defer tuition on Financial Aid and who then become ineligible to receive that aid or any portion of it, are not relieved of the obligation for payment of tuition, fees, and disbursements. MVCC reserves the right to use a collection agency to collect any outstanding debt. Should an account be turned over to a collection agency, the total outstanding debt may include collection costs, which will be a minimum of 33.5% of the debt, plus attorney and court fees.

- Consulting services for Manufacturing, Health Care, Telecommunications, Technology, and more

## Professional Development

A sample of courses offered to develop employees and the area's workforce:

- Child Abuse Recognition & Reporting
- Computer Applications
- Continuing Education for Insurance & Engineering
- Customer Service Training
- EKG Technician
- Grant Writing Training
- Home Health Aide
- Infection Control
- Medical Transcription

## Certificate Programs

	HEGIS (a)	Credit Hours	(b) Page
Administrative Assistant	5005	30	125
Airframe and Powerplant Technician	5302	42	125
Allied Health Care	5214	32.5	125
Carpentry & Masonry (Rome Campus)	5317	39-41	126
Chef Training (Rome Campus)	5404	30	126
CNC Machinist Technology	5104	35	126
Coaching	5506.10	26	127
Computer-Aided Drafting	5304	35.5-36.5	127
Criminal Justice: Law Enforcement	5505	34.5	127
Cybersecurity	5199	24	127
Electronic Technician	5310	29-30	128
English as a Second Language	5611	27-32	128
Entrepreneurship	5001	30	128
Finance	5003	31	128
Heating & Air Conditioning	5317	30.5	129
Individual Studies:			129
Industrial/Commercial Electricity	5317	30	129
Insurance	5004	32	129
Machinist Technology	5312	35	129
Media Marketing & Management	5004	30	129
Medical Assistant	5214	39.5	130
Photography	5007	28	130
Refrigeration	5317	30.5-32.5	130
School Facilities Management	5317	30	131
Small Business Management	5004	30	131
Surgical Technician	5211	39	131
Welding	5308	34	132

(a) HEGIS-A standard federal identification for Higher Education General Information Survey.

(b) Not including Physical Education or College Seminar; where required, for students in degree programs.

(c) These programs are undergoing revision and are not currently offered.

Student aid awards are based on enrollment in approved programs. Enrollment in programs other than those registered, or otherwise approved, by the New York State Education Department may jeopardize a student's eligibility for certain student aid awards.

- Pharmacy Technician
- OSHA 10 and 30 hour
- Paralegal Training
- Phlebotomy Certification
- Real Estate Salesperson's Qualifying Course
- School Violence Prevention
- Security Guard Training
- ServeSafe Certification
- Supervisory and Leadership
- Tractor-Trailer CDL Licensing
- Workplace Success Training Programs
- Welding Certification

### Leisure Learning and Health and Wellness

These non-credit classes teach the Mohawk Valley community new skills through fun and exciting courses that are hands-on and educational. Programs such as exercise, art, languages, history and dance are offered in a wide array of times, both days and evenings.

### College in the Workplace

MVCC's College in the Workplace provides busy adult learners the opportunity to begin a certificate or degree program in a place most convenient to them: their workplace. Class size can range from 10 – 30 and can be scheduled weekdays, nights, weekends – even between shifts. Registration is on site and all administrative details are handled by MVCC.

### College for Kids and Teens

Through the College for Kids and Teens programming, children from toddler to teenager can learn new skills, experience a college campus, and enrich their education through a variety of programs including robotics, theater, babysitting, photography, exam prep, baking and more.

## Credit Degree Programs

Program	HEGIS(a)	Degree	Hours(b)	Page
Accounting	5002	AAS	62	33
Administrative Assistant	5005	AAS	64	34
Air Conditioning Technology-Refrigeration	5317	AOS	70-73	35
Building Management & Maintenance	5099	AAS	65	36
Business Administration	5004	AS	67	37
Business Management	5004	AAS	62	38
Chemical Dependency Practitioner	5506	AAS	64	39
Chemical Technology	5305	AAS	68-71.5	41
Civil Engineering Technology	5309	AAS	71	42
Computer Aided Drafting (CAD)	5303	AOS	69.5	43
Computer Information Systems	5103	AAS	64	44
Computer Science	5101	AS	68-70	45
Computer Science: Cybersecurity	5199	AS	63	46
Criminal Justice	5505	AAS	61-63	47
Criminal Justice	5505	AS	64	48
Criminal Justice: Law Enforcement	5505	AAS	62.5	50
Culinary Arts Management (Rome Campus)	5404	AOS	64	51
Data Processing, Programming & Systems	5103	AAS	63-64	52
Digital Animation	5012	AAS	64	53
Educational Sign Language Interpretation	5599	AAS	62	54
Electrical Engineering Technology	5310	AAS	70-77	55
Electrical Service Technician, Electrical Maintenance	5317	AOS	69.5-77.5	56
Emergency Medical Services/Paramedic	5299	AAS	73	57
Engineering Science	5609	AS	70.5-74.5	58
Environmental Analysis/Chemical Technology	5407	AAS	71	59
Financial Services Management	5003	AAS	66-67	60
Fine Arts	5610	AS	64	61
Fire Protection Technology	5507	AAS	38+500 training	62
Food Service Administration: Restaurant Management	5010	AAS	64	63
Geospatial Technology	5399	AAS	68	64
Graphic Communication: Graphic Arts Technology	5012	AAS	64	65
Graphic Communication: Graphic Design	5012	AAS	64	66
Graphic Communication: Illustration	5012	AAS	64	67
Health Studies: Radiologic Technology	5207	AAS	66	68
Hotel Technology:				
Meeting Services Management (Rome Campus)	5010	AAS	63-64	70
Human Services	5501	AAS	64	71
Individual Studies	5699	AA,AS,AAS,AOS	60	73
Liberal Arts & Sciences				
Adolescence Education (Teacher Education Transfer)	5649	AS	61-66.5	80
Childhood Education (Birth - 6th grade)	5694	AS	61-61.5	76
Utica College Transfer		AS	61-62.5	76
General Studies	5649	AS	62	75
Humanities & Social Science	5649	AA	65	86
International Studies	5622	AA	65	88
Mathematics & Science	5649	AS	64-69	90-101
Psychology	5620	AS	64	102
Public Policy	5508	AS	64	104
Theater	5610	AA	68	105
Mechanical Engineering Technology	5315	AAS	71.5-78.5	107
Mechanical Technology: Aircraft Maintenance	5302	AAS	64	108
Media Marketing & Management	5004	AAS	67-67.5	109
Medical Assisting	5214	AAS	72	110
Nursing	5208.10	AAS	71.5-72.5	112
Nutrition & Dietetics	5613	AS	69.5	114
Photography	5012	AAS	64	115
Recreation & Leisure Services	5506.10	AAS	68.5-69	116
Respiratory Care	5215	AAS	75-76	118
School Facilities Management	5317	AAS	70	120
Semiconductor Manufacturing Technology	5311	AAS	72-75	121
Surveying Technology	5309	AAS	71	122
Web Development and Information Design	5104	AAS	64	123
Welding Technology	5308	AOS	71	124

**Mohawk Valley Community College**  
**General Education Quick Reference Guide**

All AAS, AS, and AA degree programs at MVCC are designed to include a *Core (bolded)* course from each General Education Category. The number of additional general education courses is prescribed by the degree as indicated below. Any student graduating with a baccalaureate degree from a SUNY campus must complete a General Education requirement of no fewer than 30 credit hours specifically designed to achieve the student learning outcomes in seven (7) Knowledge and Skill Areas. SUNY advises that community college students wishing to transfer to a four-year SUNY institution should complete these requirements while earning their associate degree. An MVCC student who is planning on transferring to a four-year SUNY campus should fulfill as many of the 30 hours in the seven (7) SUNY Knowledge and Skill Areas as possible. Students who have not fulfilled the requirements at MVCC, by taking a course or receiving a waiver, are eligible to transfer to a four-year SUNY school, but will need to complete the General Education requirements while at the transfer institution. In all cases, a student who meets the five *Core (bolded)* courses required by the degree will have automatically met five of the SUNY Knowledge and Skill Areas.

Degree Type	Required Hours	Number of General Education Required Hours and Courses	
AAS	20	One <i>Core (bolded)</i> course from each of the 5 Categories	Additional courses needed to meet the minimum number of <b>20</b> hours
AS	30	One <i>Core (bolded)</i> course from each of the 5 Categories	Additional courses needed to meet the minimum of <b>30</b> hours. The additional courses should be from at least <b>2</b> distinct Categories and from at least <b>2</b> additional SUNY areas not originally chosen by the <i>Core</i> courses
AA	45	One <i>Core (bolded)</i> course from each of the 5 Categories	Additional courses needed to meet the minimum of <b>45</b> hours. The additional courses should be from at least <b>3</b> distinct Categories and from at least <b>2</b> additional SUNY areas not originally chosen by the <i>Core</i> courses

**General Education Course List**

**Categories**

Category 1	Category 2	Category 3				Category 4		Category 5	
Mathematics	Natural Sciences	Social Sciences & History				Humanities & The Arts		Language & Communication	
SUNY* Area 1 Mathematics	SUNY* Area 2 Natural Sciences	SUNY* Area 3 Social Sciences	SUNY* Area 4 American History	SUNY* Area 5 Western Civilizations	SUNY* Area 6 Other World Civilizations	SUNY* Area 7 Humanities	SUNY* Area 8 The Arts	SUNY* Area 9 Foreign Language	SUNY* Area 10 Basic Communication
MA108	BI103	AN101	HI111	HI101	AN102	EN102	EN197	FL101	EN101
MA110	BI105	BM101	HI112	HI102	GE101	EN148	GC244	FL102	EN105
MA115	BI141	GE101		HI103	HI101	EN198	HU183	FL111	EN106
MA118	BI216	PS101		HI104	HU227	EN240	HU184	FL112	EN102
MA121	CH110	PY101		HU204	HU228	EN241	HU187	FL141	EN110
MA125	CH111	SO101		HU205	SO207	EN248	HU188	FL142	EN147
MA131	CH131	BM110		HU290		EN249	HU210	FL151	EN150
MA139	CH141	BM115		HU295		EN255	HU292	FL152	EN153
MA150	ET106	CI104				EN256	PT205	FL173	EN196
MA151	GL101	ED205				EN265		FL174	
MA172	GL102	IS100				EN271		FL300	
MA119	PH112	IS101				EN272		FR101	
MA122	PH141	PS202				EN280		FR102	
MA140	PH145	PS203				EN281		FR191	
MA152	PH151	PS204				GC244		FR192	
MA223	PH261	PS205				GC245		FR201	
MA253	WE101	PY201				HU186		FR202	
MA260	BI142	PY202				HU187		FR301	
MA275	BI201	PY203				HU188		FR302	
MA280	BI202	PY204				HU204		GR101	
	BI217	PY205				HU205		GR102	
	CH112	PY206				HU210		GR201	
	CH115	PY207				HU289		GR202	
	CH142	PY208				HU290		GR301	
	CH247	PY212				HU291		GR302	
	CH248	SO202				HU292		IT101	
	PH113	SO203				HU295		IT102	
	PH142	SO204				HU296		IT191	
	PH152	SO205				PT205		IT192	
	PH262	SO206						IT201	
		SS218						IT202	
								IT301	
								IT302	
								SP101	
								SP102	
								SP191	
								SP192	
								SP201	
								SP202	
								SP301	
								SP302	

\*See appropriate Academic Dean for SUNY Waiver procedure.



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# Accounting

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## Associate in Applied Science Degree

Students are prepared for employment in general accounting and cost accounting positions - including positions requiring microcomputer skills - in business, government, and non-profit institutions, and are provided with sufficient knowledge to assume financial management positions after a reasonable training period with an organization or institution. In addition, MVCC accounting graduates have excellent success in transferring their credits to four-year institutions, and find the Accounting program a sound basis for further education in the field. One High School Mathematics Course or its equivalent is required.

### Total Credit Hours: 62

#### First Semester

ED100 College Seminar	1
AC115 Financial Accounting	3
AC131 Business Law 1	3
EN101 English 1: Composition	3
IS101 Computers and Society	3
Core GE Social Science (a)	3

#### Second Semester

AC116 Managerial Accounting	3
BM115 Principles of Macroeconomics	3
EN102 English 2: Ideas & Values in Literature	3
IS200 Spreadsheet Concepts & Applications	3
MA115 Intermediate Mathematics (b)	4
Physical Education	.5

#### Third Semester

AC127 Computerized Accounting Systems	3
AC230 Financial Management	3
AC243 Cost Accounting	3
BM110 Principles of Microeconomics	3
Core GE Natural Science	4
Physical Education	.5

#### Fourth Semester

AC201 Intermediate Accounting 1	3
MA110 Elementary Statistics	3
Business Elective (c)	3
Business Elective (c)	3
Physical Education	1

- (a) Excluding BM101 Survey of Economics
- (b) If the student has sufficient background, the student may select any higher level mathematics course. MA108, MA110 and MA171 are not acceptable.
- (c) Any AC, BM, or IS course other than those already required in the program EXCEPT: AC110, BM100, BM101, or IS100. BM294 Business Internship substitutes for two business electives.

# Administrative Assistant

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## Associate in Applied Science Degree

This program prepares students to meet the growing need for office technology skills in business, industry, and government. The program is designed to provide students with the necessary background in word processing, databases, spreadsheets, business communications, and office administration for positions in technologically advanced offices. One High School Mathematics Course or its equivalent is recommended.

### Total Credit Hours: 64

#### First Semester

ED100 College Seminar	1
AA111 Keyboarding-Basic	3
BM129 Business Mathematics	3
EN101 English 1: Composition	3
IS101 Computers and Society	3
Core GE Social Science	3
Physical Education	.5

#### Second Semester

AA106 Business Communications	3
AA112 Keyboarding - Intermediate	3
EN102 English 2: Ideas & Values in Literature	3
IS130 Desktop Publishing for Business	3
Core GE Mathematics	3
Physical Education	.5

#### Third Semester

AA208 Office Administration	3
AA214 Keyboarding-Advanced	3
IS200 Spreadsheet Concepts & Applications	3
IS210 Database Design & Management	3
Core GE Natural Science	4
Physical Education	.5

#### Fourth Semester

AA203 Machine Transcription	3
BM254 Human Resource Management	3
IS140 Electronic Business Presentations	3
Restricted Elective (a)	3
GE Elective	3
Physical Education	.5

- (a) Electives should be selected with approval of the advisor. Choose from AA, AC, BM, IS (except IS100), HC, or MR provided the prerequisite has been completed.

# Air Conditioning Technology, Refrigeration

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## Associate in Occupational Studies Degree

The Air Conditioning Technology program is designed to prepare students to meet the growing needs of the residential, commercial, and industrial air conditioning, heating, and refrigeration industries. This program prepares students for careers as heating and cooling service technicians, installers, lab technicians, and facilities maintenance mechanics. Coursework in the areas of air conditioning, heating, electricity, electronics, design, installation, and troubleshooting are reinforced with hands on laboratory practicum. A scientific calculator, digital multi-meter, electronic breadboard and hand tools are required.

### Total Credit Hours: 70 – 73

#### First Semester

ED100 College Seminar	1
MA105 Technical Mathematics 1(a)	4
EN110 Oral & Written Communication	3
ET101 Technical Electricity 1	3
ET105 Computer Control Fundamentals	2
MT107 Basic Machine Shop Practice	3
Physical Education	.5

#### Second Semester

MA106 Technical Mathematics 2 (a)	4
ET102 Technical Electricity 2	3
ET103 Technical Electronics	3.5
ET104 Systems Diagrams	2
ET108 Refrigeration 1	4
EN147 Report Writing	3
OR	
BM150 Principles of Entrepreneurship	3
Physical Education	.5

#### Third Semester

ET209 Refrigeration 2	5
ET220 Heating and Air Conditioning 1	4
ET230 AC Motors & Controls	5
ET234 Electrical Wiring and Codes 1	3.5
Elective (b) (optional)	3
Physical Education	.5

#### Fourth Semester

ET221 Heating and Air Conditioning 2	5
ET222 Systems Design	3
ET223 Transport Refrigeration	4
ET224 Modern Hydronic Systems	3
Physical Education	.5

(a) Alternatives: MA121 Fundamentals of College Mathematics 1 and MA122 Fundamentals of College Mathematics 2

(b) Electives may include ET141 Programmable Logic Controllers or ET244 Electrical Wiring and Codes 2.

# Building Management & Maintenance

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## Associate in Applied Science Degree

Graduates of this program will be equipped to enter middle management and supervisory positions. Potential employment locations include office buildings, apartment complexes, sports facilities, hotels and motels, healthcare facilities, educational institutions, shopping centers and industrial buildings. Areas of responsibility may include lease and rental agreements, supervision of maintenance employees, regulating environmental control systems, purchasing materials and services, and energy use and conservation. Two High School Mathematics Courses or their equivalent and one year of a laboratory science are required. High School Chemistry and Physics are recommended.

### Total Credit Hours: 65

#### First Semester

ED100 College Seminar	1
CT101 Drafting	3
CT141 Intro to Civil Engin Tech/Surveying Tech	2
CT151 Surveying 1	4
EN101 English 1: Composition	3
MA121 Fundamentals of College Mathematics 1	4
Physical Education	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
MA122 Fundamentals of College Mathematics 2	4
PH151 General Physics 1	4
Business & Technical Elective (b)	3
Physical Education	.5

#### Third Semester

PH152 General Physics 2	4
Social Science Elective (a)	3
Business & Technical Elective (b)	3
Business & Technical Elective (b)	3
Business & Technical Elective (b)	3
Physical Education	.5

#### Fourth Semester

CT242 Mechanical & Electrical Systems for Buildings	3
CT243 Construction Management	4
Social Science/Basic Communication Elective (a)	3
Business & Technical Elective (b)	3
Business & Technical Elective (b)	3
Physical Education	.5

#### Sports Facility Management Emphasis:

*Required courses (in place of 9 credit hours of Business and Technical electives) are:*

RE102 Recreation Safety & Liability	3
RE205 Recreation Internship	3
RE210 Recreation Program and Facility Management	3

(a) Acceptable Social Science/Basic Communication courses: AN101 Biological Anthropology, BM101 Survey of Economics, PS101 American National Government, PY101 Introduction to Psychology, SO101 Introduction to Sociology, or EN150 Effective Speech.

(b) Business and Technical Electives will be chosen with advisement to meet student's career goals and to ensure that prerequisites are satisfied for courses elected.



# Business Administration

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## Associate in Science Degree

This program is for students whose educational goal is a Bachelor's degree in business. It prepares students to transfer into a four-year college program in business administration. The complete program is available at the Utica and Rome campuses. Two High School Mathematics Courses or their equivalent, plus one year of laboratory science required.

### Total Credit Hours: 67

#### First Semester

ED100 College Seminar	1
AC115 Financial Accounting	3
EN101 English 1: Composition	3
IS101 Computers and Society	3
Core GE Social Science (a)	3
Mathematics Elective(b)	4
Physical Education	.5

#### Second Semester

AC116 Managerial Accounting	3
BM115 Principles of Macroeconomics	3
EN102 English 2: Ideas & Values in Literature	3
IS102 Computer Applications & Concepts 2	3
Mathematics (b)	4
Physical Education	.5

#### Third Semester

BM110 Principles of Microeconomics	3
BM120 Principles of Marketing	3
Core GE Natural Science (c)	4
Restricted Elective (d)	3
GE Social Science	3
Physical Education	.5

#### Fourth Semester

AC131 Business Law	3
MA110 Elementary Statistics	3
Natural Science Elective (c)	4
Restricted Elective (d)	3
Restricted Elective (d)	3
Physical Education	.5

(a) Excluding BMI01 Survey of Economics

(b) MA139 and MA140, or MA150 and MA140, or MA150 and MA151

(c) Students must take two of the following: BI141, BI142, CH141, CH142, GL101, GL102, PH141, PH142, PH151, or PH152.

(d) Elective based on an individual's transfer goals, normally liberal arts courses taken with permission of advisor. SUNY transfers are encouraged to take an HU or FA elective.

# Business Management

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## Associate in Applied Science Degree

This program provides students with the appropriate business and computer skills to assume entry-level managerial responsibilities, and to progress through the managerial ranks of business organizations. Students are provided the opportunity to concentrate in one or more areas of interest. One High School Mathematics Course or its equivalent is required.

### Total Credit Hours: 62

#### First Semester

ED100 College Seminar	1
AC115 Financial Accounting	3
BM129 Business Mathematics	3
EN101 English 1: Composition	3
IS101 Computers and Society	3
Core GE Social Science (b)	3

#### Second Semester

AC116 Managerial Accounting	3
BM115 Principles of Macroeconomics	3
BM120 Principles of Marketing	3
MA115 Intermediate Mathematics	4
Physical Education	1

#### Third Semester

EN102 English 2: Ideas & Values in Literature	3
BM110 Principles of Microeconomics	3
BM251 Organizational Behavior	3
IS200 Spreadsheet Concepts & Applications	3
Concentration Elective (a)	3
Physical Education	.5

#### Fourth Semester

AC131 Business Law 1	3
EN150 Effective Speech	3
Core GE Natural Science	4
Concentration Elective (a)	3
Concentration Elective (a)	3
Physical Education	.5

#### Available concentrations include:

- Marketing
- International Business
- Human Resources Management
- Computer Applications
- Recreation Management\*

*(Please consult with your advisor for proper course selection in these concentrations.)*

Electives taken in a particular concentration may not apply to other concentrations or to the General Business Management Program. Electives are allowed to provide the students with concentration in an area of management.

(a) MA110 Elementary Statistics or any AC, BM, or IS course other than those already required in the program EXCEPT: AC110, BM100, BM101, or IS100. BM294 Business Internship substitutes for two business electives.

(b) Excluding BM101 Survey of Economics

\* Electives for the Recreation Management concentration include RE100, RE102, and RE210.

# Chemical Dependency Practitioner

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## Associate in Applied Science Degree

This curriculum helps to develop specific skills required for effective individual and group intervention counseling for people affected by alcoholism, substance abuse, and addiction. Students completing this program fulfill all of the education and training requirements of the NYS Office of Alcoholism and Substance Abuse Services (OASAS) to become a Credentialed Alcoholism and Substance Abuse Counselor (CASAC). Four courses are required in this area of concentration after successful completion of HS241 Chemical Dependencies. The two counseling courses are AS201 Introduction to Alcoholism/Substance Abuse Counseling and HS233 Group Counseling Skills. The individual and group counseling courses introduce the skills required to assess and treat an addicted individual or family, and to recognize the effectiveness of the individual and group modalities. AS202 Alcoholism/Addiction and Family Systems provides an understanding of co-dependency, the characteristics of healthy and dysfunctional families, and treatment of the family versus the individual. Students are encouraged to begin formative thinking in family systems concepts. The final course is AS204 Special Topics in Alcoholism and Substance Abuse Treatment Programs. The populations include adolescents, the elderly, and women as well as individuals with multiple problems or disabilities. Special attention is devoted to ethnic and cultural differences that require different responses from the treatment community. Students in their second year may select either counseling or prevention track. One High School Mathematics Course or its equivalent is required.

### Total Credit Hours: 64

#### First Semester

ED100 College Seminar	1
BI103 Human Life Science 1	4
EN101 English 1: Composition	3
HS101 Introduction to Human Services	3
PY101 Introduction to Psychology*	3
SO101 Introduction to Sociology	3
Physical Education	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
HS241 Chemical Dependencies*	3
MA108 Concepts in Mathematics	3
OR	
MA110 Elementary Statistics	3
PY203 Abnormal Psychology	3
PY210 Evaluation, Research and Measurement in Behavioral Science	3
Physical Education	.5

#### Third Semester

AS201 Introduction to Alcoholism/Substance Abuse Counseling* (a)	3
AS202 Alcoholism/Addictions and Family Systems*	3
AS206 Prevention Principles for ATOD* (a)	3
HS231 Ethics, Policy and Law*	3
HS251 Internship 1*	3
Physical Education/CPR	.5

#### Fourth Semester

AS204 Special Topics in Alcoholism and Substance Abuse Treatment Programs* (a)	3
HS233 Group Counseling Skills*	3
HS252 Internship 2*	3
Psychology Elective*	3
Program Elective*	3
Physical Education/CPR	.5

**Internship requirements:**

HS251 and HS252 internship - For placement in a chemical dependency setting, students must have successfully completed or be enrolled in both HS231 Ethics, Policy and Law and AS201 Introduction to Alcoholism/Substance Abuse Counseling.

Alcoholism and Substance Abuse Courses

\* OASAS required course. Students must maintain a C average in the course for certification.

**Program Electives**

AS207 Prevention Practice for ATOD* (c)	3
AS208 Pathological Gambling* (b)	3
HS232 Counseling Techniques*	3

**Psychology Electives**

ED205 Child Development	3
PY201 Learning Behavior Analysis	3
PY204 Social Psychology	3
PY205 Adulthood and Aging	3
PY206 Theories of Personality	3
PY208 Death, Dying, and Bereavement	3
PY209 Forensic Psychology	3
PY213 Human Sexuality	3

- (a) The prerequisite of this course is HS241 Chemical Dependencies.
- (b) The prerequisite of this course is AS201 Introduction to Alcoholism/Substance Abuse Counseling.
- (c) The prerequisite of this course is AS206 Prevention Principles for ATOD.

# Chemical Technology

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## Associate in Applied Science Degree

This program prepares students to work as technicians in chemical, environmental, and related laboratories. The laboratory technician, as a trained professional, uses experimentation to obtain the information upon which chemical decisions may be made. Two High School Mathematics Courses or their equivalent, and chemistry are required.

**Total Credit Hours: 68 – 71.5**

### First Semester

ED100 College Seminar	1
CH141 General Chemistry 1	4.5
EN101 English 1: Composition	3
MA121 Fundamentals of College Mathematics 1	4
Core GE Social Science (a)	3
Physical Education	.5

### Second Semester

CH142 General Chemistry 2	4.5
EN102 English 2: Ideas & Values in Literature	3
MA122 Fundamentals of College Mathematics 2	4
PH151 General Physics 1	4
Physical Education	.5
CH200 Industrial Practicum 3 ( <i>To be arranged any time after CH142</i> )	3

### Third Semester

CH246 Quantitative Analysis	5
CH247 Organic Chemistry 1	5
CI121 Microcomputer Techniques for Science	3
Restricted Elective (b)	3-4.5
Physical Education	.5

### Fourth Semester

CH229 Chemical Instrumentation	5
CH248 Organic Chemistry 2	5
Restricted Elective (b)	3-4
Restricted Elective (b)	3-4
Physical Education	.5

- (a) Core GE Social Science Electives may be chosen from AN101 Biological Anthropology, BMI101 Survey of Economics, PS101 American National Government, PY101 Introduction to Psychology, SO101 Introduction to Sociology.
- (b) Approval by Center advisor. Students planning to transfer to the State University of New York College of Environmental Science and Forestry (ESF) should consult with the Dean of Life and Health Sciences.

### Restricted Electives: (Approval by Center Advisor)

CH101 Physical Science	PH152 General Physics 2
BI141 General Biology 1	CT121 Statics
BI142 General Biology 2	CT232 Environmental Engineering
BI201 Microbiology	PH112 Science of Light 1
BI202 Ecology	PH113 Science of Light 2
EV100 General Industrial Safety	PH114 Digital Imaging Science
	GL101 Physical Geology



# Civil Engineering Technology

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## Associate in Applied Science Degree

Upon completion of this program a student has the opportunity to start a career in the Civil Engineering Technology field or transfer to a higher educational institution concentrating in Civil Engineering Technology. Students will be prepared to work in the planning, design, and/or construction phase of civil engineering projects including aspects such as highways, transportation, bridges, dams, buildings, environmental, hydraulics, and hydrology. Students will learn from field and laboratory experience in addition to theory based instruction. The program has recently been revised to include the use of MicroStation in many of the courses, which reflects the workplace of a civil engineering technician. The course content has been designed to integrate MicroStation into the program while connecting courses for a more cohesive high quality learning experience. MicroStation is the Computer Aided Drafting and Design (CADD) platform used currently in the Civil Engineering field. A Capstone Project taken from industry is completed using the knowledge gained in the program. This program is accredited by the Engineering Technology Accreditation Commission of ABET, <http://www.abet.org>. Preparation for this program should have successfully completed high school courses in algebra, geometry, trigonometry, and physics or the equivalent. A joint admission for the B.S. program in Civil Engineering Technology at SUNY Institute of Technology at Utica/Rome is available.

### Total Credit Hours: 71

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
CT102 Engineering Drawing and MicroStation CAD	3
CT141 Intro to Civil Engineering Technology	2
CT151 Surveying 1	4
MA121 Fundamentals of College Mathematics 1	4
Physical Education	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
CT121 Statics	3
CT152 Surveying 2	3
MA122 Fundamentals of College Mathematics 2 (b)	4
PH151 General Physics 1	4
Physical Education	.5

#### Third Semester

CT221 Strength of Materials: Civil	4
CT222 Soil Mechanics & Foundations	4
CT231 Transportation Engineering	3
PH152 General Physics 2	4
Social Science Elective (a)	3
Physical Education	.5

#### Fourth Semester

CT225 Structural Steel Design	3
CT226 Reinforced Concrete Design	3
CT232 Environmental Engineering	4
CT243 Construction Management	4
CT299 Capstone Design Project - Civil	3
Physical Education	.5

(a) Recommended Social Science courses:

AN101 Biological Anthropology  
BM101 Survey of Economics

PS101 American National Government

PY101 Introduction to General Psychology

SO101 Introduction to Sociology

(b) MA120 Intermediate and College Mathematics I can be substituted for MA121 Fundamentals of College Mathematics I with the appropriate placement test score.

# Computer Aided Drafting (CAD) (Architectural-Mechanical)

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## Associate in Occupational Studies Degree

This program of study prepares the student to be a drafting technician capable of working with professionals in the many facets of the technical drawing and solid modeling design fields. Emphasis is placed on architectural and mechanical drafting along with related courses for technical comprehension of the subject. The development of problem solving skills is stressed. Topics include conventional drafting methods and computer-aided drafting (CAD) systems such as AutoCAD, MicroStation, and Solidworks. With the addition of ED100 College Seminar and Physical Education, the Computer-Aided Drafting certificate constitutes the first year of this program. At least one year of high school mathematics or equivalent, including algebra, is recommended.

### Total Credit Hours: 69.5

#### First Semester

ED100 College Seminar	1
CT101 Drafting	3
CT102 Engineering Drawing and MicroStation CAD	3
MA105 Technical Mathematics 1	4
MT140 Drafting and Design Using AutoCAD	3
MT155 Introduction to Solid Modeling	3
Physical Education	.5

#### Second Semester

EN110 Oral & Written Communication	3
OR	
EN101 English 1: Composition	3
MA106 Technical Mathematics 2	4
MT112 Architectural Drafting	3
MT114 Manufacturing Processes	3.5
MT251 Advanced AutoCAD	3
Physical Education	.5

#### Third Semester

EN147 Report Writing	3
OR	
EN102 English 2: Ideas & Values in Lit.	3
GD110 Digital Design	3
OR	
CT265 Introduction to Geographic Information Systems	3
MT221 Tolerance-Assembly Drafting	4
MT225 Applied Mechanics and Strength of Materials	4
MT229 Building Systems Drafting	3
Physical Education	.5

#### Fourth Semester

MT141 Machining Fundamentals (a)	4
OR	
CT243 Construction Management (a)	4
MT222 Tool & Design Drafting	4
MT223 Electrical-Electronic Drafting	3
MT242 Advanced MicroStation CAD	3
MT256 Advanced Solid Modeling	3
Physical Education	.5

(a) Students interested in mechanical design should plan on taking MT141 Machining Fundamentals. Students interested in civil/architectural/construction design should take CT243 Construction Management.

# Computer Information Systems: Microcomputer Applications Support

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## Associate in Applied Science Degree

A microcomputer application support specialist must possess technical expertise in computer systems, application software, business operations and communications. Computer systems knowledge includes hardware, operating systems, networking and information systems. Application software proficiency should extend across word processing, spreadsheets, database, graphics and business systems. Business operations expertise includes knowledge of management and accounting. Communication skills are important in training, making presentations, writing and using the Internet as an information resource. A microcomputer resource person can assist computer users with software installation and customization, training, networking, data communications and system operations. One High School Mathematics Course or its equivalent is required.

### Total Credit Hours: 64

#### First Semester

ED100 College Seminar	1
AC110 Principles of Accounting	3
OR	
AC115 Financial Accounting	3
BM120 Principles of Marketing	3
EN101 English 1: Composition	3
IS101 Computers and Society	3
Core GE Social Science (a)	3
Physical Education	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
IS102 Computer Applications & Concepts 2	3
IS120 Computer Operating Systems & Environments	3
IS201 Principles of Computer Security	3
MA110 Elementary Statistics	3
Physical Education	.5

#### Third Semester

IS125 Introduction to Multimedia Applications for Business	3
IS200 Spreadsheet Concepts & Applications	3
IS210 Database Design & Management	3
IS240 Networking Essentials	3
Core GE Natural Science	4
Physical Education	.5

#### Fourth Semester

EN153 Practical and Professional Written Communications	3
IS220 Visual Basic with Business Applications	3
IS250 Web Development 1	3
Business Elective (b)	3
Business Elective (b)	3
Physical Education	.5

(a) It is recommended that students take PY101 Introduction to Psychology.

(b) Any AC, BM, or IS course other than those already required in the program EXCEPT AC110, BM100, BM101, or IS100. BM294 Business Internship substitutes for two business electives.

# Computer Science

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## Associate in Science Degree

This program is appropriate for students who intend to transfer to a four-year college and continue their studies in the field of computer science. Two High School Mathematics Courses or their equivalent is required.

### Total Credit Hours: 68 – 70

#### First Semester

ED100 College Seminar	1
CI110 Principles of Programming	3
CI130 Programming in C++	3
EN101 English 1: Composition	3
MA151 Calculus 1	4
Core GE Social Science	3
Physical Education	.5

#### Second Semester

CI230 Data Structures	3
EN102 English 2: Ideas & Values in Literature	3
MA152 Calculus 2	4
IS280 Web Development 2	3
OR	
PH115 Science of Multimedia	4
GE Social Science	3
Physical Education	.5

#### Third Semester

Physics Elective (a)	4-4.5
CI245 JAVA Programming	3
CI260 Microcomputer Programming	3
CI285 Systems Operations & Management	3
MA275 Discrete Algebraic Structures	4
Physical Education	.5

#### Fourth Semester

CI271 Database Design & Implementation	3
CI272 Visual Basic	3
CI280 Computer Graphics 1	3
Physics Elective(a)	4-4.5
Elective (b)	3
Physical Education	.5

- (a) Depending upon the school to which they plan to transfer, students should choose a two-course sequence in General Physics or Engineering Physics.
- (b) To be chosen with permission of your advisor.

# Computer Science: Cybersecurity

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## Associate in Science Degree

This program combines the study of criminal justice and computer-technology to address current needs in the cybersecurity field. It prepares students to identify vulnerabilities and threats that affect corporate and government computer networks; to protect critical information in cyberspace and to defectively design, implement, and support security policies for a large scale enterprise network. Students examine a wide variety of security analysis/defensive tools and concepts, and then attempt to circumvent them. This program prepares students to transfer to upper division Cybersecurity programs or assume entry-level positions in the Cybersecurity Industry.

### Total Credit Hours: 63

#### First Semester

ED100 College Seminar	1
CI104 Introduction to Cybersecurity	3
EN101 English 1: Composition	3
HI101 History of Civilization 1	3
SO101 Introduction to Sociology	3
CJ101 Introduction to Criminal Justice	3
OR	
PS102 Introduction to Public Policy	3
Physical Education	.5

#### Second Semester

CI112 Networking Fundamentals	3
CJ106 Ethics in Criminal Justice	3
EN102 English 2: Ideas & Values in Literature	3
IS120 Computer Operating Systems & Environments	3
MA110 Elementary Statistics	3
Physical Education	.5

#### Third Semester

CI110 Principles of Programming	3
CI142 Computer Forensics	3
MA150 Precalculus	4
Core GE Natural Science Elective (a)	4
Physical Education	.5

#### Fourth Semester

CI130 Programming in C++	3
CI212 Internet Security	3
CI232 Security Policies	3
Natural Science Elective (a)	4
Program Elective (b)	3
Physical Education	.5

(a) Students take one of the following sequences: CH141 General Chemistry I and CH142 General Chemistry 2, or PH151 General Physics I and PH152 General Physics 2. Natural Science sequence should be selected in consultation with your advisor to ensure appropriate transferability.

(b) Students select from one of the following Program Electives depending on their desired track: CJ216 Selected Topics in Criminal Justice, CI132 Unix Operating System & Security, or CI204 Software Support Strategies. Appropriate elective should be selected in consultation with your advisor.



# Criminal Justice

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## Associate in Applied Science Degree

The Criminal Justice curriculum prepares students to enter a range of occupations in the criminal justice system and to continue their education. The core courses form a foundation for understanding the operation of the criminal justice system, the causes of crime and delinquency, the history and application of criminal justice and constitutional law, and the ethical bases of criminal justice decision-making. Electives address the diverse issues facing the criminal justice system and encourage students to gain more specialized knowledge of policing, juvenile justice, corrections, and the private sector. Input from the Criminal Justice Advisory Committee and the opportunity to participate in a one-semester internship provide links to criminal justice practice. One High School Mathematics Course or its equivalent is required.

### Total Credit Hours: 61 – 63

#### First Semester

ED100 College Seminar	1
CJ101 Introduction to Criminal Justice	3
CJ107 Juvenile Delinquency	3
EN101 English 1: Composition	3
SO101 Introduction to Sociology	3
PS101 American National Government	3
Physical Education	.5

#### Second Semester

CJ106 Ethics in Criminal Justice	3
CJ108 Criminal Law	3
EN102 English 2: Ideas & Values in Literature	3
PY101 Introduction to Psychology	3
CH101 Physical Science	4
OR	
BI105 Environmental Science	4
Physical Education	.5

#### Third Semester

CJ202 American Constitutional Law	3
CJ204 Criminology	3
MA110 Elementary Statistics	3
Restricted Elective (a)	3-4
Criminal Justice Elective	3
Physical Education	.5

#### Fourth Semester

CJ214 Criminal Justice Communications	3
SS218 Methods of Research	3
Criminal Justice Elective	3
Restricted Elective (a)	3-4
Physical Education	.5

(a) Students must take three restricted electives, to be chosen in consultation with the student's academic advisor.

# Criminal Justice

## Associate in Science Degree

This program provides students who plan to transfer to a bachelor-level program with a comprehensive foundation in Criminal Justice. The core courses form a foundation for understanding the operation of the criminal justice system, the causes of crime and delinquency, the history and application of criminal justice and constitutional law, and the ethical bases of criminal justice decision-making. Electives address the diverse issues facing the criminal justice system and encourage students to gain more specialized knowledge of policing, fraud, corrections, law, and the private sector. Students interested in advanced degrees in Criminal Justice related fields will find this program to be a beneficial way to begin exploring the field while meeting the majority of their general education requirements.

### Total Credit Hours: 64

#### First Semester

ED100 College Seminar	1
CJ101 Introduction to Criminal Justice	3
CJ107 Juvenile Delinquency	3
EN101 English 1: Composition	3
SO101 Introduction to Sociology	3
PS101 American National Government	3
Physical Education	.5

#### Second Semester

CJ106 Ethics in Criminal Justice	3
CJ108 Criminal Law	3
EN102 English 2: Ideas & Values in Literature	3
PY101 Introduction to Psychology	3
Core GE Natural Science	4
Physical Education	.5

#### Third Semester

AN102 Cultural Anthropology	3
CJ202 American Constitutional Law	3
CJ204 Criminology	3
SS218 Methods of Research	3
MA108 Concepts in Mathematics	3
OR	
MA110 Elementary Statistics	3
Physical Education	.5

#### Fourth Semester

Criminal Justice Elective (a)	3
HI101 History of Civilization 1	3
HI111 American History 1492 - 1850	3
OR	
HI112 American History 1850 - Present	3
Foreign Language (b)	3
GE Mathematics	3
OR	
Natural Science Elective	3
Physical Education	.5

### Conflict Resolution Emphasis

#### First Semester

ED100 College Seminar	1
CJ101 Introduction to Criminal Justice	3
EN101 English 1: Composition	3
SO101 Introduction to Sociology	3
PS101 American National Government	3
Core GE Natural Science	4
Physical Education	.5

#### Second Semester

CJ106 Ethics in Criminal Justice	3
CJ108 Criminal Law	3
EN102 English 2: Ideas & Values in Literature	3
PS209 Introduction to Peace Studies	3
PY101 Introduction to Psychology	3
Physical Education	.5

#### Third Semester

CJ202 American Constitutional Law	3
CJ208 Community-Based Corrections	3
CJ219 Restorative Practices: Mediation	3
PS102 Introduction to Public Policy	3
MA108 Concepts in Mathematics	3
OR	
MA110 Elementary Statistics	3
Sociology Elective (a)	3
Physical Education	.5

#### Fourth Semester

CJ217 Restorative Justice	3
HI101 History of Civilization 1	3
HU295 Survey of Western Philosophy	3
PY204 Social Psychology	3
GE Natural Science	4
Physical Education	.5

(a) SO205 Racial and Ethnic Minorities, SO206 Social Significance of Gender, or SO207 Sociology of Religion.

(a) Any Criminal Justice course not already required in the program.

(b) Any Foreign Language course or any course in the SUNY "The Arts" Silo

**Forensics Emphasis****First Semester**

ED100 College Seminar  
 AN101 Biological Anthropology  
 CJ101 Introduction to Criminal Justice  
 CJ102 Introduction to Forensic Science  
 EN101 English 1: Composition  
 SO101 Introduction to Sociology  
 Physical Education

**Second Semester**

CH131 College Chemistry  
 CJ106 Ethics in Criminal Justice  
 EN102 English 2: Ideas & Values in Literature  
 MA115 Intermediate Mathematics  
 PY101 Introduction to General Psychology  
 Physical Education

**Third Semester**

	BI141 General Biology 1	4
	CJ202 American Constitutional Law	3
1	PS101 American National Government	3
3	MA125 College Algebra & Trigonometry	4
3	Physics Elective (a)	4
3	Physical Education	.5
	<b>Fourth Semester</b>	
.5	AN205 Forensic Anthropology	3
	BI142 General Biology 2	4
	CJ205 Principles of Investigation	3
4.5	HI101 History of Civilization 1	3
3	HI102 History of Civilization 2	3
3	Physical Education	.5
4		
3	(a) PH131 Physics Fundamentals, PH145 Physics, or PH151 General Physics I.	
.5		

# Criminal Justice: Law Enforcement

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## Associate in Applied Science Degree

This degree program is designed to prepare students for careers in law enforcement. The 32 hours of Law Enforcement course work enables students to complete Phase I of basic police training under the direction of the New York State Division of Criminal Justice Services. Although the program does not guarantee employment into a police department, all academic, practical, and physical fitness requirements will be met. This will give students a competitive edge over other applicants, as their qualifications will offer savings to hiring departments and agencies.

### Total Credit Hours: 62.5

#### First Semester

ED100 College Seminar	1
CJ101 Introduction to Criminal Justice	3
EN101 English I: Composition	3
MA110 Elementary Statistics	3
SO101 Introduction to Sociology	3
PE154 Fitness Center	1

#### Second Semester

CJ204 Criminology	3
EN102 English 2: Ideas & Values in Literature	3
PY101 Introduction to Psychology	3
SS218 Methods of Research	3
Core GE Natural Science	4

#### Third Semester

LE118 Police Procedures - Basic	5
LE119 Police Procedures - Intermediate	5
LE120 Police Procedures - Advanced	5
PE155 Police fitness Training	.5
PE162 Self-Defense	.5

#### Fourth Semester

LE121 Principles of Law for Police Officers	7.5
LE122 Techniques of Investigation	6
LE123 Policing in the Community	3

# Culinary Arts Management

## Associate in Occupational Studies Degree

This program prepares students for positions in the food service industry, including skills and knowledge in food preparation, baking, and catering. With experience and additional training, students may be qualified for positions leading to sous chef, executive chef, and/or kitchen (production) manager or catering manager. Instruction in this program takes place primarily at the Rome Campus.

### Total Credit Hours: 64

#### First Semester

ED100 College Seminar	1
FS111 Food Preparation 1	4
FS121 Baking 1	4
FS150 Safety & Sanitation	3
FS160 Dining Room Service	3
Physical Education	.5

#### Second Semester

EN101 English 1: Composition	3
FS112 Food Preparation 2	3
FS131 Food, Beverage & Labor Cost Control	3
FS141 Purchasing for the Hospitality Industry	3
HT101 Introduction to the Hospitality Industry	3
Physical Education	.5

#### Third Semester

BI151 Nutrition & Dietetics 1	3
FS210 Food Preparation 3	4
FS230 Food Service Practicum	3
HT215 Supervisory Leadership in Hospitality	3
IS101 Computers and Society	3
Physical Education	.5

#### Fourth Semester

BM129 Business Mathematics	3
FS204 Banquet & Catering Management	4
FS233 Principles of Food Marketing	3
Mathematics Elective (a)	3
Restricted Program Elective (b)	3
Physical Education	.5

#### Baking & Pastry Arts Emphasis:

Retail baking is an important part of the food service industry. There are 23,000 independent bakers and 24,000 in-store bakeries generating annual sales of \$18 billion.

#### Replace: (17 credit hours)

FS112 Food Preparation 2	3
FS210 Food Preparation 3	4
BI151 Nutrition & Dietetics 1	3
FS204 Banquet & Catering Management	4
Restricted Program Elective	3-4

#### Add: (17 credit hours)

FS205 Baking 2	4
FS202 Menu & Facilities Planning	3
FS213 Cake Decorating	3
FS225 Advanced Bread Baking	3
FS245 Pastry Techniques & Practices	4

(a) Core GE Mathematics Options: MA108 Concepts in Mathematics or MA110 Elementary Statistics.

(b) Restricted Program Electives: AC131 Business Law I, BI152 Nutrition & Dietetics 2, FS202 Menu & Facilities Planning, FS242 Beverage & Bartending Management, or HT211 Convention Services Management.

See Certificate Programs section for related certificate instruction. Students in the Culinary Arts Management program are required to be in full uniform in each laboratory class. The uniform consists of a double-breasted, long-sleeved white chef's coat, black and white checked pants, chef's hat, and a white apron. Shoes are to be of firm leather with a slip resistant sole. Beards and mustaches are to be neatly trimmed.



# Data Processing, Programming & Systems

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## Associate in Applied Science Degree

The objectives of this curriculum are to prepare students for entry-level programming positions in a technical (non-business) environment or to transfer to a four-year college program. This curriculum requires more mathematics than the Computer Information Systems curriculum, but less than the Computer Science curriculum. One High School Mathematics Course or its equivalent is required.

### Total Credit Hours: 63 – 64

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
CI110 Principles of Programming	3
CI121 Microcomputer Techniques for Science	3
Core GE Mathematics	3-4
Core GE Social Science	3
Physical Education	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
CI130 Programming in C++	3
GE Social Science	3
GE Mathematics	3
PH115 Science of Multimedia	4
Physical Education	.5

#### Third Semester

CI230 Data Structures	3
CI285 Systems Operations & Management	3
PH114 Science of Digital Imaging	4
GE Natural Science	4
Computer Language Elective	3
Physical Education	.5

#### Fourth Semester

CI271 Database Design & Implementation	3
CI272 Visual Basic	3
IS280 Web Development 2	3
Computer Science Elective (a)	3
Physical Education	.5

(a) Any 200-level CI course not already in the program.

# Digital Animation

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## Associate in Applied Science

Digital animators create graphics for entertainment, advertising, special effects, education, science, information technologies, and the Internet. Animators entertain, inform and communicate. For television, film, video, presentation graphics, and the Internet, animators are creating new ways to understand and enjoy the world. The contemporary opportunities to animate are boundless. Traditional animation techniques, including cell animation, Claymation, paper graphics, scratch-on, and puppet animations, are being used in the profession. New digital animation effects, software, and hardware are developed every year. Animators must learn about and master these new technologies. Before graduation, students in Digital Animation must develop proficiency in both traditional and digital animation techniques. Team-building and professional portfolio development prepares students for the digital workplace. One High School Mathematics Course or its equivalent is required.

### Total Credit Hours: 64

#### First Semester

ED100 College Seminar	1
FA100 Creativity in Art	3
FA101 General Drawing	3
CG133 Introduction to Animation	3
EN101 English 1: Composition	3
GD145 Digital Applications 1	3
Physical Education	.5

#### Second Semester

FA103 Figure Drawing 1	3
CG134 Digital Applications for the Animator	3
CG144 Digital Animation 1	3
CG147 Sculptural Procedures for the Animator	3
EN102 English 2: Ideas & Values in Literature	3
Physical Education	.5

#### Third Semester

CG145 Digital Animation 2	3
CG146 Storyboarding	3
CG231 Advanced Animation Techniques	3
MA108 Concepts in Mathematics	3
GE Course	3
Physical Education	.5

#### Fourth Semester

CG233 Animation Production Workshop	3
CG234 Professional Practices for the Animator	3
GE Humanities Elective (a)	3
Core GE Natural Science	4
Core GE Social Science Elective	3
Physical Education	.5

(a) Acceptable Electives include: GC245 History of Graphic Design, HU186 Music Appreciation, HU187 Art Appreciation, and HU188 Film Appreciation, HU204 History of Art 1, HU205 History of Art 2 or other Art History courses (which must have General Education status) with permission of the Dean of the Center for Arts and Humanities.

# Educational Sign Language Interpretation

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## Associate in Applied Science Degree

This program provides a solid foundation of the theory and skill sets required for Sign Language Interpreters, develops a strong foundation for students who choose to transfer to bachelor's programs in Interpreter Education, and begins the critical preparation required for practitioners seeking to sit for National Level Certification Exams. The program is founded on best practice for sign language interpreters and provides a template for application of skills in a variety of settings. Completion of this program provides comprehensive knowledge and practice for students desiring to continue their education in this field.

**Total Credit Hours: 62**

### First Semester

ED100 College Seminar	1
AL101 American Sign Language 1	3
AL102 American Sign Language 2	3
EI101 Introduction to Educ & Educ Interp	5
EN101 English 1: Composition	3
Mathematics Elective	3
Physical Education	.5

### Second Semester

AL201 American Sign Language 3	3
EN102 English 2: Ideas & Values in Literature	3
PY101 Introduction to Psychology	3
SO210 Deaf Culture and Community	3
Mathematics Elective	3
Physical Education	.5

### Third Semester

AL202 American Sign Language 4	3
EI120 Processing Skills & Discourse Analysis	4
EI250 Prac and Ethical Appl of Interp	3
Natural Science Elective	4
Physical Education	.5

### Fourth Semester

EI201 Introduction to Consecutive Interpreting	4
EI205 Transliteration	3
HI101 History of Civilization 1	3
Arts Elective	3
Physical Education	.5

# Electrical Engineering Technology

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## Associate in Applied Science Degree

This program prepares students to fill careers in specialized fields of electronics including electrical machinery, control systems, communications, digital and microprocessors, telecommunications and for continued study at the baccalaureate level in Engineering Technology. The program is accredited by the Engineering Technology Accreditation Commission of ABET, <http://www.abet.org>. Purchase of a scientific calculator, digital multi-meter, basic hand tools, and electronic breadboard is required for this program. Sixteen hours of math/science electives must be taken for graduation with the sequence below being preferred. CHI41 General Chemistry I and PH152 General Physics 2 may be included where appropriate and with the approval of the STEM Center Dean. Qualifying electives in this program may come from Engineering Science or Computer Science programs, and include mathematics, chemistry, and physics. A joint admissions program is available for the B.S. program in Electrical Engineering Technology at SUNY Institute of Technology.

### Preparation for this program should include:

- Two high school mathematics courses, or the equivalent
- One laboratory science (physics and chemistry are recommended)

Students well prepared in mathematics may substitute a higher mathematics sequence with the approval of the Center Dean.

### Total Credit Hours: 70 – 77

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
ET151 Circuits 1	4
ET153 Introduction to Electronics	2
ET154 Computer Programming	2
MA121 Fundamentals of College Mathematics 1	4
Physical Education	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
ET152 Circuits 2	4
ET161 Linear Electronics	3
ET181 Digital Electronics 1	3
MA122 Fundamentals of College Mathematics 2	4
Physical Education	.5

#### Third Semester

ET262 Operational Amplifiers	4
ET274 Telecommunications Concepts	4
Core GE Social Science (a)	3
ET Elective (b)	3
Physical Education	.5

#### Fourth Semester

ET283 Microprocessor Fundamentals	4
ET284 Design & Layout	3
ET285 Motors & Controls	4
PH151 General Physics I	4
Physical Education	.5

(a) Recommended Core GE Social Science courses: AN101 Biological Anthropology, BM101 Survey of Economics, PS101 American National Government, PY101 Introduction to General Psychology, and SO101 Introduction to Sociology.

(b) Acceptable Electives: ET141 Programmable Logic Controllers, ET167 Introduction to Photovoltaics, ET282 Digital Electronics 2, or ET Internship.

# Electrical Service Technician: (Electrical Maintenance)

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## Associate in Occupational Studies Degree

The Electrical Service Technician program is a curriculum of sequential technical courses encompassing the field of industrial and commercial services. A scientific calculator, a digital multi-meter, electronic breadboard, and hand tools are required. Small electronic components may be needed with an outlay of \$150 being typical. Students with more than the basic mathematics ability should continue from where they place on the placement exam. One High School Mathematics Course or its equivalent is recommended.

**Total Credit Hours: 69.5 – 77.5**

### First Semester

ED100 College Seminar	1
MA105 Technical Mathematics 1	4
EN110 Oral & Written Communication	3
ET101 Technical Electricity 1	3
ET105 Computer Control Fundamentals	2
BM150 Principles of Entrepreneurship	3
OR	
EN147 Report Writing	3
Physical Education	.5

### Second Semester

MA106 Technical Mathematics 2	4
ET102 Technical Electricity 2	3
ET103 Technical Electronics 3	3.5
ET104 Systems Diagrams	2
ET131 Electrical Machinery and Controls 1	4.5
Elective (a) (optional)	3-4
Physical Education	.5

### Third Semester

ET141 Programmable Logic Controllers	3
ET233 Industrial Electronics	5
ET234 Electrical Wiring and Codes 1	3.5
ET235 Digital Logic	4.5
Elective (a) (optional)	3-4
Physical Education	.5

### Fourth Semester

ET232 Electrical Machinery and Controls 2	5
ET244 Electrical Wiring and Codes 2	4
ET245 Microprocessor Technology	4.5
ET246 Industrial Computer Applications	5
Physical Education	.5

(a) Electives may include MT107 Basic Machine Shop, ET254 C Programming for Technology, ET263 Audio Technology, and ET265 Fiber Optics I.

**See Certificate Programs section for related certificate instruction.**

# Emergency Medical Services/Paramedic

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## Associate in Applied Science Degree

This program is a partnership between MVCC, Faxton-St. Luke's Healthcare EMS Center, and the SUNY Institute of Technology. It is for individuals who are certified Emergency Medical Technicians. It provides the education and hands-on training necessary to function in and out of the hospital setting as an Emergency Paramedic. The paramedic course of study consists of a minimum of 722 hours of academic and clinical instruction provided by the Faxton-St. Luke's Healthcare EMS Center. MVCC equates this instruction and certification to 36 hours of transfer credit. The student is required to take an additional 37 credit hours of course-work at MVCC leading to the A.A.S. degree. This program supplements the basic EMT certificate by providing an opportunity for students to pursue their A.A.S. degree and continue their studies at the SUNY Institute of Technology for a Bachelor's degree in the Health Services Management curriculum. This program is ideal for firefighters, ambulance attendants, and law enforcement personnel. Individuals interested in this degree program, who do not meet the prerequisites of Chemistry and Mathematics may take these courses at MVCC. The basic EMT course leading to certification can be obtained at Faxton-St. Luke's Healthcare EMS Center.

### Total Credit Hours: 73

#### First Semester

ED100 College Seminar	1
BI216 Human Anatomy & Physiology 1	4.5
EN101 English 1: Composition	3
HC100 Introduction to Health Care	3
IS101 Computers and Society	3
PY101 Introduction to Psychology	3

#### Second Semester

BI217 Human Anatomy & Physiology 2	4.5
EN102 English 2: Ideas & Values in Literature	3
MA110 Elementary Statistics	3
MR115 Law in Health Care	3
PY207 Life-Span Developmental Psychology	3
SO101 Introduction to Sociology	3

#### Transfer Credit from Faxton-St. Luke's Healthcare EMS Center:

EMS Paramedic 1	12
EMS Paramedic 2	6
EMS Paramedic 3	12
EMS Paramedic 4	6

Entrance prerequisites: Certificate in Basic EMT, High School Chemistry with Lab, one year of High School Mathematics or its equivalent.



# Engineering Science

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## Associate in Science Degree

This program prepares students for transfer, as juniors, into baccalaureate engineering programs, including civil, mechanical, chemical, electrical, aerospace, petroleum, industrial, and nuclear engineering. Two High School Mathematics Courses or their equivalent, and one year of a laboratory science are required. Chemistry and Physics are recommended. All courses listed by course name and number plus the two restricted electives, two hours of Physical Education and College Seminar are required for graduation.

### Total Credit Hours: 70.5 – 74.5

#### First Semester

ED100 College Seminar	1
CH141 General Chemistry 1	4.5
EN101 English 1: Composition	3
ES161 Introduction to Engineering & Science	3
PY101 Introduction to Psychology (b)	3
MA151 Calculus 1	4
Physical Education	.5

#### Second Semester

CH142 General Chemistry 2	4.5
ES175 Engineering Science Design	3
MA152 Calculus 2	4
PH261 Engineering Physics 1	4.5
Physical Education	.5

#### Third Semester

EN102 English 2: Ideas & Values in Literature	3
MA253 Calculus 3	4
PH262 Engineering Physics 2	4.5
ES271 Engineering Statics	3
Restricted Elective (a)	3-5
Physical Education	.5

#### Fourth Semester

MA260 Differential Equations	3
PH263 Engineering Physics 3	4.5
BM101 Survey of Economics (b)	3
ES272 Engineering Dynamics (c)	3
Restricted Elective (a)	3-5
Physical Education	.5

- (a) Electives will be chosen from ES291 Electrical Circuits 1, ES292 Electrical Circuits 2, CH247 Organic Chemistry 1, CH248 Organic Chemistry 2, CT151 Surveying 1, ES281 Thermodynamics, ES261 Mechanics of Materials, BII41 General Biology 1, BII42 General Biology 2, MA280 Linear Algebra, depending upon the branch of engineering pursued by the student and the college program into which he or she plans to transfer.
- (b) SO101 Introduction to Sociology, AN101 Biological Anthropology, OR PS101 American National Government may be substituted for PY101 Introduction to Psychology or BM101 Survey of Economics.
- (c) Upon advisement, CH248 Organic Chemistry 2 may be substituted.

# Environmental Analysis/Chemical Technology

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## Associate in Applied Science Degree

This program prepares students to work as technicians in both laboratory and field settings required in environmental testing. As a trained professional, the computer, laboratory, and field studies in the program prepare students with the background necessary for various needs in the changing job market of environmental analysis. As a unique feature of the program, students will complete 135 hours in an environmentally related job, allowing the application of theory and the experimental techniques of the program in an actual job setting. This is not designed as a direct transfer program. Two High School Mathematics Courses or their equivalent are required.

### Total Credit Hours: 71

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
CH131 College Chemistry	4.5
MA121 Fundamentals of College Mathematics 1	4
CT151 Surveying 1	4
CI121 Microcomputer Techniques for Science	3
Physical Education	.5

#### Second Semester

CH135 Introduction to Organic Chemistry	4.5
MA122 Fundamentals of College Mathematics 2	4
CT121 Statics	3
BI141 General Biology 1	4
Physical Education	.5

#### Third Semester

EN102 English 2: Ideas & Values in Literature	3
CH246 Quantitative Analysis	5
BI202 Ecology	4.5
Core GE Social Science (a)	3
Physical Education	.5

#### Fourth Semester

BI201 Microbiology	4.5
CH200 Industrial Practicum	3
CH229 Chemical Instrumentation	5
CT261 Geotechnical Topics for Surveyors	3
EV231 Water Analysis	3
Physical Education	.5

- (a) Social Science Electives Students must choose from: PY101 Introduction to Psychology, SO101 Introduction to Sociology, PS101 American National Government, BM101 Survey of Economics, AN101 Biological Anthropology.

# Financial Services Management

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## Associate in Applied Science Degree

This program prepares students for responsible positions within the personal, commercial, trust, or administrative functions of financial institutions or for positions in the sales, underwriting, or claims departments of insurance companies or agencies. High School Mathematics A or its equivalent is required. One High School Mathematics Course or its equivalent is required.

### Total Credit Hours: 66 – 67

#### First Semester

ED100 College Seminar	1
AC115 Financial Accounting	3
AC131 Business Law 1	3
BM120 Principles of Marketing	3
EN101 English 1: Composition	3
BM129 Business Mathematics	3
Physical Education	.5

#### Second Semester

AC116 Managerial Accounting	3
IS101 Computers and Society	3
BM115 Principles of Macroeconomics	3
EN102 English 2: Ideas & Values in Literature	3
Core GE Mathematics	3-4
Physical Education	.5

#### Third Semester

BM240 Personal Lines Insurance	4
BM230 Money and Banking	3
AC230 Financial Management	3
OR	
BM108 Personal Finance	3
BM110 Principles of Microeconomics	3
IS200 Spreadsheet Concepts & Applications	3
Physical Education	.5

#### Fourth Semester

BM243 Casualty Insurance	4
BM251 Organizational Behavior	3
Core GE Social Science (a)	3
Core GE Natural Science	4
Business Elective (b)	3
Physical Education	.5

(a) Excluding BM101 Survey of Economics

(b) Any AC, BM, or IS course other than those already required in the program EXCEPT: AC110, BM100, BM101, or IS100. BM294 Business Internship substitutes for two business electives.

# Fine Arts

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## Associate in Science Degree

This program is designed to aid students in acquiring or refining the traditional technical skills for creating art. It prepares students for transfer to a Bachelor's of Fine Arts program. In the first year, students take foundation courses in two-dimensional design, three-dimensional design, color theory, and drawing. Students are then introduced to painting, sculpture, and figure drawing, and are encouraged to study each before choosing an area of focus. Fine Art electives are also offered to allow students to further their artistic experience. Students are encouraged to present a portfolio to their advisor during the first week of classes to assist in advisement. A copy of the portfolio recommendations can be obtained through the MVCC Admissions Office or the Art and Humanities Center's web page.

### Total Credit Hours: 64

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
FA100 Creativity in Art	3
FA101 General Drawing	3
FA105 Foundation Design	3
FA108 Three-Dimensional Design	3
Physical Education	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
FA103 Figure Drawing 1	3
FA106 Color Theory	3
FA113 Figure Sculpture 1	3
HU205 History of Art 2	3
Physical Education	.5

#### Third Semester

FA104 Figure Drawing 2	3
FA209 Painting 1	3
HU204 History of Art 1	3
Core GE Natural Science	4
Core GE Mathematics	3
Physical Education	.5

#### Fourth Semester

Core GE Natural Science	4
Core GE Social Science	3
Fine Arts Elective	3
GE Humanities Elective (a)	3
GE Elective (b)	3-4
Physical Education	.5

The selection of studio courses will be contingent upon the availability of specialized facilities. As necessary, MVCC will rent appropriate space. The College reserves the right in any given semester to schedule electives and other courses as the College may deem appropriate.

(a) Acceptable electives include: HU227 World Art, HU228 World Architecture, HU295 Survey of Western Philosophy, HU296 Topics in Philosophy or other Art History courses (must have General Education Status) with permission of the Dean of the Center for Arts and Humanities

(b) General Education Elective: can be a course from one of these general studies areas: Natural Science, Language or Mathematics.

# Fire Protection Technology

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## Associate in Applied Science Degree

The Fire Protection Technology program is an Associate in Applied Science degree, and is a collaborative effort between MVCC and the Utica Fire Academy. The program is for individuals that are working in, or preparing to work in, the areas of fire prevention and protection. The program provides the education and training necessary to function in the delivery of emergency fire service, and fire protection and safety. The student is required to take 38 credit hours of course work at MVCC and successfully complete a rigorous 500 plus hours of training at the Utica Fire Academy. Students must meet the criteria established by the Utica Fire Academy prior to being accepted into this program. Students also will be responsible for passing national and state credentialing exams. The two-year degree program is appropriate for advancement opportunities in the field of municipal and industrial fire protection. The Academy is located at 1320 Bleecker Street, once an active firehouse in Utica, offering comprehensive training of New York State career fire department recruits. The recruits live and train at this Academy for approximately 15 weeks.

### Total Credit Hours: 38 plus 500 hours of training at the Utica Fire Academy

#### First Semester

CH101 Physical Science	4
ED100 College Seminar	1
EN101 English 1: Composition	3
HC100 Introduction to Health Care	3
MA108 Concepts in Mathematics	3
OR	
MA110 Elementary Statistics	3
PY101 Introduction to Psychology	3
SO101 Introduction to Sociology	3

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
IS101 Computers and Society	3
MR115 Law in Health Care	3
PS203 State and Local Government	3
PY207 Life-Span Developmental Psychology	3
Social Science Elective	3

#### Third Semester

Utica Fire Academy *	15
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#### Fourth Semester

Utica Fire Academy *	15
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\* Admissions granted by the Utica Fire Academy

# Food Service Administration: Restaurant Management

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## Associate in Applied Science Degree

This program prepares students for middle management and supervisory positions in the field of restaurant and hospitality operations. These positions require special skills and knowledge of food, business, service, and human relations. The program is strengthened by courses in general education, which allows students to develop wide-ranging interests. Instruction in this program takes place primarily at the Rome Campus. Students are required to be in full uniform in each laboratory class. The uniform consists of a double-breasted, long-sleeved chef's coat, black-and white checked chef's pants, chef's hat, and white apron. Shoes are to be of firm leather with a slip resistant sole. Beards and mustaches must be neatly trimmed.

### Total Credit Hours: 64

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
FS111 Food Preparation 1	4
FS150 Safety & Sanitation	3
HT101 Introduction to the Hospitality Industry	3
Physical Education	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
FS112 Food Preparation 2	3
FS131 Food, Beverage & Labor Cost Control	3
FS141 Purchasing for the Hospitality Industry	3
Core GE Mathematics (a)	3
Physical Education	.5

#### Third Semester

AC110 Principles of Accounting	3
FS210 Food Preparation 3	4
IS101 Computers and Society	3
Core GE Natural Science	4
Core GE Social Science	3
Physical Education	.5

#### Fourth Semester

EN150 Effective Speech	3
FS202 Menu & Facilities Planning	3
FS204 Banquet & Catering Management	4
FS242 Beverage & Bartending Management	3
HT215 Supervisory Leadership	3
Physical Education	.5

(a) Core General Education Mathematics Options: MA108 Concepts in Mathematics, MA110 Elementary Statistics, MA115 Intermediate Mathematics, or MA139 College Algebra.



# Geospatial Technology

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## Associate in Applied Science Degree

This program is for persons entering the diverse field of geospatial technology. Geographic Information Systems (GIS) is a powerful computer mapping application that involves storing, editing, analyzing and viewing geospatial data. Geospatial technology is used in various industries, including transportation, environmental studies, utilities planning, asset management, surveying, urban planning and management, epidemiology and health care, engineering, marketing, fleet dispatching and homeland security. Geospatial technology incorporates remote sensing, global positioning systems and GIS. Emphasis is on field and laboratory experience in addition to theory including topics using ArcGIS Global Positioning Systems, Remote Sensing, and database development.

### Total Credit Hours: 68

#### First Semester

ED100 College Seminar	1
CT151 Surveying 1	4
CT265 Introduction to Geographic Information Systems	3
EN101 English 1: Composition	3
IS101 Computers and Society	3
MA121 Fundamentals of College Mathematics 1	4
Physical Education	.5

#### Second Semester

CT101 Drafting	3
CT263 Digital Mapping	3
GE101 Essentials of World Geography	3
MA110 Elementary Statistics	3
IS200 Spreadsheet Concepts & Applications	3
Physical Education	.5

#### Third Semester

CT253 Surveying 3	4
CT267 Advanced GIS	3
EN102 English 2: Ideas & Values in Literature	3
IS210 Database Design & Management	3
Program Elective (a)	3
Physical Education	.5

#### Fourth Semester

CT232 Environmental Engineering	4
CT266 Capstone GIS	3
GL101 Physical Geology	4
IS220 Visual Basic with Business Applications	3
Core GE Social Science	3
Physical Education	.5

(a) CT102 Engineering Drawing and MicroStation CAD or MTI 40 Drafting and Design Using AutoCAD

# Graphic Communication: Graphic Arts Technology

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## Associate in Applied Science Degree

Graduates of this program connect the technology of the computer with the printing press. The world of digital graphics requires people who can make the connection between graphic design and printing. Graphic arts technologists understand design and can communicate in the language of the designer. They understand how jobs are printed and what technical requirements are necessary to meet the client's expectations. Combining technology and creativity, graphic arts technology is a combination of electronic pre-press and graphic design. The degree leads to careers in printing technology, printing marketing and sales, digital pre-press, and presswork. Tools used in the program are required, costing approximately \$100. See Certificate Programs section for related certificate instruction. One High School Mathematics Course or its equivalent is required.

### Total Credit Hours: 64

#### First Semester

ED100 College Seminar	1
FA100 Creativity in Art	3
FA105 Foundation Design	3
GD121 Digital Typography	3
GD145 Digital Applications 1	3
GT124 Commercial Screen Printing	3
Physical Education	.5

#### Second Semester

EN101 English 1: Composition	3
GT122 Digital Prepress	3
GT221 Prepress Procedures	3
PT127 Creative Photography	3
GD146 Digital Applications 2	3
Physical Education	.5

#### Third Semester

EN102 English 2: Ideas & Values in Literature	3
GD220 Typography 1	3
GT123 Offset Presswork	3
GT125 Dye Sublimation and Vinyl Graphics	3
MA108 Concepts in Mathematics (a)	3
Physical Education	.5

#### Fourth Semester

GT222 Printing Production	3
Core GE Social Science	3
Core GE Natural Science	4
GE Elective	3
GE Elective	3
Physical Education	.5

(a) MA108 does not meet RIT Mathematics requirements. Please take MA110, MA139, MA140. Two Laboratory Natural Science courses are required at RIT as well.

# Graphic Communication: Graphic Design

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## Associate in Applied Science Degree

Graphic designers give form to the world of information. In magazines, newspapers, advertising, books, packaging, exhibitions, corporate graphics, signage, film and video, graphic designers communicate it all. They are the caretakers of information. Students in graphic design discover a world that has been revolutionized by the computer. Work that until recently had been done by hand is now conceived and executed digitally. New occupations - web page designer, game designer, multimedia designer, and more - emerge every year. This program prepares students, with high tech tools and a hands-on environment, to enter this digital workplace. Graduates use technology to inform, and they understand the responsibilities of that indispensable role in business, industry, and society. Tools used in the program are required, costing approximately \$100. See Certificate Programs section for related certificate instruction. One High School Mathematics Course or its equivalent is required.

### Total Credit Hours: 64

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
FA100 Creativity in Art	3
FA101 General Drawing	3
FA105 Foundation Design	3
GD121 Digital Typography	3
Physical Education	.5

#### Second Semester

FA103 Figure Drawing 1	3
FA106 Color Theory	3
GC245 History of Graphic Design	3
GD145 Digital Applications 1	3
PT127 Creative Photography	3
Physical Education	.5

#### Third Semester

EN102 English 2: Ideas & Values in Literature	3
GD146 Digital Applications 2	3
GD221 Typography 1	3
MA108 Concepts in Mathematics	3
GE Humanities Elective (a)	3
Physical Education	.5

#### Fourth Semester

CG214 Motion Graphics	3
GD218 Graphic Design Seminar	3
GD222 Typography 2	3
Core GE Natural Science	4
Core GE Social Science	3
Physical Education	.5

(a) Acceptable Electives include: HUI86 Music Appreciation, HUI87 Art Appreciation, , and HUI88 Film Appreciation, HU204 History of Art 1, HU205 History of Art 2 or other Art History courses (which must have General Education status) with permission of the Dean of the Center for Arts and Humanities.

# Graphic Communication: Illustration

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## Associate in Applied Science Degree

Illustrators use a variety of media to create a personal expression. The media may be paint and brush, pencil, or pixel, but the purpose is the same: to interpret a portion of the world pictorially. Illustrators are visual creators who stress communication. The illustrator's subject may be comic or serious, political or interpretative. Each person brings his or her own perspective, talent, and skill to the canvas or computer screen. The result is art that communicates in advertising, newspapers, books, the Internet, CD-ROM, film, and magazines. Tools used in the program are required, costing approximately \$100.

### Total Credit Hours: 64

#### First Semester

ED100 College Seminar	1
FA100 Creativity in Art	3
FA101 General Drawing	3
FA103 Figure Drawing 1	3
FA105 Foundation Design	3
EN101 English 1: Composition	3
Physical Education	.5

#### Second Semester

FA104 Figure Drawing 2	3
GD145 Digital Applications 1	3
HU205 History of Art 2	3
IL106 Sequential Art 1: Figure Illustration	3
EN102 English 2: Ideas & Values in Literature	3
Physical Education	.5

#### Third Semester

FA209 Conceptual Illustration	3
IL201 Conceptual Illustration	3
IL208 Sequential Art 2: Book Illustration	3
GD146 Digital Applications 2	3
HU204 History of Art 1	3
Physical Education	.5

#### Fourth Semester

FA210 Digital Painting	3
IL209 Sequential Art 3: The Graphic Novel	3
MA108 Concepts of Mathematics	3
Core GE Social Science	3
Core GE Natural Science	4
Physical Education	.5

# Health Studies: Radiologic Technology

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## Associate in Applied Science Degree

This program provides students with the knowledge and skills necessary to perform radiologic technologist services. The radiologic technologist is a health professional who administers ionizing radiation (x-rays) to produce images for diagnostic, therapeutic and research purposes. The radiologic technologist operates imaging equipment, provides patient care and radiation protection, positions the patients for examination, selects technical factors for image acquisition, and maintains quality control and patient records. The radiologic technologist is in demand in hospitals, physicians' offices, clinics, government, education, industry, and research.

Graduates of the A.A.S. Health Studies: Radiologic Technology program are eligible to sit for the examination of the American Registry of Radiologic Technologists for certification and New York State licensure. Passing the credentialing exam is necessary to receive a license to practice as an entry-level radiologic technologist in New York State.

Graduates may continue their education in areas such as sonography, nuclear medicine, cardiovascular interventional services, computed tomography (CT), magnetic resonance imaging (MRI), mammography, quality assurance management, research, education, radiation therapy, bone densitometry, and positron emission tomography (PET).

The Radiologic Technology program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 N. Wacker Drive, Suite 2850, Chicago, IL 60606-3182; phone (312) 704-5300. The JRCERT is recognized by the United States Department of Education as the national accreditation agency of programs for radiologic technology.

### Total Credit Hours: 66

#### First Semester

ED100 College Seminar	1
BI216 Human Anatomy & Physiology 1	4.5
MA110 Elementary Statistics	3
RT100 Patient Care I/Ethics	1
RT101 Fundamentals of Radiography	2
RT102 Radiographic Procedures/Pathology 1	3
RT103 Clinical Education Fundamentals	3

#### Second Semester

BI217 Human Anatomy & Physiology 2	4.5
RT104 Patient Care II/Pharmacology & IV Therapy	1
RT105 Image Production & Evaluation I	2
RT106 Radiographic Procedures/Pathology II	3
RT107 Clinical Education Intermediate I	5

#### Summer Semester

RT108 Clinical Education Intermediate II	8
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#### Third Semester

EN101 English 1: Composition	3
PY101 Introduction to Psychology	3
RT109 Radiation Biology I	2
RT200 Advanced Imaging Procedures/Sectional Anatomy	1
RT201 Image Production & Evaluation II	2
RT202 Clinical Education Advanced	6

#### Fourth Semester

EN102 English 2: Ideas & Values in Literature	3
RT203 Radiographic Physics	2
RT204 Radiation Biology II	2
RT205 Advanced Imaging Procedures/Pathology	1
RT207 Clinical Education Mastery	7

- Admission to this program is conditional upon meeting medically required clearance of the Allied Health essential functions.
- An interview is required for admission; please contact the Allied Health Office.
- Students are required to meet the pre-requisites prior to taking the first Radiologic Technology (RT) course. Students must have a GPA of 2.75 or greater in order to be considered for admission into the Radiologic Technology Student Handbook and Clinical Guide. Students who deviate from the objectives of the Health Studies: Radiologic Technology Program as outlined in the Student Handbook and Clinical Guide will be dismissed from the Health Studies: Radiologic Technology Program and ineligible to return to the program.
- A grade of "C" or higher is required in all Radiologic Technology [RT], Liberal Arts, and Science course.
- Health Studies: Radiologic Technology students may repeat one Radiologic Technology (RT) course only. A second failure of a Radiologic Technology (RT) course will result in dismissal from the Health Studies: Radiologic Technology Program and ineligibility to return to the program.
- Health Studies: Radiologic Technology students enrolled in a Radiology Technology (RT) course are permitted one withdrawal. A second withdrawal from any Radiologic Technology (RT) course will result in dismissal from the Health Studies: Radiologic Program and ineligibility to return to the program.
- Clinical assignments may include rotations that require travel within and outside the Utica/Rome area.
- Students must provide their own transportation to and from assigned healthcare agencies for clinical.
- Professional liability and accident insurance, available through the College, is required and payable at registration.
- Students are required to purchase a photo ID from the Faxton-St. Luke's Healthcare to be worn at all times during clinical. All IDs have an expiration date and it is the student's responsibility to make sure his/her ID is current at all times. Upon leaving the Radiologic Technologist (RT) course or program, the ID must be returned to the Program Coordinator.
- Students must follow the dress code requirement outlined in the Clinical Guide. Identified items (nametag, photo ID, swipe cards, watch, uniform, and radiation monitor badge) are required for clinical sessions.
- Credit by examination and /or Credit for Experiential Learning are not options for students who have been unsuccessful in any Radiologic Technology or Human Anatomy & Physiology course.
- Students may be subject to criminal background checks and /or blood screening tests at their own cost.
- All students enrolled in the Health Studies: Radiologic Technology program are required to take the Radiologic Technologists Licensing Review Class through MVCC Center for Corporate and Community Education Department in order to be eligible to graduate from the program.
- Upon successful completion of the Health Studies: Radiologic Technology Program and additional requirements, students may be eligible to take the American Registry of Radiologic Technologist (ARRT) Certification Examination. Graduation from the Health Studies: Radiologic Technologist program does not guarantee success on credentialing exams.
- Students are responsible for fees associated with application for licensure.
- Passing the ARRT credentialing exam is necessary to receive a license to practice as an entry-level radiologic technologist in New York State.
- If an applicant has charges pending or a felony and/or misdemeanor, a license may be delayed or denied by the applicable state licensing board.

#### Program Pre-requisites

- High School Chemistry (with lab) or equivalent with minimum grade of C, within 5 years of admission to the program.
- High School Biology is recommended with 10 years of entrance to the program.
- An appropriate MVCC math placement test result, or MA045 Basic Mathematics Skills, or MA050 Introductory Math.
- Proof of current American Heart Association Healthcare Providers CPR certification must be on file in the Allied Health Office and kept current throughout the program.
- The Allied Health Physical Form must be completed and on file in the Allied Health Office prior to the beginning of the program and must be kept updated annually at the student's expense.

#### Transfer or Returning Students

(Those who have been out of the Health Studies: Radiologic Technologist course sequence for more than one semester) Prior to beginning or resuming Health Studies: Radiologic Technologist coursework, transferring and returning students must:

- Meet with the Radiologic Technology Program Coordinator.
- Meet all prerequisites listed.



# Hotel Technology: Meeting Services Management

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## Associate in Applied Science Degree

This program deals with one of the fastest growing careers in the hospitality field. It provides relevant education for those who wish to enter the industry or for persons currently employed within the industry who wish to upgrade their skills. Coursework includes management, marketing, human resources, accounting, business law, and computer applications. In addition to the general academic requirements, a minimum of 225 documented hours is required of hospitality-related internship experience. Upon completion of the associate degree program, graduates are qualified for entry-level supervisory positions in hotel and corporate convention and meeting services. The flexibility of the program allows students to choose options in front office management, hotel food and beverage management, or housekeeping management. Another option may be continuing education, receiving junior year status in a Bachelor of Science Hospitality program with four-year colleges and universities, established through articulation agreements. One High School Mathematics Course or its equivalent is recommended.

### Total Credit Hours: 63 – 64

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
FS111 Food Preparation 1	4
FS150 Safety & Sanitation	3
HT101 Introduction to the Hospitality Industry	3
Physical Education	.5

#### Second Semester

AC110 Principles of Accounting	3
BM120 Principles of Marketing	3
EN102 English 2: Ideas & Values in Literature	3
HT105 Front Office Procedures	3
Core GE Social Science	3
Physical Education	.5

#### Third Semester

AC131 Business Law	3
EN150 Effective Speech	3
HT205 Housekeeping/Property Management	3
IS101 Computers and Society	3
Core GE Natural Science	4
Physical Education	.5

#### Fourth Semester

BM251 Organizational Behavior	3
HT201 Internship/Co-op	3
HT211 Convention Service Management	3
HT215 Supervisory Leadership	3
Mathematics Elective (a)	3-4
Physical Education	.5

(a) Mathematics Elective Options: MA108 Concepts in Mathematics, MA110 Elementary Statistics, MA115 Intermediate Mathematics, , MA139 College Algebra.

(b) Upon advisement, students may choose: BM264 Professional Selling, HT205 Housekeeping/Property Management, HT210 Hospitality/Human Resources Management, HT211 Convention Service Management, FS131 Food Control.

# Human Services

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## Associate in Applied Science Degree

This program provides the skills needed to begin working in a variety of helping professions. Working with an advisor, students plan a course of studies around their career interests. The counseling emphasis helps to develop the knowledge and interpersonal skills required to help those in need solve problems in living. Human Services students must complete two semesters of professionally supervised internship experiences in a setting related to their career direction. Students who choose to continue their education will find opportunities to transfer into baccalaureate programs in social work, psychology, therapeutic recreation, occupational therapy, child life, and related areas. One High School Mathematics Course or its equivalent is required.

### Total Credit Hours: 64

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
BI103 Human Life Science 1	4
PY101 Introduction to Psychology	3
SO101 Introduction to Sociology	3
HS101 Introduction to Human Services	3
Physical Education	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
MA108 Concepts in Mathematics	3
OR	
MA110 Elementary Statistics	3
HS241 Chemical Dependencies	3
PY203 Abnormal Psychology	3
PY210 Evaluation, Research & Measurement in Behavioral Science	3
Physical Education	.5

#### Third Semester

HS251 Internship 1	3
HS222 Theories of Counseling	3
Program Elective (Restricted)	3
Developmental Psych Elective	3
Psychology Elective	3
Physical Education	.5

#### Fourth Semester

HS232 Counseling Techniques	3
HS252 Internship 2	3
Program Elective (Restricted)	3
Sociology Elective	3
General Education Elective (a)	3
Physical Education	.5

#### Program Electives (choose two; must be entered in plan by advisor)

HS216 Introduction to Disabilities
HS231 Ethics, Policy & Law
HS233 Group Counseling Skills
HS245 Case Management 1

**Developmental Psychology Electives (choose one)**

PY202 Childhood and Adolescence

PY205 Adulthood & Aging

PY212 Adolescent Psychology

**Psychology Electives (choose one)**

PY201 Learning: Behavior Analysis

PY204 Social Psychology

PY208 Death, Dying & Bereavement

PY209 Forensic Psychology

PY213 Human Sexuality OR

A second Developmental Psychology Elective

**Sociology Electives (choose one)**

SO202 Marriage & Family Living

SO203 Urban Sociology

SO204 Contemporary Issues in Society

SO205 Racial & Ethnic Minorities

SO206 The Social Significance of Gender

SO207 Sociology of Religion (b)

SO208 Sociology of Aging

SO210 Deaf Culture and Community

- (a) General Education Elective (3 hours). Consult with advisor for a list of courses. If transferring to a SUNY college, complete an American History, Western Civilization, Arts, or Foreign Language. Take SO207 Sociology of Religion and a SUNY General Education course to fulfill 7 areas.
- (b) Fulfills SUNY General Education Other World Civilizations.

# Individual Studies

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Due to the multiple degree types available through Individual Studies, students planning on enrolling at the College for the first time should consult with the Admissions Office before filing an application for admission.

## Degree Program:

Some students have needs and goals different from those of traditional students who often are continuing their education directly from high school. Many have jobs and families, both of which influence their education. First, there is the need for specifically job-related courses. Then, when a level of competence has been gained, the student often feels the need for a basic college education and the resulting degree. The structured programs designed for full-time students have less relevance for the part-time student. Often these students do not plan to transfer to an upper-division curriculum or need the broader knowledge of an extensive technology curriculum. Usually they need only courses demanded by the immediate promotion needs of the job. The College has established a curriculum in Individual Studies that includes the following:

## General Requirements:

1. The curriculum requires a minimum of 60 credit hours or their equivalent, plus 2 credit hours of Physical Education and 1 credit hour of College Seminar.
2. Prior to a formal request for degree candidacy, the student must have completed a detailed plan of study.
3. The student will submit a detailed plan of study when applying for degree candidacy. This plan will include a summary of all past educational credits which the student wishes to have accepted toward completion of the curriculum. This plan is to be submitted as part of the degree candidacy process, and will be reviewed and approved by the appropriate Center depending on the student's area of concentration. Changes may be made by the student later, with the approval of the appropriate Dean.
4. The plan will include a projected body of work to be known as the student's area of concentration. This area is to be a cohesive body of knowledge which the student can justify as having both educational and personal relevance. It is anticipated that this area, which will include a minimum of 20 credits, may cut across Center lines.

## Associate in Occupational Studies in Individual Studies

The student will complete a six-credit-hour requirement in English that includes EN110 Oral & Written Communication and EN147 Report Writing. The student will complete an eight-hour sequence in Mathematics that includes MA105 Technical Mathematics I and MA106 Technical Mathematics 2. The student may make substitutions of other higher level English and Mathematics courses with the approval of the Individual Studies advisor.

## Associate in Science in Individual Studies

In addition to the general requirements, the following are required:

1. The student must submit a comprehensive plan of studies clearly designating a block of eighteen credits identifiable as an area of concentration. Of these, nine credits must be in addition to the general education, mathematics, and science units specified in B below.
2. General Education courses as prescribed by the A.S. degree requirements.

## Associate in Applied Science in Individual Studies

In addition to the general requirements, the following are required:

1. The student must submit a comprehensive plan of study clearly designating a block of eighteen credits identifiable as an area of concentration. The credits included in this portion of the student's program may not be included in the general studies portion listed in C below.
2. The distribution and minimum content requirements of general education, liberal arts and sciences, must be at least twenty credit hours.
3. General Education courses as prescribed by the A.A.S. degree requirements.

## **Associate in Arts in Individual Studies**

In addition to the general requirements, the following are required:

1. The student must submit a comprehensive plan of study clearly designating a block of eighteen credits identifiable as an area of concentration, of which at least nine credits must be in addition to the general education, mathematics, and science units specified in C below.
2. The distribution and minimum content requirements of general education, liberal arts and sciences, must be at least sixty credit hours.
3. General Education courses as prescribed by the A.A. degree requirements.

## **Certificate in Individual Studies: Business & Industry or Certificate in Individual Studies: Allied Health**

The Individual Studies Certificate updates the education of people who have work experience or degrees/training in the industrial/business environment. This certificate allows the student to choose appropriate coursework to strengthen their knowledge at their present job or for a potential job opening. This certificate is designed to allow entry workers to have specific exposure to technical and business topics for immediate employment. This certificate can be applied toward an AOS or AAS degree in business, technology, the trades, or several others.

### **General Requirements:**

The certificate requires a minimum of thirty credit hours or their equivalent. Prior to a formal request for candidacy, the student must have completed a detailed plan of study. The student will submit a detailed plan of studies when applying for certificate candidacy.

This plan will include a summary of all past educational credits that the student wishes to have accepted toward completion of the certificate. This plan is to be submitted as part of the certificate candidacy process, and will be reviewed and approved by the appropriate center depending on the student's area of concentration. Changes may be made later, with the approval of the appropriate Dean. The plan will include a projected body of work to be known as the student's area of concentration. This area is to be a cohesive body of knowledge that the student can justify as having educational and personal relevance. It is anticipated that this area, which will include a minimum of fifteen credits, may cut across centerlines. In addition to the general requirements, the following are required: The student must submit a comprehensive plan of study that includes three credits of mathematics, three credits of English, and fifteen credits of an identified area of concentration. These courses are to be chosen with the aid of an advisor; based upon future educational or occupational goals.

# Liberal Arts & Sciences: General Studies

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## Associate in Science Degree

This flexible program allows a greater choice of electives than many others. Under the guidance of an advisor, students begin initial course work in one or two career fields in which they are interested. At the same time, they complete general education courses required for transfer to upper-division colleges. They decide their future educational objectives: internal transfer to another MVCC program, or external transfer to a four-year college in their chosen field. This program is ideally suited to students who are unsure of their goals or those who wish to explore career options. Any student admitted to MVCC who is not admitted to a particular curriculum, or who does not elect to enroll in a specific curriculum, will be matriculated as a General Studies student. If students are not ready to enter courses because they lack the necessary background, they are asked to take developmental courses first.

### Total Credit Hours: 62

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
Core GE Social Science (a)	3
MA Mathematics (c)	3
Elective (b)	3
Elective (b)	3
Physical Education	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
Social Science Elective (a)	3
MA Mathematics (c)	3
Elective (b)	3
Elective (b)	3
Physical Education	.5

#### Third Semester

Science Elective	4
EN150 Effective Speech	3
HI101 History of Civilization 1	3
Elective (b)	3
Physical Education	.5

#### Fourth Semester

Science Elective	4
Humanities Elective	3
HI102 History of Civilization 2	3
Elective (b)	3
Elective (b)	3
Physical Education	.5

- (a) Student must choose among PS101 American National Government, SO101 Introduction to Sociology, PY101 Introduction to Psychology, BM101 Survey of Economics, or AN101 Biological Anthropology.
- (b) All electives must be approved officially by the student's faculty advisor.
- (c) Students choose two courses from the following: MA108, MA110, MA131. The two-semester requirement may also be fulfilled by any one of the above courses, and a course beyond the 131 level; or by any two beyond 131. Plus, upon advisement and placement results, students planning to transfer to degree programs where differing mathematics courses are appropriate may fulfill the two-semester requirement with appropriate courses which satisfy the General Education requirement. For example: Business: MA115; Computer Information Systems: MA115, MA110, MA131 (See Mathematics requirements under separate degree programs)



# Liberal Arts & Sciences: Childhood Education

## Associate in Science Degree (Transfer Program)

This program is the first step for students seeking teacher certification in Childhood Education (grades 1-6), Early Childhood/Childhood Education (Birth-6th grade) or Childhood Special Education. In order to earn teacher certification, students must transfer to and complete an appropriate bachelor's and master's degree at a transfer institution. As part of the first two years of that process, students in the Childhood Education (grades 1-6) program complete all ten of the general education areas required by SUNY for a bachelor's degree and up to nine hours of professional courses which include at a minimum 30 hours of classroom observation. They must also complete 15-18 credit hours in a concentration (English, History/Social Studies, or Science). Specific courses depend on the area of concentration and the transfer institution. Students in the Early Childhood/Childhood Education (Birth-6th grade) degree program complete 28 credits in pre-professional and professional courses in addition to the General Education requirements. These students select a concentration when they enter the transfer institution. Students interested in Special Education may enroll in either the Birth-6th grade or 1st-6th grade degree program depending on which transfer institution is selected. It is important for students to contact the college to which they may transfer in order to plan their curriculum. In some cases, it may require careful planning for students to complete a bachelor's degree in four years. Individuals interested in becoming a Teacher's Assistant in a public school are encouraged to complete the Birth-6th grade degree program to meet the new 2012 Federal guidelines regarding educational requirements for a classroom Teacher Assistant.

**Total Credit Hours: 61 – 61.5**

### English Concentration

#### First Semester

ED100 College Seminar	1
ED150 Soc & Phil Found of Education*	3
EN101 English 1: Composition	3
MA171 Foundations of Mathematics 1	3
PY101 Introduction to Psychology	3
Foreign Language (a)	3
Physical Education	.5

#### Second Semester

ED205 Child Development*	3
EN102 English 2: Ideas & Values in Literature	3
HI111 or HI112 Amer. History	3
MA172 Foundations of Mathematics 2	3
Foreign Language (b)	3
Physical Education	.5

#### Third Semester

EN248 or EN249 American Literature 1 or 2	3
HI101 History of Civilization 1	3
Literature Elective (e)	3
Natural Science Elective (c)	4-4.5
Physical Education	.5

#### Fourth Semester

Literature Elective (e)	3
ED211 Introduction to Exceptionalities*	3
EN240 Children's Literature	3
EN271 or EN272 British Literature 1 or 2	3
Fine Arts Elective (d)	3
Physical Education	.5

- (a) Language requirement consists of a two-course sequence in the same foreign language. American Sign Language counts as a foreign language in education programs within the SUNY system. Regents level 4 foreign language in high school (or level 3 with a score of 90 or better) allows students to take one semester of that language at a level of 191 (Review) or higher to satisfy this requirement.
- (b) In the case where students are exempt from the language requirement, the language credits must be replaced with courses approved by an advisor. Those attending Utica College must select ED206 child Development as their replacement course.

- (c) Natural Science electives include: BI105, BI141, BI142, BI216, BI217, CH101, CH131, CH141, CH142, CH247, CH248, GL101, GL102, PH131, PH141, PH142, PH151, PH152.
- (d) Fine Arts: HU187, HU204, HU205, or GC244
- (e) Literature elective could include a second British Literature class, or a World Literature class (EN255 or EN256).

\* Students are required to earn a minimum grade of "C" in these courses to meet the graduation requirements.

## History Concentration

### First Semester

ED100 College Seminar	1
ED150 Soc & Phil Found of Education*	3
EN101 English 1: Composition	3
MA171 Foundations of Mathematics 1	3
PY101 Introduction to Psychology	3
Foreign Language (a)	3
Physical Education	.5

### Second Semester

ED205 Child Development*	3
EN102 English 2: Ideas & Values in Literature	3
HI102 History of Civilization 2	3
MA172 Foundations of Mathematics 2	3
Foreign Language (b)	3
Physical Education	.5

### Third Semester

HI101 History of Civilization 1	3
HI111 American History 1492-1850	3
Fine Arts Elective (d)	3
Natural Science Elective (c)	4-4.5
Physical Education	.5

### Fourth Semester

ED211 Introduction to Exceptionalities*	3
EN240 Children's Literature (e)	3
GE101 World Geography	3
HI112 American History 1850-present	3
HI214 NYS History	3
Physical Education	.5

- (a) Language requirement consists of a two-course sequence in the same foreign language. American Sign Language counts as a foreign language in education programs within the SUNY system. Regents level 4 foreign language in high school (or level 3 with a score of 90 or better) allows students to take one semester of that language at a level of 191 (Review) or higher to satisfy this requirement.
- (b) In the case where students are exempt from the language requirement, the language credits must be replaced with courses approved by an advisor. Those attending Utica College must select ED206 child Development as their replacement course.
- (c) Natural Science electives include: BI105, BI141, BI142, BI216, BI217, CH101, CH131, CH141, CH142, CH247, CH248, GL101, GL102, PH131, PH141, PH142, PH151, PH152.
- (d) Fine Arts: HU187, HU204, HU205, or GC244
- (e) EN240 is the recommended course, however students may also select from the following: EN248, 249, 255, 256, 271, 272.

\* Students are required to earn a minimum grade of "C" in these courses to meet the graduation requirements.

## General Science Concentration

### First Semester

ED100 College Seminar	1
ED150 Soc & Phil Found of Education*	3
EN101 English 1: Composition	3
PY101 Introduction to Psychology	3
Foreign Language (a)	3
Natural Science Elective (b)	4-4.5
Physical Education	.5

### Second Semester

ED205 Child Development*	3
EN102 English 2: Ideas & Values in Literature	3
HI111 or 112 American History	3
Foreign Language (b)	3
Natural Science Elective (c)	4-4.5
Physical Education	.5

### Third Semester

HI101 History of Civilization 1	3
MA171 Foundations of Mathematics 1	3
Fine Arts Elective (d)	3
Natural Science Elective (c)	4
Physical Education	.5

### Fourth Semester

ED211 Introduction to Exceptionalities*	3
ED240 Children's Literature (e)	3
MA172 Foundations of Mathematics 2	3
Natural Science Elective (c)	4
Physical Education	.5

- (a) Language requirement consists of a two-course sequence in the same foreign language. American Sign Language counts as a foreign language in education programs within the SUNY system. Regents level 4 foreign language in high school (or level 3 with a score of 90 or better) allows students to take one semester of that language at a level of 191 (Review) or higher to satisfy this requirement.
- (b) In the case where students are exempt from the language requirement, the language credits must be replaced with courses approved by an advisor. Those attending Utica College must select ED206 child Development as their replacement course.
- (c) Natural Science electives (choose 4 courses that must include 2 of the following 2-course sequences): BI141/BI142 General Biology I and 2; CH141/CH142 General Chemistry I and 2; GL101/GL102 Physical Geology and Historical Geology; PH141/PH142 Descriptive Astronomy I and 2; PH151/PH152 General Physics I and 2.
- (d) Fine Arts: HU187, HU204, HU205, or GC244
- (e) EN240 is the recommended course, however students may also select from the following: EN248, 249, 255, 256, 271, 272.

\* Students are required to earn a minimum grade of "C" in these courses to meet the graduation requirements.

## Utica College B-6th Certification Program

### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
PY101 Introduction to Psychology	3
Foreign Language (a)	3
ED150 Soc & Phil Foundations of Education*	3
MA171 Foundations Mathematics 1	3
Physical Education	.5

### Second Semester

EN 102 English 2: Ideas and Value in Literature	3
HI101 or HI102 History of Civilization 1 or 2	3
MA172 Foundations Mathematics 2	3
HI111 or 112 American History	3
ED205 Child Development*	3
Physical Education	.5

### Third Semester

Natural Science Elective (b)	4-4.5
Fine Arts Elective (c)	3
ED201 Introduction to Early Child Education*	3
ED203 Early Childhood Methods & Materials*	3
EN240 Children's Literature	3
Physical Education	.5

### Fourth Semester

ED204 Infant/Toddler Care*	3
ED207 Observation & Assessment	3
ED211 Introduction to Exceptionalities	3
ED251 Education Internship*	3
ED206 Language & Literacy in Childhood*	3
Physical Education	.5

- (a) Students must complete one (1) semester of foreign language. Students transferring to Utica College or Cortland may take American Sign Language for the requirement. Regents level 4 foreign language in high school (or level 3 with a score of 90 or better) will meet the language requirement. Students who do not need the Foreign Language course should consult their advisor for an appropriate course replacement.
- (b) NATURAL SCIENCE - Electives include: BI105, BI106, BI107, BI141, BI142, BI216, BI217, CH101, CH131, CH141, CH142, CH247, CH248, GL101, GL102, PH131, PH141, PH142, PH151, PH152. CH101 is a required course for students transferring to SUNY Cortland.
- (c) Fine Arts Elective - HU187, HU204, HU205, or GC244

# Liberal Arts & Sciences: Adolescence Education

## Associate in Science Degree

This program is the first step for students seeking teacher certification. The program is appropriate for Adolescent Education (grades 7-12). In order to earn teacher certification, students must transfer and complete an appropriate bachelor's and master's degree. As part of the first two years of that process, students in this program complete all ten of the general education areas required by SUNY for a bachelor's degree. They complete six credit hours of professional courses (ED150, and PY212), which include at least thirty hours of classroom observation. (Students complete 15-18 credit hours in their concentration (Mathematics, English, History/Social studies, Biology, Physics, Geology, or Chemistry). Specific courses taken depend on the area of concentration, the type of certification being sought, and the transfer institution. It is important for students to contact the school to which they may transfer in order to plan their curriculum. In some cases, it may require careful planning for students to complete a bachelor's degree in four years.

**Total Credit Hours: 61 – 66.5**

### Biology Concentration

#### First Semester

ED100 College Seminar	1
BI141 General Biology 1	4
ED150 Soc & Phil Found of Education*	3
EN101 English 1: Composition	3
PY101 Introduction to Psychology	3
Foreign Language (a)	3
Physical Education	.5

#### Second Semester

BI142 General Biology 2	4
EN102 English 2: Literature	3
HI111 or 112 American History	3
Fine Arts Elective (c)	3
Foreign Language (b)	3
Physical Education	.5

#### Third Semester

BI201 Microbiology	4.5
CH141 General Chemistry 1	4.5
HI101 History of Civilization 1	3
PY212 Adolescent Psychology*	3
Physical Education	.5

#### Fourth Semester

CH142 General Chemistry 2	4.5
ED211 Introduction to Exceptionalities*	3
MA110 Elementary Statistics	3
PY212 Adolescent Psychology	3
Literature Elective (d)	3
Physical Education	.5

- Language requirement consists of a two-course sequence in the same foreign language. American Sign Language counts as a foreign language in education programs within the SUNY system. Regents level 4 foreign language in high school (or level 3 with a score of 90 or better) allows students to take one semester of that language at a level of 191 (Review) or higher to satisfy this requirement.
- In the case where students are exempt from the language requirement, the language credits must be replaced with courses approved by an advisor. Those attending Utica College must select ED206 child Development as their replacement course.
- Fine Arts: HU187, HU204, HU205, or GC244
- Literature Electives: EN248, EN249, EN255, EN256, EN271, EN272.

\* To meet graduation requirements, this course must be a C or better.

## Chemistry Concentration

### First Semester

ED100 College Seminar	1
CH141 General Chemistry 1	4.5
ED150 Soc & Phil Found of Education*	3
EN101 English 1: Composition	3
Foreign Language (a)	3
Physical Education	.5

### Second Semester

CH142 General Chemistry 2	4.5
EN102 English 2: Literature	3
HI111 or 112 Amer. History 1 or 2	3
PY101 Introduction to Psychology	3
Foreign Language (b)	3
Physical Education	.5

### Third Semester

CH247 Organic Chemistry 1	5
HI101 History of Civilization 1	3
MA151 Calculus 1	4
Fine Arts Elective (c)	3
Physical Education	.5

### Fourth Semester

CH248 Organic Chemistry 2	5
MA152 Calculus 2	4
PY212 Adolescent Psychology*	3
Literature Elective (d)	3
Physical Education	.5

- (a) Language requirement consists of a two-course sequence in the same foreign language. American Sign Language counts as a foreign language in education programs within the SUNY system. Regents level 4 foreign language in high school (or level 3 with a score of 90 or better) allows students to take one semester of that language at a level of 191 (Review) or higher to satisfy this requirement.
- (b) In the case where students are exempt from the language requirement, the language credits must be replaced with courses approved by an advisor. Those attending Utica College must select ED206 child Development as their replacement course.
- (c) Fine Arts: HUI87, HU204, HU205, or GC244
- (d) Literature Electives: EN248, EN249, EN255, EN256, EN271, EN272.

\* Students are required to earn a minimum grade of "C" in these courses to meet the graduation requirements.

## Earth Science Concentration

### First Semester

ED100 College Seminar	1
CH141 General Chemistry 1	4.5
ED150 Soc & Phil Found of Education*	3
EN101 English 1: Composition	3
PY101 Introduction to Psychology	3
Foreign Language (a)	3
Physical Education	.5

### Second Semester

CH142 General Chemistry 2	4.5
EN102 English 2: Literature	3
HI111 or 112 American History	3
Fine Arts Elective (c)	3

Foreign Language (b)	3
Physical Education	.5

### Third Semester

GL101 Physical Geology	4
HI101 History of Civilization 1	3
PY212 Adolescent Psychology*	3
BI105 Environmental Science	4
Physical Education	.5

### Fourth Semester

GL102 Historical Geology	4
MA110 Elementary Statistics	3
ED211 Introduction to Exceptionalities*	3
Literature Elective (d)	3
Physical Education	.5

- (a) Language requirement consists of a two-course sequence in the same foreign language. American Sign Language counts as a foreign language in education programs within the SUNY system. Regents level 4 foreign language in high school (or level 3 with a score of 90 or better) allows students to take one semester of that language at a level of 191 (Review) or higher to satisfy this requirement.
- (b) In the case where students are exempt from the language requirement, the language credits must be replaced with courses approved by an advisor. Those attending Utica College must select ED206 Child Development as their replacement course.
- (c) Fine Arts: HU187, HU204, HU205, or GC244
- (d) Literature Electives: EN248, EN249, EN255, EN256, EN271, EN272.

\* Students are required to earn a minimum grade of "C" in these courses to meet the graduation requirements.

## English Concentration

### First Semester

ED100 College Seminar	1
ED150 Soc & Phil Found of Education*	3
EN101 English 1: Composition	3
MA110 Elementary Statistics	3
PY101 Introduction to Psychology	3
Foreign Language (a)	3
Physical Education	.5

### Second Semester

EN102 English 2: Literature	3
HI111 or 112 American History	3
PY212 Adolescent Psychology*	3
Fine Arts Elective (d)	3
Foreign Language (b)	3
Physical Education	.5

### Third Semester

HI101 History of Civilization 1	3
Natural Science Elective (c)	4-4.5
EN248 American Literature 1	3
EN271 British Literature 1	3
Physical Education	.5

### Fourth Semester

ED211 Introduction to Exceptionalities*	3
EN249 American Literature 2	3
EN272 British Literature 2	3



Literature Elective (e)	3
Literature Elective (e)	3
Physical Education	.5

- (a) Language requirement consists of a two-course sequence in the same foreign language. American Sign Language counts as a foreign language in education programs within the SUNY system. Regents level 4 foreign language in high school (or level 3 with a score of 90 or better) allows students to take one semester of that language at a level of 191 (Review) or higher to satisfy this requirement.
- (b) In the case where students are exempt from the language requirement, the language credits must be replaced with courses approved by an advisor. Those attending Utica College must select ED206 child Development as their replacement course.
- (c) Natural Science electives include: BI105, BI141, BI142, BI216, BI217, CH101, CH131, CH141, CH142, CH247, CH248, GL101, GL102, PH131, PH141, PH142, PH151, PH152.
- (d) Fine Arts: HU187, HU204, HU205, or GC244
- (e) Literature elective could include a second British Literature class, or a World Literature class (EN255 or EN256).

\* Students are required to earn a minimum grade of "C" in these courses to meet the graduation requirements.

## History/ Social Studies Concentration

### First Semester

ED 100 College Seminar	1
ED150 Soc & Phil Found of Education*	3
EN 101 English 1: Composition	3
MA110 Elementary Statistics	3
PY101 Introduction to Psychology	3
Foreign Language (a)	3
Physical Education	.5

### Second Semester

EN 102 English 2: Literature	3
BM110 Microeconomics	3
PS101 American National Government	3
PY212 Adolescent Psychology*	3
Foreign Language (b)	3
Physical Education	.5

### Third Semester

BM115 Macroeconomics	3
HI101 History of Civilization 1	3
HI 111 American History 1492-1850	3
Natural Science Elective (c)	4-4.5
Physical Education	.5

### Fourth Semester

ED211 Introduction to Exceptionalities*	3
HI102 History of Civilization 2	3
HI112 American History 1850-present	3
Fine Arts Elective (d)	3
Literature Elective (e)	3
Physical Education	.5

- (a) Language requirement consists of a two-course sequence in the same foreign language. American Sign Language counts as a foreign language in education programs within the SUNY system. Regents level 4 foreign language in high school (or level 3 with a score of 90 or better) allows students to take one semester of that language at a level of 191 (Review) or higher to satisfy this requirement.
- (b) In the case where students are exempt from the language requirement, the language credits must be replaced with courses approved by an advisor. Those attending Utica College must select ED206 child Development as their replacement course.
- (c) Natural Science electives include: BI105, BI141, BI142, BI216, BI217, CH101, CH131, CH141, CH142, CH247, CH248, GL101, GL102, PH131, PH141, PH142, PH151, PH152.
- (d) Fine Arts: HU187, HU204, HU205, or GC244
- (e) Literature elective: EN248, EN249, EN255, EN256, EN271, EN272

## Mathematics Concentration

### First Semester

ED100 College Seminar	1
ED150 Soc & Phil Found of Education*	3
EN101 English 1: Composition	3
MA151 Calculus 1	4
PY 101 Introduction to Psychology	3
Foreign Language (a)	3
Physical Education	.5

### Second Semester

EN102 English 2: Ideas & Values in Literature	3
MA152 Calculus 2	4
HI111 or 112 Amer. History 1 or 2	3
PY212 Adolescent Psychology*	3
Foreign Language (b)	3
Physical Education	.5

### Third Semester

HI101 History of Civilization 1	3
MA253 Calculus 3	4
MA275 Discrete Algebraic Structures 1	4
Fine Arts Elective (d)	3
Physical Education	.5

### Fourth Semester

ED211 Introduction to Exceptionalities*	3
MA280 Linear Algebra	3
Literature Elective (e)	3
Natural Science Elective (c)	4-4.5
Physical Education	.5

- (a) Language requirement consists of a two-course sequence in the same foreign language. American Sign Language counts as a foreign language in education programs within the SUNY system. Regents level 4 foreign language in high school (or level 3 with a score of 90 or better) allows students to take one semester of that language at a level of 191 (Review) or higher to satisfy this requirement.
- (b) In the case where students are exempt from the language requirement, the language credits must be replaced with courses approved by an advisor. Those attending Utica College must select ED206 child Development as their replacement course.
- (c) Natural Science electives include: BI105, BI141, BI142, BI216, BI217, CH101, CH131, CH141, CH142, CH247, CH248, GL101, GL102, PH131, PH141, PH142, PH151, PH152.
- (d) Fine Arts: HU187, HU204, HU205, or GC244
- (e) Literature elective: EN248, EN249, EN255, EN256, EN271, EN272

\* Students are required to earn a minimum grade of "C" in these courses to meet the graduation requirements.

## Physics Concentration

### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
Foreign Language (a)	3
MA151 Calculus 1	4
ED150 Soc & Phil Found of Education*	3
PY101 Introduction to Psychology	3
Physical Education	.5

**Second Semester**

EN102 English 2: Literature	3
MA152 Calculus 2	4
HI111 or 112 American History	3
PY212 Adolescent Psychology*	3
Foreign Language (b)	3
Physical Education	.5

**Third Semester**

CH141 General Chemistry 1	4.5
HI101 History of Civilization 1	3
MA253 Calculus 3	4
PH151 General Physics 1	4
Physical Education	.5

**Fourth Semester**

ED211 Introduction to Exceptionalities*	3
PH152 General Physics 2	4
Fine Arts Elective (c)	3
Literature Elective (d)	3
Physical Education	.5

- (a) Language requirement consists of a two-course sequence in the same foreign language. American Sign Language counts as a foreign language in education programs within the SUNY system. Regents level 4 foreign language in high school (or level 3 with a score of 90 or better) allows students to take one semester of that language at a level of 191 (Review) or higher to satisfy this requirement.
- (b) In the case where students are exempt from the language requirement, the language credits must be replaced with courses approved by an advisor. Those attending Utica College must select ED206 child Development as their replacement course.
- (c) Fine Arts: HU187, HU204, HU205, or GC244
- (d) Literature Electives: EN248, EN249, EN255, EN256, EN271, EN272.

\* Students are required to earn a minimum grade of "C" in these courses to meet the graduation requirements.

# Liberal Arts & Sciences: Humanities & Social Sciences

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## Associate in Arts Degree

Students in this program develop the skills of learning, thinking, and communicating for the purpose of deepening their knowledge of the humanities and broadening their knowledge of the other disciplines. In keeping with these aims, the students use writing as a means for thinking about and understanding subject matter. The program may serve as an initial preparation for entry into the professions, such as education and law. The complete program is available on the Utica and Rome campuses. Prerequisites for program acceptance are Two High School Mathematics Courses or their equivalent, and one year of a laboratory science.

### Total Credit Hours: 65

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
Social Science (a)	3
Mathematics (b)	3
Foreign Language (c)	3
HI101 History of Civilization 1	3
Physical Education	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
Social Science (a)	3
Mathematics (b)	3
Foreign Language (c)	3
HI102 History of Civilization 2	3
Physical Education	.5

#### Third Semester

Literature (d)	3
Core GE Natural Science	4
EN150 Effective Speech	3
Humanities Elective	3
General Elective	3
Physical Education	.5

#### Fourth Semester

Literature (d)	3
Core GE Natural Science	4
Social Science Elective	3
General Elective	3
General Elective	3
Physical Education	.5

Courses in the Liberal Arts & Sciences-Humanities & Social Science program with the registration designation of "LTW" are intended for Liberal Arts & Sciences-Humanities & Social Science students. (See page 25.)

All electives must be chosen from the official list of Acceptable Electives for the Liberal Arts and Science: Humanities and Social Sciences courses and approved by the faculty advisor. Students who wish to elect courses not on this list must petition the Liberal Arts Academic Program Committee in writing. The Committee will consider the student's reasons and render a decision.

- (a) For completion of the second semester Social Science requirement students must choose two courses from the following: PS101 American National Government, SO101 Introduction to Sociology, PY101 Introduction to Psychology, BM101 Survey of Economics, and AN101 Biological Anthropology.
- (b) For the completion of the two-semester mathematics requirement, students must choose two of the following courses: MA108 Concepts in Mathematics; MA110 Elementary Statistics; or MA131 Finite Mathematics. The requirement may also be fulfilled

with one of the above courses, along with one higher-level mathematics course approved by the Center for Arts and Humanities; or with two higher-level mathematics courses approved by the Center for Arts and Humanities.

- (c) For students in this program, the foreign language consists of a six hour sequence within the same language. The following students are exempt from the requirement: 1) those who have completed four years of the same language on the senior high school level, grades 9-12; 2) those who have completed three years of the same language on the senior high school level, grades 9-12, with superior performance; or 3) those with other appropriate language experience. For those who are not exempt from the requirement, placement in language and level is determined at the beginning of the academic year. Those who are exempt must replace language credits with six credits in approved electives. All languages are offered contingent on enrollment and the availability of competent instructors.
- (d) For completion of the two-semester Literature requirement, students must choose any two courses from among the following: EN248, EN249 American Literature; EN271, EN272 British Literature; EN280, EN281 Dramatic Literature, EN282 Contemporary Drama; and EN255, EN256 World Literature.

# Liberal Arts & Sciences: International Studies

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## Associate in Arts Degree

This program prepares for transfer to a four-year program in business, social sciences or humanities with an international orientation. Along with providing a coherent liberal arts base, it provides access to instruction in French, German, Italian, and Spanish. Two High School Mathematics Courses or their equivalent, and one year of a laboratory science are required; two years of a foreign language are recommended.

### Total Credit Hours: 65

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
MA108 Concepts in Mathematics	3
HI101 History of Civilization	3
Foreign Language 1 (a)	3
PS202 Comparative Politics	3
Physical Education	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
MA110 Elementary Statistics	3
HI102 History of Civilization 2	3
Foreign Language 2 (a)	3
AN102 Cultural Anthropology	3
Physical Education	.5

#### Third Semester

EN255 World Literature 1	3
Core GE Natural Science	4
BM101 Survey of Economics	3
EN150 Effective Speech	3
Restricted Elective	3
Physical Education	.5

#### Fourth Semester

EN256 World Literature 2	3
GE Natural Science	4
PS205 International Politics	3
Restricted Elective	3
Restricted Elective	3
Physical Education	.5

#### Restricted Electives

##### Business Electives include:

BM212 International Marketing
IS101 Computers and Society

##### Social Science Electives include:

SO101 Introduction to Sociology
PY101 Introduction to Psychology
AN101 Biological Anthropology

**Humanities Electives include:**

HU204 History of Art 1

HU205 History of Art 2

HU220 Studies in Mexican Culture (other)

HU292 Approved courses listed as "Topics in Humanities"

HU186 Music Appreciation

HU187 Art Appreciation

HU188 Film Appreciation

EN280 Dramatic Literature 1

EN281 Dramatic Literature 2

HU289 Interdisciplinary Studies in the Humanities 1

HU290 Interdisciplinary Studies in the Humanities 2

HU291 Interdisciplinary Studies in the Humanities 3

HU295 Survey of Western Philosophy

HU296 Topics in Philosophy

SA300 Study Abroad (b)

Additional foreign language study

- (a) A minimum of two semesters in the same language will be required. The student will meet with the Center for Arts and Humanities Dean and the Coordinator of International Studies to assess existing foreign language competency in order to determine proper placement or possible exemption. In the case of an ESL student, for example, English may satisfy the foreign language requirement.
- (b) SA300 requires permission of the student's Dean and the Coordinator of International Studies. Students must fulfill the general education requirements described on pages 17-22. To ensure that you will fulfill these requirements for graduation, you must meet with your advisor as you plan each semester at MVCC.



# Liberal Arts & Sciences: Mathematics & Science – General Science

## Associate in Science Degree (Transfer Program)

This curriculum is designed to serve the interests of those students with goals and strengths in the mathematics and science fields while broadening their knowledge in allied disciplines and clarifying career objectives. In collaboration with a faculty advisor, students can plan a program of study that will prepare them to transfer to a baccalaureate program. Those areas of study available:

### Total Credit Hours: 65

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
BI141 General Biology 1	4
MA150 Pre-Calculus (a)	4
HI101 History of Civilization 1	3
Physical Education Elective	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
BI142 General Biology 2	4
MA151 Calculus 1	4
CH141 General Chemistry 1	4.5
Physical Education Elective	.5

#### Third Semester

CH142 General Chemistry 2	4.5
Natural Science 1-year sequence (b)	4
History Elective (c)	3
Social Science Elective (f)	3
General Elective (d)	3
Physical Education Elective	.5

#### Fourth Semester

MA152 Calculus 2	4
Natural Science 1-year sequence (b)	4
Natural Science Elective (e)	4
Social Science Elective (f)	3
Physical Education Elective	.5

- The first Mathematics course should be selected based on mathematics placement scores, which will place students into MA050, MA115, or MA125. All students in this program should ultimately take MA150 Pre-Calculus, while the remaining two math courses can be selected from prerequisites or the following: MA110 Elementary Statistics, MA125 College Algebra & Trigonometry.
- Natural Science 1-year sequences should be selected from the following: BI216/BI217 Anatomy and Physiology 1 & 2, PH151/152 General Physics 1 & 2, CH247/248 Organic Chemistry 1 & 2, or GL101/102 Physical and Historical Geology.
- History courses should be selected from HI102 History of Civilization 2, HI111 American History 1, or HI112 American History 2.
- General electives can be selected from the following: EN150 Effective Speech, or IS101 Computers and Society. Some transfer articulations may require additional natural science courses that can also be applied here, with approval of an academic advisor.
- Natural Science elective can be selected from the 1-year sequence courses (a) or from the following: BI105 Environmental Science, WE101 Introduction to Weather studies.
- Social Science electives should be selected from the following: PY101 Introduction to Psychology, SO101 Introduction to Sociology, AN101 Biological Anthropology, PS101 American National Government, BM101 Survey of Economics.

# Liberal Arts & Sciences: Mathematics & Science – Biology

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## Associate in Science Degree (Transfer Program)

This program prepares students to transfer to Bachelors of Science degree programs at any SUNY four-year colleges and many private institutions. This program will satisfy a variety transfer requirements for Biology as well as Pre-Medical, Pre-Dental, Pre-Veterinary and Pre-Pharmacy programs.

### Total Credit Hours: 64

#### First Semester

EN101 English 1: Composition	3
BI141 General Biology 1	4
MA150 Pre-Calculus	4
CH141 General Chemistry 1	4.5
ED100 College Seminar	1
Physical Education Elective	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
BI142 General Biology 2	4
MA151 Calculus 1	4
CH142 General Chemistry 2	4.5
Physical Education Elective	.5

#### Third Semester

CH247 Organic Chemistry 1	5
MA152 Calculus 2 or MA110 Statistics	4
HI101 History of Civilization or elective (a)	3
Social Science Elective (b)	3
Physical Education Elective	.5

#### Fourth Semester

CH248 Organic Chemistry 2	5
Natural Science Elective (c)	4
History Elective	3
Social Science Elective	3
Physical Education Elective	.5

- (a) History courses should be selected from HI102 History of Civilization 2, HI111 American History I, or HI112 American History 2.
- (b) Social Science electives should be selected from the following: PY101 Intro. to Psychology, SO101 Intro. to Sociology, AN101 Biological Anthropology, PS101 Am. National Government, or BM101 Survey of Economics.
- (c) Natural Science elective can be selected from the from the following: BI105 Environmental Science, WE101 Introduction to Weather studies, BI151 Nutrition and Dietetics I, or BI201 Microbiology.

# Liberal Arts & Sciences: Mathematics & Science – Chemistry

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## Associate in Science Degree (Transfer Program)

Graduates with a concentration of studies in chemistry have successfully transferred to undergraduate chemistry programs at many colleges. MVCC also has articulation agreements with a range of institutions. Please contact the STEM center for more information regarding articulation agreements. Two years of High School mathematics, or the equivalent, and one year of laboratory science are required. A third High School Math course, or its equivalent, Biology, Chemistry, and Physics are recommended.

### Total Credit Hours: 67

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
MA150 Pre-calculus (a)	3-4
Core GE Social Science (b)	3
CH 141 General Chemistry 1	4.5
Physical Education	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
MA151 Calculus I	4
Core GE Social Science (b)	3
Restrictive Elective (c)	3-4.5
CH142 General Chemistry 2	4.5
Physical Education	.5

#### Third Semester

MA152 Calculus II	4
CH247 Organic Chemistry 1	5
Restricted Elective (c)	3-4.5
Restricted Elective (c)	3-4.5
Physical Education	.5

#### Fourth Semester

MA253 Calculus III	4
CH248 Organic Chemistry 2	5
Restricted Elective (c)	3-4.5
Restricted Elective (c)	3-4.5
Physical Education	.5

- The first mathematics course is determined by Placement Test results. A lower placement test score would place a student at the proper point of the sequence: MA050, MA115, or MA125. A mathematics course lower than MA150 will not count for graduation within the program; moreover a student needing to take one or more of those courses may not be able to graduate within two years. If a student places into MA151, they will need to take an additional math course to replace the MA 150, the selection of which should be discussed with their advisor.
- Students should select from AN101, BM101, PS101, PY101, or SO101.
- Restricted electives should be chosen from the following list and should be discussed with an advisor. The five (5) restricted electives must total 17 hours. If the student chooses four (4) electives that satisfy the 17 hours that is acceptable. BI141, BI142, CH246, CI121, GL101, GL102, MA260, PH151, PH152, PH261, PH262, or PH263.

# Liberal Arts & Sciences: Mathematics & Science – Geology

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## Associate in Science Degree (Transfer Program)

The program prepares students for baccalaureate programs in Geology and related Earth Sciences.

### Total Credit Hours: 66

#### First Semester

EN 101 English 1: Composition	3
BI 101 General Biology 1	4
MA 150 Pre-Calculus or elective (a)	4
HI 101 History of Civilization 1	3
ED 100 College Seminar	1
Physical Education elective	.5

#### Second Semester

EN 102 English 2: Ideas & Values in Literature	3
BI 102 General Biology 2	4
MA 151 Calculus 1	4
CH 141 General Chemistry 1	4.5
Physical Education elective	.5

#### Third Semester

CH 142 General Chemistry 2	4.5
GL 101 Physical Geology	4
History Elective (b)	3
Social Science elective (c)	3
PH 151 General Physics 1	4
Physical Education elective	.5

#### Fourth Semester

MA 152 Calculus 2	4
GL 102 Historical Geology	4
PH 152 General Physics 2	4
Social Science elective	3
Physical Education elective	.5

- (a) The first Math course should be selected based on math placement scores, which will place students into MA050, MA115, or MA125. All students in this program should ultimately take MA 152 Calculus 2.
- (b) History courses should be selected from HII02 History of Civilization 2, HII11 American History I, or HII12 American History 2.
- (c) Social Science electives should be selected from the following: PY101 Intro. to Psychology, SO101 Intro. to Sociology, AN101 Biological Anthropology, PS101 Am. National Government, BM101 Survey of Economics.

# Liberal Arts & Sciences: Mathematics & Science – Mathematics

## Associate in Science Degree (Transfer Program)

Graduates with a concentration of studies in mathematics have successfully transferred to undergraduate engineering, computer science, mathematics education, statistics and mathematics programs at many colleges. MVCC also has articulation agreements with a range of institutions. Please contact the STEM center for more information regarding articulation agreements. Two years of High School mathematics, or the equivalent, and one year of laboratory science are required. Two years of a foreign language is recommended.

**Total Credit Hours: 66-68**

### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
MA150 Pre-calculus (a)	3
Social Science Elective (b)	3
Sequence Elective (c)	3
HI101 or HI102 History of Civilization I or II	3
Physical Education	.5

### Second Semester

EN102 English 2: Ideas & Values in Literature	3
MA151 Calculus I	4
Social Science Elective (b)	3
Sequence Elective 2 (c)	3
HI101 or HI102 History of Civilization I or II	3
Physical Education	.5

### Third Semester

MA152 Calculus II	4
MA275 Discrete Algebraic Structures	4
Natural Science Elective (d)	4
Restricted Elective (e)	3
Physical Education	.5

### Fourth Semester

MA253 Calculus III	4
MA280 Linear Algebra	3
Natural Science Elective (d)	4
Restricted Elective (e)	3
Physical Education	.5

(a) The first mathematics course is determined by Placement Test results. A lower placement test score would place a student at the proper point of the sequence: MA089, MA091 (or equivalent), or MA115, or MA125. A mathematics course lower than MA150 will not count for graduation within the program; moreover a student needing to take one or more of those courses may not be able to graduate within two years. Students placing into or having credit for MA151 need to take MA260 (3 credit hours) in lieu of MA150.

(b) Students should select from AN101, BM101, PS101, PY101, or SO101.

(c) Students should choose a sequence from CII10 & CII30, or two semesters of a foreign language

(d) Students should choose a sequence from BII41 & BII42, CHI41 & CHI42, GLI01 & GLI02, PHI41 & PHI42, PHI51 & PHI52, or PHI61 & PHI62. However, it is recommended that the student take a Physics sequence.

(e) Six hours of restricted electives, chosen upon advisement, provide the opportunity for the student to pursue courses that are related to his/her career objectives or transfer requirements.

# Liberal Arts & Sciences: Mathematics & Science – Physics

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## Associate in Science Degree (Transfer Program)

Graduates with a concentration of studies in physics have successfully transferred to undergraduate physics programs at many colleges. High School mathematics courses A and B or the equivalent, and one year of laboratory science are required. Courses in Chemistry and Physics are recommended. For students seeking a career in physics, the following specific courses should be taken to prepare for the upper division courses.

**Total Credit Hours: 67.5**

### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
ES161 Introduction to Engineering & Science	3
MA151 Calculus I (a)	4
CH141 General Chemistry 1	4.5
Physical Education	.5

### Second Semester

EN102 English 2: Ideas & Values in Literature	3
MA152 Calculus 2	4
PH261 Engineering Physics 1	4.5
CH142 General Chemistry 2	4.5
Physical Education	.5

### Third Semester

MA253 Calculus 3	4
PH262 Engineering Physics 2	4.5
CH 247 Organic Chemistry 1	5
ES271 Engineering Statics	3
ES291 Electrical Circuits 1	4
Physical Education	.5

### Fourth Semester

MA260 Differential Equations	3
PH263 Engineering Physics 3	4.5
ES272 Engineering Dynamics	3
Core GE Social Science (b)	3
Physical Education	.5

- (a) The first mathematics course is determined by Placement Test results. A lower placement test score would place a student at the proper point of the sequence: MA050, MA115, MA125, or MA150. A mathematics course lower than MA151 will not count for graduation within the program; moreover a student needing to take one or more of those courses may not be able to graduate within two years.
- (b) Students should select from AN101, PS101, PY101, or SO101.

# Pre-Environmental Science & Forestry: Life Science Center

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The following program displays cover the all of the articulations with ESF except: Construction Management, Landscape Architecture, and Sustainable Energy Management.

## Science Majors

The following program will satisfy articulations for the following programs at SUNY ESF: Aquatic and Fisheries Science; Biotechnology; Chemistry; Conservation Biology; Environmental Biology; Environmental Science; Environmental Studies; Forest Ecosystem Science; Forest Health; Forest Resources Management; Natural History and Interpretation; Natural Resources Management; Paper Science; Wildlife Science.

### Total Credit Hours: 69

#### First Semester

EN 101 English 1: Composition	3
BI 101 General Biology 1 or elective	4
MA 150 Pre-Calculus	4
CH 141 General Chemistry 1	4.5
ED 100 College Seminar	1
Physical Education Elective	.5

#### Second Semester

EN 102 English 2: Ideas & Values in Literature	3
BI 102 General Biology 2 or elective	4
MA 151 Calculus 1	4
CH 142 General Chemistry 2	4.5
Physical Education Elective	.5

#### Third Semester

Natural Science Elective (a)	4
Natural Science Elective	4
MA 151 Calculus 2 or Math Elective (b)	4
HI 101 History of Civilization 1	3
Restricted elective	3
Physical Education Elective	.5

#### Fourth Semester

Natural Science Elective	4
Natural Science Elective	4
Gen. Education Elective	3
Gen. Education Elective	3
Restricted elective	3
Physical Education Elective	.5

- (a) All electives should be chosen with approval of the Pre-ESF advisor.
- (b) Some articulations may require MA110 Statistics.

## Engineering Majors

The following program will satisfy articulations for the following programs at SUNY ESF: Bioprocess Engineering; Environmental Resources and Forest Engineering; Paper Engineering; Wood Products Engineering. All program electives should be selected with the assistance of the Pre-ESF advisor.

### Total Credit Hours: 67

#### First Semester

EN 101 English 1: Composition	3
BI 101 General Biology 1 or elective (a)	4
MA 151 Calculus 1	4



CH 141 General Chemistry 1	4.5
ED 100 College Seminar	1
Physical Education Elective	.5

### Second Semester

EN 102 English 2: Ideas & Values in Literature	3
PH 261 Engineering Physics 1	3
MA 152 Calculus 2	4
CH 141 General Chemistry 2	4.5
IS 101 Computer Appl. and Concepts 1	3
Physical Education elective	.5

### Third Semester

PH 262 Engineering Physics 2	3
MA 253 Calculus 3 or Math elective (b)	4
HI 101 History of Civilization 1	3
Natural Science Elective	3
General Education Elective (c)	3
Physical Education elective	.5

### Fourth Semester

Science or Engineering Elective (a)(d)	3
Science or Engineering Elective (a)(d)	3
General Education Elective	3
General Education Elective	3
Restricted Elective	3
Physical Education elective	.5

- (a) Natural Science electives include BI105 Environmental Science, CH247/248 Organic Chemistry I and 2, CH246 Quantitative Analysis, BI142 General Biology 2.
- (b) Math electives include MA110 Statistics and MA260 Differential Equations
- (c) General Education electives include BMI15 Principles of Macroeconomics, IS102 Computer Appl. and Concepts 2, CI110 Principles of Programming, BM250 Principles of Management, BM101 Survey of Economics, SO101 Intro. to Sociology, AN101 Biological Anthropology, PS101 Am. National Government, EN147 Report Writing, and EN150 Effective Speech.
- (d) Engineering electives include ES271 Engineering Statics, and ES272 Engineering Dynamics.

### Ranger School 1+1 AAS

The following program will satisfy articulations for the AAS Ranger program at SUNY ESF.

#### First Semester

EN101 English 1: Composition	3
BI 101 General Biology 1	4
Math Elective	4
Program Elective	3
Physical Education elective	.5

#### Second Semester

EN 102 English 2: Ideas & Values in Literature	3
Natural Science Elective	4
General Education Elective	3
General Education Elective	3
ED 100 College Seminar	1
Physical Education elective	.5

Second Year at Ranger School

# Liberal Arts & Sciences: Mathematics & Science - Physical Education

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## Associate in Science Degree (Transfer Program)

The Physical Education and Recreation programs at MVCC are housed in the Robert R. Jorgensen Athletic/Events Center; a state-of-the-art facility featuring a 28,000 square foot field house, performance gymnasium, 6,000 square foot fitness center, pool, racquetball courts, yoga/aerobics studio, multipurpose room and a student success center. The programs lay the groundwork for students wishing to transfer to four-year institutions in pursuit of a baccalaureate degree as a Physical Education teacher or in the field of Sports Medicine. The field of Sports Medicine can lead to professions such as an athletic trainer with a high school, college, university or professional athletic program, as well as with a sports medicine clinic and other athletic healthcare settings. Recreation and Leisure Services is an Associate in Applied Science degree that prepares students for entry-level positions with such organizations as youth centers, nursing homes, state and federal park programs or fitness centers. The Coaching Certificate program fulfills the requirements of New York State Department of Education's Coaching License, which is needed to coach a high school athletic team.

### Total Credit Hours: 68

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
MA115 Intermediate Mathematics	4
SO101 Introduction to Sociology	3
American History Elective	3
PM Elective	1
PM Elective	1

#### Second Semester

BI101 General Biology 1	4
EN 102 English 2: Ideas & Values in Literature	3
MA110 Elementary Statistics	3
Sociology Elective	3
PM Elective	1
PM Elective	1

#### Third Semester

Humanities Elective (d)	3
BI216 Human Anatomy & Physiology 1	4.5
PY101 Introduction to Psychology	3
HI101 History of Civilization 1	3
Science Elective (a)	3
OR	
Social Science Elective (b)	3
OR	
Coaching Elective (c)	3
PM Elective	1
PM Elective	1

#### Fourth Semester

Humanities Elective (d)	3
BI217 Human Anatomy & Physiology 2	4.5
Psychology Elective	3
HI102 History of Civilization 2	3

Science Elective (a)	3
OR	
Social Science Elective (b)	3
OR	
Coaching Elective (c)	3
PM Elective	1
PM Elective	1

This program is designed specifically for students intending to transfer to a four-year college as a Physical Education major; after graduation from MVCC.

**Sequences may be selected from the following:**

**(a) Science Electives**

- CH141-142 General Chemistry 1&2
- GL101-102 Physical Geology and Historical Geology
- PH151-152 General Physics 1&2
- PH141-142 Astronomy 1&2

**(b) Social Science Electives**

- BM101 Survey of Economics
- BM110 Principles of Microeconomics
- BM115 Principles of Macroeconomics
- PS101 American National Government

**(c) Coaching Electives**

- CO231 Principles of Coaching
- CO232 Health Science Applied to Coaching

**(d) Humanities Elective**

4th semester Humanities elective must meet SUNY General Education Requirements.

# Liberal Arts & Sciences: Mathematics & Science - Sports Medicine

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## Associate in Science Degree (Transfer Program)

This program is designed specifically for students intending to transfer to a four-year college as a Sports Medicine major, after graduation from MVCC.

### Total Credit Hours: 64-66

#### First Semester

ED100 College Seminar	1
CO232 Health Science Applied to Coaching	
EN101 English 1: Composition	3
MA115 Intermediate Mathematics	4
PY101 Introduction to Psychology	3
Natural Science Elective (a)	4-4.5

#### Second Semester

AT101 Introduction to Sports Medicine	3
EN102 English 2: Ideas & Values in Literature	3
MA110 Elementary Statistics	3
Natural Science Elective (a)	4-4.5
Psychology Elective (b)	3

#### Third Semester

AT201 Sports Medicine Practicum 1	1
EN150 Effective Speech	3
HI101 History of Civilization 1	3
PE172 Health and Wellness	2
Natural Science Elective (a)	4-4.5
Restricted Elective (d)	3

#### Fourth Semester

AT202 Sports Medicine Practicum 2	1
BI151 Nutrition & Dietetics	3
HI102 History of Civilization 2	2
Humanities Elective (c)	3
Natural Science Elective (a)	4-4.5

### Sequences may be selected from the following:

#### (a) Natural Science Electives

- BI141 General Biology 1
- BI142 General Biology 2
- BI216 Anatomy & Physiology 1
- BI217 Anatomy & Physiology 2
- CH131 College Chemistry
- CH141 General Chemistry 1
- CH142 General Chemistry 2
- PH151 Physics 1
- PH152 Physics 2

#### (b) Psychology Electives

- PY201 Learning: Behavioral Analysis
- PY202 Childhood & Adolescence

PY203 Abnormal Psychology  
PY204 Social Psychology  
PY205 Adulthood and Aging  
PY206 Theories of Personality  
PY207 Life-Span Developmental Psychology  
PY208 Death, Dying & Bereavement  
PY212 Adolescent Psychology

**(c) Humanities Electives**

4th semester Humanities elective must meet SUNY General Education Requirements

**(d) Restricted Electives**

HI111 American History (1492-1850)  
HI112 American History (1850-present)  
SO101 Introduction to Sociology

# Liberal Arts & Sciences: Psychology

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## Associate in Science Degree

This program provides students who plan to transfer to a bachelor-level program with a comprehensive foundation of psychology courses, as well as a liberal arts background. The Psychology Internship allows students to gain direct experience in work settings related to a variety of psychology careers. Students interested in advanced degrees in clinical psychology or in academic research in psychology will find this program a good way to begin exploring the field while meeting general education requirements for transfer to four-year colleges.

### Total Credit Hours: 64

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
BI103 Human Life Science	4
PY101 Introduction to Psychology	3
HS101 Introduction to Human Services	3
SO101 Introduction to Sociology	3
Physical Education	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
MA110 Elementary Statistics	3
HS241 Chemical Dependencies	3
PY203 Abnormal Psychology	3
PY210 Evaluation, Research & Measurement in Behavioral Science	3
Physical Education	.5

#### Third Semester

IS101 Computers and Society	3
Foreign Language Elective (a)	3
HI101 History of Civilization 1	3
PY201 Learning: Behavior Analysis	3
Developmental Psychology Elective (g)	3
Physical Education	.5

#### Fourth Semester

Arts Elective (c)	3
General Education Elective (d)	3
Humanities Elective (b)	3
American History Elective (e)	3
Psychology Elective (f)	3
Physical Education	.5

Following Center guidelines and with guidance from the academic advisor, the student has flexibility the second year to design a program that meets his/her individual needs.

- (a) Foreign Language Elective (3 hours) - American Sign Language does not count as a foreign language. Students exempt from this requirement are those with other appropriate foreign language experience, with permission of the Dean of the Center of Life and Health Sciences. Students exempt from the foreign language courses may select another General Education course.

Humanities Elective (3 hours) - EN148 Modern Short Story, EN198 Contemporary Poetry, EN248 American Literature I, EN249 American Literature 2, EN255 World Literature I, EN256 World Literature 2, EN265 African-American Literature, EN271 British Literature I, EN272 British Literature 2, EN280 Dramatic Literature: Classic Theater, EN281 Dramatic Literature: Modern Drama, HU204 History of Art I, HU205 History of Art 2, HU186 Music Appreciation.

- (b) Humanities Electives (3 hours): EN148 Modern Short Story, EN198 Contemporary Poetry, EN248 American Literature I, EN249 American Literature II, EN255 World Literature I, EN256 World Literature II, EN265 African-American Literature, EN271 British

Literature I, EN272 British Literature II, EN280 Dramatic Literature: Classic Theater, EN281 Dramatic Literature: Modern Drama, HU186 Music Appreciation, HU204 History of Art I, HU205 History of Art II.

- (c) Arts Elective (3 hours) - HU183 Fundamentals of Music Theory 1, HU184 Fundamentals of Music Theory 2, HU187 Art Appreciation, HU188 Film Appreciation, HU210 The Arts and the Human Condition, HU292 Topics in Humanities.
- (d) General Education Elective (3 hours) - Must be approved by advisor. Strongly recommend a Western Civilization Course (See General Education Table)
- (e) American History Elective (3 hours) - H1111 American History 1492-1850, H1112 American History 1850-Present.
- (f) Psychology Elective (3 hours) - PY202 Childhood and Adolescence, PY204 Social Psychology, PY205 Adulthood & Aging, PY206 Theories of Personality, PY208 Death, Dying & Bereavement, PY209 Forensic Psychology, PY212 Adolescent Psychology, or PY213 Human Sexuality.
- (g) Developmental Psychology Elective (3 hours) - PY212 Adolescent Psychology, PY205 Adulthood & Aging, or PY202 Childhood and Adolescence.



# Liberal Arts & Sciences: Public Policy

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## Associate in Science Degree

This program prepares students to respond to the changes in government and their communities. It provides the skills to understand public policy making. Students choose electives from a broad range of disciplines in the field of policy making. Students completing this program are prepared to transfer to four-year programs in specialized interest areas, or find employment in state, local, and federal government, non-profit agencies, business, law, or management.

### Total Credit Hours: 64

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
IS101 Computers and Society	3
PS101 American National Government	3
PS102 Introduction to Public Policy	3
SO101 Introduction to Sociology	3
Physical Education	.5

#### Second Semester

CJ106 Ethics in Criminal Justice	3
EN102 English 2: Ideas & Values in Literature	3
MA110 Elementary Statistics	3
PS203 State & Local Government	3
Core GE Natural Science	4
Physical Education	.5

#### Third Semester

AC115 Financial Accounting	3
BM101 Survey of Economics	3
PY101 Introduction to Psychology	3
Restricted Elective (a)	3
Restricted Elective (b)	3
Physical Education	.5

#### Fourth Semester

HI111 American History 1492-1850	3
OR	
HI112 American History 1850 to Present	3
PS206 Public Policy Technical Writing	3
SS218 Methods of Research	3
OR	
PY210 Evaluation, Research & Measurements	3
Restricted Elective	3
Restricted Mathematics or Natural Science Elective (c)	3
Physical Education	.5

(a) CJ217, HS231, CJ202, AH104

(b) Any foreign language, including sign language, HU187, HU280, HU290, HU291, HU295, HU296

(c) Electives: PHI12, PHI13, PHI14, PHI31, PHI41, PHI42, PHI51, PHI52 or MA108, MA115, MA121, MA150

# Liberal Arts & Sciences: Theater

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## Associate in Arts Degree

This program locates itself between the general Liberal Arts & Sciences program and a specialized theater program. It provides students the first two years of preparation for a transfer to a drama (literature) or theater (acting or technical theater) program while maintaining a liberal arts base. It uses the College state-of-the-art, 450-seat theater, which serves as a classroom, lecture hall, technical laboratory, and a venue for student, faculty, and community theater work. Students experience the ensemble nature of the theater production process, and are introduced to the components: actor, director, designer, etc. They examine dramatic texts as literature and scripts for performance, develop an understanding of the theory and practice of acting, develop an awareness of the basics of technical theater, and participate in activities as part of student, faculty, and community theater projects.

### Total Credit Hours: 68

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
MA Mathematics (a)	3
HU191 Acting 1: Principles of Acting	3
TH193 Introduction to the Theater	3
Foreign Language (b)	3
Physical Education	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
MA Mathematics (a)	3
TH194 Technical Theater	3
Foreign Language (b)	3
Social Science (c)	3
HU186 Music Appreciation	3
OR	
HU187 Art Appreciation	3
Physical Education	.5

#### Third Semester

HI101 History of Civilization 1	3
OR	
HU204 History of Art 1	3
Core GE Natural Science	4
EN280 Dramatic Literature: Classic Theater	3
HU192 Acting 2: Character & Scene Study	3
Theater Elective (d)	3
Physical Education	.5

#### Fourth Semester

HI102 History of Civilization 2	3
OR	
HU205 History of Art 2	3
GE Natural Science	4
EN281 Dramatic Literature: Modern Drama	3
Theater Elective (d)	3
Social Science (c)	3
Physical Education	.5

(a) Mathematics courses must be chosen from MA108, MA110, MA131, or courses higher than MA131. The two semester requirement may also be fulfilled by any one of the above courses, and any one course beyond the 131 level, or by any two beyond MA131.

- (b) Foreign language consists of a six-hour sequence within the same language. The following students are exempt from the requirement: 1) Those who have completed four years of the same language on the senior high school level, grades 9-12; 2) those who have completed three years of the same language on the senior high school level grades 9-12 with superior performance; or 3) those with other appropriate language experience. For those who are not exempt from the requirement, placement in language and level is determined at the beginning of the academic year. Those who are exempt must replace language credits with six credits in approved electives.
- (c) Social Sciences must be chosen from PY101, SO101, BM101, PS101 or AN101.
- (d) Theater electives may be chosen from: EN152 Oral Interpretation, TH195 Musical Theater, EN282 Contemporary Drama, TH283 Topics in Theater, and TH196 Theater Practicum. Some electives have prerequisites. Theater practicum must be approved by the appropriate theater faculty. Theater Practicum can be taken for a maximum of three credits to complete degree requirements.

# Mechanical Engineering Technology

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## Associate in Applied Science Degree

This program prepares students for transfer to a four-year mechanical engineering technology curriculum, or it can be a stand-alone degree, preparing students to fill mechanical engineering technician (or related) careers. Topics include technical computing, design, mechanical analysis, manufacturing systems, material testing, and 3D solid modeling and analysis. The program is accredited by the Engineering Technology Accreditation Commission of ABET, <http://www.abet.org>. It is highly recommended that students entering the Mechanical Engineering Technology curriculum have successfully completed high school courses in algebra, geometry, trigonometry, and physics or the equivalent.

**Total Credit Hours: 71.5 – 78.5**

### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
MA121 Fundamentals of College Mathematics 1	4
MT114 Manufacturing Processes	3.5
MT140 Drafting and Design Using AutoCAD	3
MT155 Introduction to Solid Modeling	3
Physical Education	.5

### Second Semester

EN102 English 2: Ideas & Values in Literature	3
MA122 Fundamentals of College Mathematics 2	4
MT126 Statics: Mechanical	3
MT141 Machining Fundamentals	4
CH131 College Chemistry	4.5
OR	
CH141 General Chemistry 1	4.5
Physical Education	.5

### Third Semester

MT204 Automatic Controls	3
MT207 Computer-Aided Manufacturing (CAM)	4
MT230 Strength of Materials- Mechanical	4
MT231 Modern Production Methods & Statistical Quality Control	4
Social Science Elective (a)	3
ET151 Circuits 1 (optional) (b)	4
Physical Education	.5

### Fourth Semester

MT203 Design of Machine Elements	4
MT209 Materials Science	3.5
MT252 Fluid Mechanics	4
PH151 General Physics 1	4
MT256 Advanced Solid Modeling (Optional)	3
MT302 Innovative Mechanical Manufacturing & Services 1 (optional) (c)	6-12
Physical Education	.5

- Select from one of these Core GE Social Science courses: PS101 American National Government, PY101 Introduction to General Psychology, SO101 Introduction to Sociology, BM101 Survey of Economics, AN101 Biological Anthropology.
- A fundamental electricity course such as ET151 Circuits 1 is strongly recommended as modern mechanical systems become more connected to electrical systems.
- Students interested in small business and entrepreneurial studies and skills, as well as product development, are strongly encouraged to take MT302 Innovative Mechanical Manufacturing and Services 1.

# Mechanical Technology: Aircraft Maintenance

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## Associate in Applied Science Degree

This program prepares individuals interested in a career in aviation maintenance and who currently possess or will complete their Federal Aviation Administration (FAA) certificate.

**Total Credit Hours: 64**

### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
MA115 Intermediate Mathematics	4
PY101 Introduction to Psychology	3
SO101 Introduction to Sociology	3
Physical Education	1

### Second Semester

EN102 English 2: Ideas & Values in Literature	3
MA121 Fundamentals of College Mathematics 1	4
MT225 Applied Mechanics & Strength of Materials	4
PH112 Science of Light	
OR	
PH141 Astronomy: The Solar System	4
Physical Education	1.0
FAA Certification required for graduation	33

Astronomy: The Solar System (4), CH131 General Chemistry (4.5).

# Media Marketing and Management

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## Associate in Applied Science Degree

This program provides the skills and knowledge required to sell advertising space in print media and time for commercials in the broadcast media; to analyze and plan media strategies; to assess media costs and budgets; and to evaluate the uses of media. Graduates will be prepared to enter the fields of newspaper and magazine publishing, broadcasting, outdoor and supplementary media, and advertising. One high school mathematics course or its equivalent is required.

**Total Credit Hours: 67 – 67.5**

### First Semester

ED100 College Seminar	1
MD140 Principles of Advertising	3
BM120 Principles of Marketing	3
MD151 Fundamentals of Media	3
Core GE Social Science (a)	3
EN101 English 1: Composition	3
Physical Education	.5

### Second Semester

MD141 Digital Video & Copy Writing	3
MD152 Print Media & Production	3
Business Management Elective	3
MD161 Visual Communications	3
EN102 English 2: Ideas & Values in Literature	3
EN150 Effective Speech	3
Physical Education	.5

### Third Semester

BM264 Professional Selling	3
MD253 Broadcast Media & Production	3
MA110 Elementary Statistics	3
PT207 Digital Photography 1	3
Humanities Elective	3
Physical Education	.5

### Fourth Semester

BM101 Survey of Economics	3
Core GE Natural Science	4-4.5
MD254 Media Planning	3
Business Management Elective	3
MD240 Advertising Management	3
Physical Education	.5

(a) Excluding BM101 Survey of Economics

# Medical Assisting

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## Associate in Applied Science Degree

The program provides Medical Assisting students with the opportunity to obtain the knowledge and skills necessary to assist the physician or nurse practitioner with patients, such as performing routine procedures (blood pressure/pulse/respiration/weight). Other skills include performing routine laboratory tests, billing insurance providers, and performing receptionist duties in a medical office setting. Coursework builds on the certificate program with the addition of courses which enhance communication and the sciences. Students enrolled in the Medical Assistant Certificate Program are able to enter the degree program, while building on previously learned information. The inclusion of coursework in accounting and law in healthcare will increase the ability to fulfill the role of medical assisting in a variety of settings. Criminal background check may be required. See page 16 for details.

### Total Credit Hours: 72

#### First Semester

ED100 College Seminar	1
BI216 Human Anatomy & Physiology 1	4.5
EN101 English 1: Composition	3
HC110 Medical Assistant - Administrative Theory	4
IS101 Computers and Society	3
MR103 Medical Terminology	3

#### Second Semester

AH207 Medical Claims Management	4
BI217 Human Anatomy & Physiology 2	4.5
HC112 Medical Assistant - Clinical Procedures	5
MR104 CPT Procedural Coding	2
MR208 Pharmacology for Allied Health	3

#### Third Semester

AC115 Financial Accounting	3
HC120 Medical Assistant Administrative Externship	4
HC166 Office Management for Medical Assistants	4
HC200 Advanced Medical Assisting	4
PY101 Introduction to Psychology	3

#### Fourth Semester

AH104 Professional Standards in Health Care	3
OR	
MR115 Law in Health Care	3
EN102 English 2: Ideas and Values in Literature	3
HC122 Medical Assistant Clinical Externship	4
HC220 Medical Assisting Capstone Experience	4
MA110 Elementary Statistics	3

Prerequisites to entering the Medical Assisting Program: High School Chemistry with lab or its equivalent (Regents score of 70 or higher or High School score of 70 or higher within 10 years of admission to the Medical Assisting program.) An appropriate MVCC Mathematics Placement test result, or MA045 Basic Math Skills or MA050 Introductory Mathematics. Medical Assisting courses (HC prefix) require a minimum grade of C for successful completion.

- All other courses must be completed satisfactorily prior to progression. Medical Assisting students may repeat one health care (HC) course only. A second failure of a healthcare course will result in dismissal from the Medical Assisting Program.
- Dismissed students will be ineligible to return to the Medical Assisting Program.
- Medical Assisting students enrolled in a health care (HC) course are permitted one withdrawal. A second withdrawal from any health care (HC) course will result in dismissal from the program and ineligibility to return to the Medical Assisting Program.
- Students must provide their own transportation to and from the assigned healthcare agency for externships.
- Proof of current American Heart Association CPR certification for Healthcare Providers must be on file in the Allied Health Coordinator's office prior to beginning externship experiences. This certification must be kept current throughout enrollment in the program.
- Professional liability and accident insurance, available through the College, is required and payable at registration.

- The Nursing and Allied Health Center's Health/Physical Form must be completed and on file (in the Allied Health Coordinator's office) prior to the first externship.
- Students must purchase a Medical Assistant nametag from the College Bookstore.
- Students must purchase a white lab coat with the MVCC insignia.
- If a student has legal charges pending or has been convicted of a felony and/or misdemeanor, certification may be delayed or denied by the applicable national certification board. Upon graduation, students may be eligible to take the national Registered Medical Assistant examination. Upon passing the national exam, graduates become a Registered Medical Assistant (RMA). Graduation from the Medical Assisting program does not guarantee success on national credentialing exams.

**Transfer or Returning Students:**

(Students who have been out of the Medical Assisting course sequence for more than one semester.)

Prior to beginning or resuming Medical Assisting coursework, transfer and returning students must:

- Meet with an Allied Health advisor.
- Make an appointment at 315.792.5367.
- Meet all prerequisites listed.



# Nursing (Undergraduate)

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## Associate in Applied Science Degree

This program is for people interested in performing the duties associated with being a Registered Nurse. Graduates are prepared as beginning practitioners in nursing. Graduates are eligible for the New York State licensing examination. This program is approved by the NYS Board of Nursing and the National League for Nursing Accrediting Commission.

**Total Credit Hours: 71.5 – 72.5**

### First Semester

ED100 College Seminar	1
NU101 Nursing 1	6
BI216 Human Anatomy & Physiology 1	4.5
EN101 English 1: Composition	3
PY101 Introduction to Psychology	3
NU111 Pharmacotherapeutics 1	1

### Second Semester

NU102 Nursing 2A	4
NU103 Nursing 2B	4
BI217 Human Anatomy & Physiology 2	4.5
EN102 English 2: Ideas & Values in Literature	3
PY207 Life Span Developmental Psychology	3

### Third Semester

NU201 Nursing 3	12
BI201 Microbiology	4.5
SO101 Introduction to Sociology	3

### Fourth Semester

NU202 Nursing 4	12
MA108 Concepts in Mathematics	3
OR	
MA110 Elementary Statistics	3
OR	
MA115 Intermediate Mathematics	4

- All courses in the Associate Degree Nursing program have content and clinical laboratory experiences.
- All students are required to meet the prerequisites prior to taking the first nursing courses. Students must have a program GPA of 2.85 or greater in order to be considered for admission into Nursing 1.
- Students must provide their own transportation to and from the healthcare agency for clinical experience.
- Professional liability insurance, available through the College, is required and payable at registration.
- Proof of current American Heart Association CPR certification for Healthcare Providers must be on file in the Nursing and Allied Health Office prior to beginning clinical experiences. This certification must be kept current throughout the program.
- Grades of 75 or higher are required in each nursing course for advancement to the next nursing course.
- Grades of 70 or higher are required in Anatomy and Physiology, and Microbiology. To enhance success in the Nursing curriculum it is recommended that Human Anatomy & Physiology 1 and 2 be taken at MVCC.
- A grade of "C" or higher is required in all Nursing, Liberal arts, and Science courses.
- Students must successfully complete BI216 Human Anatomy & Physiology 1 (with a 70 or greater) prior to Nursing 1. Students must successfully complete BI217 Human Anatomy & Physiology 2 (with a 70 or greater) to be eligible to enter Nursing 3.
- Nursing students may repeat one nursing (NU) course only. A second failure of a nursing course will result in academic dismissal from the nursing program. Dismissed students will be ineligible to return to the nursing program.
- Students may repeat Human Anatomy & Physiology 1, Human Anatomy & Physiology 2, and Microbiology courses once. If the student achieves less than a C grade, he/she will be dismissed from the program.
- Nursing students enrolled in a nursing (NU) course are permitted one withdrawal. A second withdrawal from any nursing (NU) course will result in dismissal from the program and ineligibility to return to the Nursing program.
- Credit by exam is not an option for students who have been unsuccessful in any Nursing, Anatomy and Physiology, or Microbiology course.

- Students must have a 2.0 Grade Point Average to be eligible to graduate from this program.
- This program offers advanced placement for LPNs and military corpsmen.
- All Nursing students enrolled in Nursing 4 (NU202) are required to take the Diagnostic Readiness Test and the designated NCLEX-RN State Board Review Class in order to be eligible to graduate from the program.
- Graduation from the Nursing program does not guarantee R.N. licensure by the Board of Nurse Registration. If applicant has charges pending or has been convicted of felony and/or misdemeanor, a license may be delayed or denied by the NYS Board of Nursing.

## **Associate in Applied Science Degree Licensed Practical Nurses (LPNs)/Military Corpsmen**

To be admitted with advanced standing, and prior to enrolling in Nursing courses, the LPN/Military Medical Corpsmen must:

- Matriculate into Nursing.
- Meet with the Nursing Advisor. For an appointment, call 315.792.5375.
- Meet all prerequisites as listed.
- All LPNs and Military Medical Corpsmen must successfully complete the LPN Transition Course before scheduling for the first core nursing (NU) course.
- Submit copy of LPN license/military certification to the Nursing and Allied Health office, Room 348 Payne Hall.

## **Transfer or Returning Students**

Students who have been out of the Nursing sequence for one or more semesters or students returning to the Nursing sequence must:

- Make an appointment to meet with the Associate Dean Call 315.792.5375.
- Meet all prerequisites as listed.
- Pass the applicable Proficiency Skill Examination with 100% accuracy.
- Pass the Dosage Calculation Examination with 80%. (Fee charged for this exam.)

## **Prerequisites to Enrolling in Nursing-Specific Courses:**

1. Appropriate Mathematics placement test result, or MA045 Basic Mathematics Skills or MA050 Introductory Mathematics.
2. High School Chemistry with lab or its equivalent. (Regents scores of 70 or high school scores of 70 within 10 years of admission to first Nursing course.)
3. High school biology or its equivalent is recommended.
4. Students enrolled in prerequisite courses are required to complete BI216 Human anatomy & Physiology I with a minimum grade of "C."
5. Proof of current American Heart Association CPR for Healthcare Providers or PE171 CPR certification must be on file in the Nursing and Allied Health office, PH348.
6. Nursing Health Physical Form completed and on file by July 1, for Fall admission, and December 1 for Spring admission to NU102/103. (Updated yearly at student's expense.) Prerequisite courses can be completed at MVCC.
7. Prerequisites taken at MVCC or other institutions must have a final grade of C or better within five years of starting a Nursing course.
8. All students considering Nursing or those who have been accepted into Nursing are required to schedule and attend one of the Nursing pre-entrance information sessions held in January, February, or March each year. To register for the session, call 315.792.5375.
9. A letter of intent is mailed or emailed to students meeting the prerequisite requirements in January each year. The student must return the letter of intent to request a place for NU101 Nursing I for the subsequent Fall semester. If a response is not received, the seat will be given to the next qualified candidate. Returning the letter does not guarantee a place in NU101 Nursing I.

# Nutrition & Dietetics

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## Associate in Science Degree

Nutrition & Dietetics is a science-oriented transfer program that provides the foundation needed to pursue a career in the field of dietetics and nutritional care. MVCC has transfer articulation agreements with Rochester Institute of Technology, Syracuse University, the SUNY Plattsburgh, SUNY Buffalo, and SUNY Oneonta. Other transfer opportunities exist upon the successful completion of the MVCC degree. Students in the Nutrition & Dietetics program are required to be in full uniform in each food laboratory class. The uniform consists of a double-breasted, long-sleeved white chef's coat, chef's pants, black-and-white checked chef's hat, and white apron. Shoes are to be of firm leather with a slip resistant sole. Beards and moustaches must be completely covered. A doctor's physical examination is required of all students prior to enrolling in Food Service courses that require contact with food and/or related supplies. One High School Mathematics Course or its equivalent, and Chemistry (lab included) with minimum final averages of C (70), and Biology required.

### Total Credit Hours: 69.5

#### First Semester

ED100 College Seminar	1
BI151 Nutrition & Dietetics 1	3
MA139 College Algebra	4
BI216 Human Anatomy & Physiology 1	4.5
EN101 English 1: Composition	3
Physical Education	.5

#### Second Semester

BI152 Nutrition & Dietetics 2	3
MA110 Elementary Statistics	3
BI217 Human Anatomy & Physiology 2	4.5
EN102 English 2: Ideas & Values in Literature	3
FS150 Safety & Sanitation	3
Physical Education	.5

#### Third Semester

FS111 Food Preparation 1	4
CH141 General Chemistry 1 (a)	4.5
IS101 Computers and Society	3
AC115 Financial Accounting	3
BM101 Survey of Economics	3
Physical Education	.5

#### Fourth Semester

CH142 General Chemistry 2	4.5
PY101 Introduction to Psychology	3
BI201 Microbiology	4.5
FS131 Food, Beverage & Labor Cost Control	3
FS112 Food Preparation 2	3
Physical Education	.5

- (a) Some transfer agreements at four-year institutions may require Biological Chemistry, Organic Chemistry or Biochemistry, which could mean that CH141-142 would be taken during the first year.

# Photography

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## Associate in Applied Science Degree

This program prepares students for a career in photography. Graduates find employment in a variety of areas, including freelance photography, newspaper and magazine journalism, industrial photography, and sales.

### Total Credit Hours: 64

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
FA100 Creativity in Art	3
PT101 Photography 1	3
PT205 History of Photography 1	3
PT207 Digital Photography 1	3
Physical Education	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
PT105 Publishing Techniques for Photography	3
PT106 Multimedia Photography	3
PT202 Advanced Darkroom Techniques	3
PT206 History of Photography 2	3
Physical Education	.5

#### Third Semester

PT103 Digital Color Photography	3
PT104 Studio Techniques	3
PT201 Photojournalism	3
PT208 Digital Photography 2	3
PH112 Science of Light 1	4
Physical Education	.5

#### Fourth Semester

PT204 Photography Seminar	3
PT210 Portrait and Fashion Photography	3
Core GE Social Science	3
Core GE Mathematics	3
GE Elective	3
Physical Education	.5

# Recreation & Leisure Services

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## Associate in Applied Science Degree

This program prepares students with the knowledge and skills necessary for success in entry-level positions in the field of recreation and leisure. Graduates may find employment in federal, state, and local agencies such as community centers, Family Y, recreation and parks, nursing homes, youth agencies, and fitness centers. Working with an advisor, students plan a concentration of studies around their specific career interests. They may select Sports/Coaching, which provides individuals wishing to coach high school/athletic teams with the certification required by the New York State Education Department for Coaching Licensure. Students selecting the Fitness/Wellness emphasis gain knowledge in the personal fitness components, training methods, diet and exercise, and the opportunity for Personal Trainer Certification. Therapeutic Recreation offers a unique career opportunity for individuals who value leisure experiences and enjoy working with people with disabilities, while the Generalist emphasis allows students to broaden their career choices in the field of recreation and leisure. Students interested in Sports Facility management are referred to the Business Management program with an emphasis in Recreation Management. The Recreation & Leisure Services Program provides a foundation for students who choose to transfer to a baccalaureate degree program. All students are required to complete an internship experience under professional supervision in a setting specifically related to their career path. Students are encouraged to take those physical education classes directly related to their area of study.

**Total Credit Hours: 68.5 – 69**

### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
BI103 Human Life Science	4
IS101 Computers and Society	3
RE100 Introduction to Recreation	3
RE105 Recreation Leadership & Activity Development	3
Physical Education	.5

### Second Semester

EN102 English 2: Ideas & Values in Literature	3
Core GE Mathematics	3
BI105 Environmental Science	4
RE106 Outdoor Recreation and Leisure Activities	3
RE214 Therapeutic Recreation	3
ED151 Preven & Safety Issues for the Classroom Teacher	1
Physical Education	.5

### Third Semester

EN150 Effective Speech	3
RE205 Recreation Internship 1	3
RE214 Therapeutic Recreation	3
PY101 Introduction to Psychology	3
Restricted Elective (b)	3
PE170 First Aid	1

### Fourth Semester

RE207 Recreation Internship 2	3
RE210 Recreation Program and Facility Management	3
SO101 Introduction to Sociology	3
Restricted Elective (b)	3
Restricted Elective (b)	3
Restricted Elective (b)	3

One high school mathematics course or its equivalent is required. Student's advisor or Center's Dean must approve all electives.

**Restricted Electives:****Therapeutic Recreation Emphasis:**

ED211 Introduction to Exceptionalities, HS232 Counseling Techniques, PY203 Abnormal Psychology, Developmental Psychology Elective: (ED205, PY205, PY207, PY212)

**Generalist Emphasis:**

Restricted electives chosen in consultation with Advisor

**Sports/Coaching Emphasis:**

CO231 Philosophy, Principles & Organization of Athletics in Education, CO232 Health Science Applied to Coaching, CO233 Theory & Techniques of Coaching, PY212 Adolescent Psychology, BM Business Elective (BM120, BM150, BM251)

**Fitness/Wellness Emphasis:**

BI151 Nutrition & Dietetics I, RE204 Fitness Programming & Management, CO232 Health Science Applied to Coaching, PE154 Fitness Center\*, PE172 Health and Wellness\* (\*Taken in addition to two credits of Physical Education)

**Transfer Emphasis:**

AN102 Cultural Anthropology, HI101 History of Civilization 1, HI102 History of Civilization 2, HI104 History of Western Civilization, HI111 American History 1492-1850, HI112 American History 1850-Present, SO207 Sociology of Religion

# Respiratory Care

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## Associate in Applied Science Degree

This program provides the knowledge and skills necessary to perform patient assessment and to recommend, deliver, monitor, and evaluate therapeutic/diagnostic respiratory care services. The A.A.S. degree involves four semesters of entry and advanced level coursework, plus a five-week summer session. A.A.S. graduates are eligible to take a series of national examinations that lead to the Certified Respiratory Therapist (CRT) and the Registered Respiratory Therapist (RRT) credentials. This program is accredited by the Commission on Accreditation for Respiratory Care (CoARC). Graduates are eligible to take the Entry-Level, Written Registry and Clinical Simulation Exams sponsored by the National Board of Respiratory Care (NBRC). Graduation from the Respiratory Care Program does not guarantee success on national credentialing exams. Students can participate in the A.A.S. degree program on a part-time or full-time basis. Passing national credentialing exams is necessary to receive a license to practice as an entry-level and advance-level respiratory therapist in New York State. If an applicant has charges pending or a felony and/or misdemeanor, a license may be delayed or denied by the applicable state licensing board.

### Total Credit Hours: 75 – 76

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
BI216 Human Anatomy & Physiology 1(a)	4.5
RC101 Basic Science for Respiratory Care	2
RC103 Cardiopulmonary Pharmacology	3
RC111 Principles of Respiratory Care 1(a)	4.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
BI217 Human Anatomy & Physiology 2 (a)	4.5
RC112 Principles of Respiratory Care 2 (a)	4.5
RC115 Cardiopulmonary Diseases	3
RC131 Clinical Practicum 1 (a)	3

#### Third Semester

MA108 Concepts in Mathematics	3
OR	
MA110 Elementary Statistics	3
OR	
MA115 Intermediate Mathematics	4
PY101 Introduction to Psychology	3
RC213 Principles of Respiratory Care 3 (a)	3
RC232 Clinical Practicum 2 (a)	6

#### Fourth Semester

CH131 College Chemistry	4.5
SO101 Introduction to Sociology	3
BI209 Basic Pathophysiology	3
RC214 Acid Base Physiology	2
RC233 Clinical Practicum 3 (a)	6

#### Summer Semester

RC215 Principles of Respiratory Care 4 (a)	1.5
RC234 Clinical Practicum 4 (a)	4

Students must have a minimum G.P.A. of 2.5 to be considered for admission to the Respiratory Care Program.

- (a) A grade of "C" or higher is required in all RC prefix courses. To enhance success in the Respiratory Care curriculum, it is recommended that Human Anatomy & Physiology 1 and 2 be taken at MVCC.

- Students who have a grade of D in Human Anatomy & Physiology 1 (BI216) and/or Human Anatomy & Physiology 2 (BI217) may advance in the Respiratory Care Program course sequence but must repeat the Human Anatomy & Physiology courses and achieve grades of at least a C to be eligible to graduate from the Respiratory Care Program.
- Students may repeat each Respiratory Care course once only.
- Respiratory Care students enrolled in a respiratory care (RC) course are permitted one withdrawal. A second withdrawal from any respiratory care (RC) course will result in dismissal from the program and ineligibility to return to the Respiratory Care program.
- Students must have at least a 2.0 Grade Point Average (GPA) to be eligible to graduate from this program.
- All students enrolled in the Respiratory Care Program are required to take the 3 Self-Assessment Exams (SAEs) by Applied Measurement Professionals (cost \$30-\$70 each).
- All students enrolled in Clinical Practicum 3 (RC233) are required to take the Kettering National Review Seminar (approximate cost \$300).
- Clinical assignments include rotations that require travel within and outside the Utica/Rome area. Students must provide their own transportation to and from designated clinical sites (Utica/Rome area, Syracuse and Cooperstown). A dress code exists and identified items (nametag, picture ID, stethoscope, watch, etc.) are required for clinical sessions.
- Professional liability insurance is required when enrolled in clinical courses. This insurance is purchased through the College when registering for clinical courses.
- Accident Insurance is required for all full-time and part-time enrolled in Respiratory Care courses.
- Grades of C or higher are required for the following Respiratory Care courses to be eligible to advance to the next sequential course: RC111, RC112, RC213, RC215; RC131, RC232, RC233, and RC234 (Principles of Respiratory Care and Clinical Practicum courses). Human Anatomy and Physiology 1 and 2 (BI216 and BI217) require a minimum grade of C for successful completion.
- Students who fail (F) Human Anatomy & Physiology 1 (BI216) and/or Human Anatomy & Physiology 2 (BI217) may not advance in the Principles of Respiratory Care or Clinical Practicum courses until a passing grade is achieved.

### **Prerequisites to Enter Respiratory Care Specific courses:**

- High school chemistry (with lab) or its equivalent with a minimum grade of 70, within 10 years.
- High school biology (with lab) is recommended.
- An appropriate Mathematics Placement test result, or MA045 Basic-Mathematics Skills, or MA050 Introductory Mathematics. The MVCC mathematics placement test is based on content presented in two High School Mathematics Courses or the equivalent.
- For students completing mathematics and chemistry prerequisites by taking equivalent courses, a minimum grade of C is required.
- Matriculation into the Respiratory Care Program.
- A personal meeting with a program advisor prior to beginning classes
- Proof of current American Heart Association, CPR course for Healthcare Providers certification, on file in the Respiratory Care Office prior to starting clinical courses. CPR certification must be kept current throughout the program.
- A Respiratory Care Student Physical Health Form and proof of immunizations must be submitted prior to participation in clinical courses, and updated annually at the student's expense. A PPD skin test is required yearly to screen for tuberculosis (TB) exposure. Exception: If a student has a positive PPD and/or has received a BCG vaccine, a chest X-ray is required every two years. A positive PPD with active TB symptomatology requires an immediate chest X-ray and medical evaluation. Most clinical affiliates require students to receive the Hepatitis B vaccination series or sign a declination statement as a condition for practicing in the facility.
- Shadowing a respiratory therapist at a health-care facility is required prior to admission to the Respiratory Care Program.

### **Transfer or Returning Students**

Students who have been out of the Respiratory Care course sequence for more than one semester. Prior to beginning or resuming Respiratory Care course work, transfer and returning students must:

- Meet with a Respiratory Care advisor. Call for an appointment at 315.792.5664.
- Submit proof of CPR certification to the Respiratory Care Clinical Coordinator.
- Submit a completed Respiratory Care Student Health Form to the Respiratory Care Clinical Coordinator.
- Pass applicable Proficiency Written and/or Skill Exam. A fee is charged for proficiency exams.
- Pass the Respiratory Care Medication Written Exam with 80% accuracy, which includes medication calculations.



# School Facilities Management

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## Associate in Applied Science Degree

This program was developed at the request of, and in cooperation with, the NYS Association for Superintendents of School Buildings and Grounds (SBGA), which represent six hundred schools and thirty BOCES Systems of Superintendents of Buildings and Grounds and all related personnel. The program prepares personnel for management positions in school buildings and grounds, and further enhances the skills of those already occupying such positions. Graduates will be effective and efficient in decision-making situations in facilities management, equipped to stay abreast of critical issues in their changing environment. Emphasis is on courses in Facilities Maintenance, Basic Education Law, Public Health and Safety in Schools, and NYS Public School Budgeting and Accounting.

### Total Credit Hours: 70

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
MA110 Elementary Statistics	3
FM161 Facility Blueprints	3
ET115 Basic Electricity 1	3
BM110 Principles of Microeconomics	3
OR	
BM115 Principles of Macroeconomics	3
Physical Education (a)	.5

#### Second Semester

BM251 Organizational Behavior	3
EN102 English 2: Ideas & Values in Lit	3
ET116 Basic Electricity 2	3
ET118 Topics of Refrigeration 1	3
FM180 Public Health & Safety in Schools	3
FM246 Introduction to Alternative Energy Systems	3
Physical Education (a)	.5

#### Third Semester

BM101 Survey of Economics	3
BM252 Supervisory Management	3
FM105 Education Law for Facilities Management	3
FM244 Introduction to Green Building Technology	3
FM247 Introduction to Geothermal Heating & Cooling	3
Core GE Natural Science	4
Physical Education (a)	.5

#### Fourth Semester

CT242 Mech. & Elec. Systems for Buildings	3
ET119 Topics of Refrigeration 2	3
FM101 NYS Public School Budgeting & Accounting	3
FM248 Introduction to Solar Voltaic Systems	3
GE Social Science	3
Physical Education (a)	.5

(a) Recommended Physical Education Course: PE172 Health & Wellness

# Semiconductor Manufacturing Technology

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## Associate in Applied Science Degree

This program prepares students for careers in the semiconductor manufacturing industry. Typical technical titles include manufacturing and process technician, maintenance and installation/facility support technician and quality control and metrology technician. Individuals working in this industry require a solid foundation in mathematics and physical sciences as well as technical knowledge and good problem solving and teamwork skills.

Preparation for this program should include:

- Two high school mathematics courses, or the equivalent
- One laboratory science (physics and chemistry are recommended)

### Total Credit Hours: 72 – 75

#### First Semester

ED100 College Seminar	1
EN101 English Composition	3
ET151 Circuits 1	4
ET153 Introduction to Electronics	2
ET154 Computer Programming	2
MA121 Fundamentals of College Mathematics 1	4
Physical Education	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
ET152 Circuits 2	4
ET161 Linear Electronics	3
ET181 Digital Electronics	3
MA122 Fundamentals of College Mathematics 2	4
Physical Education	.5

#### Third Semester

CH141 General Chemistry 1	4.5
ET290 Fundamentals of High Vacuum Technology	3.5
MT204 Automatic Controls	3
MT231 Modern Production Methods & Statistical Quality Control	4
Core GE Social Science (a)	3
Elective (Optional) (b)	3
Physical Education	.5

#### Fourth Semester

ET285 Motors & Controls	4
ET289 Introduction to Semiconductor Manufacturing	4
MT252 Fluid Mechanics	4
PH151 General Physics 1	4
Physical Education	.5

(a) Select from one of these Core GE Social Science courses: PS101 American National Government, PY101 Introduction to General Psychology, SO101 Introduction to Sociology, BM101 Survey of Economics, AN101 Biological Anthropology.

(b) Acceptable Optional Electives: ET141 Programmable Logic controllers, ET254 C Programming for Technology, or ET291 Fundamentals of Highly Automated Manufacturing Systems. Other electives may be included upon advisement.

# Surveying Technology

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## Associate in Applied Science Degree

This program is for persons entering the fields of surveying work, including land surveying, engineering surveying, and construction surveying. Emphasis is on field and laboratory experience in addition to theory, including topics using satellite and ground based positioning and imaging systems. Coursework incorporates industry standard software such as Autodesk Civil 3D, Microstation Inroads, Carlson, and ArcGIS. Graduates are allowed two years of credit in partial fulfillment of the requirements necessary to obtain a license in land surveying. This program is accredited by the Engineering Technology Accreditation Commission of ABET, <http://www.abet.org>.

Preparation for this program should include:

- Two high school mathematics courses, or the equivalent
- One laboratory science (physics and chemistry are recommended)

### Total Credit Hours: 71

#### First Semester

ED100 College Seminar	1
EN101 English 1: Composition	3
CT101 Drafting	3
CT141 Intro to Civil Engin Tech/Surveying Tech	2
CT151 Surveying 1	4
MA121 Fundamentals of College Mathematics 1	4
Physical Education (b)	.5

#### Second Semester

EN102 English 2: Ideas & Values in Literature	3
CT121 Statics	3
CT152 Surveying 2	3
MA122 Fundamentals of College Mathematics 2	4
PH151 General Physics 1	4
Physical Education	.5

#### Third Semester

CT222 Soil Mechanics & Foundations	4
CT231 Transportation Engineering	3
CT253 Surveying 3	4
CT262 Legal Principles of Land Surveying	3
PH152 General Physics 2	4
Physical Education	.5

#### Fourth Semester

CT232 Environmental Engineering	4
CT254 Surveying 4	4
CT263 Digital Mapping	3
CT264 Legal Principles of Land Surveying 2	3
Social Science (a)	3
Physical Education	.5

- (a) Select from one of these Core GE Social Science courses: PS101 American National Government, PY101 Introduction to General Psychology, SO101 Introduction to Sociology, BM101 Survey of Economics, AN101 Biological Anthropology.
- (b) PE170 First Aid is recommended

See Certificate programs section for related Certificate instruction.

# Web Development and Information Design

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## Associate in Applied Science Degree

This interdisciplinary program combines the strengths of the art, business, and computer science disciplines to provide the design, business, and technical skills needed to create interactive websites and to understand the theory and concepts of e-commerce. Emphasis is placed on the integration of the World Wide Web into the sales, marketing, and recruitment activities of organizations on local and global levels. The program is designed to prepare for employment in this growing field as well as to provide a foundation for further education.

### Total Credit Hours: 64

#### First Semester

ED100 College Seminar	1
IS101 Computers and Society	3
EN101 English 1: Composition	3
BM120 Principles of Marketing	3
Core GE Social Science	3
AA107 Keyboarding-Personal	1
Physical Education	.5

#### Second Semester

IS120 Computer Operating Systems & Environments	3
IS125 Introduction to Multimedia Applications for Business	3
IS130 Desktop Publishing For Business	3
MA115 Intermediate Mathematics	4
EN102 English 2: Ideas & Values in Literature	3
Physical Education	.5

#### Third Semester

CI110 Principles of Programming	3
IS240 Networking Essentials	3
IS250 Web Development 1	3
EN153 Practical & Professional Written Communication	3
Core GE Natural Science (a)	4
Physical Education	.5

#### Fourth Semester

IS210 Database Design & Management	3
IS280 Web Development 2	3
PH115 Science of Multimedia	4
Restricted Elective (b)	3
Restricted Elective (b)	3
Physical Education	.5

(a) PH112 Science of Light suggested

(b) Students will select from a number of electives offered from the Center for Social Sciences, Business, and Information Sciences or the Center for Arts and Humanities. BM294 Business Internship substitutes for 2 restricted electives.

# Welding Technology

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## Associate in Occupational Studies Degree

This program prepares for actual welding work, or for positions as welding inspectors, welding laboratory technicians, or welding supply and equipment sales representatives. One High School Math Course or its equivalent is recommended.

### Total Credit Hours: 71

#### First Semester

ED100 College Seminar	1
EN110 Oral and Written Communication	3
MA105 Technical Mathematics 1(a)	4
MT114 Manufacturing Processes	3.5
MT170 Oxy-Acetylene Welding Procedures	5
Physical Education (b)	.5

#### Second Semester

MA106 Technical Mathematics 2 (a)	4
MT107 Basic Machine Shop Practice 1	3
MT171 Computer Applications-Trades	2
MT174 Electric Arc Welding Procedures	5
MT226 Industrial Materials	3.5
Physical Education (b)	.5

#### Third Semester

EN147 Report Writing	3
MT270 Welding Procedures for MIG & TIG	5
MT271 Metallurgy for Welders	4
MT278 Welding Inspection & Quality Control Testing	4
Physical Education (b)	.5

#### Fourth Semester

MT272 Advanced Electric Arc Welding Procedures	5
MT273 Welding Certification	5
MT276 Welders Ornamental Iron and Blacksmithing	4
MT277 Welders Blueprint Reading & Metal Fabrication	5
Physical Education	.5

- (a) Alternatives: MA121 Fundamentals of College Mathematics 1, MA122 Fundamentals of College Mathematics 2. See Certificate Programs section for related certificate instruction.
- (b) PE170 First Aid is recommended during the first year or PE173 Industrial Health & Wellness is required for the Locomotive Mechanical Service emphasis.

## Certificate Programs

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MVCC offers a series of certificate programs comprised of a sequence of credit courses leading to technical proficiency in specific fields. Students completing a certificate program may apply those credits toward the degree, providing all entrance requirements are met.

Descriptions of courses from the following certificate programs are listed under the appropriate Center or subject area in this Catalog.

Questions concerning any certificate should be referred to the Center responsible for administering the certificate.

## Administrative Assistant

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### Certificate

This certificate is for individuals interested in obtaining entry-level office skills. It provides students with the necessary background in office applications to be able to draft, edit, produce, store, and retrieve documents. The certificate will also provide a background in business communications and office administration.

#### First Semester

AA111 Keyboarding-Basic	3
AA208 Office Administration	3
BM129 Business Mathematics	3
EN101 English 1: Composition	3
IS101 Computers and Society	3

#### Second Semester

AA106 Business Communications	3
AA112 Keyboarding-Intermediate	3
IS102 Computer Applications & Concepts 2	3
IS130 Desktop Publishing for Business	3
IS140 Electronic Business Presentations	3

## Airframe and Powerplant Technician

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### Certificate

This 42-credit-hour certificate, approved by the Federal Aviation Administration (FAA) under the Federal Aviation Regulations, FAR147, prepares students to pass the Federal tests required to receive a Federal Airframe and Powerplant Certificate.

#### First Semester

AV170 General Maintenance Practices	5
AV171 Materials and Processes	2
AV172 Basic Electricity	2
AV173 Airframe Systems 1	5

#### Second Semester

AV174 Aircraft Systems 2	3
AV175 Aircraft Structures 1	3
AV176 Aircraft Structures 2	3.5
AV177 Airframe Inspection & Welding	2
AV178 Introduction to Powerplant	2.5

#### Third Semester

AV179 Reciprocating Engines	2
AV180 Turbine Engines & Powerplant Systems	4
AV181 Powerplant Systems	6
AV182 Powerplant Inspection & Electrical Systems	2

## Allied Health Care

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### Certificate

This certificate prepares students for positions as medical coders and billers in a variety of healthcare settings or in other environments (e.g., billing services, consulting companies, insurance companies, or in their own homes). Many of the courses can be applied toward an MVCC Associate Degree. The number of applicable credits will depend on the degree program in which students are interested. Prerequisites to entering the Certificate in Allied Health Care: High School Biology or its equivalent is recommended and One High School Mathematics Course or its equivalent is recommended. All incoming students must meet with the program coordinator before entering the program. Professional liability and accident insurance, available through the College, is required. Each professional practice experience site dictates the physical examination and/or immunization requirements for their site. Students may have to travel outside the Utica/Rome area to complete the professional practice experience(s). All costs incurred while enrolled in this program are the student's responsibility.

### Medical Coding and Billing: 32.5 credits

#### First Semester

AH104 Professional Standards in Health Care	3
BI110 Introduction to Human Anatomy and Physiology	3
HC100 Introduction to Health Care	3
IS101 Computers and Society	3
MR103 Medical Terminology	3

#### Second Semester

AH207 Medical Claims Management	4
MR104 CPT Procedural Coding	2
MR105 International Classification Systems	4
MR208 Pharmacology for Allied Health	3
PE171 CPR	.5

#### Summer Semester

AH217 Professional Practice Experience-MCM	4
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- High School Chemistry with lab or its equivalent is recommended. An appropriate MVCC Mathematics Placement test result, or MA045 Basic Math Skills or MA050 Introductory Mathematics.
- Medical Coding and Billing student may repeat one allied health (AH) course only. A second failure of an allied health course will result in dismissal from the Medical Coding and Billing program. Dismissed students will be ineligible to return to the Medical Coding and Billing program.
- Medical Coding and Billing students enrolled in an allied health (AH) course are permitted one withdrawal. A second withdrawal from any allied health (AH) course will result in dismissal from the program and ineligibility to return to the

Medical Coding and Billing program.

- Students must provide their own transportation to and from the assigned healthcare agency for the professional practice experience.
- Students may have to travel outside the Utica/Rome area to complete the professional practice experience.
- All costs incurred while enrolled in this program are the student's responsibility.
- Professional liability and accident insurance, available through the College, is required and payable at registration.
- The Nursing and Allied Health Center's Health/Physical Form must be completed and on file (in the Allied Health Coordinators office) before the start of the professional practice experience.
- Proof of current American Heart Association Healthcare Providers CPR certification must be on file in the Allied Health Coordinator's Office prior to beginning the professional practice experience. This certification must be kept current throughout the professional practice experience.
- Each professional practice experience site dictates the physical examination and/or immunization requirements for their site.
- Upon graduation students are eligible to take a national examination offered through the American Health Information Management Association (AHIMA). Upon passing, graduates become Certified Coding Associate (CCA).
- Graduation from the Allied Health Care Certificate program does not guarantee success on national credentialing exams.
- If a student has legal charges pending or has been convicted of a felony and/or misdemeanor, certification may be delayed or denied by the applicable national certification board.

### Transfer or Returning Students

(Students who have been out of the Medical Coding and Billing course sequence for more than one semester.)

Prior to beginning or resuming Medical Coding and Billing coursework, transfer and returning students must:

Meet with an Allied Health advisor. Make an appointment at 315.792.5367. Meet all prerequisites listed.

## Carpentry and Masonry

### Certificate

This certificate is for the individual wishing to enter the construction field. The combination of laboratory and lecture sessions provides the theory and the practical application of the construction trades. Graduates can find employment as carpenters or masons. Some graduates enter into their own businesses.

CB101 Carpentry 1	5
CB102 Carpentry 2	5
CB103 Carpentry 3	5
CB121 Masonry 1	5
CB122 Masonry 2	5
CB123 Masonry 3	5
CB126 Blueprint Reading	3
CB131 Construction Estimating	3
BM150 Principles of Entrepreneurship	3
OR	
CB104 Basic Woodworking	5

## Chef Training

### Certificate

This certificate develops areas of technical competence and preparation for trainee positions in food preparation in the hospitality industry. It meets the challenges of the food service industry involving food preparation and service through the use of sound business principles. Graduates have established a basis for a career in the food service industry, and are qualified for entry-level positions in the production or service areas of the hospitality industry.

#### First Semester

ED100 College Seminar	1
FS111 Food Preparation 1	4
FS121 Baking 1	4
FS150 Safety & Sanitation	3
IS101 Computers and Society	3

#### Second Semester

FS112 Food Preparation 2	3
FS131 Food, Beverage & Labor Cost Control	3
FS141 Purchasing for the Hospitality Industry	3
FS230 Food Service Practicum	3
FS233 Food Marketing	3

## CNC Machinist Technology

### Certificate

This is an assessment-based certificate where students are evaluated on their ability to demonstrate their knowledge and experience in all the topics of study. Topics include safety, blueprint reading, machining a work piece to drawing specification, use of computer aided design software to create drawings, programming and set-up of CNC lathes and milling machines, proper tooling and work-holding methods, speeds and feeds, and metal cutting theory. After students complete the minimum skills required in their assessment books, they continue their training by developing their own advanced machining projects. These projects include design, manufacturing, and evaluation of their own product ideas. This certificate includes 840 hours of instruction and hands-on practical training. Students take one course at a time, and a new course starts approximately every 22 days. There are a total of seven courses needed to complete the certificate. Students may enter the program at the beginning of every semester.

#### First Semester

MT291 CNC/Machinist 1	5
MT292 CNC/Machinist 2	5
MT293 CNC/Machinist 3	5
MT294 CNC/Machinist 4	5

#### Second Semester

MT295 CNC/Machinist 5	5
MT296 CNC/Machinist 6	5
MT297 CNC/Machinist 7	5



# Coaching

## Certificate

This certificate provides individuals wishing to coach high school athletic teams with the background important for working in a physical education setting. Central to it are the three coaching courses required by the New York State Education Department for Coaching Licensure.

### First Semester

CO231 Philos., Prin. & Organ. of Ath. in Ed.	3
PY101 Introduction to Psychology	3
EN101 English 1: Composition	3
BI141 General Biology 1	4
OR	
BI103 Human Life Science 1	4

### Second Semester

CO232 Health Science Applied to Coaching	3
CO233 Theory & Techniques of Coaching	3
PY212 Adolescent Psychology	3
EN150 Effective Speech	3
PE111 Strength Training	.5
PE112 Speed Training	.5

# Computer-Aided Drafting

## Certificate

This program of study prepares the students to be a drafting technician capable of working with engineers in the many facets of the technical drawing and solid modeling design fields. Emphasis is placed on the architectural and mechanical drafting along with drafting courses for technical comprehension of the subject. Topics include conventional drafting methods and computer-aided drafting (CAD) systems such as AutoCAD, MicroStation, and Solidworks. This program balances computer software skills with design and drafting skills. The Computer-Aided Drafting Certificate constitutes the first year of the degree program without collage seminar and Physical Education. It may also be used as preparation for the Mechanical or Civil Engineering Technology degree programs. At least one High School Mathematics Course or its equivalent is recommended.

### First Semester

CT101 Drafting	3
MA105 Technical Mathematics 1	4
MT140 Drafting and Design Using AutoCAD	3
MT155 Introduction to Solid Modeling	3
CT102 Engineering Drawing and MicroStation CAD	3
EN101 English 1: Composition	3
OR	
EN110 Oral and Written Communication	3

### Second Semester

MA106 Technical Mathematics 2	4
MT112 Architectural Drafting	3
MT114 Manufacturing Processes	3.5
MT251 Advanced AutoCAD	3
MT242 Advanced MicroStation CAD (a)	3
OR	
MT256 Advanced Solid Modeling (a)	3

OR

MA115 Intermediate Mathematics (a) 4

- (a) Students interested in mechanical design should plan on taking MT256 Advanced Solid Modeling. Students interested in civil/architectural/construction design should take MT242 Advanced MicroStation. Students planning on continuing into the Mechanical or Civil Engineering Technology programs should take MA115 Intermediate Mathematics.

# Criminal Justice: Law Enforcement

## Certificate

The Certificate in Law Enforcement demonstrates a commitment to excellence by creating an innovative program that meets the needs of the diverse population in the Mohawk Valley. This certificate program is designed to prepare students for careers in law enforcement. The 32-hour program enables students to complete Phase I of basic police training under the direction of the New York State Division of Criminal Justice Services. Although the program does not guarantee employment into a police department, all academic, practical, and physical fitness requirements will be met. This will provide graduates a competitive edge over other applicants as their qualifications will offer savings to hiring departments and agencies.

### First Semester

ED100 College Seminar	1
LE118 Police Procedures - Basic	5
LE119 Police Procedures - Intermediate	5
LE120 Police Procedures - Advanced	5
PE155 Police fitness Training	.5
PE162 Self-Defense	.5

### Second Semester

LE121 Principles of Law for Police Officers	7.5
LE122 Techniques of Investigation	6
LE123 Policing in the Community	3
PE154 Fitness Center	1

# Cybersecurity

## Certificate

The purpose of this certificate is to provide students with an overall view of computer and networked security. The goal of this course is to train students to be able to effectively design, implement, and support security policies for a large scale enterprise network. Students are exposed to a wide variety of security analysis/defensive tools, students implement these tools, and then attempt to circumvent them.

### First Semester

CI104 Intro to Cybersecurity	3
CI110 Principles of Programming	3
CJ101 Introduction to Criminal Justice	3
IS120 Computer Operating Systems & Environments	3

### Second Semester

CI112 Networking Fundamentals	3
CI142 Computer Forensics	3
CI212 Internet Security	3
CI232 Security Policies	3



# Electronic Technician

## Certificate

This certificate prepares students to fill careers as electronic technicians in the field of linear electronics and telecommunications. All courses apply toward the A.A.S. degree in Electrical Engineering Technology.

### First Semester

MA121 Fundamentals of College Mathematics 1	4
ET151 Circuits 1	4
ET153 Introduction to Electronics	2
ET154 Computer Programming	2

### Second Semester

MA122 Fundamentals of College Mathematics 2	4
ET152 Circuits 2	4
ET161 Linear Electronics	3
ET181 Digital Electronics 1	3
ET Elective (a)	3-4

- (a) Elective courses may include ET141 Programmable Logic Controllers, ET254 C Programming for Technology, ET265 Fiber Optics I, ET163 Audio Technology Prerequisite: Two years of college preparatory mathematics.

# English as a Second Language

## Certificate

This certificate provides students whose first language is not English with an opportunity to develop proficiency in English at an advanced Standard American English level. The program is designed for students who plan to continue in another college degree or certificate program, supplement an advanced degree from another country, or function in an English-speaking workplace, either in the United States or internationally. English skills of students entering the program will be evaluated for appropriate placement. Once begun, movement through these courses is dependent upon the successful completion of courses level by level and the satisfaction of prerequisites, such as the completion of EN101 or EN105 before taking EN102. Students who wish additional study or need full-time status may matriculate in a degree or additional certificate program once they have successfully completed the required level 4 Advanced ESL courses. In this way, students may complete the ESL Certificate while beginning coursework in their majors.

For students intending to complete an A.A., A.S., or A.A.S. degree program:

SL115 ESL 4: Advanced Reading	4
SL116 ESL 4: Advanced Composition	4
SL117 ESL 4: Advanced Grammar	4
SL118 ESL 4: Advanced Listening & Speaking	4
SL120 Pronunciation in Practice	3
EN105 English Composition for Speakers of Other Languages	4
OR	
EN101 English 1: Composition	3
EN102 English 2: Ideas & Values in Literature	3
EN150 Effective Speech	3
Elective (a)	3

For students intending to complete an A.O.S. degree program:

SL115 ESL 4: Advanced Reading	4
SL116 ESL 4: Advanced Composition	4
SL117 ESL 4: Advanced Grammar	3
SL118 ESL 4: Advanced Listening & Speaking	4
SL120 Pronunciation in Practice	3
EN110 Oral & Written Communication	3
EN147 Report Writing	3
Elective (a)	3

- (a) Upon completion of the level 4 ESL components of the Certificate, all students choose an entry-level course required in their proposed majors. For example, for a major in Accounting, a student might choose SO101 Introduction to Sociology.

# Entrepreneurship

## Certificate

Entrepreneurial leadership is the ability to envision and create new business ventures whether in a startup situation or within a mature organization; the ability to identify new opportunities; and the ability to grow and renew existing businesses (including nonprofit organizations) in a healthy, productive manner. These capabilities are often lacking in traditional organizations. This certificate helps to develop those capabilities, as well as to provide the skills and knowledge necessary to operate a successful business.

### First Semester

BM150 Principles of Entrepreneurship	3
AA106 Business of Communications	3
AC110 Principles of Accounting	3
AC131 Business Law 1	3
IS101 Computers and Society	3

### Second Semester

BM120 Principles of Marketing	3
BM251 Organizational Behavior	3
BM254 Human Resource Management	3
BM264 Professional Selling	3
BM275 Capstone in Entrepreneurship	3

# Finance

## Certificate

This certificate comprises a concentration of ten courses dealing with economics, accounting, and banking. It provides a basic knowledge about finance and management operations. All of the courses can be applied to a degree in Financial Services Management or to the Individual Studies degree.

AC115 Financial Accounting	3
AC116 Managerial Accounting	3
AC230 Financial Management	3
OR	
BM108 Personal Finance	3
IS200 Spreadsheet Concepts & Applications	3

BM110 Principles of Microeconomics	3
BM115 Principles of Macroeconomics	3
BM230 Money & Banking	3
BM129 Business Mathematics	3
MA115 Intermediate Mathematics	4
IS101 Computers and Society	3

## Heating and Air Conditioning

### Certificate

This certificate prepares students to fill careers as service technicians in the field of heating and air conditioning. All courses apply toward the A.O.S degree in Air Conditioning Technology - Refrigeration Option.

MA105 Technical Mathematics 1	4
MA106 Technical Mathematics 2	4
ET101 Technical Electricity 1	3
ET102 Technical Electricity 2	3
ET108 Refrigeration 1	4
ET220 Heating and Air Conditioning 1	4
ET221 Heating and Air Conditioning 2	5
ET234 Electrical Wiring & Codes 1	3.5

## Individual Studies: Allied Health

### Certificate (see page 77)

## Individual Studies: Business & Industry

### Certificate (see page 77)

## Industrial & Commercial Electricity

### Certificate

This certificate prepares students to fill careers as electrical maintenance persons. All courses apply toward the A.O.S degree in Electrical Service Technician.

#### First Semester

MA105 Technical Mathematics 1	4
ET101 Technical Electricity 1	3
ET105 Computer Control Fundamentals	2
ET234 Electrical Wiring and Codes 1	3.5

#### Second Semester

MA106 Technical Mathematics 2	4
ET102 Technical Electricity 2	3
ET104 Systems Diagrams	2
ET131 Electrical Machinery & Controls 1	4.5
ET244 Electrical Wiring & Codes 2	4

## Insurance

### Certificate

This certificate is for individuals who desire employment with an insurance firm. Successful completion of the two insurance courses meets the New York State educational requirements to take licensing examinations in property and casualty insurance. All of the courses

can be applied toward the A.A.S. degree program in Financial Services Management.	
AC131 Business Law 1	3
AC230 Financial Management	3
OR	
BM108 Personal Finance	3
BM120 Principles of Marketing	3
BM129 Business Mathematics	3
BM240 Personal Lines Insurance	4
BM243 Casualty Insurance	4
BM251 Organizational Behavior	3
Business Elective	3
IS101 Computers and Society	3
IS200 Spreadsheet Concepts & Applications	3

## Machinist Technology

### Certificate

This is an assessment-based certificate where students are evaluated on their ability to demonstrate their knowledge and experience in all the topics of study. Topics include processes such as drilling, grinding, milling, threading and turning, speeds and feeds, metal cutting theory, selection of tooling, fixturing, precision measurement, layout procedures, and basic blueprint reading. A capstone project consists of design, machining, inspection, and evaluation of a product. After students complete the minimum skills required in their assessment books, they continue their training by developing their own advanced machining projects. These projects include design, manufacturing, and evaluation of their own project ideas. This certificate includes 840 hours of instruction and hands-on practical training. Students take one course at a time, and a new course starts approximately every 22 days. There are a total of seven courses needed to complete the certificate. Students may enter the program at the beginning of every semester.

MT191 Machinist Technology 1	5
MT192 Machinist Technology 2	5
MT193 Machinist Technology 3	5
MT194 Machinist Technology 4	5
MT195 Machinist Technology 5	5
MT196 Machinist Technology 6	5
MT197 Machinist Technology 7	5

## Media Marketing & Management

### Certificate

This certificate introduces the theory and procedures of the world of media sales. A combination of media and business management courses are taken, with elective choices that allow specific coursework in the area of interest. All courses apply toward the A.A.S. degree in Media Marketing and Management.

MD140 Principles of Advertising	3
Business Management Elective	3
MD151 Fundamentals of Media	3
MD161 Visual Communications	3
Elective (a)	3
MD 141 Digital Video & Copywriting	3

MD152 Print Media & Production	3
BM264 Professional Selling	3
EN150 Effective Speech	3
Elective (a)	3

**(a) Elective Choices (2 courses, 6 credit hours)**

MD255 Media Computer Applications	3
MD254 Media Planning	3
BM120 Principles of Marketing	3
MD240 Advertising	3

## Medical Assistant

### Certificate

The program provides medical assistant students with the opportunity to obtain the knowledge and skills necessary to assist the physician or nurse practitioner with patients, such as performing routine procedures (blood pressure/pulse/respiration/weight). Other skills include performing routine laboratory tests, billing insurance providers, and performing receptionist duties in a medical office setting. Criminal background check may be required. See page 16 for details.

### Fall Semester

MR103 Medical Terminology	3
HC110 Medical Assistant - Administrative Theory	4
BI110 Introduction to Human Anatomy & Physiology	3
IS101 Computers and Society	3
HC100 Introduction to Health Care	3
OR	
AH104 Professional Standards in Health Care	3
PE171 CPR	.5

### Spring Semester

HC112 Medical Assistant - Clinical Procedures	5
HC120 Medical Assistant Administrative Externship	4
MR115 Law in Health Care	3
MR208 Pharmacology for Allied Health	3

### Summer Semester

HC166 Office Management for Medical Assistants	4
HC122 Medical Assistant Clinical Externship	4

- Medical Assistant courses (HC prefix) require a minimum grade of C for successful completion. All other courses must be completed satisfactorily prior to progression.
- High School Chemistry with lab or its equivalent is recommended. An appropriate MVCC Mathematics Placement test result, or MA045 Basic Math Skills or MA050 Introductory Mathematics.
- Medical Assistant students may repeat one health care (HC) course only. A second failure of a healthcare course will result in dismissal from the Medical Assistant Program. Dismissed students will be ineligible to return to the Medical Assistant Program.
- Medical Assistant students enrolled in a health care (HC) course are permitted one withdrawal. A second withdrawal from any health care (HC) course will result in dismissal from the program and ineligibility to return to the Medical Assistant

- Program.
- Students must provide their own transportation to and from the assigned healthcare agency for externships.
- Proof of current American Heart Association CPR certification for Healthcare Providers must be on file in the Allied Health Coordinators office prior to beginning externship experiences. This certification must be kept current throughout enrollment in the program.
- Professional liability and accident insurance, available through the College, is required and payable at registration.
- The Nursing and Allied Health Center's Health/Physical Form must be completed and on file (in the Allied Health Coordinator's office) prior to the first externship.
- Students must purchase a Medical Assistant nametag from the College Bookstore.
- Students must purchase a white lab coat with the MVCC insignia.
- If a student has legal charges pending or has been convicted of a felony and/or misdemeanor; certification may be delayed or denied by the applicable national certification board.
- Upon graduation, students may be eligible to take the national Registered Medical Assistant examination. Upon passing graduates become a Registered Medical Assistant (RMA). Graduation from the Medical Assistant program does not guarantee success on national credentialing exams.

### Transfer or Returning Students

(Students who have been out of the Medical Assisting course sequence for more than one semester.)  
Prior to beginning or resuming Medical Assisting coursework, transfer and returning students must:  
Meet with an Allied Health advisor.  
Make an appointment at 315.792.5367.  
Meet all prerequisites listed.

## Photography

### Certificate

This certificate program is for individuals who wish to be introduced to the basics of photography and photographic design. Those who wish to pursue photography on a part-time or hobby basis may be interested in the program. All courses apply toward the A.A.S. degree in Photography.

PT101 Photography 1	3
PT102 Photography 2	3
PH112 Science of Light 1	4
PT111 Art Sources	3
PT103 Digital Color Photography	3
PT105 Publishing Techniques for Photography	3
EN101 English 1: Composition	3
Photography Elective	3
Photography Elective	3

## Refrigeration

### Certificate

This certificate prepares students to fill careers as service technicians in the field of residential and commercial refrigeration. All courses apply toward the A.O.S. degree in Air Conditioning Technology-Refrigeration Option.

MA105 Technical Mathematics 1	4	BM254 Human Resources Management	3
MA106 Technical Mathematics 2	4	OR	
ET101 Technical Electricity 1	3	BM264 Professional Selling	3
ET102 Technical Electricity 2	3	AA106 Business Communications	3
ET209 Refrigeration 2	5	(a) Any AC, BM (above 101), or IS course other than those already required in the program. BM294 Business Internship substitutes for two business electives.	
ET223 Transport Refrigeration	4		
ET234 Electrical Wiring & Codes 1	3.5		
ET108 Refrigeration 1	4		
OR			
VT133 Refrigeration and Air Conditioning 1	6		

## School Facilities Management

### Certificate

This program was developed at the request of, and in cooperation with, the NYS Association for Superintendents of School Buildings and Grounds (SBGA), which represent six hundred schools and thirty BOCES Systems of Superintendents of Buildings and Grounds and all related personnel. The program prepares personnel for management positions in school buildings and grounds, and further enhances the skills of those already occupying such positions. Graduates will be effective and efficient in decision-making situations in facilities management, equipped to stay abreast of critical issues in their changing environment. Emphasis is on courses in Facilities Maintenance, Basic Education Law, Public Health and Safety in Schools, and NYS Public School Budgeting and Accounting.

#### First Semester

BM251 Organizational Behavior	3
ET115 Basic Electricity 1	3
FM161 Facility Blueprints	3
FM180 Public Health & Safety in Schools	3
FM246 Introduction to Alternative Energy Systems	3

#### Second Semester

BM254 Human Resource Management	3
CT242 Mech. & Elec. Systems for Buildings	3
EN101 English 1: Composition	3
FM101 NYS Public School Budgeting & Accounting	3
FM244 Introduction to Green Building Technology	3

## Small Business Management

### Certificate

This certificate is for individuals who wish to own or operate a small business. Emphasis is on the hands-on skills needed to operate a successful business enterprise. All of the courses can be applied toward an A.A.S. degree in Individual Studies. Many of the courses can be used in other business-related degree programs.

AC115 Financial Accounting	3
AC131 Business Law 1	3
BM120 Principles of Marketing	3
BM129 Business Math	3
BM150 Principles of Entrepreneurship	3
IS101 Computers and Society	3
Business Elective (a)	3
BM251 Organizational Behavior	3

## Surgical Technician

### Certificate

This program is for people interested in performing the duties of a Surgical Technician. Graduates of this program are prepared as entry-level practitioners in surgical technology. Graduates will work in operating room suites assisting in the preparation of supplies (instrumentation, draping, etc.) and the delivery of care (skin preparation, positioning, counts, dressing materials, specimen care, etc.) to the surgical patient.

#### First Semester

BI216 Human Anatomy & Physiology 1	4.5
MR103 Medical Terminology	3
AH120 Surgical Technician Clinical Seminar	1
AH130 Fundamentals for Surgical Technicians	3
AH140 Surgical Technician Skills/Surgical Procedures	3

#### Second Semester

AH230 Surgical Technician Clinical Practice 1	7
BI209 Pathophysiology	3
BI217 Human Anatomy & Physiology 2	4.5
MR208 Pharmacology for Allied Health	3

#### Summer Session

AH240 Surgical Technician Clinical Practice 2	7
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Prerequisites: The following requirements must be met before acceptance into the program:

- High School diploma or its equivalent.
- High School Chemistry with lab component or its equivalent (Regents score of 70 or higher or High School score of 70 or higher within 10 years of admission to the Surgical Technician Program.)
- An appropriate MVCC Mathematics Placement test result, or MA045 Basic Math Skills or MA050 Introductory Mathematics.
- High school biology or its equivalent is recommended.
- Proof of current Health Care Provider CPR certification must be on file.
- The Health Physical Assessment form must be completed and on file by July 1st for fall admission.
- Pre-requisites taken at MVCC or at other institutions must have a minimum grade of C (75) within the last 10 years.
- Schedule an appointment with the HIT & Allied Health Coordinator. Call 315.792.5473 for an appointment.

#### Other requirements:

- Professional liability and accident insurance, available through the College, is required and payable at registration.
- Students must provide their own transportation to and from the assigned healthcare agency for externships.



- Health Care Provider CPR must be kept current while attending the program.
- A dress code exists and identified items (protective eyewear, picture ID, laboratory coat, "sturdy" shoes and support hose) are required before entering AH 120 Surgical Technician Clinical Seminar. Students are required to purchase "scrubs."
- Minimum grade of C (75) required in all Surgical Technician specific courses and a minimum grade of C (70) In Human Anatomy & Physiology 1 & 2.
- Students must have a minimum Grade Point Average (GPA) of 2.0 to be eligible to graduate from this program.
- Graduation from the Surgical Technician program does not guarantee national certification at this time.
- Students with legal charges pending or who have been convicted of a felony or misdemeanor may have their credentialing delayed or denied.
- Credit by examination or credit for lifetime experience is not an option for any Surgical Technician or Human Anatomy & Physiology 1 & 2 Courses.
- Students may be subject to Criminal Background Checks and/or Blood Screening Tests at their own cost.

## Welding

### Certificate

This certificate prepares individuals for actual welding work using welding processes and techniques, while preparing for the New York State Certification Examination.

MT170 Oxy-Acetyl Wld Pr	5
MT174 Elec Arc Weld Pro	5
MT270 Weld Pro-Mig&Tig	5
MT273 Welding Certification	5
MT277 Weld Bluprnt&Metl	5
MT272 Adv Elec Arc Weld	5
MT276 Weld/Or Irn&Blksm	4
OR	
MT278 Weldng Insp&QC Test	4

## Course Descriptions

Each course is identified by a combination of two letters and three numbers. The letters indicate the subject area with which the course deals. On page 20 is a list of the two-letter subject codes used in the College Catalog, along with their meanings. Following the two-letter subject area designation, each course description has three numbers to indicate the level of instruction in the course. The levels are as follows:

Remedial/Developmental	000-099
Introductory Level	100-199
Intermediate Level	200-299
Independent Study	300-399

## Abbreviation Code

C = Class Period: a period in which a group teaching method is employed including recitations, lectures, discussions, demonstrations or combinations of these.

P = Practicum Period: a period devoted to direction and guidance of student application and/or development of principles and concepts in a particular physical environment. The practicum period includes laboratory, studio periods, drafting work and field trips.

Cr = Credit

Cr-0 = No Credit for course

Some course numbers are followed by codes such as L1, M2, N2, S1. These codes indicate General Education status. General Education subject areas are indicated with the following codes:

Language:	L
Humanities:	H
Mathematics:	M
Natural Science:	N
Social Science:	S
Computer Science:	C I

In addition to the letter codes that designate the major subject areas, the course numbers of General Education courses are followed by a numerical code indicating Tier 1 or Tier 2 status. A Tier 1 Natural Science course, for example, would be indicated with the code "N1." Similarly, a Tier-Two Mathematics course would be indicated with "M2." When a course number is not followed by one of these codes, the course does not fulfill General Education requirements. Depending on a student's individual situation, some courses may fulfill Tier 1 or Tier 2 requirements.

Students are encouraged to consult their advisors.

Additional information regarding specific General Education requirements appears on pages 17 - 22 of this Catalog.

## Independent Study

The program of Independent Study provides second-year students in certain programs with the opportunity to explore, under the direction of a faculty advisor, a project or area of study not available in the courses offered by the College.

It is the responsibility of students electing Independent Study to secure a project advisor and, with the advisor's assistance, to

develop a project proposal. The student, upon securing approval of the project advisor, academic advisor, and the Vice-President for Instruction, then may register for Independent Study.

Students may earn from one to four credits for satisfactory completion of their projects. The duration of the project is agreed upon by the student and the project advisor, and may span more than one semester. Proposal forms are available from the Center's Dean.

## Time Limitation

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A time limitation may eliminate courses from consideration for acceptable credit as determined by the student's Dean.

## Prerequisites and Corequisites

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In the descriptions of course content, the reader may notice the designation "Prerequisite" or "Corequisite." A Prerequisite is a course that must be completed successfully (or credit from another institution accepted) BEFORE the student may register for the course being described. A Corequisite may be taken either at the same time as or before the course being described. A Mandatory Corequisite MUST be taken at the same time as its associated course.

## Code Subject Areas

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AA	Administrative Assistant
AC	Accounting
AH	Allied Health
AL	American Sign Language
AN	Anthropology
AS	Alcoholism & Substance Abuse
AT	Athletic Training
AV	Aviation
BI	Biology
BM	Business Management
CB	Construction & Building
CG	Computer Graphics
CH	Chemistry
CI	Computer & Information Science
CJ	Criminal Justice
CO	Coaching
CR	Arts & Crafts
CT	Civil Engineering Technology
DS	Developmental Studies
ED	Education
EI	Educational Interpretation`
EN	English
ES	Engineering Science
ET	Electrical Technology
EV	Environmental Analysis
FA	Fine Arts
FL	Foreign Language
FM	Facilities Management
FP	Fire Protection
FR	French
FS	Food Service
GC	Graphic Communication
GD	Graphic Design
GT	Graphic Technology
GE	Geography
GL	Geology
GR	German

HC	Health Care
HI	History
HP	Honors Program
HS	Human Services
HT	Hotel Technology
HU	Humanities
IL	Illustration
IS	Information Systems
IT	Italian
LE	Law Enforcement
LI	Learning Resources
MA	Mathematics
MD	Media Marketing & Management
MR	Health Information Technology
MT	Mechanical Engineering Technology
NU	Nursing
OP	Photonics
PE	Physical Education
PH	Physics
PM	Physical Education Emphasis
PS	Political Science
PT	Photography
PY	Psychology
RC	Respiratory Care
RE	Recreation & Leisure Services
SA	Study Abroad
SL	English as a Second Language
SO	Sociology
SP	Spanish
SS	Social Sciences
TH	Theater
TM	Transportation Management
VT	Vocational Technology
WE	Weather Studies
WS	Workplace Success

## AA Administrative Assistant Courses

(Center for Social Sciences, Business & Information Sciences)

### AA106 Business Communications C-3 Cr-3

This course covers the fundamental principles of effective business correspondence, report writing, and oral communications. These principles are applied first to sentences and paragraphs, and then to specific types of business communications. It includes a review of spelling, vocabulary, punctuation, grammar, and composition as necessary.

### AA107 Keyboarding-Personal P-2 Cr-1

This course develops touch control of the computer keyboard, proper techniques, and building speed and accuracy. Not for Administrative Assistant majors.

### AA111 Keyboarding-Basic C-1 P-4 Cr-3

This course introduces proper computer keyboarding techniques, builds speed and accuracy, and provides practice in formatting personal and business documents.

### AA112 Keyboarding-Intermediate C-1 P-4 Cr-3

This course concentrates on increasing keyboarding speed and accuracy, and providing practice on more advanced word processing and desktop publishing projects. Prerequisite: AA111 Keyboarding - Basic.

**AA203 Machine Transcription****C-1 P-4 Cr-3**

This course provides intensive training in the transcription of letters, memoranda, and reports, using various types of equipment and instructional materials. Emphasis is on mailable transcripts and production work. Prerequisite: AA112 Keyboarding - Intermediate.

**AA208 Office Administration****C-3 Cr-3**

This course introduces the scope and responsibilities of administrative office management. Topics include information management as it relates to planning, organizing, operating, and controlling office operations, management leadership and human relations factors, salary administration, labor management relations, and office personnel problems and practices.

**AA214 Keyboarding-Advanced****C-2 P-2 Cr-3**

This course covers advanced word processing and desktop publishing skills. Decision-making, editing, abstracting information, setting priorities, and maintaining a smooth workflow are emphasized. Government, medical, legal, and business documents are keyboarded. Prerequisite: AA112 Keyboarding - Intermediate.

**AA300 Independent Study in Administrative Assistant** **Cr 1-4****AC Accounting Courses****(Center for Social Sciences, Business & Information Sciences)****AC110 Principles of Accounting****C-3, Cr-3**

This course, intended for non-accounting majors, is an introduction to the fundamental accounting concepts and principles used to analyze and record business transactions. Topics include the accounting cycle, accounting for service and merchandising businesses, special journals, payroll, banking and internal controls, and inventory methods.

**AC115 Financial Accounting****C-3 Cr-3**

This course is the first of a sequence that explores fundamental accounting principles, concepts, and practices as a basis for the preparation, understanding, and interpretation of accounting information. It covers the complete accounting cycle for service and merchandising businesses through the adjustment and closing of the books and the preparation of the income statement, the statement of owner equity, and the balance sheet. The details of accounting for cash, receivables, inventory, long-lived assets, and current liabilities are investigated.

**AC116 Managerial Accounting****C-3 Cr-3**

This course is the second of a sequence that explores fundamental accounting principles, concepts, and practices as a basis for the preparation, understanding, and interpretation of accounting information. It covers corporate equity (including the statement of retained earnings), long-term debt, time-value concepts, capital budgeting, cost-volume-profit analysis, and financial statement analysis. Prerequisite: AC115 Financial Accounting.

**AC127 Computerized Accounting Systems****C-2 P-2 Cr-3**

This course uses a variety of standard computerized business systems such as general ledger, purchasing, accounts payable, inventory, payroll, cash receipts, and accounts receivable to enter, process and store data in operational-level transaction processing. Prerequisites: AC115 Financial Accounting and either IS101 Computers and Society or IS102 Computer Applications & Concepts 2 or IS100 Introduction to Computers and Society.

**AC131 Business Law 1****C-3 Cr-3**

This basic law course investigates the application of law to societal and business relationships through a study of the concept of commercial law and its sources, the law of contracts, the law of sales, and the law of negotiable instruments. Lecture, class discussion, and case study comprise the primary methods of instruction. In the effort to develop awareness of the logic and application of the law.

**AC132 Business Law 2****C-3 Cr-3**

This course investigates the consequences of the legal forms of business organization and the acquisition, protection, the law of agency, transfer, and loss of rights in personal and real property. Lecture, discussion, and case study help to develop awareness of the scope and requirements of legislation and common law. Prerequisite: AC131 Business Law 1.

**AC201 Intermediate Accounting 1****C-3 Cr-3**

This course is a continued study of the accounting process and the application of the conceptual framework for generally accepted accounting principles (GAAP). Topics include the accounting cycle; revenue recognition; financial statement preparation; time value of money applications; and cash, receivables and inventory valuation. Intangibles and plant assets with depreciation, impairments, and depletion are also covered. Prerequisite: AC116 Managerial Accounting.

**AC203 Governmental and Not-for-Profit Accounting** **C-3 Cr-3**

This course introduces fund accounting concepts and procedures for reporting for government and non-profit entities. Topics include the study of fund and budget accounts if governmental units, revenues, appropriations, disbursements, assessments, and reporting. Emphasis is on various budgetary and reporting procedures in the not-for-profit environment. Prerequisite: AC116 Managerial Accounting.

**AC230 Financial Management****C-3 Cr-3**

This course develops the role of the finance function and financial decision-making as it relates to the entire business organization. It stresses the financial planning of the requirements for funds, the effective acquisition of these funds (from internal sources and from capital markets), and the control of the use of these funds within the business. Prerequisite: AC116 Managerial Accounting.

**AC243 Cost Accounting****C-3 Cr-3**

This course covers the effective development, presentation, and analysis of data. Topics include job process costing, cost allocation, joint product costing, and standard cost accounting, variance analysis, relevant costing and responsibility accounting. Prerequisite: AC116 Managerial Accounting.

**AC300 Independent Study in Accounting****Cr 1-4****AH Allied Health Courses****(Center for Life and Health Sciences, LAHS)****AH104 Professional Standards in Health Care****C-3 Cr-3**

The course introduces ethical and trans-cultural issues encountered in healthcare. Examples of topics include value development, ethical theories and controversies, principles of confidentiality, critical thinking, and ethical decision-making.

**AH110 Professional Practice Experience 1 MC P-3 Cr-1**

This course provides practical experience in applying knowledge of ICD-9-CM (International Classification of Disease, 9th Revision-Clinical Modification) and CPT Procedural Coding in inpatient and outpatient medical records in a clinical setting. Prerequisites: MR104 CPT Procedural Coding and MR105 International Classification Systems. (Summer semester)

**AH111 Professional Practice Experience 2 MC P-8 Cr-3**

This course provides practical experience in applying knowledge of Advanced ICD-9-CM and Advanced CPT Procedural Coding of any type of medical record in an appropriate health-related setting. It builds on the first professional practice experience by adding more complex diagnoses and procedures. Prerequisite: MR214 Advanced CPT Procedural Coding. Corequisite: AH110 Professional Practice Experience 1 MC. (Spring semester)

**AH112 Health Care Data Content and Structure C-2 Cr-2**

This course provides knowledge of the content of the health record, healthcare data sets, the difference between primary versus secondary health records, legal/ethical issues such as confidentiality, release of information (ROI), and professional ethics. Topics include healthcare accreditation standards, state licensure, and regulatory agencies. (Fall semester)

**AH120 Surgical Technician Clinical Seminar P-2 Cr-1**

This course introduces the role of the surgical technician and its integration with other hospital departments. Emphasis is placed on observation of Operating Suites, Central Sterile Processing, Endoscopy, Labor and Delivery, and Materials Management departments. Concentration is placed on how these departments prepare and deliver patient care and supplies for operative procedures. Equipment and instrumentation decontamination, tray set ups, and instrument identification as well as packaging and sterilization processes are covered. Corequisites: AH130 Fundamentals for Surgical Technicians, AH140 Surgical Technician Skills/Surgical Procedures, and BI216 Human Anatomy & Physiology I.

**AH130 Fundamentals for Surgical Technicians C-1 P-4 Cr-3**

This course provides an in-depth look at the integration of the surgical technician surgeons, anesthesiologists, registered nurses, and other surgical personnel delivering patient care. Concentration is placed on the integration and application of patient care concepts and the responsibilities of sterile and non-sterile personnel addressed in procedural content, clinical practice guidelines, and case-level requirements. Corequisites: AH120 Surgical Technician Clinical Seminar, AH140 Surgical Technician Skills/Surgical Procedures, and BI216 Human Anatomy & Physiology I

**AH140 Surgical Technician Skills/Surgical Procedures C-2 P-2 Cr-3**

This course reviews primary surgical specialties with an emphasis in each surgical specialty focusing on anatomy, physiology, pathophysiology, diagnostic intervention, and surgical interventions. Surgical interventions include special patient care considerations, room setups, anesthesia, positioning, skin prep, draping, incision and approach, supplies, equipment instrumentation, procedural steps, counts, dressing materials, specimen care, and postoperative destination and care. Surgical specialties include General, Obstetric and Gynecology, Ophthalmology, Otorhinolaryngology, Oral and Maxillofacial, Plastic and Reconstructive, Genitourinary, Orthopedics, Cardiothoracic, Peripheral Vascular, and Neurosurgery. Corequisite: AH120 Surgical Technician Clinical Seminar, AH130 Fundamentals for Surgical Technicians, and BI216 Human Anatomy and Physiology I.

**AH207 Medical Claims Management C-2 P-4 Cr-4**

The course introduces medical insurance billing and credit and collection procedures. It provides an understanding of the insurance options and the laws governing the payers/insurers. Topics include preparing and reviewing claims forms, the significance of coding, electronic and computerized billing, and fraud and abuse. (Spring semester)

**AH210 Professional Practice Experience 1/ Medical Transcription P-8 Cr-3**

This course provides hands-on knowledge of medical claims management and procedures. The professional practice experience integrates the didactic component with the professional practice component. Transcriptions are made of healthcare professionals dictation of medical reports, i.e., operative reports, discharge summaries, and history and physical examinations. Prerequisites: HC100 Introduction to Health Care, IS101 Computers and Society or IS100 Introduction to Computers and Society, BI103 Human Life Science 1, and MR208 Pharmacology for Allied Health. Corequisites: AA203 Machine Transcription. (Spring semester)

**AH212 Professional Practice Experience 2/ Medical Transcription P-11 Cr-4**

This course provides additional hands-on knowledge of medical transcription and procedures. The professional practice experience integrates the didactic component with the professional practice component. The focus is on the transcription of pathology and diagnostic imaging reports as dictated by healthcare professionals. Prerequisite: AH210 Professional Practice Experience 1-Medical Transcription. (Summer semester)

**AH217 Professional Practice Experience/ Medical Claims Management P-11 Cr-4**

This course provides hands-on knowledge of medical claims management and procedures. The professional practice experience integrates the didactic component with the professional practice component. Medical claims are processed, with follow-up on unpaid balances and corporate compliance plan to avoid allegations of health care fraud and abuse. Prerequisites: BI110 Introduction to Human Anatomy & Physiology, MR208 Pharmacology for Allied Health; and AH207 Medical Claims Management. (Summer semester)

**AH230 Surgical Technician Clinical Practice 1 P-17 Cr-7**

In this course, students are partnered with experienced Surgical Technicians and are expected to transition from an observer to an active role during surgical procedures. Primary surgical specialties are the focus, e.g., General Surgery, OB/GYN, Orthopedic, Otorhinolaryngology, and Genitourinary. Surgical interventions include special patient care considerations, room setups, anesthesia, positioning, skin prep, draping, incision and approach, supplies, equipment instrumentation, procedural steps, counts, dressing materials, specimen care, and postoperative destination and care. Prerequisites: BI216 Human Anatomy & Physiology I, MR103 Medical Terminology, AH120 Surgical Technician Clinical Seminar, and AH130 Fundamentals for Surgical Technicians. Corequisites: BI217 Human Anatomy & Physiology 2 and AH140 Surgical Technician Skills Surgical Procedures.

**AH240 Surgical Technician Clinical Practice 2 P-17 Cr-7**

This course is the continuation of AH230 Surgical Technician Clinical Practice 1. Students are partnered with experienced Surgical



Technicians and are expected to take a more active role during surgical procedures. Surgical specialties include General Surgery, OB/GYN, Orthopedic, Otorhinolaryngology, and Genitourinary. Surgical interventions include special patient care considerations, room setups, anesthesia, positioning, skin prep, draping, incision and approach, supplies, equipment instrumentation, procedural steps, counts, dressing materials, specimen care, and postoperative destination and care. Prerequisite: AH230 Surgical Technician Clinical Practice I.

**AH300 Independent Study in Allied Health** Cr 1-5

## **AL American Sign Language Courses**

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**(Center for Language and Learning Design, CLLD)**

**AL101 American Sign Language 1** C-3 Cr-3

This course introduces American Sign Language (ASL), a natural and visual-gestural language used by deaf people in the United States and Canada. It covers finger spelling, signs, grammar, syntax, sentence structure, non-manual behaviors, basic communication techniques, and conversational skills as well as receptive and expressive language skill development. It reviews facets of Deaf culture. A minimum of five hours of participation in the Deaf community is required.

**AL102 American Sign Language 2** C-3 Cr-3

This course further develops receptive and expressive finger spelling and signing skills. Functional language strategies are presented to expand conversational skills beyond talking about oneself to talking about other people and activities, giving directions, and making requests. Skills are developed to identify others, exhibit appropriate conversational strategies, and learn to handle interruptions. Study focuses on ASL sentence structures, time, numbers, spatial referencing, temporal aspects, distributional aspects, pluralization, and sign vocabulary. Information about the Deaf community and Deaf culture is covered. A minimum of 15 hours of participation in the Deaf culture is required. Prerequisite: Grade of C or better in AL101 American Sign Language I, and a specific score on the ASL Proficiency Test, Level 1.

**AL201 American Sign Language 3** C-3 Cr-3

This course covers an increased number of specialized vocabulary terms and an expansion of grammatical features. The skills of accurately producing finger spelling, numbers, classifiers, and non-manual markers are included during practice and spontaneous conversations. Conversation structure in ASL is taught as a part of ASL discourse. A minimum of twenty-five hours of participation in the Deaf community is required. Prerequisite: Specific score on ASL Proficiency Test, Level 2.

**AL202 American Sign Language 4** C-3 Cr-3

This last course in the ASL series for interpreting students builds upon the foundation of the previous courses. Specialized vocabulary and the basic ASL discourse structure for a presentation are covered. Vocabulary, structural principles, and linguistic principles related to narratives of ASL are expanded and applied. Multiple meaning English words and English idioms for expressing concepts in ASL are analyzed. Linguistic principles and discourse features to develop and create ASL narratives are incorporated. Issues related to the Deaf culture are introduced based on topics in each unit. A minimum of forty hours of participation in the Deaf community is required. Prerequisite: Specific score on ASL Proficiency Test, Level 3.

**AL300 Independent Study in American Sign Language** Cr 1-4

## **AN Anthropology Courses**

**(Center for Social Sciences, Business & Information Sciences)**

**AN101 Biological Anthropology (S1, S2)** C-3 Cr-3

This course presents the biological and evolutionary history of humans. Basic concepts of evolutionary theory, human genetics, human biological adaptation and diversity, and the hominid fossil record are explored. It includes the behavior and ecology of living non-human primates.

**AN102 Cultural Anthropology (S1, S2)** C-3 Cr-3

This course examines the cultural evolution of humans in a cross-cultural perspective. It includes the study of kinship, marriage, family, political and economic organization, the arts, and the individual in society. It covers the historical background of development of the discipline, research methods, and concepts proposed by various schools of anthropological thought.

**AN204 Field Work in Archaeology (S2)** C-2 P-6 Cr-3

The course is offered during the four weeks of June, and is conditional on available site and enrollment. This course offers instruction in excavation procedures, laboratory treatment and preservation of artifacts, recording data, photographic records, analyzing materials, and report preparation. Archeological classes are conducted at an historic or prehistoric site five days per week, and include 30 hours of lecture and 90 hours of laboratory and field procedures. It includes study of the available historic record dealing with the area and the culture of the community being excavated. Prerequisite: Instructor permission.

**AN205 Forensic Anthropology (S2)** C-3 Cr-3

This introductory course provides a general understanding of the methods that forensic anthropologists use to identify human skeletal remains. It introduces the human skeleton, anthropological techniques used in forensic investigations, and how to discriminate between human and non-human remains. This course involves actual human skeletal material.

**AN300 Independent Study in Anthropology** Cr 1-4

## **AS Alcoholism & Substance Abuse Courses**

**(Center for Life and Health Sciences, LAHS)**

**AS201 Introduction to Alcoholism/  
Substance Abuse Counseling** C-3 Cr-3

This course provides a foundation in alcoholism/substance abuse counseling knowledge and skills, including practice in basic counseling skills. Prerequisite: A grade of "C" or better in HS241 Chemical Dependencies.

**AS202 Alcoholism/Addictions and Family Systems** C-3 Cr-3

This course provides an in-depth look at the effects of alcoholism and substance abuse on the family system. Topics include a variety of approaches to viewing the family, a general overview of codependency, and aspects of family and codependency treatment, including how counselors can be affected. Prerequisite: A grade of "C" or better in HS241 Chemical Dependencies.

**AS204 Special Topics in Alcoholism & Substance Abuse  
Treatment Programs** C-3 Cr-3

A survey of issues is covered related to legal aspects of alcohol, drug, and treatment programs, treatment of special populations, child

abuse reporting, and treatment in correctional institutions, specialized addictive treatment modalities, and employee assistance programs. Poly-addiction and new drugs are included. In addition, issues related to the professional in alcoholism and substance abuse treatment are discussed. Other topical issues are introduced, based on class needs and new trends. Prerequisite: A grade of "C" or better in HS241 Chemical Dependencies.

### **AS206 Prevention Principles for Alcohol, Tobacco & Other Drug Problems** **C-3 Cr-3**

This course covers principles underlying effective alcohol, tobacco, and other drug (ATOD) prevention strategies. A systems approach is used to give an overview of methods, goals, objectives, models, and history of prevention. The risk and protective framework provides the basis for prevention program examples. These programs are evaluated using science-based methods. Prevention ethics are discussed, with the opportunity to observe and demonstrate presentation skills. This course fulfills requirements of the NYS Office of Alcoholism and Substance Abuse Services for credentialing of alcohol and substance abuse prevention professionals and prevention specialists. Prerequisite: A grade of "C" or better in HS241 Chemical Dependencies.

### **AS207 Prevention Practice for Alcohol, Tobacco & Other Drug Problems** **C-3 Cr-3**

This course covers the practice of developing and designing effective Alcohol, Tobacco, and Other Drug (ATOD) prevention education programs. Topics include the performance domains of planning and evaluation, education and skill development, community organization, public organization and policy, and professional growth and development. This course fulfills requirements of the NYS Office of Alcoholism and Substance Abuse Services for credentialing of alcohol and substance abuse prevention professionals and prevention specialists. Prerequisite: A grade of "C" or better in AS206 Prevention Principles for Alcohol, Tobacco & Other Drugs.

### **AS208 Treatment of Pathological Gambling** **C-4 Cr-4**

This course presents a basic understanding of pathological gambling and the treatment of those adversely affected by problem gambling. This impulse control disorder is compared and contrasted with Substance Abuse and Alcoholism. This course fulfills requirements of the NYS Office of Alcoholism and Substance Abuse Services for CASAC credentialing. Prerequisite: A grade of "C" or better in AS201 Introduction to Alcoholism/Substance Abuse Counseling.

### **AS300 Independent Study in Alcohol & Substance Abuse** **Cr 1-4**

## **AT Athletic Training Courses**

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**(Center for Life and Health Sciences, LAHS)**

### **AT101 Introduction to Sports Medicine** **C-2 P-2 Cr-3**

This course introduces the basic skills involved in the care and prevention of athletic injuries. It covers the recognition of sports-related injuries from head to toe, emergency procedures, training room responsibilities, liability concerns, environmental concerns, nutrition, and eating disorders as well as rehabilitation and training techniques. Laboratory time consists of BLS-CPR certification, stretching and taping techniques, and practicing emergency procedures. Prerequisites: CO232 Health Science Applied to Coaching.

### **AT201 Sports Medicine Practicum 1** **P-3 Cr-1**

This 15-week practicum provides experience in an athletic training room setting. It includes attending home contests, preparing teams for practices and games, taping student-athletes, assisting with rehabilitation programs, and other duties as determined appropriate by the supervising Athletic Trainer. Prerequisites: AT101 Introduction to Sports Medicine.

### **AT202 Sports Medicine Practicum 2** **P-3 Cr-1**

This second 15-week practicum provides further hands-on experience in the athletic training room setting. It includes attending home games and taping student-athletes as well as designing and overseeing rehabilitation programs under the supervision of the Athletic Trainer. The primary responsibility is for one contact sports team. Prerequisite: AT201 Sports Medicine Practicum 1.

### **AT300 Independent Study in Sports Medicine** **Cr 1-4**

## **AV Aviation Courses**

**(Center for Mathematics, Engineering, Physical Sciences, and Applied Technology, STEM)**

### **AV170 General Maintenance Practices** **P-15 Cr-5**

This course introduces general aviation maintenance practices, including topics in Mathematics, blueprints/charts, Physics, maintenance forms and publications, human factors, ethics, and aircraft weight and balance. This course also introduces students to airframe material testing procedures. Additional topics include precision measurements, identification and selection of aircraft materials, basic heat-treating processes, penetrant, chemical etching and magnetic particle inspections, welding inspection, and the identification and selection of non-destructive testing methods.

### **AV171 Materials and Processes** **P-6 Cr-2**

This course introduces methods and procedures needed to maintain cleaning and corrosion controls, fluid lines, and fittings. Aircraft general servicing and ground operations are also included.

### **AV172 Basic Electricity** **P-6 Cr-2**

This course introduces the basic electricity terms and calculations, including voltage, resistance, capacitance, inductance, and power. Reading and interpreting electrical circuit diagrams and the inspection and servicing of batteries are also introduced.

### **AV173 Airframe Systems 1** **P-15 Cr-5**

This course introduces methods and procedures needed to maintain, service and repair airframe electrical and electronic systems.

### **AV174 Airframe Systems 2** **P-9 Cr-3**

This course introduces methods and procedures needed to maintain Ice and Rain control, Fire Protection, and aircraft associated utility systems, including hydraulic and pneumatic power systems. Other topics covered are methods and procedures needed to maintain aircraft landing gear systems, cabin atmosphere control systems, and oxygen systems.

### **AV175 Aircraft Structures 1** **P-9 Cr-3**

This course introduces methods and procedures needed to inspect and repair wood structures, aircraft coverings, and exterior finishes as defined by the Federal Aviation Administration (FAA) publication AC43.13-1B (Acceptable Methods, Techniques and Practices). Topics include identifying, inspection, and repair of wood structures; selection,

inspection, testing, and repair of fabric and fiberglass coverings; application of trim and letters; and the identification, selection, application, and inspection of aircraft finishing materials. Proper rigging of a fixed and rotary wing aircraft, checking alignment, of structures, assembling aircraft, balancing and rigging movable surfaces, and properly raising and lowering an airplane are also introduced.

### **AV176 Aircraft Structures 2** **P-10.5 Cr-3.5**

This course introduces the materials, equipment, tools and procedures needed for the inspection and repairs to aircraft sheet metal structures as defined by the Federal Aviation Administration (FAA) publication AC43.13-1B (Acceptable Methods, Techniques and Practices). Topics also include the inspection and repair of bonded, plastic, honeycomb, and laminated structures, and the inspection and repair of windows doors, and interior furnishings.

### **AV177 Airframe Inspection & Welding** **P-6 Cr-2**

This course introduces methods and procedures needed to understand basic principles of various types of aircraft welding. Students learn inspection, troubleshooting and repair, and operation of aircraft fuel systems, as well as perform airframe conformity and airworthiness inspections.

### **AV178 Introduction to Powerplant** **P-7.5 Cr-2.5**

This course introduces methods and procedures needed to maintain Engine Fire Protection and Engine Systems. This course also introduces auxiliary power units (APU), unducted fan engines, and reciprocating engines.

### **AV179 Reciprocating Engines** **P-6 Cr-2**

The course introduces the basic skills necessary to overhaul a reciprocating engine.

### **AV180 Turbine Engines & Powerplant Systems** **P-12 Cr-4**

This course introduces methods and procedures necessary to inspect, service, repair, install, and troubleshoot gas turbine engines and associated engine systems.

### **AV181 Powerplant Systems** **P-18 Cr-6**

This course introduces methods and procedures necessary to inspect, service, repair, install, and troubleshoot engine systems and associated components, and to control for engine fuel, induction, ignition and starting systems, and associated instruments. Other topics include methods and procedures necessary to inspect, service, troubleshoot, and repair exhaust systems, engine reverser systems, and propeller systems.

### **AV182 Powerplant Inspection & Electrical Systems** **P-6 Cr-2**

This course introduces installation and repair of engine electrical systems. Methods and procedures required for airframe and engine airworthiness inspections are introduced.

## **BI Biology Courses**

### **(Center for Life and Health Sciences, LAHS)**

### **BI103 Human Life Science 1 (N1, N2)** **C-3 P-2 Cr-4**

This course explores the form and function of human body systems for non-science students. It stresses normal and abnormal life processes as well as the philosophy and history of science including the scientific method. Laboratory exercises complement lecture topics, which include the study of cells and tissues, and the nervous, cardiovascular, respiratory, and reproductive systems. Dissections are required in the laboratory.

### **BI105 Environmental Science (N1, N2)** **C-3 P-2 Cr-4**

This course increases appreciation and interest in human interaction with other organisms and with the physical environment. Topics include basic ecological concepts as well as human impact on the earth with an emphasis on selected environmental problems (i.e. natural resource use, pollution, wildlife conservation, agriculture, hazardous waste etc.). The laboratory component supplements lecture topics by providing practical experiences. Field experiences are required.

### **BI110 Introduction to Human Anatomy & Physiology** **C-3 Cr-3**

This course introduces the structure, organization, and functioning of the human organism. It provides an overview of most of the systems of the body. Common diseases and injuries are described. This course does not meet graduation requirements for science, health science, or health-related majors.

### **BI141 General Biology 1 (N1, N2)** **C-3 P-2 Cr-4**

This is the first of a two-semester course dealing with the central concepts of biology. Topics include the chemical and cellular basis of life, energy transformations, plant structure related to function, and plant reproduction. Laboratory exercises mirror lecture topics. Prerequisite: One year of laboratory science in high school or permission from the Dean of Life and Health Sciences.

### **BI142 General Biology 2 (N2)** **C-3 P-2 Cr-4**

This course is a continuation of BI141 General Biology I. Topics include classical and molecular genetics, evolutionary processes, and speciation illustrated with trends observed in the simpler animal phyla. Laboratory exercises mirror lecture topics. Prerequisite: BI141 General Biology I or permission from the Dean of Life and Health Sciences.

### **BI151 Nutrition & Dietetics 1** **C-3 Cr-3**

This course provides a general understanding of nutrition as a science. The primary focus is on proper dietary habits and wellness, the causes of sickness, and governmental policies. Content areas include nutrients necessary for health and energy needs, and illness due to nutrient excesses and deficiencies. It addresses vitamins, minerals, and food safety.

### **BI152 Nutrition & Dietetics 2** **C-3 Cr-3**

This course explores the changing nutritional needs as an individual progresses through the normal life cycle. Social and physiological influences are examined. Specific disease states and nutritional adjustments necessitated by these as well as different nutrient delivery techniques are included. Prerequisites: BI151 Nutrition & Dietetics I and BI216 Human Anatomy & Physiology I.

### **BI201 Microbiology (N2)** **C-3 P-3 Cr-4.5**

This course introduces the morphology, physiology, and genetics of microorganisms and their impact on health and environment. Organisms studied include bacteria, fungi, virus, and protozoa. Laboratories emphasize safe handling and culturing of live bacteria, as well as identification procedures. Prerequisites: BI142 General Biology 2, or BI217 Human Anatomy & Physiology 2.

### **BI202 Ecology (N2)** **C-3 P-3 Cr-4.5**

This course covers classical ecology, with a study of the interrelationships of organisms and their environment. Topics include basic ecological principles, natural selection and speciation, energy flow and productivity, and biogeochemical cycling of nutrients. Laboratories emphasize quantitative analysis of various environmental



parameters. Prerequisite: BI141 General Biology I or CH141 General Chemistry I.

### **BI209 Basic Pathophysiology** **C-3 Cr-3**

This course examines the physiological consequences of various disease states. Diseases are treated as threats to homeostasis. The effects of pathology on normal bodily processes are discussed at various organizational levels, including biochemical, cellular, histological, and organ systems. This course is designed for allied health students. Prerequisites: BI216 Human Anatomy & Physiology I or permission from the Dean of Life and Health Sciences. Corequisite: BI217 Human Anatomy & Physiology 2.

### **BI216 Human Anatomy & Physiology 1 (N1, N2)** **C-3 P-3 Cr-4.5**

This course covers the structure and function of the human organism and the regulatory processes that operate within a living system. It introduces general anatomical, physiological, and chemical organization, and includes the integumentary (skin), skeletal, muscular, and nervous systems. Laboratories involve vertebrate dissection, the use of prosected human cadavers and human skeletal materials, microscope work, non-invasive human experimentation, and possibly animal experimentation. Prerequisite: One year of high school chemistry or equivalent preparation, or permission from the Dean of Life and Health Sciences. High School Biology or its equivalent recommended. Students enrolled in Life and Health Sciences Center programs are recommended to complete this course before beginning their specialized program coursework.

### **BI217 Human Anatomy & Physiology 2 (N2)** **C-3 P-3 Cr-4.5**

This course, which is a continuation of BI216 Human Anatomy & Physiology I, involves the study of structure, function, and regulation in the human organism. Topics include blood, peripheral nerves, the cardiovascular system, lymphatics, the respiratory system, the excretory system, the endocrine system, the reproductive systems, the digestive system, and metabolism. Laboratories involve vertebrate dissection, the use of prosected human cadavers and human skeletal materials, microscope work, non-invasive human experimentation, and possibly animal experimentation. Prerequisite: BI216 Human Anatomy & Physiology I, permission from the Dean of Life and Health Sciences. Students enrolled in Life and Health Sciences Center programs are recommended to complete this course before beginning their specialized program coursework. Students with transfer credit for BI216 Anatomy and Physiology I must complete a three-hour orientation to the use of prosected human cadavers before participating in the BI217 Human Anatomy and Physiology 2 laboratory. Transfer students must meet with the Dean of Life and Health Sciences thirty days before beginning this course.

### **BI270 Practicum in Human Dissection** **P-2 Cr-1**

This course provides selected students with hands on experience in directed, supervised human cadaver dissection. Working in small groups, students collaborate to explore, locate, expose, identify, and demonstrate selected organs, structures, anomalies, and pathologies on embalmed specimens. Since different groups may have different dissection tasks, students in each group share their work with those in other groups. Specific dissections and exposures are selected by the instructor to coincide with the prosection requirements of Human Anatomy & Physiology 1 and 2 (BI216 and BI217) and, whenever, feasible, with the interests and backgrounds of the enrolled students. Because every cadaver provides a unique dissection and educational experience, students may enroll in this course more than once for credit. Prerequisites: BI216 Human Anatomy & Physiology I or BI217 Human Anatomy & Physiology 2, and written permission of the instructor. All prospective students will be required to submit

an essay, not to exceed 500 words, explaining their interest in taking this course and indicating the use to which they intend to put this information and the benefit they expect to derive from it. The instructor will consider this essay carefully before any course enrollment decision is made.

### **BI300 Independent Study in Biology** **Cr 1-4**

## **BM Business Management Courses**

**(Center for Social Sciences, Business & Information Sciences)**

### **BM100 Introduction to Business** **C-3 Cr-3**

This course presents the relationships among social, political, economic, legal, and environmental forces, and the development and operation of business in a global economy. It includes an overview of the concepts and principles of the various subfields of business accounting, management, finance, marketing, law, ethics, human resources, and general business as well as current topics of interest, and internet research and simulation exercises.

### **BM101 Survey of Economics (S1, S2)** **C-3 Cr-3**

This course introduces economic theory and its relevance to daily life in a market economy. Topics include scarcity, supply and demand, choice, economic growth, taxation, and the role of government in the economy. Attention is given to current economic issues and their impact upon everyday life.

### **BM108 Personal Finance** **C-3 Cr-3**

This course teaches the fundamentals of personal finance through the creation of a financial plan, management of personal finances, and reaching personal financial goals. Topics include the establishment of financial objectives (home ownership, education, and retirement), budgeting and savings, personal income tax, investments (stocks, bonds, and mutual funds), retirement, and estate planning. The effective use of and management of credit is covered.

### **BM110 Principles of Microeconomics (S2)** **C-3 Cr-3**

This course studies the behavior of the individual and firm in allocating resources in a market system under various the degrees of competition. Topics include the nature of economics, scarcity choice, market pricing and applications, theory of consumer choice, business cost measurement, forms of competition, antitrust and regulations of business, factor pricing, externalities, and pollution. Poverty-income distribution, labor economics, or agricultural economics may also be discussed.

### **BM115 Principles of Macroeconomics (S2)** **C-3 Cr-3**

This course studies the theory and operation of the economy and how government attempts to achieve domestic and international economic goals using monetary and fiscal policies. Topics include are: the nature of economics, the economizing problem, capitalism and the circular-flow, overview of the public sector, measuring output and income, macroeconomic instability, aggregate demand and supply, Keynesian employment theory, fiscal policy and its applications, money, banking, and monetary policy applications, and international trade and finance.

### **BM120 Principles of Marketing** **C-3 Cr-3**

This course emphasizes the basic practices, concepts, and activities involved in developing a successful marketing program. Topics include buyer behavior, market identification, product development, distribution, promotion, pricing, and the uncontrollable factors (economic, social, political, legal and technological) involved in the changing marketing environment of today.

### **BM129 Business Mathematics** **C-3 Cr-3**

This course reviews basic arithmetic processes to develop speed and accuracy in working with decimals, fractions, and percentages. Calculators are used to solve business problems, including simple

and compound interest, discounting promissory notes, present value, installment purchases, and mortgages. Retail mathematics covers the areas of purchase and cash discounts, trade discounts, and markup of merchandise. Topics may also include the mathematics of sales and property taxes and payroll. Problem-solving exercises are completed through applications and exercises. Prerequisite: An appropriate Mathematics Placement test result or MA045 Basic Math Skills or MA050 Introductory Mathematics.

### **BM150 Principles of Entrepreneurship** **C-3 Cr-3**

This course is designed to provide a basic understanding of entrepreneurship and the challenges of starting and operating a small business. Emphasis is placed on creating and successfully leading a business entity by developing a sustainable competitive advantage. Topics include self-assessment, planning, decision-making, legal forms of business, identifying and leveraging business opportunities, capital formation, start-up issues, the need for social responsibility and ethics, and how to develop long-term relationships with customers, suppliers, and employers. A major course requirement is the presentation of a realistic business plan.

### **BM206 Business Ethics** **C-3 Cr-3**

This course provides an overview of business ethics and ethical management practices, with emphasis on the process of decision making and working through contemporary dilemmas faced by business organizations, managers, and employees. It demonstrates how ethics can be integrated into business decisions and applied to careers. Topics include an overview of business ethics; corporations and social responsibility; business and society; consumers and the environment; ethical issues in the workplace; business ethics in a global and multicultural environment; values, rights, and responsibilities; and frameworks for ethical decision-making in business.

### **BM212 International Marketing** **C-3 Cr-3**

This course emphasizes the basic principles and practices of international marketing. Techniques and strategies of operating in a global environment are a primary focus. Areas of concentration include the international legal environment, foreign business customs, political systems, and the U.S. roles in global relations. Prerequisite: BM120 Principles of Marketing.

### **BM213 Business Logistics** **C-3 Cr-3**

This course investigates the seven Rs of business logistics: the right product, in the right quantity, in the right condition, at the right place, at the right time, for the right customer, and at the right cost. Topics include the theories, concepts, analytical techniques, managerial information practices, economic characteristics, and business environment of logistics in relation to the need to manage physical resources and services to accomplish a strategic goal. Private and public sectors are explored and their differences investigated. Prerequisite: An appropriate Mathematics Placement test result or MA045 Basic Math Skills or MA050 Introductory Mathematics.

### **BM230 Money and Banking** **C-3 Cr-3**

This course examines the functions of money and credit and their roles in the economy through the variety of financial intermediaries or financial institutions. Topics include the determination of interest rates; the role, functions and forces that shape and change financial institutions; the operation of the money, capital and debt markets; and the role and functions of the Federal Reserve in the financial system. Prerequisites: AC115 Financial Accounting and BM115 Principles of Macroeconomics.

### **BM240 Personal Lines Insurance** **C-4 Cr-4**

This course explores the major forms of Personal Lines insurance through policy and statute analysis. It covers basic insurance concepts along with dwelling, homeowner, flood, personal automobile, and personal umbrella policies. This course also details New York State's agent/broker licensing laws and business practices. Subject to attendance requirements, this course meets the 40-hour educational

requirement for the New York Personal Lines Agent/Broker examinations (Series 10-54).

### **BM243 Commercial Insurance** **C-4 Cr-4**

This course explores the major forms of Commercial insurance through policy and statute analysis. It covers basic insurance concepts along with commercial property, commercial general liability, commercial automobile, commercial crime, inland marine, and workers compensation insurance. This course also details New York State's agent/broker licensing laws and business practices. Subject to attendance requirements, this course completed in addition to BM240 Personal Lines Insurance, meets the 90-hour educational requirement for the New York Property and Casualty Insurance Agent (Series 10-55) and Broker (Series 10-56) examinations. Prerequisite: BM240 Personal Lines Insurance.

### **BM244 Life, Accident & Health Insurance** **C-4 Cr-4**

This course provides in-depth information about life, accident, and health insurance, especially for those people who plan to enter the insurance. Successful completion of this course is recommended to sit for the New York State Agents Exam in Life, Accident, and Health Insurance.

### **BM251 Organizational Behavior** **C-3 Cr-3**

This course is the study of how individuals and groups act in organizations. It explores a systems approach in developing organizational and human resource objectives, as well as a holistic approach in examining relations among groups, individuals, and systems as they relate to the organization.

### **BM252 Supervisory Management** **C-3 Cr-3**

This course provides a working knowledge of supervisory skills necessary for dealing with human problems within the organization. It covers elements such as communications, motivation, discipline, negotiations, and conflict management. Prerequisites: BM251 Organizational Behavior.

### **BM253 Global Perspectives in International Business** **C-3 Cr-3**

This course shows students strategies and corporate policies of international firms, and how they operate globally in both internal and external environments. It covers economic, political, and cultural topics as they relate to international business, which includes goods, services, technology, and capital, in addition to managerial knowledge and how it must transcend borders.

### **BM254 Human Resources Management** **C-3 Cr-3**

This course introduces the functions involved with managing the human resources within an organization. Topics include job design and analysis, recruitment and selection, performance appraisals, training, compensation administration, benefits, and employee rights.

### **BM255 Select Topics in Entrepreneurship & Business Operations** **C-3 Cr-3**

This course provides critical elements of various disciplines and topics of interest in entrepreneurship and business operations. Possible topics include innovation/product development, value chain management, entrepreneurial legal issues, human resources, negotiation strategies, quality, sustainability, compliance, and areas of controversy in the current external business environment.

### **BM262 Marketing Management** **C-3 Cr-3**

This course presents the marketing management process and the marketing managers' role. Topics include marketing decision-making process, marketing concept, the process of strategic planning, and marketing planning. Prerequisite: BM120 Principles of Marketing.

**BM264 Professional Selling****C-3 Cr-3**

This course covers the essential skills to sell a product, service, or idea. Activities include the writing and preparing of a detailed presentation plan as well as the expository delivery of the plan.

**BM275 Capstone in Entrepreneurship****C-3 Cr-3**

In this capstone course, students build upon the fundamentals learned in related coursework to research, develop, and write a detailed business plan. Prerequisite: BM150 Principles of Entrepreneurship

**BM294 Business Internship****C-2 P-12 Cr-6**

This internship provides realistic training in a student-chosen field of study. It requires 12 hours of work per week in a supervised environment and helps to prepare for entrance into a competitive work environment. It creates a bond among students, the College, and the business community, and may lead to employment opportunities. A work experience journal is required along with a supervisor evaluation.

**BM300 Independent Study in Business****Cr 1-4****CB Construction and Building Courses**

**(Center for Science, Technology, Engineering and Mathematics, STEM)**

**CB101 Carpentry 1****C-2 P-6 Cr-5**

This course introduces description and use of construction materials, tools, safety procedures, and framing techniques for foundations, floors and walls. Hands-on experience and safety are emphasized.

**CB102 Carpentry 2****C-2 P-6 Cr-5**

This course covers the design and construction of residential roofs, including rafters, trusses, hands-on experience and safety procedures are emphasized. Prerequisite: CB101 Carpentry 1.

**CB103 Carpentry 3****C-2 P-6 Cr-5**

This course covers the finishing of the interior and exterior of a residential structure. Topics include windows and skylights, interior and exterior doors, frames and walls, thermal barriers, and sound insulation, stairs, and plaster; and drywall. Hands-on experience and safety procedures are emphasized. Prerequisite: CB101 Carpentry 1.

**CB104 Basic Woodworking****C-2 P-6 Cr-5**

This course covers the practical aspects of basic woodworking in a shop. Topics include the use of table saws, planers, jointers, band saws, and lathes; design, layout, and construction of cabinets and countertops. Hands-on experience and safety procedures are emphasized.

**CB121 Masonry 1****C-2 P-6 Cr-5**

This course introduces the fundamental concepts of concrete construction. Topics include theory of concrete design, construction methods and materials, tools, foundations, walls, and flat work. Hands-on experience and safety procedures are emphasized.

**CB122 Masonry 2****C-2 P-6 Cr-5**

This course introduces the fundamental concepts of block masonry construction. Topics include the history, development, and manufacturing of mortar and block, mixing mortar, laying block, and the use and care of tools and scaffolding. Hands-on experience and safety procedures are emphasized.

**CB123 Masonry 3****C-2 P-6 Cr-5**

This course introduces the fundamental concepts of brick masonry construction. Topics include the history, development, and manufacturing of brick, mixing mortar, bonding, corners, laying brick masonry for fireplaces, chimneys and arches, and the use and care of tools and scaffolding. Hands-on experience and safety procedures are emphasized.

**CB126 Blueprint Reading (Construction Trades)****C-2 P-2 Cr-3**

This course provides an introduction to architectural working drawings. Topics include background principles, residential working drawings, specifications, and reading the working drawing of a small structure.

**CB131 Construction Estimating****C-2 P-2 Cr-3**

This course covers the organization of a formal estimate for a residential building and the types of estimates used in construction, along with qualifications of an estimator. Each division is broken down for a thorough understanding of the materials and methods used to calculate proper quantities. Actual working drawings and specifications for a small residence are used to compile a systematic estimate of materials and labor. Excavation, concrete work, masonry, and wood and structural steel construction are covered. Topics include builders' estimates, quantity take-off process, quantity determination, cost estimating from quantities, cost control system, contracts, bonds and insurance, overhead and contingency issues, and computer-assisted estimating.

**CB301 Industrial Practicum****P-9-36 Cr-3-12**

This course allows for the enhancement of academic skills by gaining work-related experience. Students arrange for the practicum, which must conform to Center guidelines.

**CG Computer Graphics Courses**

**(Center for Arts and Humanities, CAAH)**

**CG133 Introduction to Animation****C-1 P-4 Cr-3**

This course provides the foundation of traditional animation techniques. These techniques are mastered before moving on to digital animation. Techniques in portfolio projects are used in the second year.

**CG134 Digital Applications for the Animator****C-2 P-2 Cr-3**

This course introduces digital imaging and digital illustration techniques, and software used by the animator. It explores the aesthetic and technological potential of digital imaging and digital illustration software. The use of digital media and the creation of computer-based imagery are emphasized. It includes advanced technical instruction in the use of software and peripheral devices (scanners, printers, file storage, and other technologies).

**CG144 Digital Animation 1****C-2 P-2 Cr-3**

This course covers the developmental elements of computer animation. Topics include user interface, various 3D modeling techniques, texture mapping, and timing. The course builds on the basic principles of traditional animation with the techniques of computer animation and production processes. Prerequisites: CG133 Introduction

**CG145 Digital Animation 2****C-1 P-4 Cr-3**

This course further develops digital animation skills and techniques. Topics include character modeling, mapping, materials, animation, and production techniques. Prerequisites: CG144 Digital Animation 1.

**CG146 Storyboarding****C-1 P-4 Cr-3**

This course introduces the principles and techniques used in the creation, practice, and production of storyboards for animation, multimedia, and filmmaking. It covers scriptwriting, along with



the fundamental principles of storyboarding through traditional techniques and practice. Drawing skills and composition are applied to set location, cinematography, sound, special effects, and character actions along with fluid storylines in a variety of genres. The results are more proficient visual communicators in industry applications, including animated films, cartoons, commercials, documentaries, live-action feature films, industrial and institutional films, and video gaming. Prerequisite: FA101 General Drawing

### **CG147 Sculptural Procedures for the Animator C-2 P-2 Cr-3**

This course introduces current sculpting techniques used by the animation industry for character creation and design. Work is done with traditional 3D media, digitized models, and 3D animation software. Earth clays, polymer clays, and foam sculpture are used. Armatures are used to study stop-motion, maquettes, and the digitizing process. Character types range from realistic to imaginary. Prerequisites: FA101 General Drawing.

### **CG213 Graphic Design for the World Wide Web C-2 P-2 Cr-3**

This course explores design concepts for the World Wide Web (WWW) while developing expertise in web-based typography, image file formats and sizes, hexadecimal color, frames, cascading style sheets, tables, and site interactivity. Emphasis is placed on the understanding of browser constraints, hypertext markup language (HTML), site planning, and site structure. Prerequisite: GDI10 Digital Design.

### **CG214 Motion Graphics P-6, Cr-3**

This course introduces students to methods of producing motion graphics. Students use problem solving to explore and produce design. Production timeline and graphical requirements of a multimedia project are demonstrated through the manipulation of digital images in a studio environment. Topics include planning, storyboarding, sequencing, compositioning, and designing still images integrated with the aesthetic issues of 2-D, 3-D, and 4-D design.

### **CG231 Advanced Animation Techniques C-1 P-4 Cr-3**

This course incorporates full production animation techniques. It expects advanced exploration of storyboarding, set design, cinematography, sound, and finished character development. Contemporary digital recording and editing systems are synthesized with traditional animation techniques. Prerequisites: CG133 Introduction to Animation.

### **CG233 Animation Production Workshop C-1 P-4 Cr-3**

This course uses a production animation environment in which students are expected to work in groups to produce animations specific to an assigned topic. Projects may include animation for advertising, entertainment, educational, and scientific applications. Corequisite: CG234 Professional Practices for the Animator.

### **CG234 Professional Practices for the Animator C-1 P-4 Cr-3**

This course emphasizes the completion of a professional demo reel, which demonstrates a student's strength within 3D animation. students complete a three-minute animation. Prerequisite: CG145 Digital Animation 2. Corequisite: CG233 Animation Production Workshop.

### **CG300 Independent Study in Computer Graphics Cr-1-4**

## **CH Chemistry Courses**

**(Center for Mathematics, Engineering, Physical Sciences, and Applied Technology, STEM)**

### **CH095 Chemistry Review C-2 P-3 Cr-0**

This refresher course is for those with high school chemistry more than five years ago. Topics include mathematics in chemistry, bonding, symbols, the periodic table, and atomic structure as well as gas laws, equilibrium, solutions, concentrations, pH, buffers, and organic functional groups. Prerequisite: An appropriate Mathematics Placement test result or MA045 Basic Math Skills or MA050 Introductory Mathematics.

## **CH Chemistry Courses**

**(Center for Mathematics, Engineering, Physical Sciences, and Applied Technology, STEM)**

### **CH101 Physical Science (N1, N2) C-3 P-2 Cr-4**

This course introduces the principles and methods of physical science. It stresses the structure and properties of materials and their interactions. Careful measurement, observation, and the scientific method are covered in lecture and laboratory to develop quantitative reasoning ability. Prerequisite: An appropriate Mathematics Placement test result or MA045 Basic Math Skills or MA050 Introductory Mathematics.

### **CH111 Introduction to Chemistry 1 C-3 P-2 Cr-4**

This course introduces chemistry for those who have had no prior chemistry study or who need chemistry review. Topics include matter, measurement, atomic structure and the periodic table, chemical bonding and reactions, and the three phases of matter. This course does not meet graduation requirements for Chemistry, Biology, or Engineering majors. Prerequisite: An appropriate Mathematics Placement test result or MA045 Basic Math Skills or MA050 Introductory Mathematics.

### **CH112 Introduction to Chemistry 2 C-3 P-2 Cr-4**

This is the second introductory level chemistry course. Topics include solutions, colligative properties, concentrations, acids and bases, salts, solution equilibrium, pH buffers, electrolytes, and an introduction to organic molecules of biological importance. This course does not meet graduation requirements for Chemistry, Biology, or Engineering majors. Prerequisite: CH111 Introduction to Chemistry 2.

### **CH115 Introduction to Metallurgical Chemistry (N2) C-3 P-2 Cr-4**

This course introduces basic theory and practice as applied to the industrial setting. It emphasizes the practical aspects of working with chemicals and materials and covers the common forms of analytical chemistry, including instrumentation. Topics include problem-solving, the nature of matter, atomic structure and bonding, nomenclature, stoichiometry, gases, solution chemistry, electrochemistry, and organic chemistry. Prerequisite: MA121 Fundamentals of College Mathematics I or equivalent.

### **CH131 College Chemistry (N1, N2) C-3 P-3 Cr-4.5**

This course is for students other than those in science and engineering. Topics include an overview of modern inorganic, organic, and biochemistry along with an historical perspective. It emphasizes learning the language and methodology of chemistry as it relates to society. Careful observation and measurement are stressed in lecture

and laboratory to develop quantitative reasoning ability. Prerequisite: An appropriate Mathematics Placement test result or MA115 Intermediate Mathematics.

### **CH135 Introduction to Organic Chemistry** C-3 P-3 Cr-4.5

This course is for students in the allied science and allied health professions. Topics include bonding, physical properties, chemical properties, nomenclature, and analysis of the common organic compounds. The laboratory segment introduces basic organic laboratory techniques such as recrystallization, distillation, extraction, chromatography, and instrumentation. Prerequisite: CH131 College Chemistry or equivalent.

### **CH141 General Chemistry 1 (N1, N2)** C-3 P-3 Cr-4.5

This course introduces to the field of chemistry for science and engineering students. Topics include dimensional analysis, stoichiometry, periodicity, atomic structure and bonding, the states of matter, solutions, and acid and base concepts. The laboratory exercises exemplify chemical principles and develop individual problem-solving abilities. The laboratory experience includes preparation of the laboratory report and notebook. Prerequisites: High School Chemistry; and an appropriate Mathematics Placement test result, or MA121 Fundamentals of College Mathematics I, or MA125 College Algebra and Trigonometry.

### **CH142 General Chemistry 2 (N2)** C-3 P-3 Cr-4.5

This course is a continuation of CH141 General Chemistry I. Topics include chemical thermodynamics, electrochemistry, chemical kinetics, chemical and solution equilibrium, descriptive organic chemistry, nuclear chemistry, and descriptive chemistry of elements. Prerequisite: CH141 General Chemistry I.

### **CH200 Industrial Practicum** P-9 Cr-3

This course provides hands-on experience in chemical or environmental technology in an industrial or regulatory environment. It is offered on demand and may be taken at any time after completion of college chemistry, with appropriate placement arranged. A minimum of four weeks (135 hours) on site is required. Students may be paid by the industry involved. Prerequisite: One year of college chemistry and instructor permission.

### **CH229 Chemical Instrumentation** C-3 P-4 Cr-5

This course in applied instrumentation stresses the analytical solution of environmental/chemical problems by application of instrumental methods. Emphasis is placed on sampling, solution preparation, hands-on instrument operation, records keeping, data processing, and interpretation. Samples are taken to illustrate problems of air and water pollution, and solid and hazardous waste. Analysis methods include spectroscopy, electrochemistry, chromatography, thermal, and industrial hygiene. As time allows, field trips supplement the campus experience. Prerequisites: CH141 General Chemistry I and CH142 General Chemistry 2.

### **CH246 Quantitative Analysis** C-3 P-4 Cr-5

This course introduces analytical chemistry and develops the skills and perspectives necessary to solve problems. Topics include sampling, gravimetry, titrimetry, stoichiometry, equilibria, redox, potentiometry, and spectrophotometry. Samples are chosen to illustrate typical industrial and environmental problems. As time allows, field trips supplement the campus experience. Prerequisite: CH141 General Chemistry I and CH142 General Chemistry 2.

### **CH247 Organic Chemistry 1 (N2)**

**C-3 P-4 Cr-5**

This course introduces organic chemistry for science and engineering students. It includes a systematic study of classes of carbon compounds. It stresses reaction mechanisms, methods of synthesis, structured optical activity, chemical physical properties, and nomenclature. Topics included alkanes, alkenes, alkynes, aromatic compounds, stereochemistry, and spectroscopy. Prerequisites: CH141 General Chemistry I and CH142 General Chemistry 2.

### **CH248 Organic Chemistry 2 (N2)**

**C-3 P-4 Cr-5**

This course is a continuation of CH247 Organic Chemistry I in developing the topics of: spectroscopy, alkyl halides, alcohols, ethers, carboxylic acids and their functional derivatives, aldehydes and ketones, carbanions, amines, and phenols. The laboratory exercises introduce multi-step synthesis and the analysis of organic compounds. Prerequisite: CH247 Organic Chemistry I.

### **CH300 Independent Study in Chemistry** Cr 1-4

## **CI Computer & Information Sciences Courses** (Center for Social Sciences, Business & Information Sciences)

### **CI104 Introduction to Cybersecurity**

**C-2, P-2, Cr-3**

This course provides students with a broad understanding of the concepts and interdisciplinary applications of cybersecurity and its impact on society. It examines the historical development of security in technology as it relates to governance, personal information and assets, and major commerce sectors such as finance, healthcare, retail, and manufacturing. It also introduces basic networking, assessing and handling of security risks, hardware components, and basic computer troubleshooting.

### **CI110 Principles of Programming (C2)**

**C-2 P-2 Cr-3**

This course introduces computer programming methods and techniques of problem-solving using structured programming. Students analyze problems and organize effective solutions. Techniques of problem-solving include defining the problem, specifying required input and output, developing the algorithm, and testing the solution. Students also translate the algorithms to a high-level programming language. Prerequisite: An appropriate Mathematics Placement test result or MA115 Intermediate Mathematics.

### **CI112 Networking Fundamentals**

**C-2 P-2 Cr-3**

This course introduces the basics of computer networking from concepts and terminology to materials and equipment. Topics form the foundation for further networking courses, with a solid grasp of fundamentals that lead to experience with equipment. The majority of this course deals with theory, with equipment used for demonstration. Prerequisite: IS101 Computers and Society, or IS100 Introduction to Computers and Society, or CI104 Introduction to Cybersecurity or CI121 Microcomputer Techniques for Science.

### **CI121 Microcomputer Techniques for Science**

**C-1 P-4 Cr-3**

This course provides hands-on training and experience involving scientific word processing, computer-based data analysis, graphical analysis techniques, interfacing hardware and software, data management concepts, scientific simulation methods, imaging technology, and presentation software. It uses a variety of hardware and software currently in the scientific community. Prerequisite: One year of college preparatory mathematics.



**CI124 Windows Systems Security I****C-2 P-2 Cr-3**

This course provides an understanding of Microsoft Windows 2000/XP Professional, or its current version. It focuses on configuring, optimizing, and securing this software. It introduces principles of server and client hardware selection, server installation and configuration, server monitoring and tuning, and problem troubleshooting. Prerequisite: IS101 Computers and Society, or IS100 Introduction to Computers and Society, or CI121 Microcomputer Techniques for Science.

**CI130 Programming in C++****C-2 P-2 Cr-3**

This course provides a comprehensive study of C++ with an emphasis on sound structured programming principles, good style, and top-down method of program design. It covers the designing, coding, executing, and debugging of C++ programs to solve problems in a variety of fields. Corequisite: CI110 Principles of Programming.

**CI132 Unix Operating System & Security****C-2 P-2 Cr-3**

This course provides an understanding of the UNIX operating system, covering commands, utilities, and scripts. It focuses on the skill development needed to administer a UNIX system, emphasizing file management, security issues, upgrades, and backups. The installation and maintenance of UNIX systems are addressed. Prerequisite: IS101 Computers and Society, or IS100 Introduction to Computers and Society or CI121 Microcomputer Techniques for Science.

**CI142 Computer Forensics****C-2 P-2 Cr-3**

This course covers the acquisition and analysis of data recovery from computer networks to identify potential security or legal evidence. Topics include data recovery after deletion, and the roles and methods of discovering inappropriate data use. It covers operating systems and their vulnerabilities, and techniques about data recovery for use in litigation and future protection. It examines forensic cases. Prerequisite: IS101 Computers and Society, or IS100 Introduction to Computers and Society, or CI104 Introduction to Cybersecurity or CI121 Microcomputer Techniques for Science.

**CI204 Software Support Strategies****C-1, P-6, Cr-3**

This course provides a comprehensive understanding of technical support and software troubleshooting methods. Best practices and techniques for effective industry communication skills are also explored. Students learn to analyze problems, and develop and implement practical solutions. Students study under the guidance of industry professionals. Prerequisite: CI112 Networking Fundamentals.

**CI212 Internet Security****C-2 P-2 Cr-3**

The course provides an overview of computers and network security, addressing the balance of access and security in standard practices and performance issues. It covers the effective design, implementation, and support of security policies for large-scale enterprise networks. It deals with preventive and post-event recovery tools. Prerequisite: CI104 Introduction to Cybersecurity or CI112 Networking Fundamentals or CI121 Microcomputer Techniques for Science.

**CI224 Windows Systems Security II****C-2 P-2 Cr-3**

This course helps to develop a comprehensive understanding of Microsoft Windows 2000 Server, or its current version. Topics include server and client hardware selection, server installation and configuration, network printing services, remote access services, network inter-operation, Internet set up, server monitoring and tuning, and problem troubleshooting. Prerequisite: CI124 Windows Systems Security I, and IS101 Computers and Society, or IS100

Introduction to Computers and Society or CI121 Microcomputer Techniques for Science.

**CI230 Data Structures****C-2 P-2 Cr-3**

This course introduces advanced programming concepts. It emphasizes data encapsulation and abstraction through development of static and dynamic data structures. It covers stacks, queues, linked lists, trees, and graphs along with recursion as a programming tool as well as searching and sorting techniques. Prerequisite: CI130 Programming in C++.

**CI232 Security Policies****C-2 P-2 Cr-3**

This course covers the design, implementation, and support of security policies for large-scale enterprise networks. It addresses security analysis/defensive tools, including implementation and circumvention. Prerequisite: IS101 Computers and Society, or IS100 Introduction to Computers and Society, or CI104 Introduction to Cybersecurity or CI121 Microcomputer Techniques for Science.

**CI242 CISCO Networking****C-2 P-2 Cr-3**

This course addresses LAN and WAN setup and configuration. It covers specific routing protocols and their application to physical networks. It builds upon the vocabulary and theory of networking fundamentals through hands-on experience.

**CI245 JAVA Programming****C-2 P-2 Cr-3**

This course introduces the concepts of object-oriented programming (OOP) and the general purpose JAVA programming language. Topics include data abstraction, data encapsulation, inheritance, polymorphism, class structures, application and applet programming, data types, selection and loop structures, graphical user interface programming with the abstract windowing toolkit, exception handling, data streams, and internet applications. Prerequisite: CI130 Programming in C++.

**CI260 Microcomputer Programming****C-2 P-2 Cr-3**

This course focuses on assembler language programming of the 8086 microprocessors. It reviews of the binary number system and arithmetic operations and signed binary numbers, and studies the architecture of the 8086 and its associated family of chips. It covers addressing modes and their applications with respect to the instruction set. It introduces interfacing techniques in preparation or advanced courses. Prerequisite: CI130 Programming in C++.

**CI271 Database Design & Implementation****C-2 P-2 Cr-3**

This course covers database management systems and query languages, including relational database and procedural query languages. It includes projects using database file organization, data structures, and development techniques to design application databases. It emphasizes the role of database in system development and information system design. Prerequisite: Any three-credit programming language.

**CI272 Visual Basic****C-2 P-2 Cr-3**

This course introduces object-oriented programming techniques in a Windows environment. It covers the fundamentals of event driven programming by use of the Rapid Application Development tool Visual Basic. It emphasizes planning, programming, and debugging VB applications using modern programming techniques and practicing good graphical user interface design. Prerequisite: CI130 Programming in C++.

## **CI280 Computer Graphics 1**

**C-2 P-2 Cr-3**

This course introduces the field of 3D computer graphics. Topics include 2D vector algebra, 3D model creation, 3D transformation theory, texture and shader techniques, lighting effects, camera basics, mesh creation of model resources, user interactivity, animation techniques, and methods for achieving physically realistic behaviors. It uses a professional graphics package and 3D design package to complete programming and laboratory assignments. Prerequisites: CI245 JAVA Programming and MA121 Fundamentals of College Mathematics I.

## **CI285 Systems Operations & Management**

**C-3 Cr-3**

This course introduces operating system concepts, including history, multi-tasking, management of processes, devices, memory and files, scheduling, security, virtual, real-time, and distributed systems. Prerequisite: Any three-credit programming language.

## **CI300 Independent Study in Computer Science Cr 1-4**

# **CJ Criminal Justice Courses**

**(Center for Social Sciences, Business & Information Sciences)**

## **CJ101 Introduction to Criminal Justice**

**C-3 Cr-3**

This course introduces the basic elements of the American criminal justice system, from its legal roots and history to its most current concerns. It analyzes the criminal justice process - from arrest to trial and disposition - emphasizing the function and structure of each component. It provides an understanding of how each component responds to crime and how the key question of individual rights and public safety is addressed. Attention is given to the elements of crime, the role of the police, courts, and corrections, and to the challenges facing this system in an increasingly diverse democratic society.

## **CJ102 Introduction to Forensic Science**

**C-3 Cr-3**

This course introduces students to forensic science topics, including crime-scene processing, evidence collection, analysis and admissibility, fingerprints, firearms and tool marks, questioned documents, fire and explosives, blood splatter, forensic photography, trace evidence, entomology, anthropology, the law, pathology, and instrument analysis.

## **CJ106 Ethics in Criminal Justice**

**C-3 Cr-3**

The goal of this course is two-fold: first, to recognize the ethical implications of the daily decisions made by justice system personnel; and, second, to evaluate individual ethical frameworks. It addresses key analytical concepts including utilitarianism, deontology, peacemaking, codes of ethics, and tests of moral reasoning to resolve ethical dilemmas commonly found in the administration of justice, including policing, courts, and corrections. It addresses the relationship of criminal justice to social justice, along with issues of cultural competence and diversity, especially as they illustrate the existence of dilemmas in applied ethics. Scenarios are used to raise moral dilemmas in the administration of justice, with resolution of these dilemmas and analysis of the issues.

## **CJ107 Juvenile Delinquency**

**C-3 Cr-3**

This course provides comprehensive explanations of delinquent behavior; an overview of the juvenile justice system, and a discussion of programs designed to prevent and address delinquency. It explores issues related to delinquency in an increasingly diverse environment. It addresses social class, racial, and gender differences in delinquency, the significance of the invention of childhood, and the transformation of juvenile court from a social to a legalistic entity.

## **CJ108 Criminal Law**

**C-3 Cr-3**

This course examines the nature and functions of the criminal law. It uses controversial and landmark cases as a framework for an intensive examination of the classification of crimes and the assignment of penalties. It addresses recent court decisions involving the administration of the penal law, jurisdictional questions, and Constitutional protections. It uses the New York Penal Code as an exemplar.

## **CJ111 Policing in American Society**

**C-3 Cr-3**

This course explores the role of police in American society, both from an historical framework, as well as a contemporary point of view. Topics include the background of policing, the major types of police work, the role of police discretion, and legal and ethical questions of policing in society. Relationships among federal, state, and local agencies will be discussed as well as their relationship and interaction with the community.

## **CJ201 Laws of Evidence**

**C-3 Cr-3**

This course addresses the presentation of evidence at the time of trial, which is of paramount importance in the criminal justice system. It covers the history and philosophy of the rules and laws of evidence, including current rulings, the mechanics of admissibility, and definitions of crimes, as well as the attitudes of the court toward witnesses and the admissibility of evidence. Prerequisite: CJ101 Introduction to Criminal Justice.

## **CJ202 American Constitutional Law**

**C-3 Cr-3**

This course addresses the impact of the United States Constitution on the criminal justice system. It emphasizes the fundamental concepts on which the Constitution is based and stresses the Supreme Court decision-making process and schools of interpretation. It analyzes the relationship of the Bill of Rights, especially the Fourth and Fourteenth Amendments, to the criminal justice system. Prerequisites: PS101 American National Government, and either CJ101 Introduction to Criminal Justice or PS102 Introduction to Public Policy.

## **CJ204 Criminology**

**C-3 Cr-3**

This course focuses on the social construction of deviance and crime. It addresses major theoretical perspectives that explain crime in America. It investigates societal responses to crime and current issues facing the criminal justice system. It emphasizes public policy implications of the theoretical perspectives. Prerequisite: SO101 Introduction to Sociology.

## **CJ205 Principles of Investigation**

**C-3 Cr-3**

This course details the basic procedures followed by law enforcement officers as they investigate crimes. Topics include questioning complainants and eyewitnesses, interrogating suspects, preparing statements, investigating crime scenes, and applicable search and seizure laws. Techniques of crime scene investigation are studied, including photography, charting, note-taking, and the handling of evidence. These techniques are applied to specific property and personal crimes. Prerequisite: CJ101 Introduction to Criminal Justice.

## **CJ206 Introduction to Economic Crime Investigation**

**C-3 Cr-3**

This course defines and analyzes illegal acts, which provide an economic return to the offender or for which victims bear an economic cost. It details the basic procedures followed by law enforcement officers as they investigate crimes. Topics include the physical and social costs of economic crime, as well as the investigation of securities and corporate fraud, fiduciary fraud, corruption of public officials, medical crimes, and cybercrimes.

Prerequisite: CJ101 Introduction to Criminal Justice.

### **CJ207 Penology**

**C-3 Cr-3**

This course addresses the history and philosophy of punishment systems and the background of corrections in America. It covers the impact of changing public opinion and criminal justice policies on corrections. The correctional system is examined from the perspectives of the inmate, the correctional officer, and the correctional administration. Prerequisites: CJ101 Introduction to Criminal Justice and CJ106 Ethics in Criminal Justice.

### **CJ208 Community-Based Corrections**

**C-2 P-3 Cr-3**

This course examines the history and philosophy of alternatives to incarceration. It analyzes the range of current alternatives, including probation, parole, and restorative and community justice programs designed to maintain offenders ties to their communities. It covers the philosophy and practice of probation, parole, mediation, circle conferencing, victim-offender reconciliation programs, victim impact panels, and other programs. In each community-based system, the roles of victim, offender, criminal justice system workers, and community members are discussed. At least three hours per week in related community agencies and two hours per week in seminar are required.

### **CJ209 Homeland Security**

**C-3 Cr-3**

This course provides an overview of the key challenges associated with defending American society from potential threats. It reviews attacks on American security from internal and external sources, the transformation of security issues in light of the 9/11 attacks, and the creation of a federal Department of Homeland Security. Topics include critical infrastructure protection, legal issues in homeland security, constitutional rights and legal protections, civil liberties, community and private industry involvement, as well as homeland security strategies and initiatives. Prerequisites: CJ101 Introduction to Criminal Justice.

### **CJ210 Juvenile Delinquency: Field Experience in Diversion and Corrections**

**C-2 P-3 Cr-3**

This course addresses the ways in which American communities respond to juvenile delinquency. Theories upon which juvenile diversion and corrections are based and the history of juvenile detention, diversion, and incarceration since the founding of the first juvenile court are studied. Community-based diversion programs, waiver and related "get-tough" approaches as well as broad-based prevention programs are discussed. At least three hours per week in supervised experiences in delinquency-related community agencies and two hours per week in seminar are required. Prerequisite: CJ107 Juvenile Delinquency.

### **CJ212 Street Gangs and Youth Violence**

**C-3 Cr-3**

This course provides both a comprehensive historical analysis of street gangs and an analysis of their modern development. Students examine major theories and socio-economic explanations for the existence of gangs; descriptions of the type of gangs, including small, regional, national, and female gangs; law enforcement techniques to deter gang development; and diversion efforts to keep youths out of gangs. Prerequisite: CJ101 Introduction to Criminal Justice or CJ107 Juvenile Delinquency.

### **CJ213 Animal Law**

**C-3 Cr-3**

This course acquaints students with the fundamental principles of animal law and their relationship to the criminal justice system.

Topics include the history of animal law, the protection of animals by anti-cruelty laws, animal fighting, and agricultural animals, the social movement of animals in the legal system, and constitutional issues raised in cases involving animals.

### **CJ214 Criminal Justice Communications**

**C-3 Cr-3**

This course examines the nature and importance of communication within the criminal justice system. Students develop report writing skills and an understanding of the impact report writing has on the investigation and prosecution of crime, as well as on the administration of justice. Students refine communication skills within criminal justice contexts. Observational skills, interview techniques, and field note-taking skills are developed. Applications to the Civil Service exam are used where appropriate. Prerequisites: CJ101 Introduction to Criminal Justice, and either EN101 English I: Composition or EN106 English I: Composition and Reading.

### **CJ216 Selected Topics in Criminal Justice**

**C-3 Cr-3**

This course provides the opportunity to investigate different aspects of the criminal justice system in greater depth. Topics considered vary each semester; see Dean of Social Sciences, Business, and Information Sciences for specific offerings. Prerequisites: CJ101 Introduction to Criminal Justice and CJ204 Criminology.

### **CJ217 Restorative Justice**

**C-3 Cr-3**

This course introduces the theory and practice of resolving interpersonal and group conflict through nonviolent means. Religious, humanist, and feminist peacemaking traditions are among the theoretical perspectives addressed. Critical criminology, as it identifies problems in conventional criminal justice problem solving, is stressed. Arbitration, mediation, conflict intervention, and community-based initiatives for resolving disputes are studied. It considers ways in which employees of the criminal justice system can use the principles of restorative justice in their work.

### **CJ219 Restorative Practices: Mediation**

**C-3 Cr-3**

This course presents the history and philosophy of mediation, an informal dispute resolution practice. It analyzes key concepts, including conflict, language, power, diversity, equity, justice, communication styles, and creative problem-solving techniques. It addresses the role of mediation in civil and criminal justice disputes, and discusses current controversies. Through role-plays and mediations supervised by certified mediators, it applies principles to the solution of hypothetical and real civil, juvenile, family, and other disputes. Supervised and independent mediation experiences are made available as students qualify for them. Successful completion may result in eligibility to apprentice in certified mediation programs.

### **CJ290 Internship**

**C-1 P-6 Cr-3**

This course promotes an interest in criminal justice for students pursuing a related course of study. It reinforces academic concepts through practical work experience, assists in making career choices, and provides familiarity with the work of criminal justice agencies. Students participate on the staffs of local public or private criminal justice agencies. A minimum of 90 hours of field experience is required. Attendance and participation in seminar discussions are mandatory. Permissions of Internship Director and Dean are required. Prerequisites: CJ101 Introduction to Criminal Justice and CJ106 Ethics in Criminal Justice.

### **CJ300 Independent Study in Criminal Justice**

**Cr 1-4**

## CO Coaching Courses

(Center for Life and Health Sciences, LAHS)

### CO231 Philosophy, Principles & Organization of Athletics in Education **C-3 Cr-3**

This course introduces the basic philosophy and principles of coaching as integral parts of physical education and general education. Topics include the function and organization of leagues and athletic associations in New York State; state, local, and national policies as related to athletics; standards for the responsibilities and duties of the coach as an educational leader; legal considerations; team management; athletic facilities; budget and record keeping; and, interacting with supervisors and officials. This is one of three mandatory courses required by the New York State Education Department to become permanently certified to coach high school athletics.

### CO232 Health Science Applied to Coaching **C-2 P-2 Cr-3**

Topics in this course include first aid, CPR, and athletic training/conditioning principles. Upon completion, students are eligible for National Safety Council First Aid and American Heart Association CPR certification. This is one of three mandatory courses required by the New York State Education Department to become permanently certified to coach high school athletics.

### CO233 Theory & Techniques of Coaching **C-1 P-3 Cr-2**

This course provides basic knowledge and skills in the use and development of sport-specific coaching methods and skills. New York State high school rules and regulations, teaching methods, performance skills, organization and management of practice sessions, and conditioning are explored. An internship in a specific sport under the supervision of a master coach or athletic trainer and seminar sessions in interschool athletic history are required. This is one of three mandatory courses required by the New York State Education Department to become permanently certified to coach high school athletics. Prerequisite: CO231 Philosophy, Principles & Organization of Athletics in Education.

## CR Arts and Crafts Courses

(Center for Arts and Humanities, CAAH)

### CR102 Fiber Arts 1 **C-1 P-4 Cr-3**

This course deals with techniques required to manipulate basic fibers. It explores the range of stitches for various techniques and the sizing specifications in relationship to yarn and tool sizes. A series of projects are created relevant to specific guidelines set Fourth by the instructor. It covers the tools and techniques needed to crochet, knit, applique, quilt, embroider, spin yarn on a drop spindle, and off-loom weaving.

### CR103 Basketry 1 **C-1 P-4 Cr-3**

This course deals with three-dimensional weaving using wicker. It introduces other materials such as paper, corrugated paper board, yarn, wire, bark, and beads into the weaving process. It covers the design a variety of vessels that are traditional, contemporary, or experimental. Coiling, splint work, plaiting, hoop, and rib weaving techniques are included. The required technical skills are learned to execute design ideas.

### CR104 Fiber Arts 2 **C-1 P-4 Cr-3**

This course is a continuation of CR102 Fiber Arts I. Various techniques are incorporated into the required projects. Emphasis

is placed on creative problem-solving. Three mini projects are completed, which are used as pre-production planning for the final comprehensive project. Prerequisite: CR102 Fiber Arts I.

### CR105 Basketry 2 **C-1 P-4 Cr-3**

This course deals with three-dimensional weaving using wicker. It includes other materials, including paper, corrugated paper board, wire, bark, and beads, with a concentration on designing and building professional quality vessels. Traditional, contemporary, and experimental results are equally encouraged. Topics include advanced rib weaving, hoop weaving, and technical skills required to execute basketry designs. Prerequisite: CR103 Basketry I.

### CR201 Weaving **C-1 P-4 Cr-3**

This course deals with hand weaving on a floor loom. It covers the mastery of basic weaving skills, including dressing a loom, making drafts for weaving patterns, and actual weaving. It includes different kinds of looms, yarns, and tools and techniques needed to weave specific items. Sample pieces of various weaves are created.

### CR202 Weaving 2 **C-1 P-4 Cr-3**

This course is a continuation of CR201 Weaving. It covers the mastery of weaving techniques and skills. It requires the design and execution of complicated weaving patterns on the floor loom. Topics will include discussions of yarns, color values, different kinds of looms, weaving patterns, and the history of weaving. Prerequisite: CR201 Weaving.

### CR300 Independent Study in Arts & Crafts **Cr 1-4**

## CT Civil Engineering Technology Courses

(Center for Mathematics, Engineering, Physical Sciences, and Applied Technology, STEM)

### CT101 Drafting **P-6 Cr-3**

This course includes fundamental drafting techniques such as orthographic projection, dimensioning, multi-view, plan, profile, and cross-sections. Basic sketching is presented. Emphasis is on transportation engineering and surveying drawing using industry standard software (Computer Aided Drafting).

### CT102 Engineering Drawing and MicroStation CAD **C-1 P-4 Cr-3**

This course includes both basic technical drawing techniques and MicroStation CAD to support engineering design. Topics include line types, dimensioning, scaling, auxiliary views, sectioning, and notations. This course also introduces the use of MicroStation software. Topics include operational concepts; main palette use; projecting elements; entity construction and editing; entity manipulations; and text and dimensioning parameters.

### CT121 Statics **C-2 P-2 Cr-3**

This course is a study of force systems and their actions on bodies at rest. Topics include force systems, equilibrium, distributed forces, centroid, moment of inertia, and friction. Prerequisite: MA121 Fundamentals of College Mathematics I. (Spring, Summer semester)

### CT141 Introduction to Civil Engineering Technology/ Surveying Technology **P-4 Cr-2**

This course introduces the many aspects of Civil Engineering to students who are interested in pursuing a career in either the Civil Engineering and/or Surveying Technology field. It also introduces



students to the various tools required for use in these fields as well as the fields of engineering or engineering technology program. The use of personal computers is introduced as engineering tools for work enhancement. Experience is provided with a variety of microcomputer software applications, including word processing, electronic spreadsheets, presentations, file management, and database software. Engineering and surveying ethics are also introduced.

**CT151 Surveying 1** **C-2 P-4 Cr-4**

This course introduces surveying, and includes the topics in the care and use of surveying instruments, field note procedures, land surveying, topographic surveying, construction surveying, and mapping from field notes. Fieldwork includes the use of measurement equipment, levels, transits, the odolites, total stations, and Global Positioning System (GPS). Corequisite: MA121 Fundamentals of College Mathematics I.

**CT152 Surveying 2** **C-2 P-2 Cr-3**

The course introduces route surveying, earthwork, and subdivision design. Topics include simple horizontal curves, reverse and compound horizontal curves, transitional spiral curves, symmetrical vertical curves, plan and profile views, cross-sections, volume computations, mass diagrams, subdivisions, and layout of simple and spiral curves in field. Computer Aided Drafting software is used in the preparation of maps and plans. Corequisite: MA121 Fundamentals of College Mathematics I. (Spring semester)

**CT221 Strength of Materials: Civil** **C-2 P-4 Cr-4**

This course introduces the fundamental concepts used to design structural members. Topics include the relationship between stress and strain, design of beams, shear and moment diagrams, deflection of beams, and columns. Practicums include computational work, related to problem analysis, and the performance of tests on various construction materials such as steel, concrete, and asphalt. Prerequisite: CT121 Statics. (Fall Semester)

**CT222 Soil Mechanics & Foundations** **C-3 P-2 Cr-4**

This course introduces soil mechanics and its application to problems encountered in civil engineering. Topics include the flow of water through soils, soil strength and compressibility, the effect of water on these properties, and geo-synthetics. The theories of soil mechanics are applied to the design of foundations and retaining walls. This course explores the methods of performing field explorations. Laboratory tests commonly used to evaluate the engineering properties of soils are studied and performed. Corequisite: CT221 Strength of Materials: Civil. (Fall Semester)

**CT225 Structural Steel Design** **C-2 P-2 Cr-3**

This course explores the design of structural members and connections using structural steel. Prerequisite: CT221 Strength of Materials: Civil. (Spring semester)

**CT226 Reinforced Concrete Design** **C-2 P-2 Cr-3**

This course explores reinforced concrete beams, slabs, columns, footings, and walls. Prerequisite: CT221 Strength of Materials: Civil. (Spring semester)

**CT231 Transportation Engineering** **C-2 P-2 Cr-3**

This course studies transportation modes, including the interlocking relationships among transportation, economics, community development, the environment, energy usage and savings, aesthetics, zoning, land use, and the private/public sector partnership. Emphasis is placed on design criteria, material specifications and

performance, drainage, pavement design, construction supervision, and maintenance practices for right-of-way operations. Prerequisite: CT152 Surveying 2. (Fall semester)

**CT232 Environmental Engineering** **C-3 P-2 Cr-4**

This course covers basic practices in hydraulics and hydrology, as well as the topics of water supply, wastewater management and pollution control. Prerequisites: MA121 Fundamentals of College Mathematics I and CT151 Surveying I.

**CT242 Mechanical & Electrical Systems for Buildings** **C-2 P-2 Cr-3**

This course explores the features of mechanical and electrical systems typically included as part of the utility of service grouping in modern buildings, including design principles, materials and equipment, installation, operation, and maintenance. All mechanical aspects of supporting a building are covered, including air handling, HVAC, heat loads & losses, electricity, plumbing, and water delivery. Prerequisites: CT121 Statics and PH151 General Physics I.

**CT243 Construction Management** **C-2 P-4 Cr-4**

This course studies the legal issues, building codes, specifications, and techniques of estimating costs, cash flow, and efficient construction methods relating to construction projects. Management topics include Deming fourteen points, Just-In-Time (JIT), quality control, and ISO-9000. Prerequisite: Instructor permission. (Spring semester)

**CT253 Surveying 3** **P-8 Cr-4**

This course introduces engineering field surveys, equipment, and methods. Topics include azimuth determination, control and level nets, surveying with data recording total stations, and position determination with Global Positioning Systems (GPS), including computer exposure for data reductions. Prerequisite: CT151 Surveying I.

**CT254 Surveying 4** **P-8 Cr-4**

This course includes precision calculation techniques with extensive exposure to statistics, coordinate geometry, 3-D coordinate transformations, tree identification, advanced stakeout, and data collection technologies. Use of total stations and Real Time Global Positioning systems as well as Computer Assisted and automated drafting are presented. Prerequisite: CT253 Surveying 3.

**CT262 Legal Principles of Land Surveying 1** **C-2 P-2 Cr-3**

This is the first in a sequence of two courses in legal terminology, interests in real property, and real property boundaries. Emphasis is placed on the Public Lands system used in most states. Off campus research is required. Prerequisite: CT151 Surveying I.

**CT263 Digital Mapping** **C-1 P-4 Cr-3**

This course covers remote sensing along with metric analysis and interpretation of digital images. Photo interpretations and digital image analysis include satellite and aerial platforms. Topics include concepts and theories of geographic information systems and traditional photogrammetry. Prerequisite: CT151 Surveying I. (Spring semester)

**CT264 Legal Principles of Land Surveying 2** **C-2 P-2 Cr-3**

This second course in the sequence of two courses focuses on New York State laws that affect the surveyor. Topics include governmental organization, zoning, municipal, education, highway, health, business and real-property law, and developmental planning. Off-campus research is required. Prerequisite: CT262 Legal Principles of Land Surveying I.

## **CT265 Introduction to Geographic Information Systems**

**C-2 P-2 Cr-3**

This course introduces the techniques and concepts of GIS. The mapping software package ArcGIS is used to display, analyze, and query spatial data sets. Topics include coordinate systems/datums, symbology, classifications, digital imagery, and global positioning systems. (Fall semester)

## **CT266 Capstone GIS**

**C-1 P-4 Cr-3**

This independent study capstone course involves the creation of a project using GIS. Proposals must have instructor approval. Projects incorporate collecting GPS data, building an attribute geo-database, and are completed using ArcGIS software. Final presentations are required, which explain data collection techniques, analysis, and project success. Prerequisite: CT265 Introduction to Geographic Information Systems (GIS). (Spring semester)

## **CT267 Advanced GIS**

**C-2, P-2, CR-3**

This course focuses on advanced topics and applications in analyzing and visualizing geospatial data. Topics include spatial modeling, advanced editing, geodatabase creation, and three-dimensional modeling. Prerequisite: CT265 Introduction to Geographic Information Systems.

## **CT299 Capstone Design Project - Civil**

**C-1 P-4 Cr-3**

This course allows students to work in groups to design a project that integrates program course knowledge with long-range planning and economic, budgetary, environmental, scheduling, and public concerns. Students present the final design to a group of professionals formally. Prerequisites: CT101 Drafting, CT151 Surveying I, CT152 Surveying 2, CT222 Soil Mechanics & Foundations, CT231 Transportation Engineering, or permission of instructor. Corequisite: CT232 Environmental Engineering.

## **CT300 Independent study in Civil Engineering**

**Cr 1-4**

## **CT302 Innovative Civil/Surveying Products & Services 1**

**C-1 P-10-22 Cr-6-12**

This course allows for the definition of a new product or service; the development of the design and prototype, a marketing plan and strategy, and a production/implementation system to provide a successful technology business. Start-up community/business resources are identified to help provide the needs of the new business. Additional fees may be assessed to reflect additional costs associated with the usage of equipment and materials. Prerequisite: Program Committee approval for the project. (Students must provide the Committee with project description.)

## **CT303 Innovative Civil/Surveying Products & Services 2**

**C-1 P-10-22 Cr-6-12**

This course is to the continuation of CT302 Innovative Civil/Surveying Products & Services 1. Additional fees may be assessed to reflect additional costs associated with the usage of equipment and materials. Prerequisite: CT302 Innovative Civil/Surveying Products & Services 1.

## **DS Developmental Studies Courses**

**(Center for Language and Learning Design, CLLD)**

### **DS051 Essential Reading & Study Skills**

**C-5 Cr-0**

This course improves reading and study skills. It stresses

improvement of reading comprehension, vocabulary, and study skills in preparation for college-level coursework. Prerequisite: Appropriate placement test result. Mandatory Corequisite: ED112 Critical Thinking and Reasoning.

### **DS060 Personal and Academic Survival Skills**

**C-3 Cr-0**

This course develops the academic skills that are essential for college success. Topics include goal-setting, time management, memory improvement, note-taking, SQ3R, vocabulary development, and test-taking. Prerequisite: Appropriate placement test result.

### **DS080 Study Reading**

**C-3 Cr-0**

This course develops study reading skills. It covers a systematic approach to reading textbooks and related academic materials. Topics include the parts of the textbook, establishing a purpose for reading, skimming and scanning techniques, organizational patterns, textbook notations, understanding and using vocabulary, SQ3R, retention strategies, and review techniques. Prerequisite: Appropriate placement test result.

### **DS090 Academic Reading**

**C-3 Cr-0**

This course develops reading and study skills necessary for success in college courses. Topics include time management, note taking, review techniques, and test-taking skills. Reading instruction includes a systematic reading plan for textbooks, strategies for vocabulary acquisition, skimming and scanning techniques, and textbook notations. Prerequisite: An appropriate placement test result. Mandatory Corequisite: A section of a course Identified as appropriate by the Center for Language and Learning Design and as linked on BANNER.

## **ED Education Courses**

**(Center for Language and Learning Design, CLLD)**

### **ED100 College Seminar**

**C-1 Cr-1**

This course is an opportunity for students to develop the skills necessary to be successful in college. Students learn the importance of the faculty-student and advisor-advisee relationship, develop time management techniques, apply effective study skill techniques, recognize the implications of living in a diverse society, utilize college resources, and explore career and transfer requirements. Collaborative projects are included. Students matriculated in a degree program must take this course in their first term of study.

### **ED110 Speed Reading for College**

**C-3 Cr-3**

This course emphasizes techniques for reading college-level material more effectively and efficiently. It includes rate improvement, flexibility, skimming, and scanning. Techniques for acquiring academic vocabulary are presented, and varied textbook materials are analyzed to maximize student use. Prerequisite: An appropriate placement test result.

### **ED112 Critical Thinking and Reasoning (H2)**

**C-3 Cr-3**

This course assists in the development of critical thinking and reasoning skills. Topics include the characteristics of critical thinking, the effect of language on critical thinking and reasoning, drawing deductively valid conclusions, hypothesis testing, analysis of arguments, decision-making, and problem-solving methods. Prerequisite: An appropriate placement test result. Mandatory Corequisite: DS051 Essential Reading & Study Skills.

### **ED150 Social & Philosophical Foundations of Education C-3 Cr-3**

This course provides a study of the philosophical, historical, sociological, ethical, and political bases of the N-12 American educational system. It includes a comprehensive introduction to the issues, laws, policies, and practices affecting the education system, teaching, learning, and assessment. It explains ways that teachers and schools can work with students and families to provide a meaningful and equitable education. Topics include diversity in student populations, school funding, high-stakes testing, school desegregation and re-segregation, technology, standardized tests, and learning standards. The history of the American educational system is discussed in relation to current issues and topics in education, teaching, and learning. A 15-hour observation in a general education classroom must be completed.

### **ED151 Prevention & Safety Issues for the Classroom Teacher C-1 Cr-1**

This course focuses on prevention and safety issues facing professionals working with children. Topics include the identification and prevention of child abuse and neglect, violence in schools, and substance abuse. Traffic, fire, and safety issues are covered. Successful completion results in NYS certification in Identification & Reporting of Child Abuse and Neglect and in School Violence Prevention & Intervention.

### **ED201 Introduction to Early Childhood Education C-3 Cr-3**

This course aids in understanding and providing for the needs and education of young children in care/educational settings. Methods and materials used to plan, implement, and assess integrated learning experiences that consider the inter-relatedness of physical, social/emotional, and cognitive development are explored. The importance of planning experiences for young children to develop intellectual curiosity and demonstrate a respect for diversity of backgrounds is emphasized. This course includes a minimum of eight hours of observation in a preschool classroom. Prerequisites: ED150 Social & Philosophical Foundations of Education and ED205 Child Development. Prerequisites must be met with a minimum grade of "C".

### **ED203 Early Childhood Methods & Materials C-3 Cr-3**

This course introduces early childhood curriculum development including planning, implementing, and assessment based on the New York State Learning Standards. It covers developmentally appropriate practice, methods, and materials for preschool through primary grade children. Emphasis is placed on curriculum that meets the needs of the whole child: cognitive, social, emotional, language, and physical. Knowledge is gained of early childhood curriculum that is respectful to the backgrounds of all children and families. Early childhood best practices are learned, grounded in early childhood educational theories, including Vygotsky and Piaget, and using play as the vehicle for planning, implementation, learning, assessment, and emphasizing Constructivist practice. Best practice techniques, including lesson plan and thematic unit planning, are demonstrated. This course includes a minimum of eight hours of observation in a preschool classroom. Prerequisites: ED150 Social & Philosophical Foundations of Education and ED205 Child Development. Prerequisites must be met with a minimum grade of "C".

### **ED204 Infant and Toddler Development C-3 Cr-3**

This course helps to synergize knowledge of total development from the neonatal stage to age three. These concepts are applied to develop appropriate strategies and care programs that are responsive and supportive of the young child and family. Information gained through observation of infants and toddlers, and through

interviews with parents is collected and evaluated in terms of the impact of adult-child interactions and on activity planning. Programming problems and services to families are included. This course includes a minimum of fifteen hours of observation in an 8-week-old to 3-year-old classroom/daycare setting. Prerequisites: ED150 Social & Philosophical Foundations of Education and ED205 Child Development. Prerequisites must be met with a minimum grade of "C".

### **ED205 Child Development (S2) C-3 Cr-3**

This course examines children's physical, social, emotional, language, and cognitive development from pre-natal to age twelve. Topics include childhood development theories and research, the recognition and understanding of significant child behaviors, the role of parenting and culture, the role of the teacher, influence of peers, and play. Students must complete a 15-hour child observation in a daycare setting, observing both infants/toddlers and preschool children. Prerequisite: PY101 Introduction to General Psychology.

### **ED206 Language and Literacy in Childhood C-3 Cr-3**

This course studies acquisition of language and literacy from birth through age eight, including theories of acquisition, the components of language, development milestones, atypical development, and ESL. Methods are covered for teaching literacy to children from infants through intermediate grades, including learning to read and write, phonics, whole language other techniques, and integrating literacy into the whole curriculum. Topics include children's literature and how it can be used in the classroom and curriculum. A minimum of ten hours of observation is required, five in a Universal Pre-Kindergarten (UPK) classroom and five hours in a primary grade classroom. Prerequisites: ED150 Social & Philosophical Foundations of Education or EI101 Introduction to Education and Educational Interpreting; and either ED205 Child Development or PY202 Childhood and Adolescence or PY212 Adolescent Psychology. Prerequisites must be met with a minimum grade of "C".

### **ED207 Observation and Assessment in Early Childhood Environments C-3, Cr-3**

This course explores the guidelines for appropriate observation and assessment of young children, as well as how to apply numerous developmentally appropriate observation and assessment techniques commonly used in group care and educational settings. It examines the early childhood professional's role in sharing information gathered and in implementing practices that promote physically healthy/safe and emotionally secure environments. This course requires the student to complete a minimum of 30 hours of observation in early child care settings. Students concurrently enrolled in ED251 Educational Internship, will have the ED207 observation hours waived. Prerequisites: ED150 Social & Philosophical Foundations of Education; ED205 Child Development, ED201 Introduction to Early Childhood Education and ED203 Early Childhood Methods & Materials. Prerequisites must be met with a minimum grade of "C".

### **ED211 Introduction to Exceptionalities C-3 Cr-3**

This course provides an overview of the education of children and adolescents with exceptionalities, focusing on those with disabilities and those with giftedness. Topics include the historical, philosophical and legal foundations of special education and other exceptionalities and their prevalence, causes, and characteristics. Educational modifications, accommodations, and teaching strategies for general and specific classrooms are addressed. Current issues and trends educating children with exceptionalities are explored. A minimum of fifteen hours of observations in a special education setting must be



completed. Prerequisites: ED150 Social & Philosophical Foundations of Education or EI101 Introduction to Education and Educational Interpreting; and ED205 Child Development or PY212 Adolescent Psychology. Prerequisites must be met with a minimum grade of "C".

### **ED251 Education Internship C-1, P-4, Cr-3**

This course provides the student with a field experience in an early childhood or primary grade classroom. Emphasis is placed on the special needs of young children in all-day care, including planning the daily program; promoting nutrition, health, and safety; involving parents; child guidance; observing and recording children's behavior; and meeting licensing regulations. The weekly seminar is used to discuss fieldwork experiences and teaching concepts and skills. A medical exam, fingerprinting, and Child Abuse Central Register clearance are usually required. Students must complete a minimum of 90 clock hours in a classroom setting in addition to a weekly seminar class. Prerequisites: A grade of C or better in the following courses: ED150 Social & Philosophical Foundations of Education; ED205 Child Development, ED201 Introduction to Early Childhood, and ED203 Early Childhood Methods & Materials. Corequisite: ED207 Observation and Assessment in Early Childhood Environments.

## **EI Educational Interpretation Courses**

**(Center for Language and Learning Design, CLLD)**

### **EI101 Introduction to Education & Educational Interpreting C-5 Cr-5**

This course provides an overview of the history and current status of education and educational interpreting throughout the United States. Content includes the role, practices, and skills of educators and educational interpreters in K-12 settings; philosophies of teaching, learning and assessment; communication systems; pertinent laws and regulations; resources, information, and strategies for consumer awareness and education; administrative practices and personnel structure of school systems; assessment and management of educators and educational interpreters; and topics that concern educators and educational interpreters.

### **EI120 Processing Skills and Discourse Analysis C-4 Cr-4**

This course introduces the mental processing skills (pre-interpreting skills) of consecutive and simultaneous interpretation and an in-depth look at the interpreter as a bicultural/bilingual mediator. It includes an overview of the theoretical models of interpretation, skill development activities, and practice activities. Interpreting theory, visualization, listening and comprehension, shadowing, paraphrasing, abstracting, dual task training, text analysis, cloze skills, and translation are included. A focus is presented on the interpreters communicative competence. It includes a study of conversational exchanges in English and ASL. Prerequisite: EI101 Introduction to Education and Educational Interpreting with a grade of C or better. Corequisite: AL202 American Sign Language 4.

### **EI201 Introduction to Consecutive Interpreting C-4 Cr-4**

This course develops the ability to produce equivalent messages from English into ASL and ASL into spoken English. It focuses on text and communication analysis, as well as an introduction to process models in both consecutive and simultaneous interpretation. Content includes development of the skill sets needed while interpreting, along with management strategies. Prerequisites: EI120 Processing Skills and Discourse Analysis with a grade of "C" or higher and AL202 American Sign Language 4.

### **EI205 Transliteration C-3 Cr-3**

This course introduces the task of sign language transliteration. It covers the ability to translate simultaneous from a spoken English message into an equivalent signed message while retaining English features. The focus is on transliterating in Pre-K - 12 grade educational settings. Topics include analysis and interpretation of the macrostructure and microstructure of academic texts, transliteration of frozen texts, an introduction to team interpreting, and production of transliterations appropriate for contact language situations. Corequisites: EI202 Interpreting 2: Simultaneous & EI250 Practical and Ethical Applications of Interpretation.

### **EI250 Practical & Ethical Applications of Interpretation C-3 Cr-3**

This course covers the underlying principles of the Registry of Interpreters for the Deaf (RID) Code of Ethics and application of the Code of Ethics to the various situations and settings in which sign language interpreters' work. It explores how professional interpreters apply these principles in their daily work and how deaf consumers perceive the ethical role and function of interpreters. In addition to ethical considerations, etiquette and protocol for each setting are discussed. Settings include K-12, post-secondary, religious, medical, mental health, deaf-blind, performing arts, business and industry, and vocational rehabilitation.

### **EI251 Interpreting Practicum C-1 P-6 Cr-3**

This course comprises a practicum placement under the immediate supervision of a professional interpreter who functions as the mentor, and the general supervision of the instructor. It involves activities such as observing the mentor and a variety of interpreters at work; preparing videotapes for mentor critique; interpreting under mentor supervision; interpreting independently and meeting weekly with the mentor to discuss the practicum experience. Weekly meetings share observations and experiences gained from the practicum placement. class discussions focus on linguistic issues in interpretation, ethical dilemmas, situational concerns, and problem-solving. This field experience requires a minimum of 90 hours. Prerequisite: The following courses with a grade of C or better and with a GPA of 2.5: EI201 Introduction to Consecutive Interpreting; EI250 Practical and Ethical Applications of Interpretation; SO210 Deaf Culture and Community. Corequisite: EI205 Transliteration.

### **EI300 Independent Study in Educational Interpretation Cr 1-4**

## **EN English Courses**

**(Center for Language and Learning Design, CLLD)**

### **EN090 Basic Writing Skills C-3, P-2, Cr-0**

This composition course focuses on the organization and development of ideas, the subordination and coordination of sentences, and the practice of standard usage. Students develop skills in writing, revising, and editing paragraphs and short essays.

### **EN099 Introduction to College English C-3 Cr-0**

This composition course focuses on the organization and development of ideas, the subordination and coordination of sentences, and the practice of standard usage. Students develop skills in writing, revising, and editing paragraphs and short essays. Prerequisite: Appropriate score on placement test writing sample.

### **EN105 English Composition for Speakers of Other Languages (L1) C-4 Cr-4**

This course satisfies the EN101 English I: Composition

requirement for non-native English speakers. It focuses on self-expressive, informative, and argumentative/persuasive writing. Emphasis is placed on the composition of clear, correct, and effective prose required both in academic settings and in a variety of professions and occupations in American culture. Patterns of organization and development, communicative grammar and syntax, and the significant acquisition of vocabulary and idiom are stressed. Prerequisite: An appropriate placement test result, or successful completion of SLI 16 ESL4: Advanced Composition.

### **EN106 English 1: Composition and Reading (L1) C-4 Cr-4**

This course focuses on several kinds of reading and writing – self-expressive, informative, argumentative/persuasive, and others. It emphasizes the comprehension and composition of clear, correct and effective prose required in a wide variety of professions and occupations. Prerequisites: An appropriate placement test result, or successful completion of EN099 Introduction to College English, or successful completion of SLI 16 ESL 4: Advanced Composition.

## **EN English Courses**

**(Center for Arts and Humanities, CAAH)**

### **EN101 English 1: Composition (L1) C-3 Cr-3**

This course focuses on several kinds of writing-self-expressive, informative, and argumentative/persuasive, and others. A minimum of five essay compositions are required. The course emphasizes the composition of clear, correct, and effective prose required in a variety of professions and occupations. Prerequisites: The required developmental reading (DS051 Essential Reading & Study Skills, or DS080 Study Reading), or SLI 15 ESL4: Advanced Reading, and/or writing courses (EN099 Introduction to College English or SLI 16 ESL4: Advanced Composition) or permission of the instructor or designee.

### **EN102 English 2: Ideas & Values in Literature (H1) C-3 Cr-3**

This course encourages a deeper understanding of human nature and the human condition through the study of ideas and values expressed in imaginative literature. Emphasis is placed on the use and development of critical thinking and language skills. Library-oriented research is required. Prerequisite: EN101 English 1: Composition or EN106 English 1: Composition and Reading.

### **EN110 Oral & Written Communication (L2) C-3 Cr-3**

This course covers the effective oral and written contexts of occupational communications. It includes practice in oral presentations, business letters, resumes, memos, instructional materials and reports, and visual aids. It is designed specifically for A.O.S. degree programs. Prerequisite: An appropriate placement test result; or successful completion of DS051 Essential Reading & Study Skills, or SLI 15 ESL4: Advanced Reading, and successful completion of either EN099 Introduction to College English or SLI 16 ESL4: Advanced Composition.

### **EN111 Public Speaking: A Mini-Course C-1 Cr-1**

This mini-course emphasizes the basics of preparing, organizing, and delivering informative and persuasive speeches based on personal experience and a cursory look at current and local issues. It includes topic selection, gathering materials, and use of visual aids. This course does not substitute for EN150 Effective Speech.

### **EN147 Report Writing (L2) C-3 Cr-3**

This course emphasizes the preparation of written reports,

focusing on organization, format, language, and purpose. Reports based on the types written in the fields of business, industry, and sciences are prepared. Prerequisite: EN110 Oral & Written Communication.

### **EN148 Modern Short Story (H2) C-3 Cr-3**

This course traces the development of the modern short story from its origins in other story forms to the present. Emphasis is placed on recent and contemporary writers, with attention given to content, form, and style.

### **EN149 Introduction to Poetry C-3 Cr-3**

This course investigates the basic elements of poetry. It features poets from diverse backgrounds and focuses on form, imagery, figurative language, symbolism, allusion, and myths. Emphasis is on historical, philosophical, social, and psychological themes. Prerequisite: EN102 English 2: Ideas & Values in Literature.

### **EN150 Effective Speech (L2) C-3 Cr-3**

This course is an introduction to public speaking. It emphasizes the fundamentals of preparing, organizing, supporting, and delivering the speech based on factual material. It includes topic selection, audience analysis, fact vs. opinion, outlining, supporting material, and visual support. Informative, demonstrative, and persuasive speeches are presented. Elements of interpersonal communication, logic, and persuasion are discussed. Prerequisite: EN101 English 1: Composition or EN106 English 1: Composition and Reading.

### **EN151 Practical and Professional Oral Communication C-3 Cr-3**

This course provides guidance and practice in types of oral presentations commonly used in business, industrial, and academic settings. It involves making and presenting of oral and visual material for participation in small conference and large audience situations. It emphasizes group dynamics and the importance of interpersonal communication techniques in the conference or meeting situation. Prerequisite: EN150 Effective Speech.

### **EN152 Oral Interpretation (L2) C-3 Cr-3**

This course involves the use of public speaking skills and techniques as an art form. It emphasizes the use of voice and body to interpret poems, passages from fiction, etc. in a public reading situation. Group readings of short plays or scenes from plays are included. This is highly recommended for students considering teaching, broadcasting, acting and/or interpretive arts. Prerequisite: EN150 Effective Speech or permission of the instructor.

### **EN153 Practical and Professional Written Communications (L2) C-3 Cr-3**

This course covers the skills required to communicate in the industrial, business, and technical settings. Emphasis is placed on the objective presentation of ideas and information. It includes the preparation of formal and informal reports, abstracts, summaries, and proposals. It covers practice in the coherent organization of ideas, stylistic conventions, standard language usage, and the design and decisions necessary for successful written communication. Prerequisites: EN101 English 1: Composition or EN106 English 1: Composition and Reading, and EN102 English 2: Ideas & Values in Literature.

### **EN154 Persuasive Writing C-3 Cr-3**

This course deals with the techniques of changing attitudes and opinions. It analyzes and provides practice in presentation of issues and evidence, methods of argumentation, and uses of emotion

and other mechanisms. It examines research in influence factors, persuasibility, credibility, and the components of attitudes and opinions. Prerequisites: EN101 English 1: Composition or EN106 English 1: Composition and Reading, and EN102 English 2: Ideas & Values in Literature.

**EN160 English Grammar and Usage C-3 Cr-3**

This course improves the knowledge of basic English grammar, punctuation, vocabulary usage, and spelling. It is intended for those who wish to apply this knowledge to their studies or work, to review material learned in earlier years, to prepare for a professional exam, or to understand the English language better.

**EN195 Mass Communications (H2) C-3 Cr-3**

This course introduces the history, theory, processes, effects, and issues of mass media in American society. Areas of study include electronic, print, and digital media. Prerequisite: EN102 English 2: Ideas & Values in Literature.

**EN196 Journalism (H2) C-3 Cr-3**

This course introduces American journalism, including electronic media. Lectures cover historical and operational aspects, while readings and discussions explore controversial issues surrounding the news media. Written assignments provide practice in news gathering and journalistic writing: news reporting, live coverage, headline and caption writing, sports writing, feature writing, and reviewing. Prerequisite: EN102 English 2: Ideas & Values in Literature.

**EN197 Creative Writing (L2) C-3 Cr-3**

This course introduces the techniques of fiction and poetry writing through a series of discussions, readings, and writing activities. Prerequisite: EN102 English 2: Ideas & Values in Literature.

**EN198 Contemporary Poetry (H2) C-3 Cr-3**

This course explores poetry written in recent years, with emphasis on living poets. Topics include the basic elements of prosody, prominent poetic forms, and current trends. It explores the role of poetry in American culture. Prerequisite: EN102 English 2: Ideas & Values in Literature.

**EN240 Children's Literature (H2) C-3 Cr-3**

This course is a survey of traditional and contemporary literature for children from birth through Grade 6. Literary models include picture books, traditional literature, poetry, fantasy, juvenile fiction and nonfiction, biography, and informational books. Prerequisite: EN101 English 1: Composition and EN102 Ideas & Values in Literature.

**EN241 19th-Century American Women's Fiction (H2) C-3 Cr-3**

This course examines works of fiction by Nineteenth-Century American women, which have been traditionally excluded from the canon. It exercises a range of critical approaches to analyze novels and short stories. Topics include domesticity and the sphere of women, the voice of the mother and wife, political action and suffrage, the economics of writing and publishing, sentimentalism, and the link to contemporary society. Prerequisite: EN102 English 2: Ideas & Values in Literature.

**EN248 American Literature 1 (H2) C-3 Cr-3**

This course is a survey of representative American writers from the Columbian Exchange to 1914, including the Colonial, Revolutionary, and Federal periods, as well as Romanticism and Realism. Prerequisite: EN102 English 2: Ideas & Values in Literature.

**EN249 American Literature 2 (H2) C-3 Cr-3**

This course is a survey of representative American writers from 1914 to the present. The focus is on Modern, Post-Modern, and Contemporary movements in American Literature. Prerequisite: EN102 English 2: Ideas & Values in Literature.

**EN255 World Literature 1 (H2) C-3 Cr-3**

This course is a survey of the world literature masterpieces in English translation from the ancient times through the Renaissance. Among the major writers and texts studied are Homer, Sophocles, Socrates, Plato, Aristotle, Dante, the Bhagwad Gita, the Jataka, Machiavelli, Rabelais, Cervantes, and Shakespeare. Prerequisite: EN102 English 2: Ideas & Values in Literature.

**EN256 World Literature 2 (H2) C-3 Cr-3**

This course is a survey of world literature masterpieces in English translation from the Enlightenment through the Twentieth Century. Among the major writers studied are Swift, Pope, Voltaire, Rousseau, Dostoevsky, Tolstoy, Kafka, Ibsen, Camus, Garcia Marquez, Achebe, Mishima, and Mann. Prerequisite: EN102 English 2: Ideas & Values in Literature.

**EN265 African-American Literature: A Survey (H2) C-3 Cr-3**

This course provides an historical survey of the literature written by Americans of African descent from colonial times to the present. Emphasis is given to slave narratives, autobiographical writings, the Harlem Renaissance, and the development of the African-American novel. Prerequisites: EN101 English 1: Composition or EN106 English 1: Composition and Reading, and EN102 English 2: Ideas & Values in Literature.

**EN271 British Literature 1 (H2) C-3 Cr-3**

This course is a survey of the British literary tradition through a study of selected masterworks in poetry and prose through the Eighteenth Century. Among the major writers studied are Chaucer, Spenser, Shakespeare, Donne, Milton, Dryden, Pope, Swift, and Johnson. Prerequisite: EN102 English 2: Ideas & Values in Literature.

**EN272 British Literature 2 (H2) C-3 Cr-3**

This course is a survey of the British literary tradition through a study of selected masterworks in poetry and prose from the Romantic period through the Twentieth Century. Among the major writers studied are Wordsworth, Coleridge, Byron, Shelley, Keats, Tennyson, Browning, Arnold, Hardy, Shaw, Joyce, Yeats, and Eliot. Prerequisite: EN102 English 2: Ideas & Values in Literature.

**EN280 Dramatic Literature: The Classic Theatre (H2) C-3 Cr-3**

This course covers the classic period of drama from the ancient Greek theater of 400 B.C.E. to the neo-classic French theater of the Eighteenth Century. Major plays and playwrights from world theaters are discussed. Prerequisite: EN102 English 2: Ideas & Values in Literature.

**EN281 Dramatic Literature: Modern Drama (H2) C-3 Cr-3**

This course explores the period of drama beginning in the Nineteenth Century and running to the mid-Twentieth Century. Major plays and playwrights from world theaters are discussed. Prerequisite: EN102 English 2: Ideas & Values in Literature.

**EN282 Contemporary Drama (H2) C-3 Cr-3**

This course explores the period of drama beginning in the middle of the 20th century and introduces major plays and playwrights from world theaters since World War II. Prerequisite: EN102 English 2: Ideas & Values in Literature.

**EN297 Creative Writing 2****C-3 Cr-3**

This course helps to develop skills in writing short fiction, poetry, and creative non-fiction. A series of well-crafted exercises are completed with situations that focus on the same characters. Models for writing are the works of published authors and fellow course participants. Other activities may include conferences and collaborative evaluations. Prerequisites: EN101 English I: Composition or EN106 English I: Composition and Reading, EN102 English 2: Ideas & Values in Literature, and EN197 Creative Writing.

**EN300 Independent Study in English****Cr 1-4****ES Engineering Sciences Courses**

**(Center for Mathematics, Engineering, Physical Sciences, and Applied Technology, STEM)**

**ES161 Introduction to Engineering & Science C-2 P-2 Cr-3**

This introductory course provides a look at engineering as well as an introduction to the computational and data analysis skills necessary for a scientific and/or engineering career. Topics include computer organization, structured engineering and scientific programming, scientific word processing, spreadsheet and graphical analysis, and presentation techniques. Prerequisite: An appropriate Mathematics Placement test result, or MA121 Fundamentals of College Mathematics I, or MA125 College Algebra & Trigonometry.

**ES171 Engineering Graphics****C-2 P-3 Cr-3.5**

The course introduces the basics of engineering drawing, descriptive geometry and graphical mathematics. Topics include freehand and instrumental techniques; orthographic projection of points, lines, planes and solids; auxiliary views and sectional views, working drawings; graphs and graphical calculus; functional and alignment charts; and, vector geometry.

**ES175 Engineering Science Design C-2 P-3 Cr-3**

This course covers project proposal writing, project costing, drawing preparation and project specification, group dynamics, and making a product. The course practicum may include assignment to a practicing engineer. It is required for Engineering Science students after completing the equivalent of one full-time semester. Prerequisite: ES161 Introduction to Engineering & Science.

**ES261 Mechanics of Materials****C-2 P-2 Cr-3**

This calculus-based course covers normal and shear stress, materials properties and testing, torsional stress, normal and shear strains, stress concentration, bending stress, point stress, columns, failure theories, combined stresses, beam deflection, and strain gauge application and techniques. Prerequisites: PH261 Engineering Physics I and ES271 Engineering Statics.

**ES271 Engineering Statics****C-3 Cr-3**

This calculus-based course uses the vector approach to deal with the three-dimensional resolution of forces and moments on rigid bodies in equilibrium, centroids, moments of inertia, and virtual work. Prerequisites: MA152 Calculus 2, and PH261 Engineering Physics I.

**ES272 Engineering Dynamics****C-3 Cr-3**

This calculus-based course uses the vector approach to deal with kinematics and kinetics of particles and rigid bodies. Prerequisites: MA253 Calculus 3 and ES271 Engineering Statics.

**ES281 Thermodynamics****C-3 Cr-3**

This course addresses these topics: the zeroth, first and second laws of thermodynamics, thermodynamic equilibrium, thermodynamic properties, cycles, and applications to physical and chemical systems. Prerequisites: MA253 Calculus 3 and PH262 Engineering Physics 2.

**ES291 Electrical Circuits 1****C-3 P-2 Cr-4**

This course presents a calculus-based introduction to linear circuit analysis. Topics include electrical laws, quantities, and DC and AC circuits. Analysis techniques include mesh and nodal approaches, Thevenin, Norton, superposition, and source transformation, as well as phasor analysis. Balanced three-phase and transformer circuits are presented, analysis techniques are discussed, and computer-based circuit simulation tools are introduced. Corequisites: MA253 Calculus 3 and PH262 Engineering Physics 2.

**ES292 Electrical Circuits 2****C-2 P-2 Cr-3**

This course covers the complete response of first and second order electrical circuits using the classical solution of differential equations and the Laplace Transform methods. It analyzes circuits containing operational amplifiers. Diodes and their applications in rectifiers and wave shaping circuits are studied. Simple transistor biasing is learned. Prerequisites: ES291 Electrical Circuits 1. Corequisite: MA260 Differential Equations.

**ES300 Independent Study in Engineering Science****Cr 1-4****ET Electrical Technology Courses**

**(Center for Mathematics, Engineering, Physical Sciences, and Applied Technology, STEM)**

**ET101 Technical Electricity 1****C-2 P-2 Cr-3**

This introductory course provides the basic knowledge and skills necessary within any electrical service technician program. It includes an in-depth study of electron theory, Ohm's Law, series and parallel circuits, as well as electrical energy and power relationships. Also included are methods of generation of electromotive force, electromagnetism, and motor principles and capacitance as these apply to DC circuits. Uses, construction, and calibration of voltmeters and ammeters are investigated. Corequisite: MA105 Technical Mathematics I.

**ET102 Technical Electricity 2****C-2 P-2 Cr-3**

This course is a continuation of ET101 Technical Electricity 1. It reinforces previously acquired information and applies it to alternating current (AC) circuits. It investigates AC sine wave generation, mutual inductance inductive and capacitive reactance, and instantaneous values of voltage and current as well as real and apparent power. Uses, construction, and calibration of AC metering equipment are an integral part of this course. Practical application of each topic in both introductory courses are included in all laboratory experiments. Prerequisite: ET101 Technical Electricity 1. Corequisite: MA106 Technical Mathematics 2.

**ET103 Technical Electronics****C-2 P-3 Cr-3.5**

This course investigates the fundamental properties of semiconductor materials and the utilization of these materials in devices such as diodes, bi-polar transistors, field effect transistors, thyristors, and common substrated integrated circuits. Experiments pertain to various rectifiers, voltage regulators and elementary amplifier circuits. Emphasis is placed on constructing, troubleshooting, modifying, and repairing those circuits considered fundamental to the



operation of electronic equipment. Prerequisites: ET101 Technical Electricity I and MA105 Technical Mathematics I.

### **ET104 Systems Diagrams**

**C-1 P-2 Cr-2**

This course covers the types, application, and use of electrical/electronic drawings. It includes schematic diagrams and symbols as well as the operation of electro-mechanical devices. The course differentiates between schematics and wiring diagrams. It develops the use of block diagrams, schematics, ladder-logic diagrams, wiring diagrams, assembly drawings, and bills of material. Topics include Programmable Logic Controllers (PLCs), Basic Relay PLC Instructions, PLC Timers and Counters, and PLC programs in the form of PLC ladder diagrams. Prerequisite: ET101 Technical Electricity I.

### **ET105 Computer Control Fundamentals**

**C-1 P-2 Cr-2**

This introductory course covers the personal computer and its software for electrical service technicians. It includes a survey of fundamental personal computer hardware: the keyboard, microprocessor, mouse, disk drives, and printers. It introduces DOS and Windows operating systems and hands-on experience with software packages such as word processing and spreadsheets. It concludes with an introduction to BASIC, which is used to solve practical problems in the electrical/electronic field. (Fall Semester)

### **ET106 Science of Sound (N1, N2)**

**C-3 P-2 Cr-4**

This course introduces basic concepts of sound and human hearing. Topics include the history and development of basic acoustics and electricity, microphones, loudspeakers, signal processing, monitoring and recording systems, and an introduction to current digital audio. This course is not applicable as an electrical elective for Electrical majors. Pre-requisites: An appropriate Mathematics Placement test result or MA045 Basic Math Skills or MA050 Introductory Mathematics.

### **ET108 Refrigeration 1**

**C-3 P-2 Cr-4**

This course covers basic physics as applied to refrigeration and air conditioning. It includes flaring and soldering techniques, compressor construction, and domestic refrigeration, including characteristics of automatic controls. Prerequisites: MA105 Technical Mathematics I and ET101 Technical Electricity I. (Spring Semester)

### **ET109 Introduction to Fiber Optics**

**C-1 Cr-1**

This course introduces fiber optic topics, including basic fiber cable theory, connectors, power meter and light source operations, optical time domain reflectometers (OTDR), and splicing theory and problems.

### **ET110 Optic Local Area and Synchronous Optical Networks**

**C-1 Cr-1**

This course introduces the design, wiring, devices, testing, and maintenance of a fiber optic Local Area Network (LAN) and Synchronous Optical Network (SONET).

### **ET113 Fiber Security Fences**

**C-1 Cr-1**

This course introduces the theory, design, materials and equipment, installation, and maintenance for indoor and outdoor fiber optic security fences.

### **ET114 Security Technology**

**C-1 Cr-1**

This course provides in-depth information about access control equipment, fiber, and optic hardware and cameras. It reviews the capabilities and implementation of perimeter detection devices. It

develops precision in the installation of fiber sensors, restoration and maintenance, mounting hardware, and detection programming.

### **ET115 Basic Electricity 1**

**C-3 Cr-3**

This web-based course introduces basic electrical theory. The course is a study of electron theory, Ohm's Law, series and parallel circuits, electrical energy, power relationships, and electromagnetism. DC circuit theory is emphasized. This course does not satisfy the requirements for any courses in the Electrical Service Technician programs.

### **ET116 Basic Electricity 2**

**C-3 Cr-3**

This web-based course is a continuation of ET115 Basic Electricity I. It covers topics in AC electrical theory and investigates sine wave generation, mutual inductance, inductive and capacitive resistance, and instantaneous values of voltage and current as well as real and apparent power. This course does not satisfy the requirements for any courses in the Electrical Service Technician programs. Prerequisite: ET115 Basic Electricity I.

### **ET118 Topics of Refrigeration 1**

**C-3 Cr-3**

This web-based course covers the basic physics as applied to the Refrigeration and Air Conditioning industry. Topics include history, fundamentals of refrigeration, safety and refrigerant controls, and compressor construction, as well as characteristics of automatic controls applied to commercial, industrial, and domestic refrigeration. This course does not satisfy the requirements for any courses in the Electrical Service Technician programs. Prerequisite: ET115 Basic Electricity I.

### **ET119 Topics of Refrigeration 2**

**C-3 Cr-3**

This web-based course covers components of refrigeration for commercial and industrial systems, including requirements and component applications to develop and build up systems. This course does not satisfy the requirements for any courses in the Electrical Service Technician programs. Prerequisite: ET118 Topics of Refrigeration I.

### **ET120 Survey of Electricity (Verizon)**

**C-3 P-2 Cr-4**

This course provides a foundation for the learning of telecommunications applications circuits. Students analyze DC and AC passive circuits' analysis using Ohm's Law and Kirchoff's Laws. RC and RL circuits are analyzed for impedance and phase angles. Troubleshooting, analysis by computer simulation using simulation software, and telecommunications applications are stressed throughout. This course is restricted to Verizon NextStep students. Prerequisites: MA119 Technical Algebra & Trigonometry 2, and IS101 Computers and Society or IS100 Introduction to Computers and Society.

### **ET131 Electrical Machinery and Controls 1**

**C-3 P-3 Cr-4.5**

This introductory course investigates the construction, operation, and control of electrical equipment installed and maintained by the various electrical trades. Topics pertain to direct current equipment and include shunt, series, and compound motors and generators, manual and automatic DC controllers, stepping motors, and DC meters. It emphasizes the practical aspects of magnetic flux, counter-electromotive force, armature and field currents, motor and generator loading conditions, and the relationship of these electrical characteristics to specific types of mechanical, electrical, and electronic controllers. Prerequisite: ET101 Technical Electricity I. Corequisite: MA106 Technical Mathematics 2.

## **ET137 Sustainable Energy in the Developing World**

**C-2 P-2 Cr-3**

This course provides a study abroad experience for students interested in sustainable energy system use in the developing world. Travel sites vary depending on site availability and projects. Renewable energy systems in the local region are studied in relation environmental, social, economic, and technological factors. Instructional lecture and practicum sessions, site visits, and service learning activities during the study abroad period by local experts and other faculty are included. Periodic classroom and online seminar sessions during the semester are required for student presentations and further project development activities. Additional Study Abroad fees apply. Prerequisites: Mathematics placement test score beyond MA089/MA090 or prior successful completion of MA090.

## **ET141 Programmable Logic Controllers**

**C-2 P-2 Cr-3**

This course is a study of the types, applications, and use of Programmable Logic Controllers (PLCs). It includes methods for developing PLC ladder programs, PLC installation, wiring, operation, maintenance, and troubleshooting. Experience is provided using Allen Bradley MicroLogix, SLC500, and Compactlogix PLCs, as well as the Logixpro PLC Simulator. Corequisites: ET152 Circuits 2 and ET102 Technical Electricity 2.

## **ET151 Circuits 1**

**C-3 P-2 Cr-4**

This course introduces the fundamentals of DC circuit analysis including the definition of various electrical quantities and their relationships. Topics include series and parallel circuits, Kirchhoff's Laws, Thevenin's Theorem, Norton, super positioning, maximum power transfer, and nodal and mesh analysis. Proper usage of laboratory equipment is stressed. Corequisites: ET153 Introduction to Electronics and MA121 Fundamentals of College Mathematics 1.

## **ET152 Circuits 2**

**C-3 P-2 Cr-4**

This course covers AC circuit analysis. Topics include Phasor representation of sinusoidal voltage, currents, impedance, power solution of RLC circuits, frequency response, and series and parallel resonance. Three phase power transformers and Fourier analysis of complex waveforms are introduced. The use of computer solutions in problem solving is included. Prerequisites: ET151 Circuits 1, ET153 Introduction to Electronics, and either ET154 Computer Programming or IS100 Introduction to Computers and Society or IS101 Computers and Society. Corequisite: MA122 Fundamentals of College Mathematics 2.

## **ET153 Introduction to Electronics**

**C-1 P-2 Cr-2**

This course provides the basic theory of electrical and electronic devices with elementary applications, familiarization with laboratory test equipment, and construction of an electronic power supply project. It covers the practical aspects of resistors, capacitors, inductors, transformers and voltage regulators. Both AC and DC theory is discussed as well as the use of power supplies, function generators, digital multi-meters and the oscilloscope. The course concludes with the assembly and testing of a DC power supply. (Fall semester)

## **ET154 Computer Programming**

**C-1 P-2 Cr-2**

This course uses a high-level programming language and examines the available structure on a typical personal computer platform. Programming techniques and algorithm development are presented with real-world examples from the electrical field. The programming techniques may be used to solve practical problems in other EET courses. The course introduces the use of schematic capture and

electrical circuit simulation software. This is a foundation course in computer programming for students in the Electrical Engineering Technology program. No previous programming knowledge is assumed.

## **ET161 Linear Electronics**

**C-2 P-2 Cr-3**

The theory and applications of modern transistors are introduced; both the bipolar junction transistor and the field effect transistor are examined. Applications include usage in small and large signal class A amplifiers, as well as in class B power amplifiers. Voltage control FET applications are studied. Problem solving techniques involving digital computers are discussed. Prerequisites: ET153 Introduction to Electronics, and either ET154 Computer Programming or IS101 Computers and Society or IS100 Introduction to Computers and Society. Corequisites: ET152 Circuits 2.

## **ET163 Audio Technology**

**C-2 P-2 Cr-3**

Modern audio technology is introduced. Topics include basic acoustics, transducers such as microphones and loudspeakers, signal processing, and amplification systems. An introduction to digital audio is included as well as software/Internet applications. Corequisites: ET152 Circuits 2 or ET102 Technical Electricity 2.

## **ET165 Electronic Systems for Telecommunications**

**C-3, P-2, Cr-4**

This course presents topics in the analysis and application of advanced electronic circuits for the telecommunications industry. Topics include frequency response, filters, analog and digital modulation techniques, and transmission line concepts. This course is restricted to Verizon NextStep students. Prerequisites: MA119 Technical Algebra and Trigonometry 2 and ET120 Survey of Electricity.

## **ET167 Introduction to Photovoltaics**

**C-2 P-2 Cr-3**

This course introduces fundamental concepts in photovoltaics in applications related to electrical power generation. Topics include types of photovoltaic systems and applications, solar radiation and resource determination, site assessment, and units of measurement common to solar systems. Measurement and instrumentation equipment as well as related tools, including safety and personal protective equipment (PPE), are discussed. Solar electrical systems including solar panels, inverters, charge controllers, batteries, and balance of system components are presented, with relevant aspects of electrical and mechanical discussed. Fundamental concepts of system sizing, cost, and economic analysis are presented. Prerequisite: ET101 Technical Electricity 1 or ET151 Circuits 1.

## **ET180 Digital Computer Fundamentals (Verizon) C-3 P-2 Cr-4.0**

This course presents topics in hardware and systems as used in telecommunications industry. Electrical and digital circuits are explored. Binary number systems are discussed as applied to telecommunications equipment. Students explore hardware to the modular level, and demonstrate and stimulate digital circuits. This course is restricted to Verizon NextStep students. Prerequisites: MA118 Technical Algebra & Trigonometry 1 and IS101 Computers and Society or IS100 Introduction to Computers and Society.

## **ET181 Digital Electronics 1**

**C-2 P-2 Cr-3**

This introductory course presents fundamental topics in digital systems. Topics include numbering systems and coding schemes used in digital logic; combinational logic devices at a functional level; concepts of Boolean algebra and logic analysis and methods for logic circuit simplification; and arithmetic circuits. Sequential circuits including latches and flip-flops are analyzed and their applications in basic counters and registers are presented. Prerequisites: ET151

Circuits 1, ET153 Introduction to Electronics, and ET154 Computer Programming. Corequisite: ET152 Circuits 2.

### **ET187 Electronic Control Systems** **C-2, P-3, Cr-3.5**

This course introduces controls for solar thermal applications. It is a study of the design, installation, and test of all hardware necessary to operate a solar thermal system including system controls, pumps, sensors, power sources, and interfaces between solar thermal and other building systems. Prerequisite: ET101 Technical Electricity 1.

### **ET209 Refrigeration 2** **C-3 P-4 Cr-5**

This course covers the components of refrigeration for commercial and industrial systems. It includes systems requirements and the application of components to develop built-up systems. Prerequisite: ET108 Refrigeration 1, or VT133 Refrigeration and Air Conditioning 1. (Fall semester)

### **ET220 Heating and Air Conditioning 1** **C-3 P-2 Cr-4**

This course covers calculations of heat loss and gain, based on the residential and commercial level. It addresses humidification, dehumidification, and air mixture problems, along with the determination of U factors to enhance calculation accuracy. It includes ventilation, exhaust loads, and standards, along with a working background in psychometrics. It begins with simple heat properties of air and concludes with complex air mixture problems. Prerequisite: ET108 Refrigeration 1 or VT133 Refrigeration and Air Conditioning 1. (ET221 Heating and Air Conditioning 2 may be taken concurrently.) (Fall Semester)

### **ET221 Heating and Air Conditioning 2** **C-3 P-4 Cr-5**

This course introduces combustion techniques in oil and gas furnaces. It covers cad cells, stack controls, oil primary controls plus safety devices. Basic principles are applied to problem-solving in heat transfer. Types of systems involving residential and small commercial heating and air conditioning are covered. Split systems, hydronic systems, electric heat, heating and air conditioning controls, and package equipment are discussed, along with heat pumps. Prerequisite: ET108 Refrigeration 1 or VT133 Refrigeration and Air Conditioning 1. (ET220 Heating and Air Conditioning 1 may be taken concurrently.) (Spring semester)

### **ET222 Systems Design** **C-2 P-2 Cr-3**

This course covers refrigerant piping techniques and designs for commercial and industrial use. Refrigeration load calculating and equipment selection for commercial and industrial applications and proper air handling techniques are studied. Prerequisites: ET209 Refrigeration 2 and ET220 Heating and Air Conditioning 1. (Spring semester)

### **ET223 Transport Refrigeration** **C-3 P-2 Cr-4**

This course covers the refrigerant and electrical controls used in transport refrigeration. It discusses problems unique to the industry and includes fundamental approaches to gasoline and diesel engine principles. Prerequisite: ET209 Refrigeration 2. (Spring semester)

### **ET224 Modern Hydronic Systems** **C-2 P-2 Cr-3**

This course covers the design and installation of modern hydronic (water-based) heating and cooling systems in residential and small commercial buildings. Topics include hydronic heat sources, fluid flow in pipes, circulators, terminal units, system sizing, distribution piping layout, controls, valve selection, expansion tanks, freeze proofing, and balancing. Prerequisite: ET220 Heating and Air Conditioning 1. Corequisite: ET221 Heating and Air Conditioning 2.

### **ET227 Solar Thermal Systems**

**C-3, P-2, Cr-4**

This course covers the design, installation, and commissioning of solar thermal systems. Site analysis, system selection and sizing, assembly of flat plate and evacuated tube collectors, pump installation, differential controllers, and system charging for domestic hot water and combination systems are the primary focus. Prerequisite: ET107 Introduction to Solar Thermal Technology

### **ET230 AC Motors & Controls**

**C-3 P-4 Cr-5**

This course is intended for the heating, refrigeration, and air condition technicians. It provides HVAC students with theory and practicum in motors and controls, networking protocols, and automated building systems. The course has a blend of theory and practice suitable for vocational-technical students or industry practitioners who wish to upgrade their backgrounds. Electrical principles, components, meters, schematics, and systems are discussed and applied to modern small and large scale installations. Prerequisite: ET102 Technical Electricity 2 or permission of the Dean for Mathematics, Engineering, Physical Sciences, and Applied Technology.

### **ET232 Electrical Machinery and Controls 2**

**C-3 P-4 Cr-5**

This course is designed to combine related information pertaining to AC machinery, electromechanical controllers, transducers, and electronic controls with the practical skills of equipment selection, installation, wiring, troubleshooting, and maintaining the machinery control systems currently used by industry. Topics include single and multiphase alternators, motors, transformers, and meters. Methods of machinery control include across-the-line starters, control relays, voltage and current transformers, limit switches, electronic switching, and speed or rotation sensors. Prerequisite: ET102 Technical Electricity 2, ET131 Electrical Machinery and Controls 1, MA106 Technical Mathematics 2.

### **ET233 Industrial Electronics**

**C-3 P-4 Cr-5**

This course studies electromechanical and electronic devices in the operation of industrial equipment and manufacturing processes. Emphasis is placed on the operating characteristics and applications of discrete components such as solid-state devices, thyristors, trigger devices, relays, timers, amplifiers, and transducers. Laboratory experiments use skills and knowledge to diagnose and repair malfunctions in moderately complicated automated equipment. Prerequisite: ET103 Technical Electronics, MA106 Technical Mathematics 2. (Fall semester)

### **ET234 Electrical Wiring and Codes 1**

**C-2 P-3 Cr-3.5**

This course is an introduction to electrical residential wiring. It covers all of the essential elements regarding electrical installations in the home, including code making bodies, devices, boxes, conductors, outlets, light fixtures, ceiling fans and service entrances. All temporary laboratory wiring is installed in compliance with the current National electrical Code, providing experience in cable, conduit, surface raceway, service entrance, low-voltage control, annunciator, and intrusion detection systems. Corequisite: ET101 Technical Electricity 1.

### **ET235 Digital Logic**

**C-3 P-3 Cr-4.5**

This course provides an overview of the basic logic circuits inherent in all digital electronics applications. Topics include the various numbering systems, encoders and decoders used in digital systems, binary logic gates, flip-flops, counters, and shift registers with arithmetic circuits. Memories and interfacing of digital and analog devices are also investigated. Experiments supporting related information are designed to provide maximum hands-on experience for students with no prior training in electronics. Prerequisites: ET101 Technical Electricity 1, MA106 Technical Mathematics 2.



**ET244 Electrical Wiring and Codes 2****C-2 P-4 Cr-4**

This course includes continuation of electrical techniques with emphasis on design and layout of single and polyphase systems. Skills to be developed include diagnosis and repair of equipment malfunctions, interpretation of the National Electrical Code, and estimates of project costs and progress coupled with installation techniques. Electrical systems studied include lighting, heating, ventilation, interior and exterior power distribution, and emergency energy conservation. Activities are focused on electrical systems. Prerequisite: ET234 Electrical Wiring and Codes 1 or permission of the Dean for Mathematics, Engineering, Physical Sciences, and Applied Technology. Corequisite: ET102 Technical Electricity 2.

**ET245 Microprocessor Technology****C-3 P-3 Cr-4.5**

This course applies knowledge of binary logic and circuits to elements, diagnostic procedures, and methods of operating and repairing microprocessor-based home and automated industrial equipment. Laboratory components include using personal computers and development systems to create microcontroller applications. An introduction to the architecture of the IBM 80x86 architecture is provided, and methods of assembly upgrading and maintaining PCs are presented. Prerequisites: ET103 Technical Electronics, ET235 Digital Logic.

**ET246 Industrial Computer Applications****C-3 P-4 Cr-5**

This course introduces hardware and software applications of the personal computer. It covers applications involving interfacing, digital Input/Output, analog Input/Output, data acquisition, and computer control of external electrical devices. Hardware components are studied for an understanding of computer systems, and BASIC is used to write input/output instructions. Experiments include wiring, testing, and debugging of a digital/analog circuit board and trainer. Prerequisite: ET233 Industrial Electronics (Spring semester)

**ET254 C Programming for Technology****C-2 P-2 Cr-3**

This course details C programming language and how it is applied to problems in the technology field. A complete examination of the language is presented. Laboratory exercises are concerned with typical problems encountered in the electrical field. The focus is on desktop and embedded system development. Prerequisites: ET154 Computer Programming or equivalent. Corequisite: ET181 Digital Electronics I.

**ET257 Photovoltaic Systems****C-3, P-2, Cr-4**

This course builds on the concepts presented in ET167 and further defines the component and system considerations for solar electric systems. Topics include grid-tie and stand-alone system components, system sizing installation and integration of photovoltaic (PV) systems in existing residential and commercial locations, system component and installation compliance with regulatory requirements of the National Electrical Code (NEC), Underwriters Laboratory, and local codes requirements. System commissioning, operation, and maintenance requirements are discussed. PV mounting systems and installation requirements are presented, with relevant aspects of electrical and mechanical system requirements discussed. Fundamental concepts of system sizing, cost, and economic analysis are presented. ET167 Introduction to Photovoltaics and ET234 Wiring and Codes 1.

**ET261 Telecommunications Systems 1 (Verizon)****C-3 P-2 Cr-4**

This course presents the organization, architecture, setup, maintenance, and hardware and software aspects of data networks. Topics include accurate network data linkage approaches, contemporary network communications services, and the security

requirements of the data network industry. This course is restricted to Verizon NextStep students. Prerequisite: ET272 Digital Computer Systems (Verizon)

**ET262 Operational Amplifiers****C-3 P-2 Cr-4**

This course includes further study of linear transistor circuits. Examination of frequency response and negative feedback are of prime importance. Operational amplifiers are discussed in great depth, including applications in summing, precision rectifying, voltage regulation, filtering, and other popular circuit applications. Usage of digital computers for analysis and design is discussed. Prerequisites: ET161 Linear Electronics.

**ET263 Telecommunications 1****C-3 P-2 Cr-4**

This course covers radio frequency amplifiers, filters, oscillators, signal spectra, noise, amplitude and frequency modulation, wave propagation and communication systems. Circuit analysis is handled at a college algebra and trigonometry level with a minimum of calculus. Laboratories stress circuit and system analysis. Prerequisite: ET161 Linear Electronics. (Fall Semester)

**ET264 Telecommunications 2****C-3 P-2 Cr-4**

This course covers protocol architectures, digital encoding, digital data communication techniques, multiplexing, and packet switching networks. Circuit analysis is handled at a college algebra and trigonometry level with a minimum of calculus. Laboratories stress circuit and system analysis. Corequisite: ET263 Telecommunications 1. (Spring Semester)

**ET265 Fiber Optics 1****C-2 P-2 Cr-3**

This introductory course in fiber optics covers the theory of light transmission and its limiting factors. It includes Modal and Chromatic Dispersion and signal attenuation along with how they impact on signal bandwidth. The various types of fiber optic cable are explored while noting their application characteristics. The course also covers the techniques for applying fiber optic connectors and splices as well as the use of light sources, light meters, fusion splicers and Optical Time Domain Reflectometers (OTDRs). Prerequisite: ET101 Technical Electricity 1. Corequisite: ET102 Technical Electricity 2.

**ET266 Fiber Optics 2****C-2 P-2 Cr-3**

This course is a continuation ET265 Fiber Optics 1. It covers the installation and testing of fiber optic cable communication applications, including the theory of light transmission. The equipment, protocols, and standards for connecting a telecommunications system or network such as a computer Local Area Network (LAN) are covered. Laboratories address installing splices and connectors in industrial, computer network, and telecommunications assemblies as well as OTDR operation and system loss analysis. Prerequisite: ET265 Fiber Optics 1. (Fall Semester)

**ET267 Fiber Optics 3****C-2 P-2 Cr-3**

This course uses the data and knowledge from ET265 Fiber Optics 1 to design Local Area Networks (LANs) and Metropolitan Area Networks (MANs). It covers plastic and glass fiber cables, radio frequency (RF) cables, and standard electrical wire cables. It includes design and layout applications of computer networks, cable interfaces, and Novell computer networking. Prerequisite: ET265 Fiber Optics 1. Corequisite: ET266 Fiber Optics 2. (Spring Semester)

**ET271 Telecommunications Systems 2 (Verizon)****C-3 P-2 Cr-4**

This course covers the use of switches and routers in simple and complex networks. Emphasis is provided on the use and operation of a wide range of Cisco products. Additional topics include a

range of traditional wide area network services which are used in today's network infrastructure. This course is restricted to Verizon NextStep students. Prerequisite: ET261 Telecommunications Systems I (Verizon).

### **ET272 Digital Computer Systems (Verizon) C-3 P-2 Cr-4**

This course introduces personal computer hardware and software with a focus on installation. Printers and peripheral devices are set up. The course covers management, support, configuration, and customization of computers running Windows operating systems. Computer maintenance and troubleshooting fundamentals are introduced. This course is restricted to Verizon NextStep students. Prerequisites: ET180 Digital Computer Fundamentals and IS101 Computers and Society or IS100 Introduction to Computers and Society. Corequisites: MA119 Technical Algebra & Trigonometry 2.

### **ET273 Network Infrastructure (Verizon) C-3, P-2, Cr-4**

This course covers the analysis and application of physical level services and methodologies as applied to the telecommunications industry. Topics include data voice and video systems, wired and wireless media technologies, analog and digital transmission, cellular technologies, and LTE connections. This course is restricted to Verizon NextStep students. Prerequisite: ET165 Electronic systems for Telecommunications and PH145 Physics.

### **ET274 Telecommunications Concepts C-3 P-2 Cr-4**

This course presents concepts related to the components, circuitry, and components of telecommunication systems. Topics include radio frequency amplifiers, filters, oscillators, measurement methods, modulation methods, coding and network models, transmission lines, antennas, and wave propagation. Prerequisite: ET161 Linear Electronics.

### **ET277 Telecommunications Systems 3 (Verizon) C-3 P-2 Cr-4**

This course covers a range of upper level services supported by TCP/IP protocols and broadband transmission services. Topics include the design and operation of Voice over IP and Video over IP applications, IP phones, softphones, video codecs, the impact of the internet on network needs and technologies. This course is restricted to Verizon NextStep students. Prerequisite: ET271 Telecommunications Systems 2

### **ET278 Telecommunications Systems 4 (Verizon) C-3 P-2 Cr-4**

This course presents a survey of current and emerging technologies in Telecommunication. Lectures, interactive learning, demonstrations, and hands-on work are employed. This course is restricted to Verizon NextStep students. Prerequisite: ET277 Telecommunications Systems 3.

### **ET282 Digital Electronics 2 C-2 P-2 Cr-3**

This course covers the characteristics and applications of MSI circuits and devices such as decoders, encoders, multiplexers, and demultiplexers. The IC logic families are introduced at a circuit level. It emphasizes TTL devices along with ECL, I<sup>2</sup>L, MOS, and CMOS device characteristics. It includes semiconductor memory along with bipolar and MOS, static and dynamic, and ROM and RAM devices. Prerequisites: ET181 Digital Electronics I and ET161 Linear Electronics. (Fall semester)

### **ET283 Microprocessor Fundamentals C-3 P-2 Cr-4**

This course presents the microprocessor/microcontroller as the principal component of embedded systems, providing information

on the architecture and programming model using the C language. C programming techniques for arithmetic and logic operations along with flow control are introduced. The use of functions, I/O instructions, and timers are presented with laboratory experiments. Prerequisite: ET181 Digital Electronics I.

### **ET284 Design & Layout C-1 P-4 Cr-3**

This capstone course provides for the application of electronic principles learned throughout the program. The course involves the steps necessary to take an electronic project from the design stage through to a final working project. Topics include typical company structure, specification and schedule development, proper prototyping and troubleshooting procedures, and the method for designing printed circuit boards. These topics are applied to an actual electronic project that results in a functioning circuit board - a working prototype. A final formal report is completed, submitted and presented to the class. Prerequisites: ET181 Digital Electronics I and ET262 Operational Amplifiers.

### **ET285 Motors and Controls C-3 P-2 Cr-4**

This course introduces the theory, operation, applications, adjustment, and control of AC/DC motors using single & three phase electrical power. It covers a variety of discrete devices, transformers, DC and AC motors, AC motor frequency drives, industrial networking, and motion control using PLCs. The components and characteristics of control systems are studied. Prerequisite: ET152 Circuits 2.

### **ET286 Microprocessor Applications C-3 P-2 Cr-4**

This course covers assembly language programming used with 80x86 based computers and microprocessors in the development of interface and system control applications. Prerequisites: ET283 Microprocessor Fundamentals and ET282 Digital Electronics 2.

### **ET287 Communications Electronics 1 C-3 P-2 Cr-4**

This course introduces radio frequency amplifiers, oscillators, signal spectra, noise, amplitude modulation, and frequency modulation in communications systems. Prerequisites: MA106 Technical Mathematics 2 and ET103 Technical Electronics.

### **ET288 Communications Electronics 2 C-3 P-2 Cr-4**

This course covers digital transmission, fiber optics transmission, transmission lines, and antenna and microwave transmission. Prerequisites: ET233 Industrial Electronics, ET235 Digital Logic, and ET287 Communication Electronics I. (Spring Semester)

### **ET289 Introduction to Semiconductor Manufacturing C-2 P-4 Cr-4**

This course introduces the processes, materials, and equipment used in the manufacture of semiconductor devices. Topics include atomic theory, crystal structure, and properties of semiconductor materials, and manufacturing processes. It covers wafer preparation, thermal oxidation, doping, lithography, thin film deposition, metrology, testing, and packaging. Cleanroom safety and protocol are discussed. Prerequisites: ET161 Linear Electronics, and ET181 Digital Electronics I. Corequisites: CH141 General Chemistry I, and MT129 Statistical Quality Control. (Fall semester)

### **ET290 Fundamentals of High Vacuum Technology C-2 P-3 Cr-3.5**

This course introduces vacuum fundamentals, units, and terminology commonly found in low pressure environments. Pumps, gauges, hardware components, vacuum systems, and leak detection methods are presented. Thin films deposition and etch processes, including sputtering and evaporative deposition, are discussed.

Aspects of current practice in RF and plasma systems are presented. Prerequisite: ET161 Linear Electronics. Corequisite: CH141 General Chemistry I.

### **ET291 Fundamentals of Highly Automated Manufacturing Systems** **C-2 P-3 Cr-3.5**

This course introduces basic principles of systems encountered by technicians employed in highly automated manufacturing environments. Topics include manufacturing sequences, remote access, cycle time, and production flow analysis. Gant charts and other planning tools, troubleshooting, and routine/preventative maintenance procedures are presented. Manufacturing execution systems and applications of statistical process control are discussed. Prerequisites: MA106 Technical Mathematics 2 or MA121 Fundamentals of College Mathematics I.

### **ET300 Independent Study in Electrical Technology** **Cr 1-4**

### **ET302 Innovative Electrical/Telecommunication Products & Services 1** **C-1 P-10-22 Cr-6-12**

This course allows for the definition of a new product or service, design development and prototyping, a marketing plan and strategy, and a production/implementation system to provide a successful technology business. It includes the identification of start-up community/ business resources the new business. Course fees may be assessed to reflect additional costs for equipment usage and materials. Prerequisite: Project approval by program committee.

### **ET303 Innovative Electrical/Telecommunication Products & Services 2** **C-1 P-10-22 Cr-6-12**

This course continues the work of ET302 Innovative Electrical/Telecommunication Products & Services 1 if additional time is required to complete the project. Course fees may be assessed to reflect additional costs for equipment usage and materials. Prerequisite: ET302 Innovative Electrical/Telecommunication Products & Services 1.

## **EV Environmental Analysis/Chemical Technology Courses**

**(Center for Mathematics, Engineering, Physical Sciences, and Applied Technology, STEM)**

### **EV100 General Industrial Safety** **C-3 Cr-3**

This introductory survey course covers a range of safety topics that address workplace needs. It provides training in safety responsibility and a basic understanding of the safety profession along with refreshers and updates. It presents the required topics of the 30-hours OSHA overview course in addition to topics reflective of industry standards. Areas covered include the OSHA Act and its related standards and clauses.

### **EV231 Water Analysis** **C-1, P-4, Cr-3**

This course is about water, including the quality of the natural water supply and the presence of pollutants. It stresses water chemistry and methods of analysis. A discussion of resources and needs is followed by data collection and evaluation. Analytical methods covered include acidity/alkalinity, oxygen tests, nutrient analysis, and metal ion analysis. Prerequisite: CH246 Quantitative Analysis.

## **FA Fine Arts Courses**

**(Center for Arts and Humanities, CAAH)**

### **FA100 Creativity in Art** **C-2, P-2, Cr-3**

This course introduces students to the fundamental principles of creativity with an emphasis on understanding historically significant art styles. Students explore various types of visual expression and apply creative problem-solving principles to both two-dimensional and three-dimensional projects in a variety of media. Students are introduced to the masters, practices, and careers of painting, sculpture, graphic arts, graphic design, animation, film, digital media, illustration, and photography.

### **FA101 General Drawing** **P-6 Cr-3**

This course introduces the tools, media, and theory used in drawing for visual communication. Coursework includes both the study of fundamentals of perspective and the theory of light and shade, as well as a survey of graphic representation. Classroom work consists of drawings that show line, value, tone, form, texture, space, and proportion. Studio laboratory fee: \$20

### **FA103 Figure Drawing 1** **P-6 Cr-3**

This is an introductory course in drawing the human figure, focusing on the body's geometric and anatomical structure. Classroom work consists of drawing from the live model and plaster sculpture casts. A hierarchy of form, working from general to specific, is emphasized. Studio work is supplemented by lectures and critiques on the principles of accurate representation of the human form in pictorial space, including gesture, proportion, anatomy, and light on form. Studio laboratory fee: \$20

### **FA104 Figure Drawing 2** **P-6 Cr-3**

This intermediate course expands upon the technical skills and aesthetic concepts of FA103 Figure Drawing 1. More complex problems are addressed, including the foreshortened figure, the figure in space, multiple figure composition, extended poses, and large format drawing. Projects explore various drawing media, settings, lighting situations, and approaches to the figure. Classroom work consists of drawing from the live model, supplemented by lectures and critiques. Prerequisite: FA103 Figure Drawing 1. Studio laboratory fee: \$20

### **FA105 Foundation Design** **P-6 Cr-3**

This course introduces the visual elements and principles of design. Emphasis is placed on compositional concepts and the mastery of a visual language. Course projects explore a variety of media, processes, and techniques to provide a broad view of visual problem solving.

### **FA106 Color Theory** **P-6 Cr-3**

This course investigates the role of color in the organization of the two-dimensional surface, as well as its practical use in our visual environment. Emphasis is placed on understanding the mastery of value, hue, and temperature in physical and digital media. Students apply design composition principles, processes, and techniques to engage in creative problem solving.

### **FA108 Three-Dimensional Design** **P-6 Cr-3**

This course incorporates an examination of design principles and organization of willed form in space. Studio work focuses on the study of natural, fabricated, and architectonic forms, emphasizing construction, scale, and proportion. These principles are fundamental to architecture, industrial design, and sculpture. Studio laboratory fee: \$35



**FA113 Figure Sculpture 1****P-6 Cr-3**

This course introduces sculpture through the figure, using a variety of traditional and modern techniques. Topics include the elements of structure, mass, volume, anatomy, and proportion, as they combine to give form and meaning. These principles are fundamental to improving form conception in drawing, painting, and sculpture. This course provides an introduction to armature building, water clay techniques, and mold-making. Prerequisite: FA108 Three-Dimensional Design. Studio laboratory fee: \$35

**FA201 Figure Sculpture 2****P-6 Cr-3**

This course further advances the study of sculpture through the figure, using a variety of traditional and modern techniques. Topics include the elements of scale, anatomy, proportion, gesture, and content as they combine to give form and meaning. These principles are fundamental to advancement in sculpture, drawing, and painting. This course provides instruction in advanced armature building, reclining and seated figure studies, and multi-piece and multi-material mold-making. Prerequisite: FA113 Figure Sculpture 1. Studio laboratory fee: \$35

**FA202 Intermediate Drawing****P-6 Cr-3**

This course further develops the visual vocabulary of general drawing. Emphasis is on the use of the basic elements of design such as composition, space, scale, and form resolution in various narrative and serial conceptual modes. Relying less on formal solutions to problems, classroom work focuses on the development of a relationship between form and content. A variety of materials and techniques are explored through projects that reference historical and contemporary approaches. Studio laboratory fee: \$20

**FA209 Painting 1****P-6 Cr-3**

This course provides an introduction to the technique of the oil painting medium and approaches to color mixing. Emphasis is given to the painting from the observed subject. A variety of subjects and techniques are explored through projects that reference historical and contemporary approaches. Studio laboratory fee: \$20

**FA210 Digital Painting****P-6, Cr-3**

This course involves the art of digital painting in a studio environment working from observation, photo reference, and imagination. Topics include live observational digital painting, design and illustration principles of environments, color keys, dramatic lighting, composition, atmospheric perspective, and applying textures. Course projects are designed to build a professional portfolio. Students apply techniques and concepts of FA 209 Painting 1 to the digital media. Prerequisite: FA 209 Painting 1.

**FA211 Printmaking: Relief****P-6 Cr-3**

This course introduces traditional relief printmaking techniques such as wood engraving, wood cut, color reduction, and multiple plate relief printing. Other printmaking processes such as intaglio and monotype are also investigated. Emphasis is placed on techniques, and then expanded to subject matter and content. Studio laboratory fee: \$35

**FA212 Ceramics: Throwing Techniques****P-6 Cr-3**

This course explores the basic principles of Wheel Thrown Pottery: centering clay, fundamentals of clay bodies, hand building skills, kiln firing, and glazing. Studio projects approach these principles through the study and practice of proportion, scale, pattern, texture, and color, as well as exploration of the expressive qualities of clay and

throwing technique. Slide lectures relate these concepts to historical and contemporary ceramic form making. Prerequisite: FA108 Three-Dimensional Design. Studio laboratory fee: \$50

**FA216 Sculpture: Metal Welding****P-6 Cr-3**

This course is welded steel sculpture covers volumetric linear, spatial, kinetic, biomorphic, and geometric issues. Basic cutting and joining of oxyacetylene and electric arc techniques are used. Classroom work focuses initially on techniques, and then derived meaning of subject matter as it relates to materials and content. Studio laboratory fee: \$50

**FA218 Painting 2****2 P-6 Cr-3**

This course expands on the concepts introduced in FA209 Painting 1. Oil painting techniques are further explored through course projects. Emphasis is given to the painting from the observed subject and then expanded to content and technique. Prerequisite: FA209 Painting 1. Studio laboratory fee: \$20

**FA220 Ceramics: Ceramic Sculpture & Design****P-6 Cr-3**

This course is an exploration of space, mass, volume, and surface, using clay as a medium and employing various firing techniques. It pursues development of expressive ideas through the use of formal elements. Slide lectures connect these concepts to historical and contemporary ceramic form making. Prerequisite: FA108 Three-Dimensional Design. Studio laboratory fee: \$50

**FA226 Printmaking: Intaglio****P-6 Cr-3**

This course introduces a selection of intaglio processes such as etching, dry point, mezzotint, and aquatint. In addition, the principles of some other printmaking techniques and practices are covered. The traditional approach of making multiple originals is investigated. Studio laboratory fee: \$35

**FA230 Jewelry Making****P-6 Cr-3**

This course introduces the techniques and materials used in jewelry making. Five specific projects involving forging, filing, sawing, lost wax casting, and basic stone setting develop appreciation of the three-dimensional aspects of jewelry design and fabrication. Prerequisite: FA108 Three-Dimensional Design. Studio laboratory fee: \$30

**FA240 Expressive Arts in America 1940s-1960s****C-3 Cr-3**

This course is an exploration of the Expressive Art movement as a reaction to global issues from 1940s through the 1960s. Topics include the integration of traditional fine arts, literature, music, and philosophy. Art is examined as a reaction to society and as societal voice through cross-discipline discovery. Students analyze artists and their craft through the examination of historical, biographical, psychological, social, and contemporary art. In addition, the influence of music, photography, and literature is examined. Prerequisite: Prerequisites: EN101 English I: Composition or EN106 English I: Composition and Reading.

**FA300 Independent Study in Fine Arts****Cr 1-4****FL Foreign Language Courses****(Center for Language and Learning Design, CLLD)****FL101, 102 Elementary Arabic 1, 2 (L2)****C-3 Cr-3**

These courses teach the fundamentals of the language, including the essentials of reading, writing, speaking, and listening within a

cultural context. Prerequisites: No previous instruction, or fewer than three years of instruction more than two years ago.

**FL111, 112 Elementary Chinese 1, 2 (L2) C-3 Cr-3**

These courses teach the fundamentals of the language, including the essentials of reading, writing, speaking, and listening within a cultural context. Prerequisites: No previous instruction, or fewer than three years of instruction more than two years ago.

**FL141, 142 Elementary Japanese 1, 2 (L2) C-3 Cr-3**

These courses teach the fundamentals of the language, including the essentials of reading, writing, speaking, and listening within a cultural context. Prerequisites: No previous instruction, or fewer than three years of instruction more than two years ago.

**FL151, 152 Elementary Latin 1, 2 (L2) C-3 Cr-3**

These courses teach the fundamentals of the language, including the essentials of reading, writing, speaking, and listening within a cultural context. Prerequisites: No previous instruction, or fewer than three years of instruction more than two years ago.

**FL173, 174 Elementary Russian 1, 2 (L2) C-3 Cr-3**

These courses teach the fundamentals of the language, including the essentials of reading, writing, speaking, and listening within a cultural context. Prerequisites: No previous instruction, or fewer than three years of instruction more than two years ago.

**FL211, 212 Intermediate Chinese 1, 2 C-3 Cr-3**

These courses review selected grammatical features, with emphasis on oral and written competency at the intermediate level, supported by a study of cultural materials and further use of Chinese characters.

**FL300 Advanced Study in Language (L2) Cr 1-4**

These courses expand the development of grammar, cultural understanding, conversation skills, writing, and reading through the study of literature. Prerequisite: Successful completion of the intermediate sequence, or four years of instruction in which one year was Advanced Placement level.

## **FM Facilities Management**

**(Center for Mathematics, Engineering, Physical Sciences, and Applied Technology, STEM)**

**FM101 New York State Public School Budgeting & Accounting C-3 Cr-3**

This web-based course provides a basic understanding of NYS public school budgeting and accounting fundamentals, including financial statements and cost and managerial relationships. An introduction to the regulatory authorities of public school accounting is included.

**FM105 Education Law for Facilities Management C-3 Cr-3**

This web-based course emphasizes the understanding, analysis, and application of law to school districts and the management of their facilities. A broad conceptual basis is supplemented by an examination of case law, current articles, Federal and State statutes, and regulations and school district policy.

**FM161 Facility Blueprints C-3 Cr-3**

This web-based course introduces construction and facility plans

and blueprints necessary for a construction or maintenance project, including how to interpret information from plans and blueprints.

**FM180 Public Health & Safety in Schools C-3 Cr-3**

This web-based course provides the rationale for an occupationally safe and healthy work environment in an educational facility. Skills include working effectively with school emergencies, safe internal and external facility environments, and safety inspections.

**FM244 Introduction to Green Building Technology C-3 Cr-3**

This web-based course focuses on the principles of commercial construction using a sustainable methodology. Green building principles such as energy efficiency, environmental impacts, resource conservation, indoor air quality, renewable energy sources, and community issues are studied. National and International programs for design as well as building rating systems are investigated. Codes and building standards are reviewed with emphasis on the LEEDS standards. Current building ratings and standards are reviewed.

**FM246 Introduction to Alternative Energy Systems C-3, Cr-3**

This course provides both professional engineers as well as engineering students interested in energy systems with essential knowledge of major energy technologies, including function, quantitative evaluation cost, and impact on the natural environment. Topics covered include fossil fuel combustion, carbon sequestration, nuclear energy, wind energy, and biofuels.

**FM247 Introduction to Geothermal Heating & Cooling C-3, Cr-3**

This course addresses the theory of operation of residential and commercial geothermal systems. Topics include the science and principles of heat transfer; convection and infrared, and identification of the best system for application and budget. Market values, tax incentives, and rebates for these systems are discussed as well as system configurations, system sizing, and design.

**FM248 Introduction to Solar Voltaic Systems C-3, Cr-3**

This course addresses the installation of residential and commercial photovoltaic (PV) systems. It covers the principles of PV electricity and its effective incorporation into stand alone or utility-connected electrical systems. Topics include solar radiation; array orientation; components and system configurations; system sizing and design; and mechanical and electrical installation.

**FM300 Independent Study in Facilities Management Cr 1-4**

## **FP Fire Protection Courses**

**(Center for Social Sciences, Business & Information Sciences)**

**FP101 Firefighter 1 C-4 P-2 Cr-5**

This course provides initial entry level training for firefighting personnel. It covers instruction and skill activity in these areas: fire department organization, firefighter safety, fire behavior, personal protective equipment, self-contained breathing apparatus, fire extinguishers, ropes and knots, building searches, forcible entry, ground ladders, ventilation, hose practices, fire streams, loss control, tactics, vehicle suppression, water supply, fire cause determination, fire department communications, fire suppression systems, and fire prevention practices.

**FP102 Firefighter 2 C-1 P-1 Cr-1.5**

This course completes the initial training for the entry level firefighter. It covers instruction and skill activity in these areas: incident command implementation, building materials, building collapse, special

rescue, hydrant flow, hydrant operability, hose tools, foam operations, flammable liquid and gas emergencies, alarm and detection systems, pre-fire planning, and strategy and tactics.

### **FP103 Incident Command System C-1.5 Cr-1.5**

This course provides training in the organization, terminology, and common responsibilities for personnel operating in the Incident Command System. It describes the principal features that constitute the Incident Command System (ICS). It also provides information for personnel who will operate at an emergency incident in a functional capacity.

### **FP105 Hazardous Materials C-2.5 P-2 Cr-3.5**

This course prepares emergency responders to respond effectively and safely to stabilize a hazardous materials incident from both a defensive and offensive position. It includes information on recognizing and identifying potential hazardous materials and the classification of such material. It also includes material and skill sessions in these areas: chemistry and toxicology of materials, dangerous properties of materials, detection equipment, protective equipment, confinement and mitigation concepts, and decontamination procedures.

### **FP107 Rescue Technician - Basic C-1 P-1 Cr-1.5**

This course provides a basic education and awareness of technical rope rescue operations, specifically low-angle rescue. Material includes instruction and skill sessions in ropes and knots, technical rescue management, understanding the risks associated, establishing rescue systems, and helicopter landing areas.

### **FP108 Firefighter Assist and Search Operations C-.5 P-1 Cr-1**

This course provides training in FAST operations. The material covered involves the following knowledge and skills: proper equipment and make-up of a FAST company. Rescue planning for a missing, lost or trapped firefighter, and removal techniques for rescuing trapped firefighters.

### **FP109 Firefighter Survival C-.3 P-4 Cr-.5**

This course enables firefighters to recognize the type of events on the fire ground that contribute to firefighter disorientation and entrapment. The material covers the following knowledge and skills: techniques to stay oriented during the interior operations, and skills that will enable the firefighter to perform self-rescue should they become disoriented.

### **FP110 Accident Victim Extrication P-1 Cr-.5**

This course provides instruction and skill sessions in the safe technique of auto extrication. Material includes instruction and skills in these areas: scene safety, vehicle stabilization, rescue theory, rescue life cycle, and automotive design and technology.

### **FP111 Truck Company Operations C-1 P-1 Cr-1.5**

This course provides instruction on using ladder company equipment. Material includes knowledge and skills in these areas: duties and responsibility of a ladder company, operating and maintaining tools and equipment, ventilation skills, forcible entry skills, search and rescue skills, and placement and operation of ground ladders.

### **FP112 Apparatus Operations - Emergency Vehicle C-2.5 P-3 Cr-4**

This course provides vehicle operators with the understanding of the seriousness of vehicle operations. It also provides the necessary knowledge of the operation of aerial devices used in the fire service and in the operation of fire department pump apparatus.

It includes information on the potential for tragedy, understanding of the responsibilities of emergency response vehicles, and skills in the operation and handling of emergency vehicles, as well as information and skills in classification and typing of aerial devices, plus their proper placement, setup, and stabilization. It also includes knowledge and skills concerning the responsibilities of pump operators, hydraulics and friction loss, pump controls and accessories, fire streams, pump operation from draft, and pump operation from fire hydrant.

### **FP115 Code Enforcement Practices - Regs, Admin, Enforcement C-4.5 Cr-4.5**

This course provides training for code enforcement officials and the practices necessary to carry out the jobs for local government. It also provides knowledge of basic principles of buildings that will endure the effect of fire and enable occupants to safely escape. Materials covered include issuing permits, inspection practices, record keeping, enforcement actions, and legal recourses as well as minimum construction standards, fire resistant construction techniques, notification and suppression systems, and proper planning. Historical aspect is covered to help show how codes are developed.

### **FP116 Fire & Emergency Service Leadership and Safety C-3 Cr-3**

This course introduces the principles of fire safety and emergency service organizational leadership and safety emergency procedures. It also focuses on cultural changes with regard to fire and emergency services.

### **FP119 Physical Training C-1 P-4 Cr-2**

This course prepares the fire recruit for passing the Candidate Physical Ability Test (CPAT). Recruits are required to attend physical training daily for one and a half hours. Training consists of muscular strength training, muscular endurance training, aerobic capacity training, and functional training specific to firefighting.

### **FP120 Live Fire Training P-2 Cr-1**

This course exercises the culmination of knowledge gained during the entire training program. Students are given a firefighting assignment, and expected to accomplish it safely and effectively. This training is conducted at the department's live burn training tower in a safe environment following all guidelines set forth in NFPA 1403 and all applicable NYS standards.

## **FR French Courses**

**(Center for Language and Learning Design, CLLD)**

### **FR101, 102 Elementary French 1, 2 (L2) C-3 Cr-3**

This sequence teaches the fundamentals of French, including the essentials of reading, writing, speaking, and listening within a cultural context. Prerequisites: No previous French instruction, or fewer than three years of French instruction more than two years ago.

### **FR181 French for Business Personnel C-3 Cr-3**

This course serves a vocational or professional language needs and provides insight into the ways another culture communicates and lives. It includes an introduction to pronunciation, grammatical structures, vocabulary, and culture. These elements are practiced by communicating in the language through listening and speaking. The use of the language lab may be required.

**FR191, 192 Review French 1, 2 (L2)****C-3 Cr-3**

This sequence continues the development of grammar, cultural understanding, reading, writing, and conversation skills, and is presented at an accelerated pace. Prerequisite: Three years of French instruction more than two years ago with a grade of B or better.

**FR201, 202 Intermediate French 1, 2 (L2)****C-3 Cr-3**

This sequence reviews selected grammatical features, with emphasis on oral and written competency at the intermediate level supported by a study of cultural and literary materials. Prerequisite: Successful completion of the elementary or review sequence, or three years of French instruction fewer than two years ago with a grade of B or better.

**FR301, 302 Advanced French 1, 2 (L2)****C-3 Cr-3**

This sequence expands the development of grammar, cultural understanding, conversation skills, writing, and reading through the study of literature. Prerequisite: Successful completion of the intermediate sequence, or four years of French instruction in which one year was Advanced Placement level.

**FS Food Services Courses****(Center for Social Sciences, Business & Information Sciences)****FS105 Computer Applications: Food Service****C-1 P-2 Cr-2**

This course introduces computer applications for managerial decision-making in the hospitality industry. It provides an understanding and practical application of systems related to the executive chef, production manager, and dining room manager. An introduction to computer operations and concepts as well as terminology and methodology related to culinary and hospitality specific software is emphasized.

**FS111 Food Preparation 1****C-2 P-4 Cr-4**

This course introduces the fundamentals of commercial food preparation, with an emphasis on the use and care of tools and equipment. Proper cooking methods including sautéing, frying, roasting, grilling, braising, broiling, poaching, stir frying and simmering are covered. Preparations include stocks, soups, sauces, vegetables, salads, starches, garnishes, sandwiches and pasta. Applied problems from the areas of food preparation, including weights, measures, portions and conversions are incorporated. Corequisite: FS150 Safety & Sanitation.

**FS112 Food Preparation 2****C-1 P-4 Cr-3**

This course introduces the terminology and techniques of commercial food preparation, including identification, selection and preparation of additional foods, such as eggs, poultry, fish, shellfish, beef, pork, lamb, veal, and smoked foods. Laboratories employ a variety of cooking methods using professional kitchen equipment. Emphasis is placed on operating in a safe and sanitary manner. Prerequisite: FS111 Food Preparation 1.

**FS121 Baking 1****C-2 P-4 Cr-4**

This course introduces the bakery shop preparation of cakes, cookies, muffins, sweet rolls, and breads, including the mixing of ingredients and shaping of dough. It covers the ingredients used in the preparation of baked goods, and the tools and equipment used in the bakery shop. Corequisite: FS150 Safety & Sanitation.

**FS131 Food, Beverage & Labor Cost Control****C-3 Cr-3**

This course introduces the methods, tools, and procedures used to control food, beverage, and labor costs in a food service organization. Emphasis is placed on each step in the flow of costs: purchasing, receiving, storage, issuing, preparation, portioning, service, and accounting for sales. Labor costs as they relate to the operation are discussed. Active problem solving and practical application are used to relate the principles learned to the food service industry.

**FS141 Purchasing for the Hospitality Industry****C-3 Cr-3**

This course introduces the purchasing function in food service organizations. Emphasis is placed on the methods of controlling costs while maintaining strict quality and quantity standards through the effective purchasing of goods and services. Included is the concept of specification development as it applies to the products and services used in the hospitality industry. Purchasing requirements for equipment, furniture, supplies, perishable foods, groceries, and convenience foods are covered.

**FS150 Safety & Sanitation****C-3 Cr-3**

This course introduces the correct procedures for food handling and the hygienic basis for these practices. General kitchen and bakery safety, pest management, and crisis management are discussed. Proper clothing, personal hygiene, fire safety regulations, and state and federal laws pertaining to the hospitality industry are stressed. This course includes a certification exam provided by the National Restaurant Association.

**FS160 Dining Room Service****C-1 P-4 Cr-3**

This course introduces principles and techniques of table service. Emphasis is placed on table setting, buffet services, the various job categories in the dining room, different styles of service, and dining room arrangement and supplies. Students have an opportunity to work in each dining room position.

**FS202 Menu & Facilities Planning****C-3 Cr-3**

This course provides the knowledge to design and organize a food service facility. Typical furniture and equipment organization with respect to space allocation in the facility are addressed. Topics include equipment purchasing, facilities engineering, and energy practices.

**FS204 Banquet & Catering Management****C-1 P-6 Cr-4**

This course emphasizes industry standards, practices, and terminology as they apply to off-premises and banquet catering. Menu planning, pricing, selling, food preparation, dining room service, staffing, and personnel management are practiced. Personnel management and collaborative techniques are used to offer multicourse meals to the public. Prerequisites: FS112 Food Preparation 2.

**FS205 Baking 2****C-1 P-6 Cr-4**

This course emphasizes commercial baking skills as they are developed and practiced. Danish pastry, puff pastry, sponge dough, yeast breads, tarts, choux pastry, and holiday specialties are prepared. Proper uniform is required. Prerequisite: FS121 Baking 1.

**FS210 Food Preparation 3****C-1 P-6 Cr-4**

This course integrates knowledge of food and food preparation, equipment, techniques, methods, and practices learned in prerequisite courses. Acting as chef/managers, students plan menus, edit recipes, order food, assign tasks, analyze food cost, and offer multi-course meals to the public. Emphasis is placed on collaboration, food variety and presentation, and timeliness of presentation with strict adherence to safety and sanitation principles. Proper uniform is required. Prerequisite: FS112 Food Preparation 2.

**FS213 Cake Decorating****C-1 P-4 Cr-3**

This course presents the use of decorating tools, icing, and spray guns. Emphasis is placed on the preparation of cakes for decorating, types of icings, and the art of flower making. Proper uniform is required.

**FS214 Food Presentation****C-1 P-4 Cr-3**

This course presents basic techniques in vegetable carving and arranging, aspic work, canaps, salt dough, saltiage, ice carving, pats, galantines, mousses, marinades, cures, brines, and pastry bag work. Proper uniform is required. Prerequisite: FS112 Food Preparation 2.



### **FS225 Advanced Bread Baking**

**C-1 P-4 Cr-3**

This course provides practical experience in the science of advanced bread baking. Use of different flours, ingredients, and dough processing using technical evaluation of the results is emphasized. Traditional approaches from around the world including artisan, whole grain, rye, sourdough, and laminated breads, as well as American and European baking practices are included. Proper uniform is required. Prerequisite: FS121 Baking I and FS150 Safety & Sanitation.

### **FS230 Food Service Practicum**

**C-1 P-6 Cr-3**

This course provides the student with on-the-job experience in a variety of food service settings. In addition to the minimum of 6 hours a week of field experience, participation in a weekly seminar is required as a forum to discuss work-related situations and problems.

### **FS233 Principles of Food Marketing**

**C-3 Cr-3**

This course provides a foundation in marketing, planning, segmentation, and positioning food items within a specific demographic. Food marketing tools such as menu pricing, advertising, sales promotion, merchandising, personal selling, and external advertising media are explored.

### **FS242 Beverage & Bartending Management**

**C-3 Cr-3**

This course provides an overview of the alcoholic beverage industry, focusing on history and classification according to the characteristics of spirits, wines, and beer. Topics include mixology, lounge service, beverage control, and legal issues.

### **FS245 Pastry Techniques and Practices**

**C-1 P-6 Cr-4**

This course covers commonly used pastry techniques and practices from the hotel and restaurant industries. Topics include spun sugar, chocolate tempering, mousse and Bavarian cream, petit four sec, pastillage, French pastry makeup, meringues and macaroons, ornamental sugar, and display work. Emphasis is placed on the development of merchandising practices. Proper uniform is required. Prerequisite: FS121 Baking I.

### **FS250 Food Packaging and Merchandising**

**C-1 P-4 Cr-3**

This course focuses on consumer behavior and legislative requirements in the food packaging sciences. The fundamentals of large scale batch cooking, cook/chill processes, sous vide, vacuum, aseptic, and retail packaging technologies such as new generation refrigerated and home meal replacement foods are presented. Emphasis is placed on quantity production planning, requisition, and execution with attention to quality control and food safety issues.

### **FS300 Independent Study in Food Service**

**Cr 1-6**

## **GC Graphic Communications Courses**

**(Center for Arts and Humanities, CAAH)**

### **GC244 Topics in Art History (H2)**

**C-3 Cr-3**

This course is a discussion and exposition of specific areas and subjects in art history. It presents information on the cultural impact, artistic value, and historic significance of art movements and developments. Prerequisite: EN101 English I: Composition or EN106 English I: Composition and Reading.

### **GC245 History of Graphic Design (H2)**

**C-3 Cr-3**

This course covers graphic design as it evolved in the Twentieth Century from the practices of printing, typography, and art. It introduces the topics, strategies, context, and structure of graphic

design along with influential theories. Emphasis is placed upon the political, economic, and social significance of graphic design in Western and non-Western cultures.

### **GC298 Internship**

**C-1 P-6 Cr-3**

This course covers work in industrial, educational, and commercial establishments to gain experience in the field. Locations include printers, in-house graphics facilities, magazines and newspapers, colleges, advertising agencies, and design firms. Students work under the supervision of a designated mentor and participate in classroom activities to share experiences. An interview may be required for participation in internships. Prerequisite: Permission from the Dean for Arts and Humanities.

### **GC300 Independent Study in Graphic Communication**

**Cr 1-4**

## **GD Graphic Design Courses**

**(Center for Arts and Humanities, CAAH)**

### **GD110 Digital Design**

**C-1 P-4 Cr-3**

This course introduces the principles, techniques, and technologies used to produce graphic design on the computer. The visual elements and language of graphic design are taught through the demonstration and mastery of programs and problem-solving methods. It includes becoming technically proficient in the use of software, learning the methodology of graphic design, and demonstrating problem-solving ability.

### **GD121 Digital Typography**

**C-1 P-4 Cr-3**

This course covers the fundamentals of typesetting and typography. It includes a study of the development of type designs, typesetting methods, type measurement, and page layout. Computers are used to prepare multi-color mechanicals while becoming familiar with one or more software programs appropriate for typesetting and page construction.

### **GD145 Digital Applications 1**

**C-2 P-2 Cr-3**

This course introduces contemporary text manipulation, digital imaging, and digital illustration software. Students produce projects demonstrating their knowledge of both the software and the interfaces between page layout, raster graphics, and vector graphics. No previous software knowledge is required.

### **GD146 Digital Applications 2**

**C-2 P-2 Cr-3**

This advanced course integrates contemporary text manipulation, digital imaging, and digital illustration software. Students complete industry standard projects demonstrating mastery of software. Prerequisite: GD 145 Digital Applications 1.

### **GD218 Graphic Design Seminar**

**C-1 P-4 Cr-3**

This course prepares for entry into graphic design as a practicing professional. Emphasis is placed on the preparation of resumes and portfolios for professional presentation. It augments the ability to solve advanced graphic design problems in corporate identity.

### **GD220 Graphic Design Theory 4**

**C-2 P-2 Cr-3**

This course introduces creative applications of typography, building upon vocabulary by mastering a series of visual problems typographically. Historic and contemporary applications are demonstrated. Traditional and digital media are used in executing graphic solutions. Prerequisites: GD121 Digital Typography.

## **GD221 Typography 1**

**C-2 P-2 Cr-3**

This course explores visual problem solving as it relates to publication design. Students apply design principles and practice to various formats using the printed page. Students are introduced to the typographic grid and practice its application in the design process. Prerequisite: GD145 Digital Applications I.

## **GD222 Typography 2**

**C-2 P-2 Cr-3**

This course explores advanced visual typographic problem solving as it relates to print design. Students apply advanced design principles and practice as they prepare to create a professional portfolio. Advanced understanding and application of the typographic grid is applied to problems in the design process. Prerequisite: GD221 Typography I.

## **GD300 Independent Study in Graphic Design**

**Cr-1-4**

## **GE Geography Courses**

**(Center for Arts and Humanities, CAAH)**

### **GE101 Essentials of World Geography (S1, S2)**

**C-3 Cr-3**

This course introduces the geographical and demographic attributes of the world, such as environment, cultural differences, ethnic make-up, and diversity. Emphasis is placed on developing a more global outlook on the emerging world community.

## **GL Geology Courses**

**(Center for Life and Health Sciences, LAHS)**

### **GL101 Physical Geology (N1, N2)**

**C-3 P-2 Cr-4**

This course explores the composition and formation of minerals and rocks that make up the Earth. Additionally, the primary surface and subsurface properties that continually shape the Earth are discussed. In the laboratory, the common rock-forming minerals as well as igneous, sedimentary, and metamorphic rocks are examined. Additionally, the concepts of surface and groundwater flow are discussed as well as topographic map interpretation and construction. Field trips may be taken during laboratory periods.

### **GL102 Historical Geology (N1, N2)**

**C-3 P-2 Cr-4**

This course explores the physical and biological aspects of the Earth's dynamic past over the last 4.6 billion years of its existence. Emphasis is placed on the geologic time scale, the concepts of physical and biological evolution, and plate tectonics. Laboratory topics include fossilization and taphonomy as well as the biological evolution and diversity of the Earth's organisms through identification and examination of fossil specimens. Field trips may be taken during laboratory periods. An end-of-semester visit to the American Museum of Natural History in Manhattan is encouraged. Prerequisite: GL101 Physical Geology.

## **GL300 Independent Study in Geology**

**Cr 1-4**

## **GR German Courses**

**(Center for Language and Learning Design, CLLD)**

### **GR101, 102 Elementary German 1, 2 (L2)**

**C-3 Cr-3**

This sequence teaches the fundamentals of German, including the essentials of reading, writing, speaking, and listening within a cultural context. Prerequisites: No previous German instruction, or fewer

than three years of German instruction more than two years ago.

### **GR201, 202 Intermediate German 1, 2 (L2)**

**C-3 Cr-3**

This sequence reviews selected grammatical features, with emphasis on oral and written competency at the intermediate level supported by a study of cultural and literary materials. Prerequisite: Successful completion of the elementary or review sequence, or three years of German instruction fewer than two years ago with a grade of B or better.

### **GR301, 302 Advanced German 1, 2 (L2)**

**C-3 Cr-3**

This sequence expands the development of grammar, cultural understanding, conversation skills, writing, and reading through the study of literature. Prerequisite: Successful completion of the intermediate sequence, or four years of German instruction in which one year was Advanced Placement level.

## **GT Graphic Technology Courses**

**(Center for Arts and Humanities, CAAH)**

### **GT122 Digital Prepress**

**C-1 P-4 Cr-3**

This course introduces prepress procedures that include document layout on the desktop computer, digital image assembly, planning and preparation for production, and printing output procedures. It provides practical, hands-on experience with equipment, materials and knowledge used in the industry and in subsequent courses. Prerequisite: GD121 Digital Typography.

### **GT123 Introduction to Offset Presswork**

**C-1 P-4 Cr-3**

This course provides the opportunity to learn basic skills of offset presswork sufficient for entry-level jobs. It covers the general capabilities and characteristics of the offset press. Essential press components such as cylinders, inks, dampeners, feeders and delivery systems are stressed. It includes the fundamentals of negative stripping and platemaking using additive and subtractive plates. Prerequisite: GD121 Digital Typography.

### **GT124 Commercial Screen Printing**

**C-1 P-4 Cr-3**

This course covers screen printing production, including the selection and preparation of materials, printer set up, printer operation, and troubleshooting as well as other materials, information, and equipment necessary to produce jobs. A desktop system is used to prepare artwork for production.

### **GT125 Dye Sublimation and Vinyl Graphics**

**P-6 Cr-3**

In this course, students utilize computer software to design and produce graphic images, typesetting, and color separation. Finished projects represent the type of work produced in the graphic arts industry, including multi-color projects containing a wide variety of graphic images both photographic and computer-generated.

### **GT221 Prepress Procedures**

**C-1 P-4 Cr-3**

This course covers the design and production of projects using computer software for the creation of graphic images, typesetting, and color separation. Corequisite: GT122 Digital Prepress.

### **GT222 Printing Production**

**C-1 P-4 Cr-3**

This course concentrates on production procedures pertaining to offset lithography. It provides experience in the operation of printing presses and the creation and reproduction of projects through hands-on experience with available laboratory equipment. Professional practices are discussed and emphasized. The student portfolio is examined, discussed, and strengthened throughout the course. Prerequisite: GT221 Prepress Procedures.

## HC Health Care Courses

(Center for Life and Health Sciences, LAHS)

### HC100 Introduction to Health Care

C-3 Cr-3

This course introduces the field of healthcare for people interested in the field. Topics include an introduction to the healthcare delivery system, a brief historical overview of U.S. healthcare, healthcare settings and programs, members of the healthcare delivery team, roles of healthcare professionals, legal and professional ethics, healthcare organizations and agencies, medical record content, risk management, continuous quality improvement, epidemiology (morbidity and mortality), and interpersonal communication skills.

### HC110 Medical Assistant - Administrative Theory C-3 P-2 Cr-4

This course introduces students to the administrative role of medical assistants. Topics include appointment scheduling, telephone procedures, receptionist duties, drug and prescription records, medical records, filing procedures, bookkeeping, insurance forms, banking, collections, processing mail, telecommunications, professional reports, and payroll. Corequisites: MR103 Medical Terminology and IS101 Computers and Society or IS100 Introduction to Computers and Society.

### HC112 Medical Assistant - Clinical Procedures C-3 P-4 Cr-5

This course introduces the clinical skills needed to assist the health care provider in a medical setting. Topics include aseptic techniques and infection control, obtaining the patient's history and vital signs, sterilization procedures, recognition and use of surgical instruments, collecting and processing lab specimens, performing diagnostic tests, preparing and administering medications and immunizations, patient teaching, and coordinating patient care with other health care providers. Prerequisite: HC110 Medical Assistant Administrative Theory.

### HC114 Introduction to Diagnostic Procedures C-2 P-2 Cr-3

This course provides an understanding of laboratory and diagnostic procedures performed in a medical office or clinic. Topics include standard precautions, laboratory safety; obtaining, handling and processing specimens and cultures; and administering diagnostic tests, such as pulmonary function, pulse oximeter, peak flow, and EKG. Prerequisite: MR103 Medical Terminology.

### HC120 Medical Assistant Administrative Externship P-12 Cr-4

This externship allows students to apply the knowledge and skills gained in the classroom and laboratory settings to the administrative aspects of being a Medical Assistant. It includes 180 hours over the course of the semester. Current Healthcare Provider CPR certification must be on file (in the Allied Health Coordinators office) prior to beginning the externship. Prerequisite: HC110 Medical Assistant Administrative Theory.

### HC122 Medical Assistant Clinical Externship P-12 Cr-4

This externship allows students to apply the knowledge and skills gained in the classroom and laboratory settings to the clinical aspects of being a Medical Assistant. It includes 180 hours over the course of the semester. Current Healthcare Provider CPR certification must be on file (in the Allied Health Coordinators office) prior to beginning the externship. Prerequisite: HC120 Medical Assistant Administrative Externship.

This course includes the transcribing of medical reports as well as communication techniques such as formatting of medical reports, business communications, and agenda preparation and distribution. The preparation of office policies and procedures are also included. Emphasis is placed on the role of the manager, including personnel management and the provision for the privacy and security of information within the office setting.

### HC200 Advanced Medical Assisting

C-3 P-2 Cr-4

This course expands on both administrative and clinical competencies in Medical Assisting. It broadens knowledge of administrative office procedures; patient management systems; communication with patients, families, and co-workers; community resources; and stress management. Students are exposed to additional clinical procedures that provide in-depth hands-on experiences with specialty practices, medical emergencies, surgical procedures, nutrition, and diagnostic equipment. Prerequisites: HC110 Medical Assistant Administrative Theory and HC112 Medical Assistant Clinical Procedures.

### HC220 Medical Assisting Capstone Experience C-2 P-4 Cr-4

This course provides students with an opportunity to develop and participate in a community service project. Students are assigned a topic, partner, and community. Students choose an acceptable method to deliver the project. The capstone experience assists students in their transition to entry-level medical assistant. Prerequisite: HC120 Medical Assistant Administrative Externship and HC200 Advanced Medical Assisting. Corequisite: HC122 Medical Assistant Clinical Externship.

### HC300 Independent Study in Health Care

Cr 1-4

## HI History Courses

(Center for Arts and Humanities, CAAH)

### History

Two 2-course sequences are offered: History of Civilization and American History. History of Civilization is required for all candidates for the Associate in Arts degree. American History is offered as an elective. History of Civilization presents an understanding of history as a record and as a discipline. It covers the major civilizations of the past, how they developed, and how they influenced one another. American History presents a fuller and deeper understanding of American history its geography, people, institutions, and culture, and how they interact to define the American experience.

### HI101 History of Civilization 1 (S1, S2)

C-3 Cr-3

This course introduces the nature and study of history, and covers the emergence and development of Eurasian civilization to about 1500 A.D. in the Near East, India, China, Europe, the Western Hemisphere, and Africa. Attention is given to religion in these civilizations and on the rise of the West to a position of world power during the Middle Ages.

### HI102 History of Civilization 2 (S1, S2)

C-3 Cr-3

This course is concerned with civilizations and their influences on each other in the modern world. It traces the rise of the West to a position of world dominance and its impact on non-Western societies. Emphasis is placed on the major forces that have shaped the contemporary world - industrialization, urbanization, nationalism, militarism, imperialism, democracy, and communism.

### **HI103 History of Western Civilization:**

#### **Early Civilization to 1453 (S1, S2)**

**C-3 Cr-3**

The course traces development of Western Civilization from its Greek beginnings to the fall of Constantinople in 1453. Beginning with the Greek experience, Western Civilization developed in uniquely different ways from the rest of the civilized world. Patterns of Western thought led to the emergence of ideals such as the dignity and rights of man, free expression, social inclusion, and equal opportunity. The influence of Western forms of political and economic organizations on the modern world is examined.

### **HI104 History of Western Civilization: 1453 to Present (S1, S2)**

**C-3 Cr-3**

This course is a continuation of the history of Western Civilization, beginning with the Renaissance and continuing to the present. It investigates the philosophical, international, political, economic, and social movements that dominated events leading up to the present time. It examines the reasons and motivations behind the events and perspectives of modern Western Civilization.

### **HI105 Social and Economic History of American Labor (Verizon)**

**C-3 Cr-3**

This course looks at the evolution of the American labor movement from its earliest colonial beginnings until the modern age. The social and economic forces that have shaped American labor are investigated to show the different environments that have led to the different adaptations of the movement. Special attention is dedicated to the challenges facing management and labor in the modern world. This course is restricted to Verizon NextStep students.

### **HI111 American History 1492-1850 (S2)**

**C-3 Cr-3**

This survey course develops a comprehensive overview of American history as well as a deeper understanding of how its geography, people, institutions, and culture interact to define the American experience. It begins with American colonization and concludes on the eve of the Civil War.

### **HI112 American History 1850-Present (S2)**

**C-3 Cr-3**

This course continues to survey the development of the American story from an agricultural, frontier society to an urban, industrial nation. Emphasis is placed on the economic revolution of the post-Civil War era, its social, political, and military aspects, and the emergence of America as a world leader. It begins with the Civil War and concludes with the present.

### **HI113 The United States in Vietnam**

**C-3 Cr-3**

This survey course traces the American involvement in Vietnam from the end of World War II through the defeat of the Republic of South Vietnam. It develops an understanding of the events, conditions, and policies that moved the United States from a position of little involvement and interest in 1945 to a national commitment to the survival of an independent South Vietnam.

### **HI115 Humanities & Technology (S2)**

**C-3 Cr-3**

This interdisciplinary, team-taught course explores the relationship between the humanities and the technologies. It focuses on humanities, technology, and values; technology and the environment; the social impact of technology; and artificial intelligence. Prerequisite: Honors student.

### **HI214 New York State History**

**C-3 Cr-3**

This course provides a survey of significant political, social,

economic trends, and institutions in New York State from early settlement to the present. It gives a geographical and historical understanding of the State as well as how New York became the Empire State, molding its own unique identity while playing a major role in shaping and influencing the nation and the world. Attention to the changing pattern of land holding, the development of a democratic commonwealth, urbanism, immigration, industrialism, political feuds, and political factions are addressed along with local history.

### **HI300 Independent Study in History**

**Cr 1-4**

## **HP Honors Program Courses**

**(Center for Language and Learning Design, CLLD)**

### **HP101 Introduction to Honors**

**C-1 Cr-1**

This course is the first step in completing the Honors Program and earning the Honors distinction. Students apply Da Vinci's major principles to independent and group tasks, thereby gaining a whole-brain approach to learning – the foundation for making original discoveries. They also develop personal, academic, and professional goals. In the process, students build an Honors campus community. The ED100 program requirement for graduation is waived for students who complete this course.

### **HP200 Honors Seminar**

**C-3 Cr-3**

This course can fulfill one of the requirements to complete the Honors program and earn the Honors distinction. Honors Seminars vary by topic, but all seminars are interdisciplinary and writing-intensive. The course emphasizes the development of critical and creative thought through class discussions, readings, and written assignments. In teams, students conduct academic and field research in the seminar topic, which culminates in a capstone project. Prerequisites: A minimum G.P.A. of 3.25 and completion of HP101 Introduction to Honors with a grade of "B" or higher.

## **HS Human Services Courses**

**(Center for Life and Health Sciences, LAHS)**

### **HS101 Introduction to Human Services**

**C-3 Cr-3**

This course provides an exploration of the broad field of human services, introduces theoretical systems for understanding human behavior, and examines professional ethics and standards. Communication techniques and procedures are stressed. A continual theme throughout is the need for self-awareness. Students complete NY State certification as a mandated reporter.

### **HS216 Introduction to Disabilities**

**C-3 Cr-3**

This course introduces disability as an aspect of the human experience and in relationship to a changing society. Topics include a global perspective of the prevalence and incidence of disability through historical and cultural concepts, as well as political and economic factors that help define disability and shape society's response to it. The course examines the self-determination movement and its impact on disability services. Prerequisite: HS101 Introduction to Human Services.

### **HS222 Theories of Counseling**

**C-3 Cr-3**

This course explores the theoretical frameworks of counseling, with emphasis on the ideas that form the structure of these theories. Consideration is given to their history, current status, and application. Prerequisite: PY101 Introduction to General Psychology, and a grade of "C" or better in HS101 Introduction to Human Services.



## HS231 Ethics, Policy & Law

C-3 Cr-3

This course introduces the field of social services with emphasis on ethical and policy considerations faced by human service practitioners, chemical dependency counselors, and educators. Ethical decision making, professional competence, self-disclosure, confidentiality, and related topics are covered as they apply to working in counseling and educational settings. It examines legislation affecting the role of the practitioner and the economic security of the client.

## HS232 Counseling Techniques

C-3 Cr-3

This course focuses on the acquisition and refinement of social work and counseling skills appropriate for the A.A.S. practitioner. Methods used with diverse client systems within a variety of settings and problem areas are covered. A grade of "C" or better in HS101 Introduction to Human Services.

## HS233 Group Counseling Skills

C-3 Cr-3

This course focuses on the acquisition of group counseling skills and techniques applicable for work within human service consumer populations and age groups. Issues include substance abuse, mental health, conflict resolution skills, and trauma. Group techniques and skills are practiced. Prerequisite: A grade of "C" or better in HS101 Introduction to Human Services.

## HS241 Chemical Dependencies

C-3 Cr-3

This course provides an overview of drug abuse and alcoholism including pharmacology, causes and legal aspects of drug abuse, intervention and prevention, physiology, and psychological aspects of alcoholism. The role of the professional and non-professional in counseling and intervention is examined. Emphasis is placed on alternatives to chemical substance abuse and the self-destructing behaviors that produce them.

## HS245 Case Management 1

C-3 Cr-3

This course uses a systems perspective to introduce the field of case management. Emphasis is on understanding and accessing the variety of service systems available to the client-consumer.

## HS251 Internship 1

C-1 P-6 Cr-3

This course provides supervised, practical experience in a human service setting. In addition to a minimum of 90 hours of field experience, participation in a weekly seminar is required. Prerequisite: Matriculation in Human Services or Chemical Dependency Practitioner program, 25 credits completed towards the degree, G.P.A. of at least 2.0, and a minimum grade of "C" in HS101 Introduction to Human Services. Corequisites: (Depending on Matriculation) HS222 Theories of Counseling or HS232 Counseling Techniques and one program elective, or AS201 Introduction to Alcoholism/Substance Abuse Counseling and HS231 Ethics, Policy & Law.

## HS252 Internship 2

C-1 P-6 Cr-3

This course is a continuation of the supervised experience in a human service setting, with greater initiative and responsibility for the provision of services. In addition to the minimum of 90 hours of field experience, participation in a weekly seminar is required. Corequisite: HS251 Internship I.

## HS300 Independent Study in Human Services

Cr 1-4

## HT Hotel Technology Courses

(Center for Social Sciences, Business & Information Sciences)

### HT101 Introduction to the Hospitality Industry

C-3 Cr-3

This course provides an overview of the organizational structure of hotels, restaurants, and clubs from a management perspective. Topics include analysis of the hospitality industry, career opportunities, management theory, practical management techniques, and social responsibility of the industry.

### HT105 Front Office Procedures

C-3 Cr-3

This course provides an overview of hotel operations beginning with the front office guest cycle. Information on front office computer technology, yield management, and reservation systems are presented. Emphasis is placed on the responsibilities and tasks of front office personnel.

### HT201 Internship/Co-op

C-1 P-6 Cr-3

This internship provides a variety of practical experiences such as hotel front office procedures, telecommunications, guest reception, cash handling and control, housekeeping, and convention sales and services. Field supervisors and MVCC program coordinators evaluate student performance. A minimum of six hours per week over fifteen weeks, or a total of 90 hours is required for successful completion.

### HT205 Housekeeping/Property Management

C-3 Cr-3

This course provides an overview of the phases of staffing, planning, and organizing the technical details of each area of a hotel.

### HT210 Hospitality/Human Resources Management

C-3 Cr-3

This course provides an overview of the role of human resources in the food service and lodging industries. Topics include employee job description, recruitment, orientation, training, performance appraisal, and compensation. Current federal legislation and labor relations are presented with emphasis on EEO laws, OSHA standards, and union negotiation and grievance processes.

### HT211 Convention Services Management

C-3 Cr-3

This course introduces convention sales and marketing techniques. Topics include convention promotion, planning, and post convention evaluation.

### HT215 Supervisory Leadership in Hospitality

C-3 Cr-3

This course provides an overview of supervisory management skills for the hospitality industry. Topics include planning, organizing, coordinating, staffing, directing, controlling, evaluating, and leading. The development of technical, human relations, and conceptual skills is emphasized.

### HT300 Independent Study in Hotel Technology

Cr 1-6

## HU Humanities Courses

(Center for Arts and Humanities, CAAH)

### HU183 Fundamentals of Music Theory 1 (H2)

C-3 Cr-3

This introduction to the fundamentals of music theory emphasizes rhythmic, melodic, and harmonic expressions. It is an introduction to music theory for those wishing to pursue more advanced music study and for those who want to know more about the elements of music. Previous musical experience is helpful but not required.

**HU184 Fundamentals of Music Theory 2 (H2)****C-3 Cr-3**

This course is a continuation of HU183 Fundamentals of Music Theory I with increasing emphasis on traditional harmony with the addition of the study of seventh chords. Prerequisite: HU183 Fundamentals of Theory I.

**HU186 Music Appreciation (H2)****C-3 Cr-3**

This course develops musical perception, understanding, and appreciation. It features direct listening and live performances, and demonstrations in a variety of musical styles. It is appropriate for those with no formal musical training.

**HU187 Art Appreciation (H2)****C-3 Cr-3**

This course develops perception, understanding, and appreciation of the visual arts through an examination of the role of the artist in a diverse society. The artist is considered within cultural context through an introduction to Western and non-Western art history. Materials and techniques of art are studied with emphasis on the fundamental elements of artistic expression. A field trip to a gallery exhibit is required. Skill in art is not necessary.

**HU188 Film Appreciation (H2)****C-2 P-2 Cr-3**

This course examines the development of film as a medium of artistic expression. Topics include cinematic vocabulary, camera techniques, editing, sound, auteur theory, and personalities. Feature films are analyzed during the laboratory component.

**HU191 Acting 1: Principles of Acting****C-3 Cr-3**

This course introduces the principles of acting for the stage. Topics include relaxation, energizing, stage sense, and improvisation. Physical, emotional, and imaginative exercises help to prepare the beginning actor for the performance situation.

**HU192 Acting 2: Characterization and Scene Study****C-3 Cr-3**

This course emphasizes the development of character within specific textual situations. Roles from written texts are analyzed, rehearsed, and performed. Emphasis is placed on the actors' physical and emotional work. Collaborative projects are required. Prerequisite: HU191 Acting I: Principles of Acting.

**HU195 Chorus 1****P-2 Cr-1**

This course involves participation in a performing group devoted to the standard repertory of serious and light choral music. An audition is required.

**HU204 History of Art 1 (H2)****C-3 Cr-3**

This course introduces the history of art from prehistoric times through the Sixteenth Century. Topics include Classical, Medieval, Renaissance, and non-Western examples of painting, sculpture, and architecture. Art is studied within its cultural context with a focus on the interrelationship among the Arts. A field trip to an art exhibit is required. Prerequisite: EN101 English I: Composition or EN106 English I: Composition and Reading.

**HU205 History of Art 2 (H2)****C-3 Cr-3**

This course introduces the history of art from the Seventeenth Century to the present. Topics include Baroque, Rococo, Neoclassicisms, Romanticism, Impressionism, Post-Impressionism, Twentieth-Century, and non-Western examples of painting, sculpture, and architecture. Art is studied within its cultural context with a focus on the interrelationship among the Arts. A field trip to an art exhibit is required. Prerequisite: EN101 English I: Composition or EN106 English I: Composition and Reading.

**HU210 The Arts & The Human Condition (H2)****C-3 Cr-3**

This course examines the interrelationships between health and the Arts, including the visual arts, music, literature, and film. The formal elements of each of the Arts are introduced, examined and compared. The course proceeds thematically through selected topics, such as the Cycle of Life, and Human Reactions to Disease and Disability.

**HU220 Studies in Mexican Art & Culture****C-3 Cr-3**

This international course enhances cross-cultural skills, language skills, and an understanding of Mexican culture. Topics include indigenous and modern Mexican art and culture, and conversational Spanish.

**HU224 Italian Art****C-3 Cr-3**

This course provides an historical survey of Italian art from Roman times to the present. It examines the major stylistic trends in painting, sculpture, and architecture along with their influences. Prerequisite: EN101 English I: Composition or EN106 English I: Composition and Reading.

**HU225 Modern Art****C-3 Cr-3**

This course provides an historical survey of modern art from the late Nineteenth Century through the 1960s. It examines the major stylistic trends in painting, sculpture, and architecture along with their influences. Prerequisite: EN101 English I: Composition or EN106 English I: Composition and Reading. Corequisite: HU204 History of Art I or HU205 History of Art 2.

**HU226 North American Art****C-3 Cr-3**

This course provides an introduction to the arts of North America from the Sixteenth Century to the Modern Era. It explores major American visual trends and their influences in painting, sculpture, and architecture. Prerequisite: EN101 English I: Composition or EN106 English I: Composition and Reading.

**HU227 World Art (H2)****C-3 Cr-3**

This course examines the global arts across time and cultures, including those of Africa, Asia, and the Americas. It considers the arts in the context of religious, social, economic, and political forces. It is appropriate for students interested in broadening their knowledge of arts with a focus on the global view. A field trip to an art exhibit is required. Prerequisites: EN101 English I: Composition or EN105 English Composition for Speakers of Other Languages or EN106 English I: Composition and Reading.

**HU228 World Architecture (H2)****C-3 Cr-3**

This course introduces the history of World Architecture through an analysis of the built environment in terms of function, structure, form, and cultural and historical context. Topics include key architectural structures and styles that comprise the global community. Critical skills are used to compare and analyze architecture through reading, viewing images, writing, and discussion. Prerequisites: EN101 English I: Composition or EN105 English Composition for Speakers of Other Languages or EN106 English I: Composition and Reading.

**HU280 An Introduction to Ethics****C-3 Cr-3**

This interdisciplinary course is both theoretical and practical. The theoretical aspect entails exploring the basic concepts and principles of moral philosophy, and the general thinking process for making moral judgments. The practical aspect involves the application of principles and strategies to specific cases derived from the humanities, such as imaginative literature, and from other disciplines,



such as science and business. Prerequisite: EN102 English 2: Ideas &Values in Literature.

**HU289 Interdisciplinary Studies in the Humanities:  
The Greek World (H2) C-3 Cr-3**

This course examines the values and ideas of classical Greece as expressed in sculpture, architecture, literature, philosophy, and mythology. Selected major art, literary, and philosophic works from the period are studied. Links to current thought are examined. Prerequisite: EN102 English 2: Ideas &Values in Literature.

**HU290 Interdisciplinary Studies in the Humanities:  
Medieval & Early Renaissance (H2) C-3 Cr-3**

This course examines the values and ideas of Medieval and Early Renaissance Europe as expressed in art, literature, philosophy, and music. Selected major art, literary, and philosophic works from these periods are studied. Links to current thought are examined. Prerequisite: EN102 English 2: Ideas &Values in Literature.

**HU291 Interdisciplinary Studies in the Humanities:  
The Modern Age (H2) C-3 Cr-3**

This course examines the major philosophical positions of the Modern Age in an effort to understand how these ideas came into being. Topics include Darwinism, Marxism, Freudian psychology, and Existentialism. The recent past is studied and shown to be the root of current thought. Prerequisite: EN102 English 2: Ideas &Values in Literature.

**HU292 Topics in the Humanities (H2) C-3 Cr-3**

This course explores a specific area or topic in the Humanities. Flexibility regarding traditional boundaries of disciplines, genre, time periods, and media give fresh perspectives and knowledge that relate to and illuminate the topic. See the Assistant Dean for Arts and Humanities for the current offerings. Prerequisite: EN102 English 2: Ideas &Values in Literature.

**HU295 Survey of Western Philosophy (H2) C-3 Cr-3**

This course provides an historical survey of Western thought from the Pre-Socratics to contemporary Philosophers. Metaphysics, epistemology, social and political philosophies, and their leading practitioners are examined. Prerequisite: EN102 English 2: Ideas & Values in Literature.

**HU296 Topics in Philosophy (H2) C-3 Cr-3**

This course provides a topical examination of ethics and morality, religion, and social and political philosophies and their impact on contemporary thought. Conflicts between differing schools of thought and their societal implications are stressed. Prerequisite: EN102 English 2: Ideas &Values in Literature.

**HU300 Independent Study in Humanities Cr 1-4**

## **IL Illustration Courses**

**(Center for Arts and Humanities, CAAH)**

**IL105 Illustration Methods and Materials P-6 Cr-3**

This course includes experimental work with techniques and media most commonly used in preparing illustrations for reproduction. Finished artwork is rendered and prepared in black and white, and in color.

**IL106 Sequential Art 1: Figure Illustration P-6 Cr-3**

This course introduces the narrative use of the human figure in illustration. Conceptual and visual communication skills are challenged in producing a series of two-dimensional illustrations in black-and-white and color media. Emphasis is placed on the correct use of reference material, drapery and costuming of the figure, settings, and staging of the complete visual image.

**IL201 Conceptual Illustration P-6 Cr-3**

This course includes experimental work with techniques and media most commonly used in preparing illustrations for reproduction. Finished artwork is rendered and prepared in black and white and in color. Prerequisite: IL106 Sequential Art 1: Figure Illustration.

**IL203 Painting for Illustrators P-6 Cr-3**

This course provides the opportunity for experimental work with contemporary illustration techniques and media. It balances emphasis on creative problem-solving and individual expression with development of skill in drawing and techniques for rendering finished work. Prerequisite: IL106 Sequential Art 1: Figure Illustration.

**IL204 Professional Practices for Illustrators C-1 P-6 Cr-4**

This course prepares for entry into the illustration field as a practicing professional. Illustration portfolios are prepared and analyzed for content. A portfolio of quality work is created for professional presentation. Prerequisites: IL201 Conceptual Illustration and IL203 Painting for Illustrators.

**IL205 Cartooning C-1 P-4 Cr-3**

This course explores the art of cartooning. It builds upon understanding of the human form in illustration. It explores action effects, backgrounds, caricatures, strips, panels, layouts and inking, greeting cards, and history of the cartoon. Prerequisites: FA101 General Drawing and FA103 Figure Drawing I.

**IL206 Wildlife Drawing & Painting P-6 Cr-3**

This course introduces the construction, delineation, and rendering of wild and domestic animals in art. The history of animals in the oldest school of art, sporting, is covered as well as an overview of the artistic avenues available to the animal artist.

**IL207 Fantasy Illustration P-6 Cr-3**

This course covers fantasy art commonly used in contemporary children's book illustration, comic book art, and the science fiction illustration. Emphasis is placed on the importance of research, character development, problem-solving, and the aesthetic quality of the illustration.

**IL208 Sequential Art 2: Book Illustration P-6 Cr-3**

This course provides an introduction to the styles and techniques used by the illustrator in the contemporary children's market. It covers the development of fiction and non-fiction illustrations for the preschool and elementary school audience. Emphasis is placed on the importance of research, character development, problem solving, and the aesthetic quality of the illustration. Students complete illustrations designed to reinforce subject areas covered.

**IL209 Sequential Art 3: Graphic Novel P-6, Cr-3**

This course introduces students to the process of writing, editing, and creating graphic novels. Topics include history of graphic novels, brainstorming, quick sketching the use of composition, image

sequencing and layout, elements of storytelling, producing high quality finished images, and both digital and physical publishing.

### **IL300 Independent Study in Illustration**

**Cr-1-4**

## **IS Information Systems Courses**

**(Center for Social Sciences, Business & Information Sciences)**

### **IS100 Introduction to Computers and Society**

**C-2 P-4 Cr-4**

This course satisfies the IS101 Computers and Society requirement for students with little or no prior computer experience. It focuses on providing a solid foundation in basic computer skills and terminology, and an understanding of how computer technology works. Experience is provided with a variety of microcomputer software applications, including word processing, electronic spreadsheets, and graphics, file management, and integrated software. Concepts and terms focus on preparing for a technology oriented society and using the computer as a tool for productivity, research and communication.

### **IS101 Computers and Society (C2)**

**C-2 P-2 Cr-3**

This course provides knowledge of relevant computer skills and a solid foundation in the terminology and concepts of computer technology. Experience is provided with a variety of microcomputer software applications, including word processing, electronic spreadsheets, graphics, file management, and integrated software. Concepts and terms focus on preparing for a technologically oriented society and using the computer as a tool for productivity, research, and communication.

### **IS102 Computer Applications & Concepts 2**

**C-2 P-2 Cr-3**

This course increases knowledge and productivity with the personal computer. Students gain knowledge of hardware and software and, by working with popular business applications software packages, increase their overall computer competency. The course emphasizes the use of the computer in the management of information. Areas of study include the MS DOS operating system, WINDOWS operating environment, sharing files among applications, incorporating graphics, report generation, and communications. Current computing issues such as computer ethics, computer crime and security are discussed. Prerequisite: IS101 Computers and Society or IS100 Introduction to Computers and Society.

### **IS120 Computer Operating Systems & Environments**

**C-2 P-2 Cr-3**

This course covers the role of computer operating systems. It emphasizes operating systems and environments used with Intel-compatible equipment and discusses additional platforms. Command-line, menu-driven, and graphical user interface (GUI) systems are covered. Topics include storage devices, operating environment, system startup, menus, memory management, software package installation, and multitasking. Prerequisite: IS101 Computers and Society or IS100 Introduction to Computers and Society; excluding students enrolled in Computer Science, Cybersecurity, Data Processing, Computer Information Systems, and Web Development and Information Design.

### **IS125 Introduction to Multimedia Applications for Business**

**C-2 P-2 Cr-3**

This course covers graphic tools used in business environments, including multimedia programs such as graphic, animation and web

design software. Multimedia files are imported and exported into documents and presentations. Topics include web design theory; color and composition; and graphic, animation and presentation software. It culminates with the integration of multimedia concepts incorporated into an integrated business project/presentation. Prerequisite: IS101 Computers and Society or IS100 Introduction to Computers and Society.

### **IS130 Desktop Publishing for Business**

**C-2 P-2 Cr-3**

This course introduces the principles of desktop publishing in a business environment. Professional quality business documents are designed and produced that combine text, graphics, illustrations, and photographs in documents such as letterheads, business cards, flyers, brochures, promotional documents, and newsletters. Prerequisite: IS101 Computers and Society or IS100 Introduction to Computers and Society.

### **IS140 Electronic Business Presentations**

**C-2 P-2 Cr-3**

This course focuses on the development and delivery of effective electronic presentations. Business presentations are prepared, organized, and delivered using presentation graphics packages. Topics include supporting material, outlining, appropriate use of visual materials, and elements of interpersonal communication in business performance reports, training workshops, and sales presentations. Techniques include linking and embedding objects from spreadsheets, charts, word processing documents, and databases. Prerequisites: EN101 English I: Composition or EN106 English I: Composition and Reading, and IS101 Computers and Society or IS100 Introduction to Computers and Society.

### **IS200 Spreadsheet Concepts & Applications**

**C-2 P-2 Cr-3**

This course expands the knowledge of those already familiar with the basic elements of electronic spreadsheets. It examines the various uses for a spreadsheet in business. Intermediate and advanced spreadsheet techniques are examined, including the power of functions, formatting, analytical graphics, and macros. Prerequisites: IS101 Computers and Society or IS100 Introduction to Computers and Society; and a Mathematics Placement test result appropriate for MA110 Elementary Statistics or MA115 Intermediate Mathematics, or completion of MA045 Basic Math Skills or MA050 Introductory Mathematics.

### **IS201 Principles of Computer Security**

**C-3 Cr-3**

This course provides a comprehensive view of the field of computer and network security. Topics include the types of threats to computer hardware and software, public key infrastructure (PKI), certificate authorities, the protocols and standards involved in establishing PKIs, intrusion detection systems, and the laws which govern aspects of computer security. Prerequisite: IS101 Computers and Society is recommended but not required.

### **IS208 Practical Computing for the Twenty-First Century Professional**

**C-3 Cr-3**

This course introduces the concepts and issues related to the use of computers in the professional environment today. It examines the history of computer information systems as well as local and wide-area networking, file formats, data compression, operating systems, and the application of internet technologies. It covers basic procedures for selecting, installing, configuring, and maintaining hardware and software components. Prerequisite: IS101 Computers and Society or IS100 Introduction to Computers and Society.

## **IS210 Database Design & Management**

**C-2 P-2 Cr-3**

This course enhances knowledge of database concepts with a focus on designing and structuring databases to meet the objectives of management. Database management systems are used, along with query capabilities and report generation. Prerequisite: IS101 Computers and Society or IS102 Computer Applications & Concepts 2 or IS100 Introduction to Computers and Society.

## **IS220 Visual Basic with Business Applications**

**C-2 P-2 Cr-3**

This course introduces event-driven programming for a better appreciation of Windows applications used in the business world. Controls, properties, and code are used to develop applications to solve business problems. Topics include decision-making statements, loops, multiple forms, and graphical displays. Prerequisites: IS200 Spreadsheet Concepts & Applications, and IS210 Database Design & Management.

## **IS240 Networking Essentials**

**C-3 Cr-3**

This course provides an overview of networking concepts. Topics include LAN topologies, transmission media, protocols, network operating systems, and the OSI Model. Network security issues and network-to-network connections are also discussed. Through lecture and classroom demonstrations, students are exposed to the procedures involved in administering a LAN. Prerequisite: IS101 Computers and Society or IS100 Introduction to Computers and Society.

## **IS250 Web Development 1**

**C-2 P-2 Cr-3**

This course focuses on the Internet and World Wide Web as valuable resources in gathering and disseminating business information. Information is gathered with various techniques and evaluated as to its quality. Internet and World Wide Web (WWW) protocols and search engines are explored, and the techniques involved in creating a basic Web page are covered. Prerequisite: IS125 Introduction to Multimedia Applications for Business.

## **IS280 Web Development 2**

**C-2, P-2, Cr-3**

This course emphasizes the development of effective and interactive Websites on the World Wide Web. Students create and code interactions to transform static Websites into dynamic Web applications. Focus is on hand-coded languages, such as PHP, ASP, VBS Script, and ColdFusion Markup Language. Students familiarize themselves with Website and database interaction using MySQL as a driving source behind the site. Specifically, students are exposed to web development programs that use features such as cascading style sheets, templates, frames, and behaviors, as well as the many other features common in web development programs, such as inserting and editing HTML. Students also study database elements and utilize coding in order to manipulate and display data on a web page. Prerequisite: IS250 Web Development 1 or CII10 Principles of Programming.

## **IS300 Independent Study in Information Systems**

**Cr 1-3**

## **IT Italian Courses**

**(Center for Language and Learning Design, CLLD)**

### **IT101, 102 Elementary Italian 1, 2 (L2)**

**C-3 Cr-3**

This sequence teaches the fundamentals of Italian, including the essentials of reading, writing, speaking, and listening within a cultural context. Prerequisites: No previous Italian instruction, or fewer than three years of Italian instruction more than two years ago.

### **IT191, 192 Review Italian 1, 2 (L2)**

**C-3 Cr-3**

This sequence continues the development of grammar, cultural understanding, reading, writing, and conversation skills, and is presented at an accelerated pace. Prerequisite: Three years of Italian instruction more than two years ago with a grade of B or better.

### **IT201, 202 Intermediate Italian 1, 2 (L2)**

**C-3 Cr-3**

This sequence reviews selected grammatical features, with emphasis on oral and written competency at the intermediate level supported by a study of cultural and literary materials. Prerequisite: Successful completion of the elementary or review sequence, or three years of Italian instruction fewer than two years ago with a grade of B or better.

### **IT301, 302 Advanced Italian 1, 2 (L2)**

**C-3 Cr-3**

This sequence expands the development of grammar, cultural understanding, conversation skills, writing, and reading through the study of literature. Prerequisite: Successful completion of the intermediate sequence, or four years of Italian instruction in which one year was Advanced Placement level.

## **LE Law Enforcement Courses**

**(Center for Social Sciences, Business & Information Sciences)**

### **LE118 Police Procedures**

**C-4, P-2, Cr-5**

This course examines the history and contemporary aspects of law enforcement. It introduces students to fundamental police processes, particularly the role that discretion plays in policing. The bodies of law that are relevant to law enforcement are practically applied and critical thinking skills are developed and assessed through exercises both inside and outside the classroom. The use of force continuum is explained, practiced and evaluated. Students begin to develop the physical skills and defense tactics necessary to transition into a law enforcement career.

### **LE119 Police Procedures - Intermediate**

**C-4, P-2, Cr-5**

This course introduces students to the intermediate skills required of police officers. Building on the foundation received through the successful completion of LE118 Police Procedures - Basic, students begin to learn more advanced techniques of police observation and patrol. Application of the scientific method in both accident and criminal investigation is developed. Ancillary New York State law is discussed and practically applied.

### **LE120 Police Procedures - Advanced**

**C-4, P-2, Cr-5**

Building on the foundations of the LE118 Police Procedures-Basic and LE119 Police Procedures-Intermediate, this course immerses the students in the more advanced techniques of American policing. Students employ the laws, techniques, and methodologies required of the modern law enforcement officer. Essential proficiencies are applied through continued hands-on development. Students display competencies in advanced areas including crowd control techniques, responding to incidents of domestic violence, detecting and apprehending intoxicated drivers, and responding to unusual incidents.

### **LE121 Principles of Law for Police Officers**

**C-7, P-1, Cr-7.5**

In this course, students examine the operations of the criminal justice system with a specific emphasis on the role and responsibilities of police officers. There is a particular focus on the legal basis for law enforcement operations derived from the United States Constitution. In addition, students explore New York State Penal Law, Civil Procedure law, Vehical and Traffic Law, and Juvenile Procedures. Routine patrol responsibilities are also explained.

## **LE122 Techniques of Investigation**

**C-6, P-0, Cr-6**

In this course, students study various topics, actions, and procedures required to investigate a crime. It provides students with proven techniques that assist in obtaining information critical to any investigation. This includes street traffic stops, as well as violation, misdemeanor, and felony investigations.

## **LE123 Policing in the Community**

**C-3, P-0, Cr-3**

This course covers community relations issues as well as the skills needed to address them. Topics include cultural diversity and special needs of the community. Emphasis is placed on ethical issues and the limitations of community resources and services, and crime prevention. The course also addresses effective and compassionate approaches to child abuse cases.

## **LI Library Resources Courses**

**(Center for Language and Learning Design, CLLD)**

### **LI103 Information Literacy**

**C-3 Cr-3**

This course develops skills in information literacy, which includes finding, evaluating, and using electronic and print resources. It introduces the creation, dissemination, organization and use of information in academic libraries. It explores the impact of current technologies on the information cycle. Hands-on time is spent mastering tools and strategies for creating, locating, and using information. Tools and techniques are used to develop an annotated bibliography on an appropriate topic.

### **LI300 Independent Study in Learning Resources**

**Cr 1-4**

## **MA Mathematics Courses**

**(Center for Language and Learning Design, CLLD)**

### **MA045 Basic Math Skills**

**C-3 P-2 Cr-0**

This cooperative-learning course is for students who, according to placement test results, need preparation for subsequent mathematics courses. It improves basic skills and understanding of pre-algebra and elementary algebra. Topics include arithmetic computations, measurement and geometry, percentages, ratio and proportion, linear equations, and an introduction to lines and graphing, with an emphasis on applications. Successful course completion is equivalent to the successful completion of MA050 Introductory Mathematics.

### **MA050 Introductory Mathematics Cr-0 - 5 Self-Paced Hours**

This course is for students who, according to placement test results, need preparation for subsequent mathematics courses. It improves basic skills and understanding of pre-algebra and elementary algebra. It involves individual work with instructor guidance. Activities include self-study, individual tutoring, testing, and lectures. Topics include arithmetic computations, measurement and geometry, percentages, ratio and proportion, linear equations, and an introduction to lines and graphing, with an emphasis on applications. Successful course completion is equivalent to the successful completion of MA045 Basic Math Skills.

### **MA089 Arithmetic**

**C-3, Cr-0**

This course is for students who, according to placement test results, need preparation for subsequent mathematics courses. It develops basic skills by focusing on language and concepts. Topics include whole numbers, integers, rational numbers, and decimals.

### **MA090 Essential Math Skills**

**C-3, Cr-0**

This course is for students enrolled in non-STEM programs who, according to placement test results, need preparation for subsequent mathematics courses. It develops problem solving skills with an emphasis placed on applications. Topics include arithmetic computations, measurement, geometry, percentage, ratio and proportion, linear equations, and an introduction to graphing lines. An appropriate placement test result or MA089 Arithmetic.

### **MA091 Introductory Algebra**

**C-3, Cr-0**

This course is for students enrolled in STEM programs or for students who need to take either MA115 or MA171 and who, according to placement test results, need preparation for subsequent mathematics courses. It develops basic skills and the understanding of elementary algebra. Topics include arithmetic computations, measurement and geometry, percentages, ratio and proportion, linear equations, polynomials, and an introduction to graphing lines. An appropriate placement test score or MA089 Arithmetic.

## **MA Mathematics Courses**

**(Center for Mathematics, Engineering, Physical Sciences, and Applied Technology, STEM)**

### **MA105 Technical Mathematics 1**

**C-2 P-4 Cr-4**

This course covers the four fundamental operations on integers, rational numbers, and real numbers. It includes the study of weights and measures, exponents and radicals, factoring, and linear equations, with an emphasis on technical applications.

### **MA106 Technical Mathematics 2**

**C-3 P-2 Cr-4**

This course is a continuation of MA105 Technical Mathematics I, with further topics from algebra as well as from geometry and trigonometry, and an emphasis on technical applications. Prerequisite: MA105 Technical Mathematics I.

### **MA108 Concepts in Mathematics (M1, M2)**

**C-3 Cr-3**

This course is a survey of mathematics for students in those programs that do not require a mathematics sequence. It provides an appreciation of mathematical ideas in historical and modern settings. Topics include problem solving, logic, geometry, statistics, and consumer mathematics. Prerequisite: An appropriate placement test result or MA090 Essential Math Skills or MA091 Introductory Algebra, or equivalent.

### **MA110 Elementary Statistics (M1, M2) C-3 Cr-3 or C-2 P-2 Cr-3**

This course introduces probability and statistics. Topics include graphs, tables, frequency distributions, measures of central tendency and dispersion, normal distribution, correlation and regression, probability, and inferential statistics. This course is available in two formats: lecture only, or lecture plus laboratory using technology. Prerequisite: An appropriate placement test result or MA090 Essential Math Skills or MA091 Introductory Algebra, or equivalent.

### **MA115 Intermediate Mathematics (M1, M2)**

**C-3 P-2 Cr-4**

This course introduces intermediate algebra-level knowledge and skills. Topics include exponents and radicals, polynomial and rational expressions, functions and relations and their graphs, inequalities, and systems of linear equations. Linear, quadratic, rational, and radical equations are solved. Applications are included. Prerequisite: An appropriate placement test result or MA091 Introductory Algebra, or equivalent.



**MA118 Technical Algebra & Trigonometry 1 (Verizon) (M1, M2) C-4 Cr-4**

This is the first course in a two-semester sequence of intermediate algebra and trigonometry with technical applications. Topics include operations in the Real number system; expressions and functions; first-degree equations; properties of lines; systems of linear equations; trigonometric functions; geometry (perimeters, areas, and volumes of common figures); polynomials; exponents; algebraic products and factoring; algebraic fractions and operations; rational expressions; radical expressions; quadratic equations; and graphs of functions. Prerequisite: A passing score on the ASSET test. Restricted to Verizon NEXTSTEP students.

**MA119 Technical Algebra & Trigonometry 2 (Verizon) (M2) C-4 Cr-4**

This is the second of a two-course sequence of intermediate algebra and trigonometry with technical applications. Topics include exponents and radicals, graphs of the trigonometric functions, vectors, oblique triangle trigonometry, exponential and logarithmic functions, an introduction to statistics, and introductory calculus. Technological tools are used throughout the course. Prerequisite: MA118 Technical Algebra & Trigonometry I. Restricted to Verizon NextStep students.

**MA121 Fundamentals of College Mathematics 1 (M1, M2) C-4 Cr-4**

This is the first of a two-course sequence for students in programs that require mathematics through polynomial calculus. Algebraic manipulations, graphing skills and problem solving are emphasized. Topics include systems of linear equations including Cramer's Rule, quadratic equations, variation, factoring and fractions, vectors and oblique triangles, and an introduction to trigonometry and applications. Prerequisite: An appropriate placement test result or MA115 Intermediate Mathematics.

**MA122 Fundamentals of College Mathematics 2 (M2) C-4 Cr-4**

This is the second of a two-course sequence for students in programs that require mathematics through polynomial calculus. Topics include complex numbers, exponential and logarithmic functions, analytic geometry, limits, derivatives and integrals of polynomial functions, applications of the derivative, and area under a curve. Prerequisite: MA121 Fundamentals of College Mathematics I.

**MA125 College Algebra & Trigonometry (M1, M2) C-4 Cr-4**

This course prepares students for MA150 Pre-calculus. Topics include linear and quadratic equations; inequalities; rational expressions; trigonometric functions; graphs of linear, quadratic, piecewise, and trigonometric functions; and, systems of equations. Algebraic and trigonometric manipulations and problem-solving are emphasized. Prerequisite: An appropriate placement test result or MA115 Intermediate Mathematics.

**MA131 Finite Mathematics (M1, M2) C-3 Cr-3**

This course emphasizes conceptual understanding and practical applications of logic, sets, probability, matrices, and linear programming. Prerequisite: An appropriate placement test result or MA108 Concepts in Mathematics.

**MA139 College Algebra (M1, M2) C-4 Cr-4**

This course emphasizes algebraic manipulations and problem solving. Topics include equations and inequalities; systems of equations; factoring; radical and rational expressions; linear, quadratic, rational, exponential, and logarithmic functions; and, their graphs.

Applications are selected from business, economics, and the natural sciences. Prerequisite: An appropriate placement test result or MA115 Intermediate Mathematics.

**MA140 Calculus for Business and Social Science (M2) C-4 Cr-4**

This course is for those whose programs do not require the Calculus sequence. Topics include an intuitive study of limits, and the analytic geometry, differentiation and integration of polynomial, rational, exponential, logarithmic, and power functions. Applications are selected from business, economics, and the social sciences. Prerequisite: MA139 College Algebra.

**MA150 Pre-calculus (M1, M2) C-3 P-2 Cr-4**

This course prepares students for calculus through a study of the properties and graphs of polynomial, rational, trigonometric, inverse trigonometric, exponential, and logarithmic functions. Topics include an introduction to mathematical argument and conic sections. Emphasis is placed on the function concept and the appropriate use of the language of mathematics. Prerequisite: An appropriate placement test result or MA125 College Algebra & Trigonometry.

**MA151 Calculus 1 (M1, M2) C-4 Cr-4**

This is the first in a sequence of three courses in analytic geometry and calculus for students intending to transfer to programs requiring a thorough background in calculus. Topics include limits and continuity, differentiation of algebraic and trigonometric functions, and indefinite and definite integration. Applications are included. Prerequisite: An appropriate placement test result or MA150 Precalculus.

**MA152 Calculus 2 (M2) C-4 Cr-4**

This is the second in a sequence of three courses in calculus for students intending to transfer to programs requiring a thorough background in calculus. Topics include the integration of trigonometric functions, the differentiation and integration of the logarithmic, exponential, and inverse trigonometric functions, further techniques in integration, L'Hopital's Rule, improper integrals, and infinite series. Applications are included. Prerequisite: MA151 Calculus I.

**MA171 Foundations of Mathematics 1 (M1, M2) C-3 Cr-3**

This is the first of a two-course sequence for students preparing to teach at the elementary school level. Topics include the study of real numbers through a development of natural numbers, whole numbers, integers, rational numbers, decimals, and irrational numbers, together with operations on them. Number theory is presented, along with a discussion of numeration systems including bases other than ten. The language and nature of reasoning, together with basic elements of set theory, are introduced. Problem-solving is emphasized. Prerequisite: An appropriate placement test result or MA091 Introductory Algebra, or equivalent.

**MA172 Foundations of Mathematics 2 (M2) C-3 Cr-3**

This is the second of a two-course sequence for students preparing to teach at the elementary school level. Topics include elementary geometry of two and three dimensions, measurement, coordinate geometry and transformations, probability, and statistics. Prerequisite: MA171 Foundations of Mathematics I.

**MA175 Elementary Functions C-3 Cr-3**

This course examines the elementary functions of mathematics with emphasis on their graphical properties. Topics include the polynomial, rational, exponential, logarithmic, trigonometric, and inverse trigonometric functions. Graphing technology is incorporated. Prerequisite: MA172 Foundations of Mathematics 2.

**MA223 Fundamentals of College Mathematics 3 (M2) C-4 Cr-4**

This course is designed for the Electrical Engineering Technology program. Topics include trigonometric identities and equations, derivatives and integrals involving trigonometric, exponential, and logarithmic functions, and MacLaurin and Fourier Series. Applications include area, volume, center of gravity, and periodic functions. Prerequisite: MA122 Fundamentals of College Mathematics 2.

**MA253 Calculus 3 (M2) C-4 Cr-4**

This is the third in a sequence of three courses in calculus for students intending to transfer to programs requiring a thorough background in calculus. Topics include polar and space coordinates multiple integration, partial differentiation, and the algebra and calculus of vectors. Applications are included. Prerequisite: MA152 Calculus 2.

**MA260 Differential Equations (M2) C-3 Cr-3**

This course introduces the concepts and theory of ordinary differential equations. Topics include existence and uniqueness of solutions, and separable, homogenous, exact, and linear differential equations. Methods involving integrating factors, undetermined coefficients, and variation of parameters, power series, numerical approximation, and systems of differential equations using differential operators are covered. Applications are drawn from geometry, chemistry, biology, and physics. Prerequisite: MA152 Calculus 2. (Spring Semester only)

**MA275 Discrete Algebraic Structures (M2) C-4 Cr-4**

This course introduces mathematical systems. Topics include methods of proof, sets, logic, functions, relations, graphs, trees, and algebraic systems. Prerequisite: MA151 Calculus I. (Fall Semester only)

**MA280 Linear Algebra (M2) C-3 Cr-3**

This course begins with geometric concepts and transitions to more abstract reasoning. Topics include systems of linear equations, matrix algebra, determinants, vector spaces, bases, linear transformations, Eigen values, and inner products. Prerequisite: MA152 Calculus 2. (Spring Semester only)

**MA300 Independent Study in Mathematics Cr 1-4**

## **MD Media Marketing & Management Courses** (Center for Social Sciences, Business & Information Sciences)

**MD140 Principles of Advertising C-3 Cr-3**

This course covers the theory, role, scope, and practice of modern advertising. It investigates how and why consumers respond to advertising and how persuasion motivates action. It explores consumer and advertising research techniques.

**MD141 Digital Video & Copywriting C-2 P-2 Cr-3**

This course introduces the field of broadcast advertising. It explores the artistic and technical potential of commercial production and covers the production of 30-second radio and 30-second television commercials. It includes hands-on experience with camcorders, non-linear video and audio editing systems, and state-of-the-art digital animation programs used by the television commercial industry.

**MD151 Fundamentals of Media C-3 Cr-3**

This course introduces the types and characteristics of vehicles that carry advertisements. It investigates advertising media - newspapers, magazines, television, radio, etc. - and their advantages and limitations.

**MD152 Print Media and Production C-3 Cr-3**

This course examines publications, direct mail, outdoor, and other print advertising vehicles. Reproduction processes, utilization, and the preparation for each process are discussed. It includes field trips to printing plants and the creation of print layouts.

**MD161 Visual Communication C-2 P-2 Cr-3**

This course covers the designing of advertising layouts in black and-white media as well as color. Emphasis is placed on formulating basic design and drawing principles, with particular stress on application.

**MD240 Advertising Management C-3 Cr-3**

This course considers the function of the advertising manager and art director in developing an integrated communications campaign. It emphasizes individual and team solutions, and cases and problems. Prerequisites: MD140 Principles of Advertising, and MD141 Digital Video & Copywriting.

**MD253 Broadcast Media and Production C-3, Cr-3**

This course introduces television and radio programming and audiences, media rate structures, and related material. Reproduction processes in broadcasting are discussed. It involves the creation of broadcast commercials along with field trips to radio and TV stations.

**MD254 Media Planning C-3 Cr-3**

This course analyzes media costs, media buying problems, inter-media comparisons, and overall media strategy. Media problems are solved based upon marketing, advertising, and budget considerations. Prerequisite: MD151 Fundamentals of Media.

**MD255 Media Computer Applications C-2 P-2 Cr-3**

This course covers the applications of data processing equipment to solving media problems. It includes media problem simulation using the DONMAR simulator. Prerequisite: MD151 Fundamentals of Media.

**MD256 Digital Media Applications C-1 P-4 Cr-3**

This course introduces digital imaging, word processing, and digital video editing techniques used by the media professional. The aesthetic and technological potential of the software is explored. The use of digital media and editing of computer-based imagery are emphasized. Advanced instruction is included in software and peripheral devices, including scanners, printers, file storage media, and video editing equipment. Prerequisite: MD141 Digital Video & Copywriting.

**MD300 Independent Study in Media Marketing & Management Cr 1-4**

## **MR Health Information Technology** (Center for Life and Health Sciences, LAHS)

**MR101 Health Information Introductory Concepts C-2 P-2 Cr-3**

This course introduces the health information technology arena, covering the profession including its functions and origins. It includes



technical functions such as abstracting, discharge analysis, microfilming, storage, and retention of health information. The responsibilities of other healthcare providers, including the medical staff, are reviewed. (Fall semester)

**MR103 Medical Terminology** **C-3 Cr-3**

This course concentrates on spelling, pronunciation, and the meaning of medical word components, common terms used in selected body systems, and medical abbreviations.

**MR104 CPT Procedural Coding** **C-1 P-2 Cr-2**

This course introduces indexing conditions and procedures using the Current Procedural Terminology. It covers how to code from actual medical records and introduces the current prospective payment system(s). (Spring semester) Prerequisite: MR103 Medical Terminology.

**MR105 International Classification Systems** **C-2 P-4 Cr-4**

This course introduces indexing diseases and operations using the International Classification of Disease. It covers how to code from actual medical records and introduces DRGs and the Prospective Payment System. (Spring semester) Prerequisite: MR103 Medical Terminology.

**MR115 Law in Health Care** **C-3 Cr-3**

This course introduces the legal aspects of health information, with emphasis placed on civil law and how healthcare settings are affected by law and by non-governmental rulemaking bodies. Topics include a review of the history of common law, the primary sources of law, tort law, the court system, corporate liability, medical staff issues, and consent to treatment, confidentiality, reporting obligations, and patient rights. It discusses the principles guiding the control, security, and usage of health information. (Spring semester)

**MR200 Allied Health** **C-1 Cr-1**

This course covers non-acute care settings such as mental health facilities, home care, ambulatory care, and long-term care. Emphasis is placed on the documentation requirements, differences in reimbursement systems, utilization management, and quality management. Prerequisites: MR101 Health Information Introductory Concepts, MR104 CPT Procedural Coding, and MR105 International Classification Systems. (Fall semester)

**MR202 Management & Supervision in Health Care** **C-3 Cr-3**

This course covers management and supervisory topics such as motivation, planning, actuating, controlling, organizing, span of control, unity of command, and inter and intradepartmental relationships. Prerequisites: MR200 Allied Health and MR204 Quality Review in Health Care (Health Information Technology majors only). Corequisites: MR203 Information Systems in Health Care (Health Information Technology majors only) (Spring semester)

**MR203 Information Systems in Health Care** **C-1 Cr-1**

This course introduces computer applications in the health care field with emphasis on Health Information systems in acute care facilities. Prerequisites: MR101 Health Information Introductory Concepts, MR104 CPT Procedural Coding, MR105 International Classification Systems (Health Information Technology majors only), and either IS101 Computers and Society or IS100 Introduction to Computers and Society. Corequisites: MR200 Allied Health and MR204 Quality Review in Health Care (Health Information Technology majors only). (Fall semester)

**MR204 Quality Review in Health Care** **C-1 P-2 Cr-2**

This course covers quality improvement and the evaluation of quality medical care including the quality review, utilization management, and risk management components. It includes basic hospital and vital statistics, and their applications. Prerequisites: MR101 Health Information Introductory Concepts. (Fall Semester only)

**MR208 Pharmacology for Allied Health** **C-3 Cr-3**

This course covers the pharmacological, pathophysiological, therapeutic, and diagnostic aspects of medicine. It includes the concepts and medical word components for body systems and disorders encountered in healthcare. Discussions include pharmacological agents and the diagnostics test(s) used for disease processes, the selection of a particular pharmacological intervention, how its effectiveness is monitored using diagnostic interventions, and the value of laboratory tests. Prerequisite: MR103 Medical Terminology. (Spring semester)

**MR209 Health Unit Coordination** **C-2, P-4, Cr-4**

This course covers unit coordinating practices and procedures, with an orientation to hospitals, ambulatory care, and other healthcare settings. It focuses on the non-clinical management of the healthcare unit, the medical record and transcription of orders, communication devices, and admission, transfer, and discharge procedures. Legal matters, such as organ donation and advance directives, are discussed. Prerequisites: HC100 Introduction to Health Care, MR103 Medical Terminology, IS101 Computers and Society or IS100 Introduction to Computers and Society, and BI103 Human Life Science I. (Spring semester)

**MR210 Professional Practice Experience 1** **P-3 Cr-1**

This course is a required professional practice experience (PPE) for Health Information Technology students in which they use their knowledge and practice their skills. It focuses on the technical functions in the Health Information Department of an acute care health facility. Prerequisite: MR101 Health Information Introductory Concepts. (Intersession only)

**MR211 Professional Practice Experience 2** **P-4 Cr-1.5**

This course is a continuation of MR210 Professional Practice Experience 1. It focuses on Coding and Data Entry in the Health Information Department of an acute-care health facility. Prerequisites: MR104 CPT Procedural Coding, MR105 International Classification Systems, and MR210 Professional Practice Experience 1.

**MR213 Professional Practice Experience 3** **P-3 Cr-1**

This course combines the knowledge and experience gained through MR210 Professional Practice Experience 1 and MR211 Professional Practice Experience 2, applying them to non-acute care settings. It introduces different management styles, record keeping systems, reimbursement methods, documentation requirements, and performance improvement/corporate compliance activities. Prerequisite: MR211 Professional Practice Experience 2. (Spring semester)

**MR214 Advanced CPT Procedural Coding** **C-1 Cr-1**

Students employ existing coding skills to enhance their clinical and coding knowledge using the current versions of CPT Procedural Coding and HCPCS. Students review and code clinical scenarios related to various body systems. Prerequisites: MR104 CPT Procedural Coding, MR105 International Classification Systems,

AH110 Professional Practice Experience 1 MC. Corequisites: MR215 Advanced ICD-9-CM Coding and AH111 Professional Practice Experience 2 MC. (Spring semester only)

**MR215 Advanced ICD-9-CM Coding C-1.5 Cr-1.5**

Students employ existing coding skills to enhance their clinical and coding knowledge using the International Classification of Disease, 9th Revision. Students will review and code medical scenarios related to various body systems. Prerequisites: MRI05 International Classification Systems and MRI04 CPT Procedural Coding. Corequisites: MR214 Advanced CPT Procedural Coding and AH111 Professional Practice Experience 2 MC. (Spring semester only)

**MR300 Independent Study in Medical Terminology Cr 1-4**

This course concentrates on spelling, pronunciation, and the meaning of medical word components, common terms used in selected body systems, and medical abbreviations. (Spring semester)

## **MT Mechanical Engineering Technology Courses**

**(Center for Mathematics, Engineering, Physical Sciences, and Applied Technology, STEM)**

**MT107 Basic Machine Shop Practice C-1.5 P-3 Cr-3**

This course introduces the theory and practices of metal removal, as practiced in industry. The set-up and safe operation of conventional machine tools are stressed, along with their capabilities and limitations. Common processes such as drilling, grinding, milling, threading, and turning are used. Topics include speeds and feeds, metal cutting theory, cutting fluids, selection of tooling, fixturing, precision measurement, and layout procedures, along with basic blueprint reading and sketching.

**MT112 Architectural Drafting C-1 P-4 Cr-3**

This course is an introduction to the standard drawing techniques and design concepts used for residential and light commercial buildings. Topics include foundations, framing, windows and doors, structural sections, floor plans, elevations, specifications, building codes, and perspectives. Prerequisite: MT140 Drafting and Design Using AutoCAD.

**MT114 Manufacturing Processes C-2 P-3 Cr-3.5**

This course introduces traditional processes used in manufacturing, except machining. It deals with methods of processing raw materials into manufactured components. Materials such as plastics, metals, composites, and elements of micro- and nano-fabrication are covered. Assembly methods include plastics joining, fasteners, and automation.

**MT121 Mechanical Drafting C-2 P-6 Cr-5**

This course covers the fundamentals of engineering drawing with an emphasis on the development of drawing skills. Topics include lettering, sketching, geometric construction, orthographic projections, dimensioning, sectioning, auxiliary views, screw threads, graphs-charts, pictorial drawings, and developments.

**MT126 Statics: Mechanical C-2 P-2 Cr-3**

This course is a study of force systems and their actions on bodies at rest. Topics include force systems, equilibrium of force systems, distributed forces, friction, moments of inertia, centroids, and bending and shear diagrams. The Laboratory component emphasizes computer analysis. Prerequisite: MA121 Fundamentals of College

Mathematics or a higher level mathematics course which includes trigonometry.

**MT128 Computer Applications: Mechanical C-1 P-2 Cr-2**

This course introduces computer programming techniques using a variety of tools such as BASIC and spreadsheets. Case studies emphasize computer applications to mechanical engineering technology. (Fall semester)

**MT129 Statistical Quality Control C-2 Cr-2**

This applied statistics course provides measuring tools for quality control and process control in manufacturing. Topics include frequency distributions; measures of central tendency and of dispersion; natural tolerances, control charts for variables and for attributes; probability theory and applications to sampling and to operational characteristic (O-C) curves; acceptable quality level (AQL) sampling plans; Pareto charts; and, random number tables. Prerequisite: An appropriate Mathematics placement test result, or MA045 Basic Math Skills, or MA050 Introductory Mathematics. (Fall semester)

**MT140 Drafting and Design Using AutoCAD C-1 P-4 Cr-3**

This course provides the foundation and problem-solving skills necessary to develop and interpret engineering drawings using the computer-aided drafting software (AutoCAD). Topics include assembly and detail drawing composition; design for assembly/ manufacturing (DFA/DFM); geometric dimensioning and tolerancing; tolerance control and standard fits; fasteners; gearing; sheet metal developments; weldments; functional drafting techniques; and the development of 2-D and 3-D CAD generated drawings and system operations.

**MT141 Machining Fundamentals C-2 P-4 Cr-4**

This course introduces the theory and practices of metal removal as applied in industry. The set-up and safe operation of conventional machine tools is stressed, along with their capabilities and limitations. Common processes such as drilling, grinding, milling, threading, and turning are utilized. Topics include speeds and feeds, metal cutting theory, cutting fluids, selection of tooling, fixturing, precision measurement, and layout procedures. Prerequisites: MT140 Drafting and Design Using AutoCAD, and either MA105 Technical Mathematics I or MA121 Fundamentals of College Mathematics I (Spring semester)

**MT155 Introduction to Solid Modeling C-1 P-4 Cr-3**

This course is an introduction into the use of three-dimensional solid modeling CAD software. Topics include creating models using features such as protrusions, cuts, rounds, blends, revolutions, and sweeps. Model planning and design intent are stressed. Assemblies, drawings, documentation, and detailing are also covered, as well as output and interfaces with common software such as spreadsheets and word processing.

**MT170 Oxy-Acetylene Welding Procedures C-2 P-6 Cr-5**

This course covers the theory, methods, and use of acetylene equipment to oxy-weld and cut in all positions. Welding supply fee required.

**MT171 Computer Applications - Trades C-1 P-2 Cr-2**

This course introduces the use of personal computers as engineering tools for work enhancement. It provides hands-on experience with the computer and its hardware, a comparison of operating systems, and internet-based functions. Computer-aided

design, word processing, spreadsheets, and digital presentations are covered.

### **MT174 Electric Arc Welding Procedures C-2 P-6 Cr-5**

This course provides proficiency in oxy-acetylene welding procedures, including the theory and use of electric arc welding. Topics include welding ferrous and nonferrous metals in all positions, and the theory of pipe design and cutting. Welding supply fee required.

### **MT191 Machinist Technology 1 through MT197 Machinist Technology 7 C-2 P-6 Cr-5**

This series of assessment-based courses introduces the theory and practices of metal removal as applied in industry. The set-up and safe operation of conventional machine tools is stressed along with their capabilities and limitations. Topics include common processes such as drilling, grinding, milling, threading and turning, speeds and feeds, metal cutting theory, selection of tooling, fixturing, precision measurement, layout procedures, and basic blueprint reading. A capstone project consists of design, machining, inspection, and evaluation of a product. Students may enter the program at the beginning of every semester.

### **MT203 Design of Machine Elements C-3 P-2 Cr-4**

This course covers the methods and theory of practical machine design. Topics include stress analysis, shaft design, and kinematics of linkages, springs, gears, chains, belts, bearings, and welding joints. Computer aided design software is applied in the analysis of problems. Students write computer programs to analyze certain design problems. An introduction to finite element analysis software is presented. Prerequisites: MT140 Drafting and Design Using AutoCAD, MT155 Introduction to Solid Modeling, and MT230 Strength of Materials: Mechanical.

### **MT204 Automatic Controls C-2 P-2 Cr-3**

This course includes the theory and use of hydraulic, pneumatic, and electrical devices to activate and regulate the displacement and position of machine components, basic energy principles applied to mechanical and electrical systems, relay ladder logic, and motor circuits. Prerequisite: MA106 Technical Mathematics 2 or higher level mathematics course containing algebra.

### **MT207 Computer Aided Manufacturing C-2 P-4 Cr-4**

This is an advanced processes course dealing with the fundamental theory and application of CAM (computer-aided manufacturing) technology. Programming methods include conversational, G-M Code, and Symbolic FANUC Automatically Programmed Tools. Tool selection and calibrations, part zero, tool offsets, program editing, troubleshooting, and fixturing are also stressed. Rapid prototyping, Computer Integrated Manufacturing (CIM), Flexible Manufacturing Systems (FMS), group technology, robotics, and CAD/CAM systems are also discussed. Prerequisites: MT140 Computer-Aided Drafting and Design, and MT141 Machining Fundamentals. (Fall semester)

### **MT209 Materials Science C-2 P-3 Cr-3.5**

This course covers the processing and performance of engineering materials as well as their physical and chemical properties. It includes the chemistry of metals, plastics, and ceramics. Phase diagrams, heat treatment of metals, and micrographs are studied in the laboratory. Prerequisite: MT114 Manufacturing Processes, MA121 Fundamentals of College Mathematics or a higher level mathematics course which includes trigonometry, and either CH131 College Chemistry or CH141 General Chemistry I.

### **MT221 Tolerance Assembly Drafting C-1 P-6 Cr-4**

This course integrates previous and current course work and applies it to the design of manufactured parts. Designing for easier and more economical manufacturing is emphasized. Topics include assigning tolerances based upon how the part is to function, common manufacturing process tolerances, limit dimensions, avoiding tolerance accumulation, datums, introduction to geometric dimensioning and tolerancing, ASME Y-14.5M-1994, and functional gaging. Prerequisite: MT140 Drafting and Design Using AutoCAD.

### **MT222 Tool & Design Drafting C-1 P-6 Cr-4**

This course introduces the fundamentals of tool design. Topics include break-even charts, tool materials, work-holding principles, 3-2-1 basis of location, jig and fixture design for different processes, presswork tooling, punch and die set, gaging and assembly tooling. Prerequisites: MT221 Tolerance and Assembly Drafting. (Spring Semester)

### **MT223 Electrical-Electronic Drafting C-1 P-4 Cr-3**

This course covers basic electrical principles and electronic components, and several types of drawings to support design and documentation of electrical circuits. Topics include device symbols, schematics, ladder diagrams, logic diagrams, architectural electrical drawings, and basic electrical circuit principles such as voltage, current, resistance, Ohms law, and power. Prerequisites: MT140 Drafting and Design Using AutoCAD or CT102 Engineering Drawing and MicroStation CAD.

### **MT225 Applied Mechanics & Strength of Materials C-3 P-2 Cr-4**

This course introduces the statics and strength of materials while emphasizing their uses in practical design situations. Topics include unit conversions, force vectors, moment of a force, and equilibrium of concurrent and coplanar force systems, stress, strain, shear and bending moment diagrams, and bending and deflection of beams. Prerequisites: MA106 Technical Mathematics 2 or higher level mathematics course which includes trigonometry.

### **MT226 Industrial Materials C-2 P-3 Cr-3.5**

This course introduces the properties of commonly used materials. Topics include the method used to evaluate material that will be used in the manufacturing of a part. Prerequisites: MA105 Technical Mathematics I and MT114 Manufacturing Processes.

### **MT229 Building Systems Drafting C-1 P-4 Cr-3**

This course covers the various types of service system drawings, such as heating, ventilation and air conditioning (HVAC), water supply, drainage distribution, fire protection, and control systems. Both residential and commercial applications are emphasized, along with CAD drawing methods. Prerequisite: MT112 Architectural Drafting.

### **MT230 Strength of Materials: Mechanical C-3 P-2 Cr-4**

The course introduces the fundamentals of strength of materials. Topics in stress analysis are included. Laboratory activities focus on testing procedures, reporting, and computer analysis. Prerequisites: MT126 Statics Mechanical, CT121 Statics Civil, or ES271 Engineering Science.

### **MT231 Modern Production Methods & Statistical Quality Control C-3 P-2 Cr-4**

This course covers basic functions and challenges of managers in the manufacturing and business environment focusing on lean manufacturing, small businesses, and entrepreneurship. Topics include

Total Quality Management, continuous improvement, value-added activities and analysis, waste analysis, Just-In-Time, applications of Statistical Quality Control, and other current management methods and techniques. Prerequisites: MT114 Manufacturing Processes or MA121 Fundamentals of College Mathematics I.

**MT232 MicroStation CAD C-1 P-4 Cr-3**

This course introduces use of MicroStation software. Topics include basic theory and operational concepts; main palette use; projecting elements; entity construction and editing; entity manipulations; and text and dimensioning parameters. Corequisites: CT101 Drafting, or permission of the Dean for Mathematics, Engineering, Physical Sciences, and Applied Technology.

**MT242 Advanced MicroStation CAD C-1 P-4 Cr-3**

This is an advanced level course using MicroStation. Topics include theory and operational concepts for three-dimensional CAD drawings and models, solid modeling, rendering, display, and editing techniques. Prerequisites: CT102 Engineering Drawing and MicroStation CAD, or permission of the Dean for Mathematics, Engineering, Physical Sciences, and Applied Technology.

**MT244 Computer Numerical Control (CNC) C-2 P-6 Cr-5**

This course introduces the technology and programming methodology for CNC (computer numerical control) machine tools. Programming methods include Conversational, G-M codes and Symbolic FANUC Automatically Programmed Tools (FAPT). Emphasis is placed on programming methods, tool selection, set-up, fixturing, troubleshooting and editing of programs. Prerequisite: MT141 Machining Fundamentals or MT107 Basic Machine Shop Practice.

**MT247 Introduction to Robotics C-2 P-4 Cr-4**

This course introduces the application of automated material handling devices in the manufacturing environment. Topics include classification of robots and their work envelopes, system components, programming methods, sensors and applications, economic justification, safety consideration, and industrial applications. Automatic guided vehicles and automatic storage/retrieval systems are discussed.

**MT250 Computer-Integrated Manufacturing (CIM) C-2 P-6 Cr-5**

This course covers the automation of a manufacturing environment, with all processes and functioning under digital computer control. It studies the components that form a functional CIM installation. Topics include software/hardware introduction, manufacturing control programming, AS/RS automated systems programming, program upload/download, systems testing, and debugging of the FMS line. Prerequisites: MT244 Computer Numerical Control (CNC), MT204 Automatic Controls. Corequisite: MT247 Introduction to Robotics.

**MT251 Advanced AutoCAD C-1 P-4 Cr-3**

This is an advanced course using AutoCAD. Topics include menu customization, theory and operational concepts for three-dimensional CAD drawings and models, solid modeling, rendering and editing techniques. Prerequisites: MT140 Drafting and Design Using AutoCAD or permission of the Dean for Mathematics, Engineering, Physical Sciences, and Applied Technology.

**MT252 Fluid Mechanics C-3 P-2 Cr-4**

This course covers the fundamental topics and applications of fluid mechanics. Topics include fluid properties, fluid statics, conservation of energy and mass, pipe and duct flow, pumps, and

measurement of fluid properties and states. An introduction to heat transfer is included, applying theory to thermal and hydraulic systems. Prerequisite: MA121 Fundamentals of College Mathematics or a higher level mathematics course which includes trigonometry, or permission of the Dean for Mathematics, Engineering, Physical Sciences, and Applied Technology.

**MT255 Pro/Engineer CAD C-1 P-4 Cr-3**

This course introduces the Pro/Engineer software and feature based, parametric, 3-D modeling concepts. Topics include creating models using features such as protrusions, cuts, rounds, blends, revolving, and sweep modeling techniques. Model planning, design intent, and menu management are stressed. Assemblies, drawings, documentations, and detailing are covered. Prerequisites: MT140 Computer-Aided Drafting and Design or MT232 MicroStation CAD.

**MT256 Advanced Solid Modeling C-1 P-4 Cr-3**

This course covers advanced solid modeling concepts and techniques. Topics include creating complex parametric models and assemblies using all feature types; creating detail and assembly drawings with various sectioning and view techniques; measurements; surfaces; and motion and analysis models. Model and assembly pre-planning are emphasized. Prerequisites: MT155 Introduction to Solid Modeling or permission of the Dean for Mathematics, Engineering, Physical Sciences, and Applied Technology.

**MT270 Welding Procedures for MIG and TIG C-2 P-6 Cr-5**

This course covers the theory and use of TIG (Tungsten Inert Gas) and MIG (Gas Metallic Arc) welding, including non-ferrous and ferrous metals in all positions. Topics include plasma welding, cutting, and safety procedures. Prerequisite: MT170 Oxy-Acetylene Welding Procedures. Welding supply fee required.

**MT271 Metallurgy for Welders C-2 P-4 Cr-4**

This course covers the fundamental knowledge and understanding of metallurgy as applied to welding. Laboratory work includes heat testing, physical testing, and metallography. Prerequisites: MA105 Technical Mathematics I; and MT226 Industrial materials. Welding supply fee required.

**MT272 Advanced Electric Arc Welding Procedures C-2 P-6 Cr-5**

This course continues with instruction of the principles and practices of gas arc (TIG) and gas metallic arc (MIG) welding on ferrous and non-ferrous metals and pipe. Topics include special arc cutting techniques such as air carbon arc, oxygen arc, underwater cutting, plasma cutting, along with theory and safety. Prerequisite: MT174 Electric Arc Welding Procedures. Welding supply fee required.

**MT273 Welding Certification C-2 P-6 Cr-5**

This course discusses welding codes. Topics include set regulations covering permissible materials, service limitations, fabrication, inspection, testing procedures, and qualifications of welding operations. Emphasis is placed on preparation for the New York State Welding Certificate Exam. Prerequisite: MT272 Advanced Electric Arc Welding Procedures. Welding supply fee required.

**MT276 Welders Ornamental Iron & Blacksmithing C-2 P-4 Cr-4**

This course covers the design and fabrication of wrought iron and sculpture. Topics include the theory of blacksmithing and the use of the forge on various metals. Safety is stressed. Welding supply fee required.



## **MT277 Welders Blueprint Reading & Metal Fabrication**

**C-2 P-6 Cr-5**

This course covers weldment design factors. Topics include the interpretation of trade drawings, as well as the specification and use of welding symbols. Welding supply fee required.

## **MT278 Welding Inspection & Quality Control Testing**

**C-2 P-4 Cr-4**

This course presents the American Welding Society standards. Topics include the standards of testing of welds, preparation of test samples, methods of inspection and quality control, and fundamentals and interpretations of the American Welding Society, the American Society of Mechanical Engineers, and the American National Standards Institute welding codes. Welding supply fee required.

## **MT291 CNC/Machinist 1 through MT297 CNC/Machinist 7**

**C-2 P-6 Cr-5**

This series of assessment-based courses is defined by competencies in a skills-based outcome manual. Evaluation is based on the ability to demonstrate knowledge and experience in all topics of study. Topics include safety, blueprint reading, machining a work piece to drawing specification, use of ACAD to create drawings, programming CNC lathes and milling machines, proper tooling and work-holding methods, determining sequential machining operations or complex parts, using CAM to produce CNC programs, introduction to Automated Manufacturing, and a capstone project. Students may enter the program at the beginning of every semester.

## **MT300 Independent Study In Mechanical Technology**

**Cr 1-5**

## **MT302 Innovative Mechanical Manufacturing & Services 1**

**C-1 P-10-22 Cr-6-12**

This course allows for a new product or service to be defined, designed, and prototyped, with a marketing plan and strategy, and a production implementation system for a successful technology business. Start-up resources are identified to help provide the needs of the new business. Fees may be assessed to reflect additional costs with the usage of equipment and materials. Prerequisite: Program committee approval of the project. The student must provide the committee with a project description.

## **MT303 Innovative Mechanical Manufacturing & Services 2**

**C-1 P-10-22 Cr-6-12**

This course continues the work from MT302 Innovative Mechanical Manufacturing & Services 1 if additional time is required. Fees may be assessed to reflect additional costs with the usage of equipment and materials. Prerequisite: MT302 Innovative Mechanical Manufacturing & Services 1.

## **NU Nursing Courses**

**(Center for Life and Health Sciences, LAHS)**

### **NU001 Introduction to Nursing 1**

**C-3 Cr-0**

This course introduces students to study habits and strategies for success in nursing courses, as well as a selection of concepts and skills essential to nursing. It is designed to help the student be more successful in NU101 Nursing I Fundamentals of Nursing. Topics include the role of the nurse as a healthcare team member; introduction to the Nursing Process, Maslow's Hierarchy of Human Needs theory, and basic concepts of health, illness, wellness, and

healing. The course explores legal, ethical, and cultural issues in nursing and ethnic diversity. Skills essential to nursing, such as health teaching, communication, documentation and taking of vital signs are introduced. The course examines the pathways to nursing careers, and the goals and responsibilities of enrollments in an AAS nursing curriculum.

### **NU050 LPN to RN Transition**

**C-3, Cr-0**

This course provides concepts and principles for the successful transition of the LPN to the Associate Degree Nurse. An introduction to the philosophy and conceptual framework of the nursing program is presented. Student learning is focused on the application of the nursing process. Students have the opportunity to practice selected nursing skills and demonstrate competency in mathematics. Prerequisite: NYS LPN license.

### **NU101 Nursing 1 (Fundamentals of Nursing)**

**C-3 P-6 Cr-6**

This course explores the art and science of nursing and provides the foundation for all subsequent nursing courses. The physical, physiological, psychological, sociocultural, and spiritual needs of the client are emphasized in the promotion of health and wellness. The roles and responsibilities of nursing practice in contemporary society are explored. Basic concepts of Maslow's Hierarchy of Needs theory, the nursing process, communication, critical thinking, leadership and management principles, ethical and legal aspects, and scientific principles of nursing and nursing skills are introduced. Clinical practicums are provided in a variety of healthcare facilities. Prerequisites: An appropriate Mathematics Placement test result or MA045 Basic Math Skills or MA050 Introductory Mathematics; high school chemistry with laboratory or its equivalent; BI216 Human Anatomy & Physiology I. Mandatory Corequisite: NU111 Nursing Pharmacotherapeutics I. (Fall semester)

### **NU102 Nursing 2A (Family-Centered Nursing during the Pregnancy Cycle) (7.5 weeks)**

**C-2 P-6 Cr-4**

This course focuses on the physical, physiological, cultural, spiritual, and psychological needs experienced by the expanding family during pregnancy, labor, delivery, and postpartum periods. The nursing process, Maslow's Hierarchy of Needs theory, and critical thinking are integrated to meet the needs of the family in the perinatal cycle. Clinical experiences are provided in general hospital units and community agencies. Prerequisites: NU101 Nursing I with a minimum grade of 75 or advanced standing; NU111 Nursing Pharmacotherapeutics I with a minimum grade of 75 or advanced standing; BI216 Human Anatomy & Physiology I with a minimum grade of 70. Mandatory Corequisite: NU112 Nursing Pharmacotherapeutics 2. Corequisite: BI217 Human Anatomy & Physiology 2. (Spring semester)

### **NU103 Nursing 2B (Mental Health and Psychiatric Nursing Throughout the Life Cycle) (7.5 weeks)**

**C-2 P-6 Cr-4**

This course addresses the foundations of mental health and psychiatric nursing. It examines threats to the basic psychological needs of security, love and belonging, self-esteem, and self-actualization throughout the life cycle. The nursing process, Maslow's Hierarchy of Needs theory, and critical thinking are integrated to meet the needs of the client experiencing a disruption in mental health. Interpersonal relationships between the nurse and client are emphasized as a therapeutic modality. Clinical practicums are provided in mental health and psychiatric settings. Prerequisites: NU101 Nursing I with a minimum grade of 75 or advanced standing; NU111 Nursing Pharmacotherapeutics I with a minimum grade

of 75 or advanced standing; BI216 Human Anatomy & Physiology 1 with a minimum grade of 70. Mandatory Corequisite: NU112 Nursing Pharmacotherapeutics 2. Corequisite: BI217 Human Anatomy & Physiology 2. (Spring semester)

**NU111 Nursing Pharmacotherapeutics 1** **C-2 Cr-1**

This course introduces the concepts pertaining to the pharmacodynamics and pharmacokinetics of medications and dosage calculation for medication administration. Mandatory Corequisite: NU101 Nursing 1. (Fall Semester only)

**NU112 Nursing Pharmacotherapeutics 2** **C-2 Cr-1**

This course presents advanced dosage calculations for medication administration and introduces classifications of drugs. Prerequisites: NU101 Nursing 1 and NU111 Nursing Pharmacotherapeutics 1. Mandatory Corequisite: NU102 Nursing 2A or NU103 Nursing 2B. (Spring semester)

**NU201 Nursing 3 (Threats to Basic Human Needs Throughout the Life Cycle: Part 1)** **C-6 P-12 Cr-12**

This course focuses on the pathophysiologic and psychosocial responses in clients experiencing disruptions in oxygenation, nutrition, and metabolic function. It analyzes the role of the professional registered nurse in assisting clients to adapt to these stressors. The nursing process, Maslows Hierarchy of Needs theory and critical thinking are integrated to meet the needs of the client experiencing a disruption in a medical/surgical setting. Concepts of nursing leadership and management are applied in providing care for a group of clients. A clinical practicum in a medical/surgical setting provides opportunities to assess and meet the needs of selected clients throughout the life cycle. Prerequisites: NU101 Nursing 1, NU111 Nursing Pharmacotherapeutics 1, NU102 Nursing 2A, NU103 Nursing 2B, NU112 Nursing Pharmacotherapeutics 2 with a minimum grade of 75 or advanced standing; BI216 Human Anatomy & Physiology 1 and BI217 Human Anatomy & Physiology 2 with a minimum grade of 70; ED100 College Seminar. Corequisite: BI201 Microbiology. (Fall semester)

**NU202 Nursing 4 (Threats to Basic Human Needs Throughout the Life Cycle: Part 2)** **C-6 P-12 Cr-12**

This course focuses on the pathophysiologic and psychosocial responses in clients experiencing disruptions in elimination, cognition and sensation, musculoskeletal function, protection, and cellular aberration. The nursing process, Maslows Hierarchy of Needs theory and critical thinking are integrated to meet the needs of the client experiencing a disruption in a medical/surgical setting. It explores the political, economic, social, and cultural influences on nursing practice and healthcare. It assists the second-year student to become a contributing member within the discipline of nursing. A clinical practicum in a medical/surgical setting provides opportunities to assess and meet the needs of selected clients throughout the life cycle. A 64-hour capstone experience assists in the transition to entry level graduate nurse. Prerequisite: NU201 Nursing 3 with a minimum grade of 75. (Spring semester)

**NU300 Independent Study in Nursing** **Cr 1-4**

## OP Photonics Courses

**(Center for Mathematics, Engineering, Physical Sciences, and Applied Technology, STEM)**

**OP161 Introduction to Photonics** **C-3 P-3 Cr-4.5**

This course, the first of three optical courses in the Photonics program, covers properties of light, reflection, refraction, thin lenses, interference, diffraction, optical instruments, lasers, fiber optic components, fiber optic systems, optical information processing, and holography.

**OP261 Geometrical Optics** **C-3 P-3 Cr-4.5**

This course introduces the design and evaluation of optical systems using geometrical optics. Topics include: Gaussian optics and first-order system design, photometric theory applied to optical systems, matrix techniques in optics, optical instruments, exact-ray tracing methods, nature of Seidel aberrations, and optical system design software. Prerequisite: MA152 Calculus 2. Corequisite: PH262 Engineering Physics 2.

**OP262 Physical Optics** **C-3 P-3 Cr-4.5**

This course covers topics in the complex representation of waves, interaction of light with matter; interference, polarization, Fresnel and Fraunhofer diffraction, Fourier optics, coherent optical systems, optical data processing, and holography. Prerequisite: OP261 Geometrical Optics.

## PE Physical Education Courses

**(Center for Life and Health Sciences, LAHS)**

**PE101 Bowling** **Cr-5**

This course is for any skill level from beginner to advanced. It focuses on learning and improving proper form, scoring, appropriate etiquette, and general rules for the sport. Additional fees charged.

**PE102 Golf** **Cr-5**

This course presents the rules, playing etiquette, and skills necessary for playing golf. Instructional classes occur on campus and at a local golf course. (Additional fees charged.)

**PE103 Tennis** **Cr-5**

This skills-development course includes instruction in equipment selection and fundamentals of serving, strokes, and scoring. Rules and their application during singles and doubles play are addressed. Emphasis is placed on leisure and fitness benefits.

**PE104 Badminton** **Cr-5**

This course introduces the fundamental and advanced skills in badminton. Instruction in playing skills, rules, and strategies is provided. Focus is placed on the leisure as well as fitness benefits.

**PE110 Racquet Sports** **P-1 Cr-.5**

This course introduces the fundamental and advanced skills in badminton and racquetball. Instruction is provided in playing skills, rules, and strategies. Focus is placed on the leisure and fitness benefits.

**PE111 Strength Training 1** **P-1 Cr-.5**

This course provides proper free-weight training techniques for implementing a personal weight program. It develops individualized and strength training routines that can become lifetime commitments.



<b>PE112 Speed Training</b>	<b>P-1 Cr-.5</b>	<b>PE155 Police Fitness Training</b>	<b>P-15 Cr-.5</b>
<p>This course provides proper speed training techniques for improving fitness and athletic ability. Emphasis is placed on dynamic stretching, core strength, and sport specific speed/direction change.</p>		<p>This course covers the physiological capacity for successful completion of the fitness requirement for an entry-level police officer as prescribed by the Municipal Police Training Council of the State of New York. The NYS Police Officer minimum fitness requirements are incorporated.</p>	
<b>PE130 Swimming for Beginners</b>	<b>Cr-.5</b>	<b>PE157 Walking for Fitness</b>	<b>Cr-.5</b>
<p>This course helps non-swimmers and beginners to develop confidence in, on, or about the water. It includes adjustment and safety skills, floating, front and back kicks, arm strokes, entries, and conditioning skills. Emphasis is placed on leisure and fitness benefits.</p>		<p>This course introduces the low-impact, cardiovascular endurance activity of walking. Proper techniques of walking, warm-up, and cool-down are introduced and practiced. Instruction is provided in injury prevention, weight management, and goal setting as vital components of a fitness program.</p>	
<b>PE131 Basic Swimming</b>	<b>Cr-.5</b>	<b>PE158 Basic Yoga</b>	<b>P-1 Cr-.5</b>
<p>This course provides those with basic swimming abilities the opportunity to develop more efficient skills and conditioning levels. It covers the improvement of the front crawl, backstroke, elementary backstroke, sidestroke, and breaststroke. Prerequisite: PE130 Swimming for Beginners or equivalent abilities, determined by instructor.</p>		<p>This course introduces basic yoga principles. Emphasis is placed on increasing flexibility, body awareness, and focusing the breath. Activities include major poses and routines designed to increase knowledge of yoga and its role in lifetime fitness.</p>	
<b>PE133 Aerobic Swimming</b>	<b>Cr-.5</b>	<b>PE162 Self-Defense</b>	<b>P-1, Cr-.5</b>
<p>This course presents a variety of aquatic activities encouraging fitness development. It introduces concepts of conditioning swims, water exercise, and tube training. It presumes basic confidence and comfort being in the water.</p>		<p>This course is geared for those who have little or no knowledge of combative activities. It covers simple karate skills such as punches, kicks, pokes and releases easily used with a simple physical threat. Emphasis is placed on preventative measures for personal protection.</p>	
<b>PE134 SCUBA Diving</b>	<b>Cr-1</b>	<b>PE164 Tai Chi</b>	<b>P-1, Cr .5</b>
<p>This course introduces the concepts of safe SCUBA diving. It covers elementary SCUBA techniques and safety practices. Instructional classes will be in the MVCC swimming pool. Upon completion, certification can be pursued by participating in open water dives. (Additional fees charged.)</p>		<p>This course introduces the skills and principles of Tai Chi with applications for everyday use or beginning Martial Arts. Students learn and practice twenty-one Tai Chi postures. Light punching of soft surface and partner exchange are included.</p>	
<b>PE143 Basketball</b>	<b>Cr-.5</b>	<b>PE170 First Aid</b>	<b>Cr-1</b>
<p>This course is an introduction to the sport of basketball, including basic skills and techniques. An opportunity to experience a positive leisure activity is provided.</p>		<p>This course provides knowledge and skills for handling most situations that require emergency first-aid care. It provides the opportunity to work toward National Safety Council First Aid/CPR certifications as well as automated external defibrillation (AED) skills.</p>	
<b>PE151 Personal Fitness</b>	<b>Cr-.5</b>	<b>PE171 CPR</b>	<b>Cr-.5</b>
<p>This course introduces general fitness concepts with focus on the five health-related components of fitness: aerobic capacity, body composition, flexibility, muscular endurance, and muscular strength. Participation in laboratory activities develops these components.</p>		<p>This course teaches rescue breathing, CPR, two-rescuer CPR, and automated external defibrillation (AED) skills. Students may complete certification from the American Heart Association basic life support (BLS) for healthcare providers.</p>	
<b>PE152 Jogging</b>	<b>Cr-.5</b>	<b>PE172 Health &amp; Wellness</b>	<b>C-1.5 P-1 Cr-2</b>
<p>This course helps participants understand the value of jogging as a personal fitness activity at any level of ability or experience. It includes information about training methods, the training effects of progressive exercise, shoe and clothing selection, and safety in training, dealing with aches and pains, and preparing for competition. Workouts demonstrate program progression and show examples of training methods.</p>		<p>This course assists in making intelligent health-conscious decisions through topics such as wellness, aging, sexuality, drugs and alcohol, and communicable diseases. It introduces activities and skills for leading healthy lifestyles including fitness assessment, weight management, and exercise.</p>	
<b>PE153 Aerobic Fitness</b>	<b>Cr-.5</b>	<b>Intercollegiate Athletics</b>	
<p>This course provides an understanding of the five health-related components of fitness (aerobic capacity, body composition, flexibility, muscular endurance, and muscular strength) and how aerobic exercise contributes to their development. Exercise sessions are dedicated to developing total fitness.</p>		<p>These courses are designed for competition at the intercollegiate athletic level. Organization, conditioning, and practice sessions prepare students for competition as members of an MVCC intercollegiate team. Team rosters may be determined according to program limitations, with players selected on ability and availability. NJCAA athletic eligibility must be met prior to competition and all students must pass a physical exam administered by a qualified health care professional. Varsity courses each carry 1.0 credit for completion of one season of participation on a varsity team.</p>	
<b>PE154 Fitness Center</b>	<b>Cr-1</b>		
<p>This course introduces students to a comprehensive fitness program, including strength training, cardiovascular endurance, and flexibility enhancement. Students develop the basic knowledge to pursue fitness as a lifetime endeavor.</p>			

**PE178 Varsity Lacrosse – Women**  
**PE179 Varsity Soccer – Women**  
**PE182 Varsity Lacrosse – Men**  
**PE183 Varsity Ice Hockey**  
**PE184 Varsity Bowling**  
**PE185 Varsity Soccer – Men**  
**PE186 Varsity Basketball – Men**  
**PE188 Varsity Baseball**  
**PE189 Varsity Tennis – Men**  
**PE191 Varsity Volleyball**  
**PE192 Varsity Tennis – Women**  
**PE193 Varsity Basketball – Women**  
**PE194 Varsity Softball**  
**PE195 Varsity Cross Country**  
**PE196 Varsity Indoor Track**  
**PE197 Varsity Golf**  
**PE198 Varsity Track & Field**

**PE211 Strength Training 2** **P-1 Cr-5**

This course provides proper training techniques for implementing a personal weight program. It is a continuation of PE111 Strength Training I, isolating and intensifying workouts for specific muscle groups to maximize muscle strength and development. Prerequisite: PE111 Strength Training I.

**PE230 Lifeguard Training** **P-4 Cr-2**

This course is for those who have an interest in developing a high degree of proficiency in swimming, water safety, and lifeguard skills. It provides the opportunity to work on requirements to become a certified lifeguard per NYS Health Department standards.

**PE234 SCUBA Diving 2** **P-2 Cr-1**

This course, a Specialty (Level 2) Open-Water Diver program, teaches advanced diving skills in underwater navigation, deep diving, and dry-suit diving. Successful completion of classroom, pool, and open-water work leads to internationally recognized Specialty (Level 2) Diver Certification. Prerequisite: PE134 SCUBA Diving or Level I Certification or instructor permission. Additional fees charged.

**PE300 Independent Study in Physical Education** **Cr 1-2**

**PH Physics Courses**

**(Center for Mathematics, Engineering, Physical Sciences, and Applied Technology, STEM)**

**PH112 Science of Light 1(N1, N2)** **C-3 P-2 Cr-4**

This course introduces the concepts of light and optics. Topics include the historical development of optical instruments, electromagnetic spectrum, lenses and image formation, light-sensitive materials and processes, color filters, Kirlean imaging, and holography. Examples are chosen from a variety of fields, including photography, human vision, and nature. Prerequisite: An appropriate Mathematics Placement test result, or MA90 Essential Math Skills, or MA091 Introductory Algebra.

**PH113 Science of Light 2 (N2)** **C-3 P-2 Cr-4**

This course is a continuation of PH112 Science of Light 1 and applies scientific principles to the analysis of the materials and processes of imaging. Topics include the historical development of

color theory, color emulsions and their processing, physics of light sources, diffraction, interference, sensitometry, image evaluation, and digital image processing. Prerequisite: PH112 Science of Light 1.

**PH114 Science of Digital Imaging** **C-3 P-2 Cr-4**

This course provides an overview of the science underlying the field of digital imaging. Topics include the historical development of digital imaging technology, introduction to computers, color theory and color calibration, how image input and output devices work, the science of digital image manipulation, computer generation and display of 3-D images, and real-world applications and their impact upon the individual and society. Image manipulation software is used to demonstrate and explore concepts. Prerequisite: An appropriate Mathematics Placement test result, or MA90 Essential Math Skills, or MA091 Introductory Algebra.

**PH115 Science of Multimedia (N2)** **C-3 P-2 Cr-4**

This course examines the scientific and computer concepts to understand and use multimedia methods. Topics include an introduction to computers, color science, digital imaging, analog and digital sound concepts, video theory, animation techniques, authoring software, and multimedia distribution on the Internet as well as the testing and quality control of multimedia productions. Hardware and software packages are used to explore and demonstrate concepts.

**PH116 Science of Multimedia 2** **C-3 P-2 Cr-4**

This course extends the scientific and computer concepts developed in PH115 to 3-D multimedia. It provides hands-on experience using a professional 3-D graphics engine. Topics include vectors and vector operations, transformation theory, design of 3-D Graphical User Interfaces, 3-D lighting, 3-D cameras, multi-texturing, 3-D optimization techniques, mesh generation, third-party model generation, 3-D node hierarchy, using a 2-D mouse in a 3-D world, generation of physically accurate simulations, and 3-D game development. Hardware and software packages are used to explore and demonstrate concepts. Prerequisites: PH115 Science of Multimedia; and an appropriate Mathematics Placement test result, or MA121 Fundamentals of College Mathematics I, or MA125 College Algebra and Trigonometry.

**PH131 Physics Fundamentals** **C-2 P-4 Cr-4**

This conceptual survey of physics emphasizes verbal reasoning and understanding in a classroom and laboratory format. It covers mechanical energy, sound, electricity, optics, thermal energy, and atomic nuclear energy. This course does not satisfy the graduation requirements for Science and Technology majors. Prerequisite: An appropriate Mathematics Placement test result, or MA045 Basic Math Skills, or MA050 Introductory Mathematics.

**PH141 Astronomy: The Solar System (N1, N2)** **C-3 P-2 Cr-4**

This course covers the history of astronomy, the tools of the astronomer, the earth as an astronomical body, and the solar system. Laboratory sessions may be scheduled in the evening. Prerequisite: An appropriate Mathematics Placement test result, or MA90 Essential Math Skills, or MA091 Introductory Algebra.

**PH142 Astronomy: Stars, Galaxies, and the Universe (N2)** **C-3 P-2 Cr-4**

This course covers these topics: the sun and other stars, multiple star systems, the Milky Way and other galaxies, nebulae, intergalactic material, cosmology and the evolution of stars, pulsars, and black holes. Laboratory sessions may be scheduled in the evening. Prerequisite: An appropriate Mathematics Placement test result, or MA045 Basic Math Skills, or MA050 Introductory Mathematics.

**PH145 Physics (N1, N2) (Verizon)****C-3 P-2 Cr-4**

This course introduces physical laws and principles inherent in the study of mechanics, wave mechanics, light and optics, electricity and magnetism, and modern physics. Emphasis is placed on vibrations and waves, electricity and magnetism, and wave options. Dimensional analysis and problem-solving are stressed. This course is restricted to Verizon NextStep students. Prerequisite: MA119 Technical Algebra and Trigonometry 2.

**PH151 General Physics 1 (N1, N2)****C-3 P-2 Cr-4**

This non-calculus Physics course for technology, business administration, computer science, and liberal arts and sciences students covers topics in mechanics, wave motion, and heat. Prerequisite: An appropriate Mathematics Placement test result, or MA121 Fundamentals of College Mathematics I, or MA125 College Algebra & Trigonometry.

**PH152 General Physics 2 (N2)****C-3 P-2 Cr-4**

This course is a continuation of PH151 General Physics I and includes topics in electricity and magnetism, geometrical and physical optics, and modern physics. Prerequisite: PH151 General Physics I.

**PH261 Engineering Physics 1 (N1, N2)****C-3 P-3.5 Cr-4.5**

This is the first of three calculus-based Physics courses for mathematics, physics, and engineering students. It covers topics in translational motion, particle dynamics, work and energy, momentum and impulse, rotational kinematics, rigid body motion, gravitation, vibrational motion, fluid mechanics, wave motion, and acoustics. Prerequisites: MA151 Calculus I.

**PH262 Engineering Physics 2 (N2)****C-3 P-3.5 Cr-4.5**

This standard calculus-based Physics course in heat, electricity, and magnetism is for mathematics, physics, and engineering students. It covers topics in temperature and expansion, calorimetry, heat transfer; the laws of thermodynamics, Coulombs Law, the electric field, potential, capacitance, Ohms Law, DC circuits, the magnetic field, charged particle ballistics, induced EMF, inductance, and electromagnetic oscillations. Prerequisites: MA152 Calculus 2; PH261 Engineering Physics I.

**PH263 Engineering Physics 3****C-3 P-3.5 Cr-4.5**

This standard calculus-based physics course in optics and modern Physics is for physics and engineering students. It covers topics in electromagnetic waves, geometrical optics, physical optics, relativity quantum physics, atomic physics, wave mechanics, solid state physics, and nuclear physics. Prerequisites: MA253 Calculus 3; PH262 Engineering Physics 2.

**PH300 Independent Study in Physics****Cr 1-4****PM Physical Education Emphasis Courses****(Center for Life and Health Sciences, LAHS)****PM101 Soccer - PE Majors****P-2 Cr-1**

This course covers fundamental to advanced individual and team skills as well as concepts related to the game of soccer. It develops an understanding of how to present skills to players in an individual or team setting. For Physical Education emphasis students.

**PM102 Volleyball - PE Majors****P-2 Cr-1**

This course covers the concepts of volleyball skills and tactics, with attention to skill analysis and application to the game. Opportunities

for practice teaching, analysis of team and individual performance, and class competitions are offered. For Physical Education emphasis students.

**PM103 Basketball - PE Majors****P-2 Cr-1**

This course covers the concepts and skills in the playing of basketball. It develops an ability to demonstrate fundamentals in teaching basketball skills. Developing drills for practice and understanding of game situations are provided. For Physical Education emphasis students.

**PM105 Tennis - PE Majors****P-2 Cr-1**

This course covers skills and rules of the sport of tennis, proper etiquette, how to teach skills with drills appropriate for skill levels, and how to administer skill tests. It involves participation in singles and doubles class competition. For Physical Education emphasis students.

**PM106 Golf - PE Majors****P-2 Cr-1**

This course covers concepts and skills in the playing of golf. It includes the fundamentals of the golf swing as applied to a variety of golf clubs and course contours. Class sessions are held on campus and at an area golf course. For Physical Education emphasis students.

**PM109 Swimming - PE Majors****P-2 Cr-1**

This course covers concepts of aquatic skills and safety. It includes study and practice in five basic swimming strokes, physical laws as applied to swimming, physical effects of swimming, personal safety, and elementary rescue forms. Concepts of teaching skill and aquatic games are studied. For Physical Education emphasis students.

**PM110 Racquet Sport - PE Majors****C-2 Cr-1**

This course covers fundamental and more advanced individual skills and strategy necessary for playing the games of badminton and racquetball. It includes how to present skills to the beginner in an organized manner. For Physical Education emphasis students.

**PM111 Total Fitness Training – PE Majors****P-2 Cr-1**

This course provides students with proper training techniques for development of muscular strength, cardiovascular endurance, and flexibility programs. Emphasis is placed on teaching students the physiological principles and proper safety mechanics of fitness components. For Physical Education emphasis students.

**PM300 Independent Study in Physical Education - Physical Education Majors****Cr 1-2****PS Political Science Courses****(Center for Social Sciences, Business & Information Sciences)****PS101 American National Government (S1, S2)****C-3 Cr-3**

This course introduces the discipline of political science through the study of American government. Topics include the concept of the political system, democracy in theory and practice, the historical background and content of the Constitution, Federalism, and the role of the Supreme Court in civil rights. It stresses these aspects of the American political system: public opinion, voting behavior, the electoral system, political parties, and modern campaigning techniques.

**PS102 Introduction to Public Policy****C-3 Cr-3**

This course introduces public policy, a field of study that integrates political, social, and economic theories and insights, and addresses the general question, "Who gets what, when, and how in society?" To

answer this question, the history of public policy in the United States is studied, and how public policy is defined, developed, and applied within the federalist system of government. The role of governmental and non-governmental institutions in policy making is examined from several theoretical perspectives. Contemporary issues in public policy are studied through the application of these theories to key substantive areas, including crime and justice, healthcare, social welfare, education, and the environment.

**PS202 Comparative Politics (S2) C-3 Cr-3**

This course covers the convergence of theories, methods, and concepts associated with political science and comparative politics. It introduces knowledge about politics and political science in a comparative perspective and develops a framework of classifications or typologies to deal with the complexity of political life. A specific effort is made to survey major ideological strains, from communism to fascism, and to link them to recent and current regimes and movements.

**PS203 State and Local Government (S2) C-3 Cr-3**

This course covers the organization, operation, and issues of state, county, and city government. Emphasis is placed on comparative politics in the fifty states and the current problems of federalism. Local governmental units and issues are considered in the study of developments on that level.

**PS204 American Foreign Policy (S2) C-3 Cr-3**

This course examines post-World War II American foreign policy. It focuses upon the nature and shaping of foreign policy, the foreign policy process, and the improvements needed in that process. Prerequisite: PS101 American National Government or PS202 Comparative Politics.

**PS205 International Politics (S2) C-3 Cr-3**

This course covers the skills necessary to analyze contemporary international politics. It focuses upon international politics as a political system, examines the types of actors (individuals, groups, or institutions) who make decisions determining the course of international politics, and discusses how nations deal with one another in international interactions. Prerequisite: PS101 American National Government or PS202 Comparative Politics.

**PS206 Public Policy Technical Writing P-3 Cr-3**

This course focuses on the preparation of written reports, grants, correspondences, proposals, and research in the public, private, and non-profit sectors. Analytical, theoretical, and practical writing techniques are explored, as is writing in a comprehensive, well-organized, and convincing manner. Legal and ethical issues that face government are explored and critiqued. Emphasis is placed on contemporary information and technologies. Prerequisites: EN101 English I: Composition, PS101 American National Government, PS102 Introduction to Public Policy, and IS101 Computers and Society.

**PS209 Introduction to Peace Studies C-3 Cr-3**

This course examines the ways in which groups use nonviolent techniques to resolve common inter- and intra-group conflicts. Historical and cross-cultural examples of nonviolent conflict resolution are analyzed. The context in which conflicts are created and resolved is discussed, including the significance of the values of society, power relations, systems of stratification, and social institutions.

## PT Photography Courses

(Center for Arts and Humanities, CAAH)

**PT101 Photography 1 C-2 P-2 Cr-3**

This course provides an understanding of principles as applied to all phases of photography. It covers instruction in photo optics, camera equipment, film and paper emulsion, photographic chemicals, filters and lens attachments, lighting, composition, and exposure control.

**PT102 Photography 2 C-1 P-4 Cr-3**

This course provides advanced technical skills in photography. Topics include advertising, portrait, and industrial photography. It includes the use of 35mm, 2 1/4, and view cameras. Laboratory procedures such as densitometry, studio lighting, sheet and roll film processing and enlarging are covered. Prerequisite: PT101 Photography I.

**PT103 Digital Color Photography C-2 P-2 Cr-3**

This course covers the fundamentals of color photography for those familiar with camera operation and enlarging. Theory and laboratory work are covered as well as instruction in the color head enlarger, filter selection, color photographic processes, chemical mixing, and drum processing of color prints. Film emulsions and exposure characteristics are considered. Prerequisite: PT101 Photography I or PT126 Basic Photography or PT214 Fine Art Photography I.

**PT104 Studio Techniques C-2 P-2 Cr-3**

This course covers the concepts and techniques of advertising and illustrative photography. It emphasizes studio work using view cameras. Topics include the advanced uses of the view camera, lighting techniques and applications, color correction, and studio techniques.

**PT105 Publishing Techniques for Photography C-1 P-4 Cr-3**

This course covers the techniques used to reproduce photographs for print production. Reproduction for newspaper, magazine, and bookwork is discussed. Halftones, duotones, and posterizations are produced using the vertical and horizontal process cameras. Darkroom processing and offset prepress procedures are included.

**PT106 Multimedia Photography C-2 P-2 Cr-3**

This course introduces the techniques of multimedia production. The techniques of DSLR video production are explored and students shoot and edit video captured from HD DSLR cameras. Students produce videos focusing on technical skills and storytelling through multimedia elements.

**PT111 Art Sources C-2 P-2 Cr-3**

This course introduces the fundamental aspects of creativity, design, and the exploration of art forms as applied to the creation and enhancement of photographic applications. It covers the sources of creativity, design principles, and the understanding and practice of art movements.

**PT126 Basic Photography C-2 P-2 Cr-3**

This course introduces photography and the photograph as a medium of the graphic communicator. It covers photographic principles and procedures, including how to operate a 35mm



adjustable camera, develop black-and-white film, make contact prints, and enlargements. The aesthetics of the photograph, and its use as a medium of graphic communications, is emphasized.

### **PT127 Creative Techniques in Photography**

**C-2 P-2 Cr-3**

This course introduces techniques used to create, edit, and manipulate photographs through both traditional and digital processes. Basic photographic principles and procedures are covered. Topics include the operation of SLR and DSLR cameras; wet lab photographic processes; digital methods and techniques; and alternative printing processes and media. The use of multiple forms of photographic media as a means of creative communication is emphasized.

### **PT201 Photojournalism**

**C-2 P-2 Cr-3**

This course covers newspaper and magazine photography through realistic assignments, critiques, and reference to accepted practices. The work of prominent photojournalists is viewed and discussed. Photographic projects are required, including a photo essay, to demonstrate skill in documenting a subject through photography. Prerequisites: PT101 Photography I.

### **PT202 Advanced Darkroom Techniques**

**C-1 P-4 Cr-3**

This course encourages work with experimental photography by exploring and exploiting photographic materials and techniques for creative ends. The mixing of photography with other media is encouraged. Printing processes once popular and now regaining interest are explored. Prerequisites: PT101 Photography I or PT126 Basic Photography or PT214 Fine Art Photography I.

### **PT203 Topics in Photography**

**C-1 P-3 Cr-3**

This course provides opportunity to expand on the course offerings of the Photography program. Topics change each semester to reflect trends within the medium. Prerequisites: PT102 Photography 2 and PT103 Digital Color Photography.

### **PT204 Photography Seminar**

**C-1 P-4 Cr-3**

This course is focused on helping students develop a professional approach to the industry. Projects are customized by inclination and requirements, and a personal direction is encouraged. Key aspects of entering the field, such as portfolio presentation and personal marketing are addressed. Emphasis is placed on refining the student's portfolio and credentials so that they can confidently take the next step in their personal plans for joining the professional photography industry. Prerequisites: PT104 Studio Techniques and PT202 Advanced Darkroom Techniques.

### **PT205 History of Photography 1 (H2)**

**C-3 Cr-3**

This course surveys the history of photography, beginning with the camera obscura of the Middle Ages through the beginning of the 20th Century. It emphasizes the artistic intent and purpose of the photographer.

### **PT206 History of Photography 2**

**C-3 Cr-3**

This course focuses on the development of photography in the 20th Century. It explores technological innovations throughout the 20th Century and their impact on photography. It reinforces the premise that photography is a vital means of communication in the field of visual communications. It covers the interdisciplinary nature of 20th Century photography, and how it lends itself well to science, art, and communications.

### **PT207 Digital Photography 1**

**C-2 P-2 Cr-3**

This course introduces techniques used to create, edit, and manipulate photographs through digital processes. Topics include image capture and input methods, workflow, editing in the digital darkroom, and output techniques for black and white as well as color images. Students operate a DSLR camera, and are introduced to Adobe Lightroom and Adobe Photoshop. Photographic composition and aesthetics, and their use as a form of visual communication, are emphasized. Prerequisite: PT101 Photography I.

### **PT208 Digital Photography 2**

**C-2 P-2 Cr-3**

This course is a continuation of PT207 Digital Photography I, covering advanced imaging techniques to create digital images. It emphasizes working with software programs, and develops advanced skills in the use of computer-based imagery and digital media. It strikes a balance between the stimulation of creativity and the acquisition of technical knowledge. Prerequisite: PT207 Digital Photography I.

### **PT210 Portrait and Fashion Photography**

**C-2 P-2 Cr-3**

Portrait and fashion photography equips students with the skills necessary for portraiture. Emphasis is placed on lighting and posing arrangements and combinations. The influences and techniques of notable figures within the genre of portrait and fashion photography are explored. The course incorporates DSLR video components and current professional practices.

### **PT214 Fine Art Photography 1**

**P-6 Cr-3**

This course introduces black and white photography as a fine art medium. It covers basic camera operation, film processing, and printing. Emphasis is given to individual expression and personal vision. A brief history of fine art photography is included. Students also study basic principles of slide production as it relates to creating a portfolio for transfer. The aesthetics of the photograph and its use as a medium of visual communication are emphasized. Studio lab fee: \$30

### **PT222 Fine Art Photography 2**

**P-6 Cr-3**

This course is intended to move beyond basic black and white processes and techniques to expand the range of creative possibilities and personal expression. Color printing, experimental techniques, alternative photographic processes, and image manipulation are emphasized. The course will include a survey of contemporary fine art photography. Prerequisite: PT214 Fine Art Photography I. Studio laboratory fee: \$60

### **PT300 Independent Study in Photography**

**Cr 1-4**

## **PY Psychology Courses**

**(Center for Life and Health Sciences, LAHS)**

### **PY101 Introduction to General Psychology (S1, S2)**

**C-3 Cr-3**

This course introduces the many and varied facets of psychology. Emphasis is on interactions of individuals in their cultural, social, and economic environments as determined by their cognitive, behavioral, and emotional experiences and training.

### **PY201 Learning: Behavior Analysis (S2)**

**C-3 Cr-3**

This course explores the mechanisms that underlie human learning. Emphasis is placed on the examination of the behavioral approach to the study of human learning. Prerequisite: PY101 Introduction to General Psychology.

**PY202 Childhood & Adolescence (S2)****C-3 Cr-3**

This course examines the psychological changes that take place between birth and adolescence. Emphasis is placed on the cognitive, social, emotional, language, and physical dimensions of developmental change. The psychological pathologies unique to this segment of the lifespan are discussed. Prerequisite: PY101 Introduction to General Psychology.

**PY203 Abnormal Psychology (S2)****C-3 Cr-3**

This course covers the historical views of abnormality as well as current classification of abnormal behavior. It emphasizes the comparison of perspectives on causes and treatments of abnormal behavior. Prerequisite: PY101 Introduction to General Psychology.

**PY204 Social Psychology (S2)****C-3 Cr-3**

This course deals with theoretical and applied aspects of the individual in social contexts. Attention is given to interpersonal relations and group dynamics, for better understanding of functioning in social situations. Topics include conformity, aggression, interpersonal attraction, and communication. Prerequisite: PY101 Introduction to General Psychology.

**PY205 Adulthood and Aging (S2)****C-3 Cr-3**

This course examines the adjustments faced by the individual from midlife through old age. Emphasis is placed on the effect of role changes on the individual's view of self and their ability to function. Methods to ease role transitions are covered. Prerequisite: PY101 Introduction to General Psychology.

**PY206 Theories of Personality (S2)****C-3 Cr-3**

This course investigates a variety of personality theories, including biological factors, psychoanalysis, humanism, existentialism, and behaviorism. Emphasis is placed on the contribution of each theory to the field. Prerequisite: PY101 Introduction to General Psychology.

**PY207 Life-Span Developmental Psychology (S2)****C-3 Cr-3**

This course explores the changes that take place in human development from conception to death. Cognitive, emotional, social, and physical developments are covered at each chronological stage. Emphasis is placed on biological and environmental influences across the life-span. Prerequisite: PY101 Introduction to General Psychology. Students who have successfully completed PY202 Childhood and Adolescence and/or PY205 Adulthood and Aging may not take PY207 Life-Span Developmental Psychology.

**PY208 Death, Dying & Bereavement (S2)****C-3 Cr-3**

This course increases personal knowledge about death as an aspect of the life process and assesses the impact of dying and bereavement from psychosocial, cultural, and historical as well as developmental, medical, and legal perspectives. Human roles relating to the distinct needs of dying persons and their friends and families are examined. Prerequisite: PY101 Introduction to General Psychology.

**PY209 Forensic Psychology****C-3 Cr-3**

This course examines the relationship between psychopathology and criminality, and describes the legal context in which forensic psychology is practiced. Unlike other disciplines of psychology, which are therapeutic or rehabilitative in nature, it is concerned with the prevention, detection, and reduction of crime. Prerequisites: PY101 Introduction to General Psychology and PY203 Abnormal Psychology.

**PY210 Evaluation, Research & Measurement in Behavioral Science****C-3 Cr-3**

This course examines research methodology in the behavioral sciences including observational and recording methods, the evaluation of performance (psychometrics), and quasi-experimental research. Emphasis is placed upon the application of the methodologies to research designs and the interpretation of psychological reports. Prerequisite: PY101 Introduction to General Psychology.

**PY212 Adolescent Psychology (S2)****C-3 Cr-3**

This course explores physical, social, emotional, moral, and cognitive development during adolescence. It examines theories and research about adolescent development. Topics include the changing role of relationships with peers and parents, gender and identity development, problem behaviors, and appropriate interventions to reduce risky behavior and promote successful development. The influence of the social and cultural context on development is considered. Fifteen hours of observation of adolescents in a 7th - 12th grade school setting must be completed. Prerequisite: PY101 Introduction to General Psychology.

**PY213 Human Sexuality****C-3 Cr-3**

This course provides an overview of the bio-psychosocial perspectives of human sexuality. It covers the personal and biological aspects of human sexuality, and its historical and cultural perspectives. Topics include sexuality across the lifespan, sexual identity development, and variation of the human sexual experience. Prerequisite: PY101 Introduction to General Psychology.

**PY300 Independent Study in Psychology****Cr 1-4****RC Respiratory Care Courses****(Center for Life and Health Sciences, LAHS)****RC101 Basic Science for Respiratory Care****C-2 Cr-2**

This course addresses topics in mathematics, physics, chemistry and microbiology related to respiratory care practice. Mathematical areas include graphing, nomograms and basic statistics. Physics and chemistry topics include the states of matter; humidity, gas pressure, gas laws, acids, bases, buffers, fluid dynamics, compliance, resistance, elastance and surface tension. A four-week module provides an introduction to microbiology at the end of the semester. Emphasis is placed on microbes that commonly involve the respiratory system. The course delivery mode is a hybrid on-line/on-site combination requiring attendance at microbiology lab sessions on the Utica Campus the last two weeks of class. Prerequisites: An appropriate Mathematics Placement test result, or MA045 Basic Math Skills, or MA050 Introductory Mathematics. (Fall semester)

**RC103 Cardiopulmonary Pharmacology****C-3 Cr-3**

This course presents the principles of pharmacology, drug actions, dosage calculations, and agents administered in cardiopulmonary care. It covers indications, side effects, hazards, and mechanisms of action, general categories, and classification of drugs. Respiratory, cardiovascular, neuromuscular, sedative-narcotic, and anti-infective agents are reviewed. Prerequisites: An appropriate Mathematics Placement test result, or MA045 Basic Math Skills, or MA050 Introductory Mathematics. A minimum grade of C is required for a Mathematics equivalent course. (Fall semester)



**RC111 Principles of Respiratory Care 1****C-3 P-3 Cr-4.5**

This is the first course in the curriculum sequence to study the theory and practice of respiratory care. Topics include cardiopulmonary anatomy and physiology (including lung and cardiac function, mechanics of breathing, oxygen and carbon dioxide exchange, and control of ventilation), gas administration therapies, humidity and aerosol therapies and bronchial hygiene techniques. Prerequisites: An appropriate Mathematics Placement test result, or MA045 Basic Math Skills, or MA050 Introductory Mathematics. A minimum grade of C is required for a Mathematics equivalent course. (Fall semester)

**RC112 Principles of Respiratory Care 2****C-3 P-3 Cr-4.5**

This is the second course in the curriculum sequence to study the theory and practice of respiratory care. Topics include lung expansion therapies, airway management, acid-base balance, and the interpretation of arterial blood gas results. Detailed information required to initiate, maintain, monitor, and wean patients from mechanical ventilation is provided. Prerequisites: A full year of high school general chemistry with laboratory (with a minimum grade of 70) within ten years or equivalent course with a minimum grade of C, RC101 Basic Science for Respiratory Care, RC103 Cardiopulmonary Pharmacology, and RC111 Principles of Respiratory Care 1. Corequisites: BI216 Human Anatomy & Physiology I, RC115 Cardiopulmonary Diseases, and RC131 Clinical Practicum 1(a) or Program Coordinator consent. (a) Minimum grade of C required. (Spring semester)

**RC115 Cardiopulmonary Diseases****C-3 Cr-3**

The initial portion of this course stresses the integral components of data collection, assessment, and evaluation necessary for the development of an effective care plan for patients with cardiopulmonary disorders. The remainder emphasizes the etiology, manifestations, and treatment of a variety of cardiopulmonary diseases. Case study presentations use critical thinking skills. Prerequisites: A full year of high school general chemistry with laboratory (with a minimum grade of 70) within ten years or equivalent courses with a minimum grade of C, RC101 Basic Science for Respiratory Care, RC103 Cardiopulmonary Pharmacology, and RC111 Principles of Respiratory Care 1. Corequisites: BI216 Human Anatomy & Physiology I (a), RC112 Principles of Respiratory Care 2 (a), and RC131 Clinical Practicum 1 (a), or Program Coordinator consent. (a) Minimum grade of C required. (Spring semester)

**RC131 Clinical Practicum 1****P-9 Cr-3**

This initial 135-hour hospital experience provides the supervised practice of routine respiratory therapies in a community clinical setting. Theories and skills learned in the classroom and laboratory are applied in actual patient care situations. The safe administration of therapies, maintenance of records, and infection control procedures are stressed. Prerequisites: Documented health physical examination within three months, including specific test results, liability insurance coverage, and current CPR for Healthcare Providers Certification are required for all students before the start of this course. A full year of high school general chemistry with laboratory (with a minimum grade of 70) within ten years or equivalent course with a minimum grade of C, RC101 Basic Science for Respiratory Care, RC103 Cardiopulmonary Pharmacology, RC111 Principles of Respiratory Care 1(a). Corequisites: BI216 Human Anatomy & Physiology I (a) and RC115 Cardiopulmonary Diseases, or Program Coordinator consent. (a) Minimum grade of C required. (Spring semester)

**RC213 Principles of Respiratory Care 3****C-2 P-2 Cr-3**

This is the third course in the curriculum sequence to study the theory and practice of respiratory care. Topics include cardiopulmonary diagnostics and monitoring, special procedures (i.e., bronchoscopy and thoracentesis), critical care pharmacology, home care, cardiopulmonary rehabilitation, and advanced management for the patient requiring mechanical ventilation. Prerequisites: BI217 Human Anatomy & Physiology 2(a), RC112 Principles of Respiratory Care 2(a), RC115 Cardiopulmonary Diseases, RC131 Clinical Practicum 1(a). Corequisites: RC232 Clinical Practicum 2(a) or Program Coordinator consent. (a) Minimum grade of C required. (Fall semester)

**RC214 Acid Base Physiology****C-2 Cr-2**

This course covers the concepts of fluid and electrolyte balance, and the implications of the cardiopulmonary/renal systems on acid-base homeostasis in the body. Focus is placed on the application of acid-base physiology in the clinical arena and its impact on patient management. Emphasis is placed on interpretation of fluid and electrolyte imbalance, and their interrelationships. Prerequisite: BI217 Human Anatomy & Physiology 2 (a) or instructor consent. (a) Minimum grade of C required. (Spring semester)

**RC215 Principles of Respiratory Care 4****C-1 P-1 Cr-1.5**

This is the fourth course in the curriculum sequence to study the theory and practice of respiratory care. This concentrated five-day offering presents topics related exclusively to neonatal and pediatric respiratory care. Content areas include neonatal and pediatric diseases, pharmacology, airway management, mechanical ventilation, high-frequency oscillation, and extracorporeal membrane oxygenation (ECMO). Requirements are completed for American Heart Association (AHA) Neonatal Resuscitation Protocol (NRP) and Pediatric Advanced Life Support (PALS). Prerequisites: RC233 Clinical Practicum 3(a), RC214 Acid Base Physiology, and BI209 Basic Pathophysiology. Corequisite: RC234 Clinical Practicum 4 or Program Coordinator consent. (a) Minimum grade of C required. (Summer semester)

**RC232 Clinical Practicum****P-18 Cr-6**

This course provides opportunities to practice routine procedures and adult critical care during 270 hours of experience in a variety of clinical sites. Specialty rotations include pulmonary function testing, cardiac catheterization, cardiac diagnostics, emergency services and cardiothoracic surgery. Safe practice, critical thinking and problem solving are key components. Prerequisites: BI217 Human Anatomy and Physiology 2 (a), RC112 Principles of Respiratory Care 2 (a), RC115 Cardiopulmonary Diseases, and RC131 Clinical Practicum 1 (a). Corequisites: RC213 Principles of Respiratory Care 3 (a), or Program Coordinator consent. (a) Minimum grade of C required. (Fall semester)

**RC233 Clinical Practicum 3****P-8 Cr-6**

This course involves 270 hours of experience in at least four clinical affiliates. Emphasis is placed on adult critical care experiences. Specialty rotations include a physician preceptorship, routine pediatric care, respiratory homecare, pulmonary rehabilitation, polysomnography, radiology, and Advanced Cardiac Life Support (ACLS) completion. Prerequisites: RC213 Principles of Respiratory Care 3 (a), and RC232 Clinical Practicum 2(a) or Program Coordinator consent. [(a) Minimum grade of C required.](Spring semester)

## **RC234 Clinical Practicum**

**4 P-12 Cr-4**

This course provides opportunities to perform all aspects of respiratory care with emphasis on neonatal, pediatric and adult critical care during 180 hours of experience in a variety of clinical sites. Specialty rotations include extended ventilator care, critical care monitoring and patient assessment. Adult rotations provide a capstone experience to facilitate the transition from student to entry-level practitioner. Safe practice, critical thinking, problem solving and time management are key components. Prerequisite: RC232 Clinical Practicum 3 (a). Corequisite: RC215 Principles of Respiratory Care 4 (a). (a) Minimum grade of C required. (Summer semester)

## **RC300 Independent Study in Respiratory Care**

**Cr 1-6**

## **RE Recreation & Leisure Services Courses**

**(Center for Life and Health Sciences, LAHS)**

### **RE100 Introduction to Recreation**

**C-3 Cr-3**

This course introduces the history, theory, and philosophy of the recreation movement and its relation to individuals and the groups in our changing society. Emphasis is placed on an orientation to recreation as a vocation within the structure of community recreation (governmental, public, and commercial).

### **RE102 Recreation Safety & Liability**

**C-3 Cr-3**

This course provides an understanding of the risk management process in recreation programming and facility management. Emphasis is placed on the concepts of liability and negligence as related to the leisure delivery services system, with a focus on risk reduction and increased safety. Studies culminate in completion of group-assigned risk management plans.

### **RE105 Recreation Leadership and Activity Development**

**C-2 P-2 Cr-3**

This course develops skills and techniques used in leading individual and group activities for all ages. The eleven program areas in the field of Recreation and Leisure are covered. Emphasis is placed on developing lesson plans and presenting activities. Field trips are included. Corequisite: RE100 Introduction to Recreation.

### **RE106 Outdoor Recreation and Leisure Activities**

**C-2 P-2 Cr-3**

This course investigates the field of outdoor recreation and leisure. Outdoor activities develop knowledge of group dynamics and leadership skills. Federal, state, and private programs are studied through field trips and speakers. There is a strong focus on today's environment and its effect on outdoor activity.

### **RE204 Fitness Programming & Management**

**C-2 P-2 Cr-3**

This course provides an in-depth look at aspects of physical fitness and methods of measuring. It covers management techniques as they apply to fitness center facilities. Laboratory sessions offer hands-on experience leading and participating in fitness activities.

### **RE205 Recreation Internship 1**

**C-1 P-6 Cr-3**

This course provides the opportunity to gain supervised practical experience in a recreation setting related to an area of professional interest. In addition to 90 hours of field experience, participation in a weekly seminar is required. Corequisite: RE100 Introduction to Recreation.

### **RE207 Recreation Internship 2**

**C-1 P-6 Cr-3**

This course provides a continuation of the supervised experience in recreational settings. Greater initiative and responsibility are

assumed at the internship site. In addition to 90 hours of field experience, participation in a weekly seminar is required. Corequisite: RE205 Recreation Internship 1, or permission of the Associate Dean of Athletics and Physical Education.

### **RE210 Recreation Program & Facility Management**

**C-3 Cr-3**

This course applies activity, leadership, and risk management skills to leisure programming and facility management. Emphasis is placed on current programming and management concepts. Topics include personnel management; budgeting and purchasing practices; maintenance and repairs related to equipment, supplies, and facilities; program formats and scheduling techniques; and the evaluation process. Prerequisites: RE105 Recreation Activity and Leadership Development and RE106 Outdoor Recreation and Leisure Activities, or permission of the Associate Dean of Athletics and Physical Education.

### **RE214 Therapeutic Recreation**

**C-3 Cr-3**

This course explores leisure delivery services designed to meet the needs of special populations in unique structured settings and community placements. Emphasis is placed on understanding the five functional domains in relation to the individuals need for recreation and leisure services. Community involvement, lesson planning, and leading activities are required.

### **RE300 Independent Study in Recreation Leadership**

**Cr 1-4**

## **RT Radiologic Technology Courses**

**(Center for Life and Health Sciences, LAHS)**

### **RT100 Patient Care I/Ethics**

**C-1 Cr-1**

This course prepares the radiologic technology student to evaluate and meet the physical, cultural, and emotional needs of the patient. Topics include basic arrhythmia and basic life support. Prerequisites: An appropriate MVCC Math Placement Test result or MA045 Basic Math Skills or MA050 Introductory Mathematics. Corequisites: RT101 Fundamentals of Radiography, RT102 Radiographic Procedures/Pathology I, RT103 Clinical Education Fundamentals, and BI216 Human Anatomy & Physiology I.

### **RT101 Fundamentals of Radiography**

**C-2 Cr-2**

This course provides an introduction to the basic concepts of radiographic physics and exposure. Topics include detailed history of x-ray, radiographic tube construction, process of x-ray production, x-ray beam characteristics, and the photographic and geometric properties of the radiographic image. The foundations of radiography and the practitioners' role in the health care delivery system are discussed. Prerequisites: An appropriate MVCC Math Placement Test result or MA045 Basic Math Skills or MA050 Introductory Mathematics. Corequisites: RT100 Patient Care I/Ethics, RT102 Radiographic Procedures/Pathology I, RT103 Clinical Education Fundamentals, and BI216 Human Anatomy & Physiology I.

### **RT102 Radiographic Procedures/Pathology I**

**C-1 P-4, Cr-3**

This course introduces basic terminology, principles of radiographic procedures, and directional terms in relation to the human body. Students practice under simulated conditions in a laboratory setting before actually performing on patients in a clinical setting. Topics include proper use of radiographic equipment and patient safety issues. Prerequisites: An appropriate MVCC Math Placement Test result or MA045 Basic Math Skills or MA050 Introductory Mathematics. Corequisites: RT100 Patient Care I/Ethics, RT101

Fundamentals of Radiography, MRI03 Medical Terminology, and BI216 Human Anatomy & Physiology I.

### **RT103 Clinical Education Fundamentals** **P-9 Cr-3**

This course introduces basic terminology, principles of radiographic procedures, and directional terms in relation to the human body. Students practice under simulated conditions in a laboratory setting before actually performing on patients in a clinical setting. Topics include proper use of radiographic equipment and patient safety issues. Prerequisites: An appropriate MVCC Math Placement Test result or MA045 Basic Math Skills or MA050 Introductory Mathematics. Corequisites: RT100 Patient Care I/Ethics, RT101 Fundamentals of Radiography, MRI03 Medical Terminology, and BI216 Human Anatomy & Physiology I.

### **RT104 Patient Care II/Pharmacology & IV Therapy** **C-1 Cr-1**

This course provides students with basic pharmacologic principles and practices, knowledge of the administration of radiopaque contrast media, and related emergency medications. IV Therapy instruction component provides basic knowledge and theory related to IV therapy with regard to fluids, fluid administration, anatomy and physiology, venipuncture, infection prevention, and complications. Prerequisite: RT100 Patient Care I/Ethics. Corequisites: RT105 Image Production & Evaluation I, RT106 Radiographic Procedure / Pathology 2, RT107 Clinical Education Intermediate I, BI217 Human Anatomy & Physiology 2.

### **RT105 Image Production & Evaluation I** **C-2 Cr-2**

This course provides students with a knowledge base in factors that govern the image production process. Film-screen imaging with related accessories, including radiographic grids, is emphasized. The components, principles, and operation of digital imaging systems found in diagnostic radiology are discussed. Prerequisite: RT100 Patient Care I/Ethics, RT101 Fundamentals of Radiography, RT102 Radiographic Procedures/Pathology, RT103 Clinical Education Fundamentals. Corequisites: RT104 Patient Care II/Pharmacology & IV Therapy, RT106 Radiographic Procedures/Pathology 2, RT107 Clinical Education Intermediate.

### **RT106 Radiographic Procedures/Pathology II** **C-1 P-4 Cr-3**

This course introduces students to the skills necessary to perform the routine radiographic procedures with confidence. Through laboratory demonstration, supervised lab practice, and image evaluation, students receive instruction on the proper positioning of the patient to achieve a finished radiographic image displaying specific structures on particular body parts. The course also includes pathologic indications for each projection and appropriate adjustments for certain pathologic conditions that may affect the patient's ability to assume certain positions. Proper equipment manipulation and patient safety issues are discussed throughout the course. Prerequisite: RT101 Fundamentals of Radiography, RT102 Radiographic Procedures/Pathology I, RT103 Clinical Education Fundamentals. Corequisites: RT104 Patient Care II/Pharmacology & IV Therapy, RT107 Clinical Education Intermediate I.

### **RT107 Clinical Education Intermediate I** **P-15 Cr-5**

In this course, students experience day-to-day real life situations in health care which are essential to foster a professional demeanor, compassionate behavior, desirable work ethic, and the skills necessary to perform radiographic procedures and produce radiographic images for the diagnosis. This clinical component complements the

clinical competencies learned. Prerequisite: RT103 Clinical Education Fundamentals. Corequisites: RT104 Patient Care 2/Pharmacology & IV Therapy, RT105 Image Production & Evaluation I, RT106 Radiographic Procedures/Pathology II.

### **RT108 Clinical Education Intermediate II** **P-24 Cr-8**

In this course, students obtain clinical expertise in an actual radiology department setting and experience day-to-day real life situations in health care. Professional demeanor, compassionate behavior, desirable work ethic, and the skills necessary to perform radiographic procedures and produce radiographic images for diagnosis are practices. Students develop clinical skills which complement the clinical competencies learned. Prerequisite: RT107 Clinical Education Intermediate I and MRI03 Medical Terminology.

### **RT109 Radiation Biology I** **C-2 Cr-2**

This course is the first in a two semester sequence in Radiation Biology. Topics include an introduction to basic concepts of physics that relate to radiation absorption and scatter; analysis of ionizing and nonionizing radiation, the electromagnetic spectrum, the process of interaction between radiation and matter; sources of radiation both natural and artificial, and units of measure. Basic concepts of molecular and cell biology in the context of the sequence of events that occur after absorption of energy from ionizing radiation and consequences on living systems are discussed. Prerequisite: RT101 Fundamentals of Radiography. Corequisites: RT200 Advanced Procedures/Sectional Anatomy, RT201 Image Production & Evaluation II, and RT202 Clinical Education Advanced.

### **RT200 Advanced Procedures/Sectional Anatomy** **P-2 Cr-1**

This course introduces advanced procedures that require the use of contrast media and the pathologies indicated for these exams. Topics include general and specialized procedures involving the use of contrast agents of the reproductive tracts as well as the spinal column; basic anatomy of the brain, chest, abdomen, and pelvis as viewed in a cross section of the anatomy. Patient and equipment safety, proper room set-up, supervised lab practices, and film evaluation sessions are demonstrated and practiced. Phantoms are used to help assess the student's ability to perform proper positioning of the skull and facial bones. Prerequisite: RT101 Fundamentals of Radiography. Corequisites: RT109 Radiation Biology I, RT201 Image Production & Evaluation II, and RT202 Clinical Education Advanced.

### **RT201 Image Production & Evaluation II** **P-2 Cr-2**

This course provides a knowledge base in factors that govern and influence producing and recording radiological images. Film and electronic imaging with related accessories are emphasized. Theory application and accessory/equipment quality measurements are demonstrated. Prerequisite: RT105 Image Production & Evaluation I. Corequisites: RT109 Radiation Biology I, RT200 Advanced Procedures/Sectional Anatomy, RT202 Clinical Education Advanced.

### **RT202 Clinical Education Advanced** **P-18 Cr-6**

This course provides advanced clinical experience in day-to-day real life situations in health care which are essential to foster a professional demeanor, compassionate behavior, desirable work ethic, and the skills necessary to perform radiographic procedures and produce radiographic images for diagnosis. Students develop clinical skills which complement the clinical competencies learned. Prerequisite: RT108 Clinical Education Intermediate II. Corequisites: RT109 Radiation Biology I, RT200 Advanced Procedures/Sectional Anatomy, and RT201 Image Production & Evaluation II.



## **RT203 Radiographic Physics**

**C-2 Cr-2**

This course explores the basic concepts of the science and technology of x-ray imaging. Topics include the study of matter, energy, the electromagnetic spectrum, and ionizing radiation. Prerequisite: RT101 Fundamentals of Radiography. Corequisites: RT204 Radiation Biology 2, RT205 Advanced Imaging Procedures/Pathology, RT206 Radiographic Seminar, and RT207 Clinical Education Mastery.

## **RT204 Radiation Biology II**

**C-2 Cr-2**

This course is the second in a two semester sequence in Radiation Biology. Topics include radiation effects on organ systems, somatic and genetic damage factors, mutagens responsible for genetic mutations, the doubling dose concept, acute radiation syndromes, embryologic effects during pregnancy, and occupational and non-occupational dose limits. Additional instruction is provided on safety and regulation issues. Prerequisite: RT109 Radiation Biology I. Corequisites: RT203 Radiographic Physics, RT205 Advanced Imaging Procedures/Pathology, RT206 Radiographic Seminar, and RT207 Clinical Education Mastery.

## **RT205 Advanced Imaging Procedures/Pathology**

**C-1 Cr-1**

This course provides an overview of advanced imaging topics including equipment; computers in imaging; basic principles of the various health science professions; career planning; forensic radiography; and the principles, practices and policies of healthcare organizations. Theories of disease causation and the pathophysiologic disorders that compromise healthy systems are introduced. Prerequisite: RT102 Radiographic Procedures/Pathology I, RT106 Radiographic Procedures/Pathology II, RT200 Advanced Procedures/Sectional Anatomy. Corequisites: RT203 Radiographic Physics, RT204 Radiation Biology II, RT206 Radiographic Seminar, and RT207 Clinical Education Mastery.

## **RT207 Clinical Education Mastery**

**P-18 Cr-6**

This course provides capstone clinical experience in day-to-day real life situations in health care that are essential to foster a professional demeanor; compassionate behavior; desirable work ethic and skill necessary to perform radiographic procedures and produce radiographic images for diagnosis. Students develop clinical skills to complement the clinical competencies learned. Prerequisite: RT103 Clinical Education Fundamentals, RT107 Clinical Education Intermediate I, RT108 Clinical Education Intermediate II, RT202 Clinical Education Advanced. Corequisites: RT203 Radiographic Physics, RT204 Radiation Biology II, and RT205 Advanced Imaging Procedures/Pathology.

## **SA Study Abroad Courses**

**(Center for Language and Learning Design, CLLD)**

### **SA300 Study Abroad**

**Cr 1-15**

Students who participate in the MVCC semester abroad register for this course before they leave. Prerequisite: Permission of the Dean and the Director of International Studies.

## **SL English as a Second Language Courses**

**(Center for Language and Learning Design)**

### **SL055 English Skills Workshop 1**

**P-3 Cr-0**

This course assists beginner-level, non-native English speakers in improving their English skills, including reading, writing, and listening. Skills are evaluated at the beginning of the course, and a prescriptive

program is designed to meet the individual needs. Mandatory Corequisite: SL101 ESL 1: Beginning English Skills 1.

### **SL101 ESL 1: Beginning English Skills 1**

**C-15, Cr-15**

This thematically-based course provides non-native English speakers with English sufficient to fulfill the basic functions of their lives in an American community. Basic listening and speaking, reading and writing, and grammar are practiced with the goal of preparing students for further English language instruction. Prerequisite: An appropriate placement test result. Corequisite: SL055 English Skills Workshop 1.

### **SL102 ESL 2: Beginning English Skills 2**

**C-15 Cr-15**

This course expands on non-native English speakers' abilities in all language skill areas. Building on the basic language skills of SL050, this course further develops students' abilities to read and write, speak, and understand English. Students further their exposure to and understanding of the fundamental skills that prepare them to move on to more academically-oriented ESL courses. Prerequisites: A minimum grade of 'C' in SL101 Beginning English Skills I, or an appropriate placement test result.

### **SL105 ESL 3: Intermediate Reading**

**C-4 Cr-4**

This course prepares non-native English speakers for basic academic reading. Emphasis is placed on finding main ideas, recognizing supporting details, understanding vocabulary in context, skimming and scanning, and interpreting and analyzing texts. Prerequisite: A minimum grade of C in SL102 ESL 2: Beginning English Skills 2, or an appropriate placement test result.

### **SL106 ESL 3: Intermediate Composition**

**C-4 Cr-4**

This course introduces non-native English speakers to academic writing. Students learn to write focused, unified paragraphs and short compositions through the process of idea generation and development, paragraph organization, and revision. Students use grammar appropriate for specific purposes and develop self-editing skills. Prerequisite: A minimum grade of C in SL102 ESL2: Beginning English Skills 2, or an appropriate placement test result.

### **SL107 ESL 3: Intermediate Grammar**

**C-4 Cr-4**

This course introduces the non-native English speaker to the grammar necessary to speak and write academic English effectively. Topics include verb tenses, varied sentence structures, and modals at the intermediate level. Prerequisite: A minimum grade of C in SL100 ESL 2: Beginning English Skills 2, or an appropriate placement test result.

### **SL108 ESL 3: Intermediate Listening & Speaking**

**C-4 Cr-4**

This course introduces non-native English speakers to the idiomatic usage and listening and speaking skills necessary for academic settings. Main ideas and supporting points are listened for, summarized, and discussed in distinguishing between literal and idiomatic meanings. Prerequisite: A minimum grade of C in SL102 ESL 2: Beginning English Skills 2, or an appropriate placement test result.

### **SL115 ESL 4: Advanced Reading**

**C-4 Cr-4**

This course prepares advanced non-native English-speaking students for academic reading at the level necessary for college coursework. It focuses on developing vocabulary and strengthening interpretive reading and critical thinking skills as well as introducing library search strategies. Prerequisite: A minimum grade of C in SL105 ESL 3: Intermediate Reading, or an appropriate placement test result.

**SL116 ESL 4: Advanced Composition****C-4 Cr-4**

This course introduces non-native English speakers to the writing of well-organized and well-developed essays. It focuses on form and content, improving the clarity and sophistication of written expression in English. Prerequisite: A minimum grade of C in SL106 ESL 3: Intermediate Composition, or appropriate placement test result.

**SL117 ESL 4: Advanced Grammar****C-4 Cr-4**

This course prepares non-native English speakers to use grammar for effective written and oral communication in academic settings. Topics include advanced verb tenses, relative clauses, and conditionals. Students apply grammar concepts in speaking and writing activities. Prerequisite: A minimum grade of C in SL107 ESL 3: Intermediate Grammar or an appropriate placement test result.

**SL118 ESL 4: Advanced Listening & Speaking****C-4 Cr-4**

This course prepares non-native English speakers to succeed in college-level coursework by developing advanced English comprehension, speaking, and note-taking skills. Live and recorded lectures on academic topics provide practice in note-taking skills, content analysis, and the preparation of oral and written summaries or paraphrases. Prerequisite: A minimum grade of C in SL108 ESL 3: Intermediate Listening and Speaking, or appropriate placement test result.

**SL120 Pronunciation in Practice****C-2 P-2 Cr-3**

This course teaches non-native English speakers the fundamentals of American English pronunciation. Emphasis is placed on the pronunciation of language in real speaking contexts to improve oral comprehensibility of speech through intensive practice of stress, rhythm, and intonation. Prerequisite: A minimum grade of C in SL102 ESL 2: Beginning English Skills 2, or an appropriate placement test result.

**SO Sociology Courses****(Center for Social Sciences, Business & Information Sciences)****SO101 Introduction to Sociology (S1, S2)****C-3 Cr-3**

This course gives an understanding of and a feeling for the society in which we live. The concepts and theories discussed relate to humanity, its culture and society, and to those forces that contribute to the smooth operation of this society as well as those forces that contribute to conflict and social problems. Topics include culture, socialization, stratification, population, and patterns of social organization.

**SO202 Marriage and Family Living (S2)****C-3 Cr-3**

This course explores two of the major social institutions, marriage and family. Sociological theory provides an understanding of the interconnection between these institutions and other social institutions, such as the economy, religion, education, and government. Changing forms and functions of marriage and family are examined in historical and cross-cultural perspectives, while aspects and issues confronting contemporary families are topics of importance. Prerequisite: SO101 Introduction to Sociology.

**SO203 Urban Sociology (S2)****C-3 Cr-3**

This course traces the history of cities and urban development. It examines urban areas as dynamic centers of opportunity and social change on macro and micro levels. Incorporating insights and theories drawn from sociology and related disciplines, it looks at the impact of the global environment on cities of today. Prerequisite: SO101 Introduction to Sociology.

**SO204 Contemporary Issues in Society (S2)****C-3 Cr-3**

This course examines current and persistent social issues confronting human society. Emphasis is placed on analysis of the history, causes, and dimensions of social issues such as population, the urban environment, consumer concerns, poverty, crime and criminal justice, racism, sexism, and drug and alcohol abuse. Prerequisite: SO101 Introduction to Sociology.

**SO205 Racial and Ethnic Minorities (S2)****C-3 Cr-3**

This course explores racial and ethnic subcultures that exist in American society. The emphasis is on those values and behaviors that contribute to the social boundaries of the group, provide a structure for interaction with outside groups, and maintain the group's integrity as a minority subculture. The adaptive strategies employed by minorities as well as dimensions of disadvantage experienced by minorities within American society are explored. Prerequisite: SO101 Introduction to Sociology.

**SO206 The Social Significance of Gender (S2)****C-3 Cr-3**

This course assumes that human life is gendered and that gendered social expectations limit and enrich individuals and groups. Theories of sex and gender development, the history of social movements related to gender equity, and the impact of intersecting systems of stratification are emphasized. The influence of social forces including biology, religion, family, sexuality, education, the polity, economics, media, law, medicine, social sciences, social policy, and systems of stratification are examined. Prerequisite: SO101 Introduction to Sociology.

**SO207 Sociology of Religion (S2)****C-3 Cr-3**

Using the sociological perspective, major world religions are analyzed historically and cross-culturally. The relationship between religion and society, the social origins of world religions, their tenets and practices, and the impact of these belief systems on the world are explored. No one religious belief system is emphasized; the sociological functions of religion and how religions serve these functions within their cultural context are compared and contrasted. Prerequisite: SO101 Introduction to Sociology.

**SO208 Sociology of Aging****C-3 Cr-3**

Societies throughout the world address issues associated with the aging in a variety of ways, including how societies define the role of the elderly and how social institutions adapt to changes in the elderly population. This course explores historical developments, cross-cultural adaptations, societal problems, and issues related to health and well-being of aging populations. Prerequisite: SO101 Introduction to Sociology.

**SO210 Deaf Culture & Community****C-3 Cr-3**

This course introduces aspects of deaf culture and the deaf community. The distinctions between the two are reviewed and characteristics of both are identified. The language, norms of behavior, values, traditions and possessions (materials) of the deaf are covered. The evolution of a pathological view of the deaf to a cultural one is analyzed from a historical and sociological perspective. Intercultural issues relating to the role of hearing people within the deaf community are covered.

**SO300 Independent Study in Sociology****Cr 1-4****SP Spanish Courses****(Center for Language and Learning Design, CLLD)**

Specialized courses serve special avocation or professional

language needs and provide insights into the ways another culture communicates and lives. The courses include an introductory study of pronunciation, basic grammatical structures, the specialized vocabulary, and aspects of the culture. These elements are practiced by communicating in the language mainly through listening and speaking. The use of the language laboratory is required in certain courses.

**SP101, 102 Elementary Spanish 1, 2 (L2) C-3 Cr-3**

This sequence teaches the fundamentals of Spanish, including the essentials of reading, writing, speaking, and listening within a cultural context. Prerequisites: No previous Spanish instruction, or fewer than three years of Spanish instruction more than two years ago. This course is closed to native speakers of Spanish. Native speakers should consult their advisor for guidance in appropriate course placement.

**SP191, 192 Review Spanish 1, 2 (L2) C-3 Cr-3**

This sequence continues the development of grammar, cultural understanding, reading, writing, and conversation skills, and is presented at an accelerated pace. Prerequisite: Three years of Spanish instruction more than two years ago with a grade of B or better.

**SP201, 202 Intermediate Spanish 1, 2 (L2) C-3 Cr-3**

This sequence reviews selected grammatical features, with emphasis on oral and written competency at the intermediate level supported by a study of cultural and literary materials. Prerequisite: Successful completion of the elementary or review sequence, or three years of Spanish instruction fewer than two years ago with a grade of B or better.

**SP301, 302 Advanced Spanish 1, 2 (L2) C-3 Cr-3**

This sequence expands the development of grammar, cultural understanding, conversation skills, writing, and reading through the study of literature. Prerequisite: Successful completion of the intermediate sequence, or four years of Spanish instruction in which one year was Advanced Placement level.

**SP303 Modernism to Feminism in Spanish Classical Literature C-3 Cr-3**

This course, taught in Spanish, provides an opportunity for students who wish to gain a deeper and more complex understanding of the modern literary movements of Spanish literature. The authors and works studied in this course complement and solidify the students' knowledge of the literary movements introduced in previous courses. This course also develops critical thinking and all major linguistic skills. Prerequisites: SP301 Advanced Spanish I or SP302 Advanced Spanish 2.

## **SS Social Sciences Courses**

**(Center for Social Sciences, Business & Information Sciences)**

**SS218 Methods of Research (S2) C-3 Cr-3**

This course focuses on understanding and applying scientific methodology to an area of inquiry within the social sciences. It covers quantitative and qualitative methods of research including survey research, interviewing, archival analysis, experimentation, and participant observation. Using data-gathering techniques, a number of mini-research projects are conducted. The application of statistical techniques to data analysis is stressed. Computer software applications are used to analyze data from a variety of sources. Research teams are formed to design and implement final research

projects. Prerequisites: SO101 Introduction to Sociology and either CJ101 Introduction to Criminal Justice or PS102 Introduction to Public Policy.

## **TH Theater Courses**

**(Center for Arts and Humanities, CAAH)**

**TH193 Introduction to the Theater (H2) C-3 Cr-3**

This course introduces the foundations of theater art. Emphasis is placed on the theatrical production process. Topics include theater spaces, directing, acting, scene design, and professional work opportunities. Theater experiences from the Greek festival theater to the present are discussed.

**TH194 Technical Theater C-2 P-2 Cr-3**

This course provides an introduction to the theory and practice of stage craft. Topics include construction, scene painting, and the mounting and rigging of scenery.

**TH195 Musical Theater (H2) C-3 Cr-3**

This course is a survey of the musical theater from the late Nineteenth Century to the present. Emphasis is placed on the American musical, its historical antecedents, and recent production trends.

**TH196 Theater Practicum P-2-6 Cr-1-3**

This course requires hands-on participation in a variety of theater activities, including set construction, stage management, running crew work, performance, and others. Placement is made by the program advisor and technical director. Prerequisites: Instructional faculty approval, HU191 Acting I: Principles of Acting or HU192 Acting 2: Characterization and Scene Study.

**TH197 Playwriting C-3 Cr-3**

This course teaches the fundamental of playwriting while stressing the role of the text in theatrical production. Prerequisite: EN102 English 2: Ideas & Values in Literature.

**TH198 Introduction to Theatrical Design C-3 Cr-3**

The course introduces the theory and practice of theater production design. Emphasis is placed on lighting, set, and sound design.

**TH283 Topics in Theater C-3 Cr-3**

This course provides the opportunity to explore a specific area or topic in the theater. Flexibility regarding traditional boundaries of disciplines, genre, time periods, and media give fresh perspectives and knowledge of theater. Prerequisite: TH193 Introduction to the Theater.

## **TM Transportation Management Courses**

**(Center for Social Sciences, Business & Information Sciences)**

**TM101 Supervisor Operations 1 C-3 Cr-3**

This course develops the ability to carry out policy and program directions. Supervisory courses teach leadership, administration programs, and engage in the development of programs and materials within limitations established by management.



## **TM102 Supervisor Operations 2**

**C-3 Cr-3**

This course covers the challenges in pupil transportation systems. It explores risk management techniques, student passenger management, personal skills to improve the ability to succeed as a manager, and legal issues surrounding public school transportation. Prerequisite: TM101 Supervisor Operations I.

## **TM300 Independent Study in Transportation Management Cr 1-4**

## **VT Vocational Technology Courses**

**(Center for Mathematics, Engineering, Physical Sciences, and Applied Technology, STEM)**

### **VT133 Refrigeration and Air Conditioning 1**

**C-4 P-4 Cr-6**

The course introduces domestic refrigeration and small air conditioners. It includes the history of refrigeration, basic refrigeration theory, proper methods of troubleshooting, and repair of domestic units. The use and care of hand power tools and test equipment are covered.

### **VT157 Residential & Comm Heating 1 (Warm Air)(a)C-4 P-4 Cr-6**

This course covers the fundamentals of warm air heating. Emphasis is placed on heat calculations, measurement of performance, troubleshooting, and the diagnosis and repair of gas and oil fired furnaces.

### **VT159 Residential & Comm Heating 2 (Hydronic)(a)C-4 P-4 Cr-6**

This course covers the proper methods of design, installation, repair, and maintenance of hydronic heating systems. Emphasis is placed on thermodynamics, radiation pumps, valve balancing, and comfort controls. The theory and practical aspects of water heating are stressed. Prerequisite: VT157 Residential and Commercial Heating I.

(a) Courses in Refrigeration and Air Conditioning, Advanced Refrigeration, and Residential and Commercial Heating are not applicable to A.O.S. degree in Electrical Service Technician.

## **WE Weather Studies Courses**

**(Center for Life and Health Sciences, LAHS)**

### **WE101 Introduction to Weather Studies (N1, N2) C-3, P-2, Cr-4**

This course introduces the science of weather while highlighting the important concepts of that science. It provides the opportunity to work with current weather data and graphic products which have been specifically designed for the course by atmospheric scientists and educators at the American Meteorological Society. Fundamental scientific principles are studied through their application to everyday weather events. Meteorology and the dynamic atmosphere are observed by following weather as it happens, in near real-time and/or by using recent real-world data and case studies. There is an emphasis on using the analysis and decision-making skills employed by meteorologists to diagnose weather patterns, understand air motions, and predict future atmospheric conditions. Prerequisite: An appropriate placement test result or MA045 Basic Math Skills or MA050 Introductory Mathematics.

## **WS Workplace Success Courses**

**(Center for Social Sciences, Business & Information Sciences)**

### **WS101 Gateway to Business Success**

**C-3 Cr-3**

This course explores the relationship between the development of

academic proficiency skills and their relationship to communication within the business environment. Topics include self-assessment, international relations, technology and online learning skills, service learning, campus and community support resources, research skills, career planning and the development of transferable skills, and academic integrity.

### **WS102 Workplace Literacy**

**C-3 Cr-3**

This course provides a range of success in the workplace, including successful interviewing techniques and communication skills. Other skills include decision making, problem solving, team management, and listening and speaking. Leadership styles and cultural diversity in the workplace are also discussed.

### **WS103 Gateway to Customer Communication**

**C-3 Cr-3**

This course covers essential concepts and skills needed for communication in customer service. Critical skills include listening techniques, verbal, and nonverbal communication, and use of technology. Topics include customer information, customer surveys and suggestions, the handling of complaints and adjustments, techniques for dealing with difficult and angry customers, credit services, maintenance, technical service, and the development of new programs. Customer service supervisory skills are also examined.

# STATE UNIVERSITY OF NEW YORK

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State University's 64 geographically dispersed campuses bring educational opportunity within commuting distance of virtually all New York citizens and comprise the nation's largest, centrally managed system of public higher education. When founded in 1948, the University consolidated 29 State-operated, but unaffiliated, institutions. In response to need, the University has grown to a point where its impact is felt educationally, culturally and economically the length and breadth of the State.

Nearly 370,000 students are pursuing traditional study in classrooms or are working at home, at their own pace, through such innovative institutions as Empire State College, whose students follow individualized and often nontraditional paths to a degree. Of the total enrollment, more than 100,000 students are 24 years or older, reflecting State University's service to specific constituencies, such as refresher courses for the professional community, continuing educational opportunities for returning service personnel, and personal enrichment for the more mature persons. State University's research contributions are helping to solve some of modern society's most urgent problems. It was a State University scientist who first warned the world of potentially harmful mercury deposits in canned fish, and another who made the connection between automobile and industrial exhaust combining to cause changes in weather patterns. Other University researchers continue important studies in such wide ranging areas as immunology, marine biology, sickle-cell anemia, and organ transplantation.

More than 1,000 Public Service activities are currently being pursued on State University campuses. Examples of these efforts include: special training courses for local government personnel, State civil service personnel, and the unemployed; participation by campus personnel in joint community planning or project work, and campus-community arrangements for community use of campus facilities.

A distinguished faculty includes nationally or internationally recognized figures in all the major disciplines. Their efforts are recognized each year in the form of such prestigious awards as Fulbright-Hayes, Guggenheim and Danforth Fellowships. The University offers a wide diversity of what are considered the more conventional career fields, such as business, engineering, medicine, teaching, literature, dairy farming, medical technology, accounting, social work, forestry and automotive technology.

Additionally its responsiveness to progress in all areas of learning and to tomorrow's developing societal needs has resulted in concentrations which include pollution, urban studies, computer science, immunology, preservation of national resources, and microbiology.

SUNY programs for the educationally and economically disadvantaged have become models for delivering better learning opportunities to a once-forgotten segment of society. Educational Opportunity Centers offer high school equivalency and college preparatory courses to provide young people and adults with the opportunity to begin college or to learn marketable skills. In addition, campus based Educational Opportunity Programs provide counseling, developmental education and financial aid to disadvantaged students in traditional degree programs.

Overall, at its EOC's, two-year colleges, four-year campuses, and university and medical centers, the University offers 3,600

academic programs. Degree opportunities range from two-year associate programs to doctoral studies offered at 12 campuses. The 30 two-year community colleges operating under the program of State University play a unique role in the expansion of educational opportunity. They provide local industry with trained technicians in a wide variety of occupational curriculums, and offer transfer options to students who wish to go on and earn advanced degrees. The University passed a major milestone in 1985, when it graduated its one-millionth alumnus. The majority of SUNY graduates pursue careers in communities across the State.

SUNY is governed by a Board of Trustees, appointed by the Governor, which directly determines the policies to be followed by the 34 State supported campuses. Community colleges have their own local boards of trustees whose relationship to the SUNY board is defined by law. The state contributes one-third to 40 percent of their operating cost and one-half of their capital costs.

**The State University motto: "To learn, to search, to serve."**

## University Centers

State University of New York at Albany  
State University of New York at Binghamton  
State University of New York at Buffalo  
State University of New York at Stony Brook

## Colleges of Arts and Sciences

State University College at Brockport  
State University College Buffalo  
State University College at Cortland  
State University of New York Empire State College  
State University College at Fredonia  
State University College at Geneseo  
State University College at New Paltz  
State University College at Old Westbury  
State University College at Oneonta  
State University College at Oswego  
State University College at Plattsburgh  
State University College at Potsdam  
State University College at Purchase

## Colleges and Centers for the Health Sciences

State University of New York Health Science Center at Brooklyn  
State University of New York Health Science Center at Syracuse  
State University of New York College of Optometry at NYC  
Health Sciences Center at SUNY at Buffalo (a)  
Health Sciences Center at Stony Brook (a)

## Colleges of Technology

State University of New York College of Technology at Alfred  
State University of New York College of Technology at Canton  
State University of New York College of Agriculture and Technology at Cobleskill  
State University of New York College of Technology at Delhi  
State University of New York College of Technology at Farmingdale  
State University of New York College of Agriculture and Technology at Morrisville  
State University of New York Institute of Technology at Utica/Rome  
Fashion Institute of Technology at New York City (c)

## Specialized Colleges

State University of New York College of Environmental Science and Forestry at Syracuse

**Statutory Colleges (c)**

- New York State College of Agriculture and Life Sciences at Cornell University
- New York State College of Ceramics at Alfred University
- New York State College of Human Ecology at Cornell University
- New York State School of Industrial and Labor Relations at Cornell University
- New York State College of Veterinary Medicine at Cornell University

**Community Colleges**

(Locally sponsored, two-year colleges under the program of State University)

- Adirondack Community College at Glens Falls
- Broome County Community College at Binghamton
- Cayuga County Community College at Auburn
- Clinton Community College at Plattsburgh
- Columbia-Greene Community College at Hudson
- Corning Community College at Corning
- Dutchess Community College at Poughkeepsie
- Erie Community College at Williamsville, Buffalo, and Orchard Park
- Fashion Institute of Technology at New York City (c)
- Finger Lakes Community College at Canandaigua
- Fulton-Montgomery Community College at Johnstown
- Genesee Community College at Batavia
- Herkimer County Community College at Herkimer
- Hudson Valley Community College at Troy
- Jamestown Community College at Jamestown and Olean
- Jefferson Community College at Watertown
- Mohawk Valley Community College at Utica and Rome
- Monroe Community College at Rochester
- Nassau Community College at Garden City
- Niagara County Community College at Sanborn
- North Country Community College at Saranac Lake
- Onondaga Community College at Syracuse
- Orange County Community College at Middletown
- Rockland Community College at Suffern
- Schenectady County Community College at Schenectady
- Suffolk County Community College at Selden, Riverhead and Brentwood
- Sullivan County Community College at Loch Sheldrake
- Tompkins Cortland Community College at Dryden
- Ulster County Community College at Stone Ridge
- Westchester Community College at Valhalla

(a) The Health Sciences Centers at Buffalo and Stony Brook are operated under the administration of their respective University Centers.

(b) While authorized to offer such baccalaureate and master's degree programs as may be approved pursuant to the provisions of the Master Plan, in addition to the associate degree, the Fashion Institute of Technology is financed and administered in the manner provided for community colleges.

(c) These operate as "contract colleges" on the campuses of independent universities.

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Charles Rogers, Professor Emeritus  
George Rogers, Ph.D., Professor Emeritus  
Samuel Russo Jr., Administrator Emeritus  
Robert Sanger, Professor Emeritus  
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 Jean VanAuken, Professor Emerita  
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 Donald Willner, Dean/Professor Emeritus  
 Donald Wills, Professor Emeritus  
 Ronald F. Zollweg, Professor Emeritus

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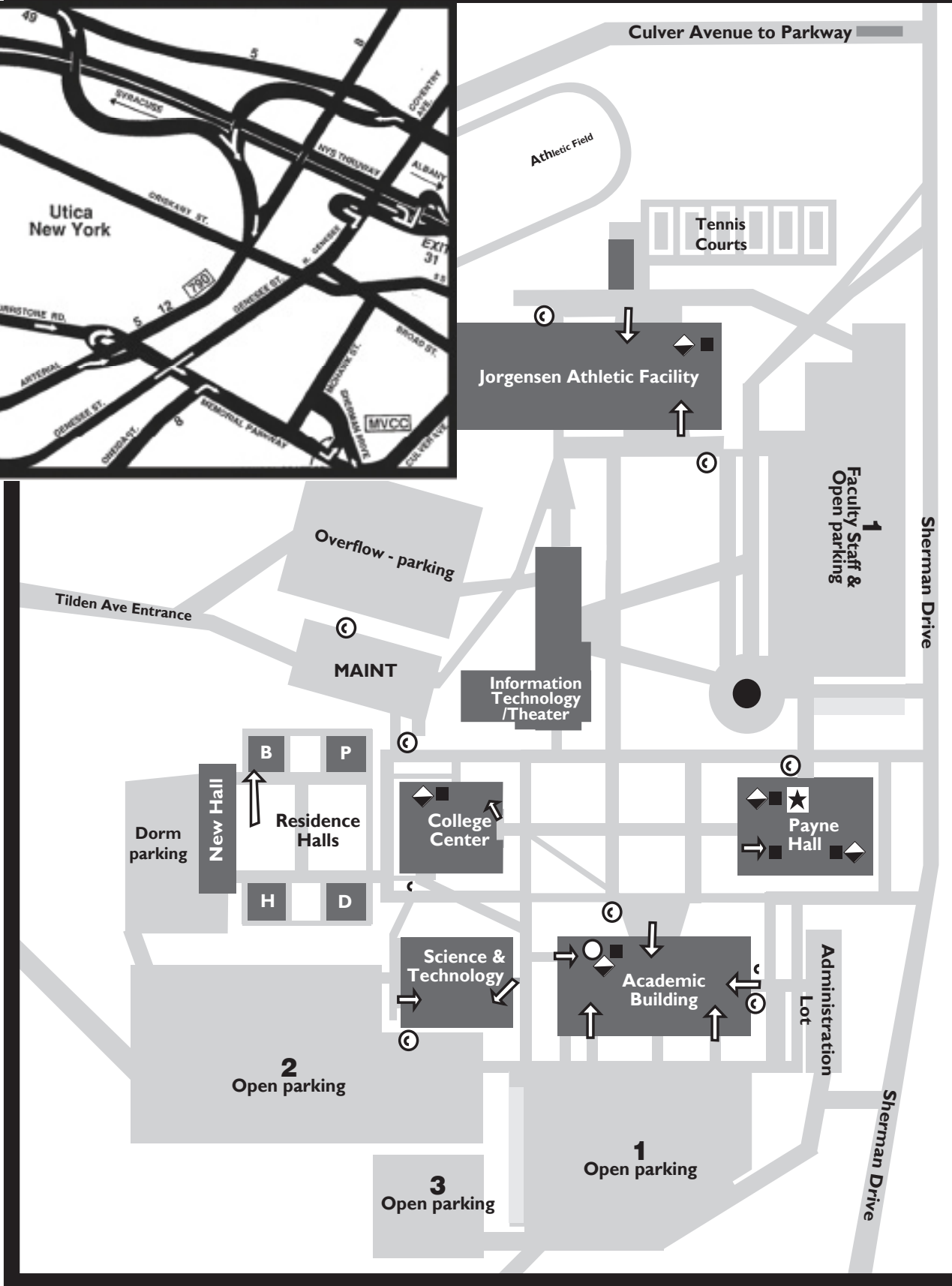
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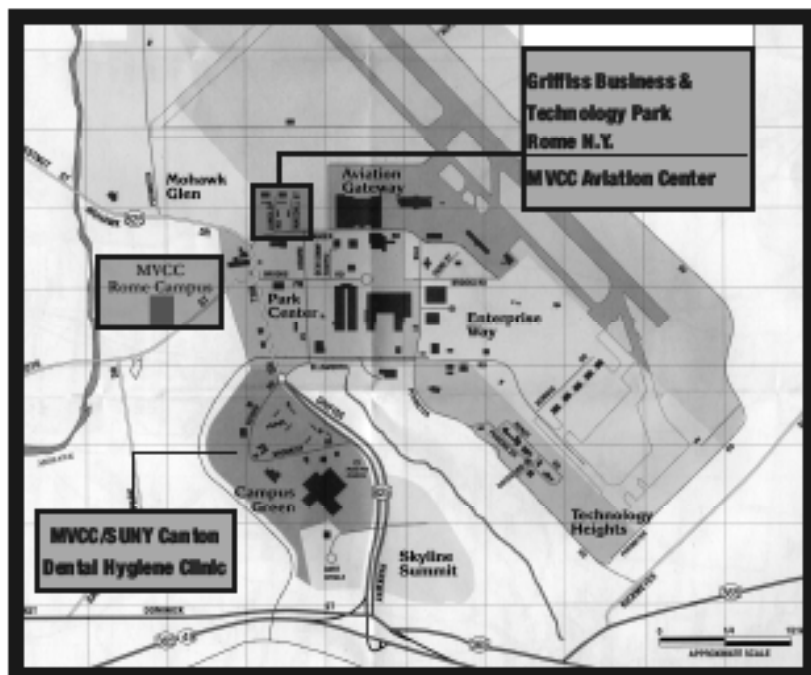
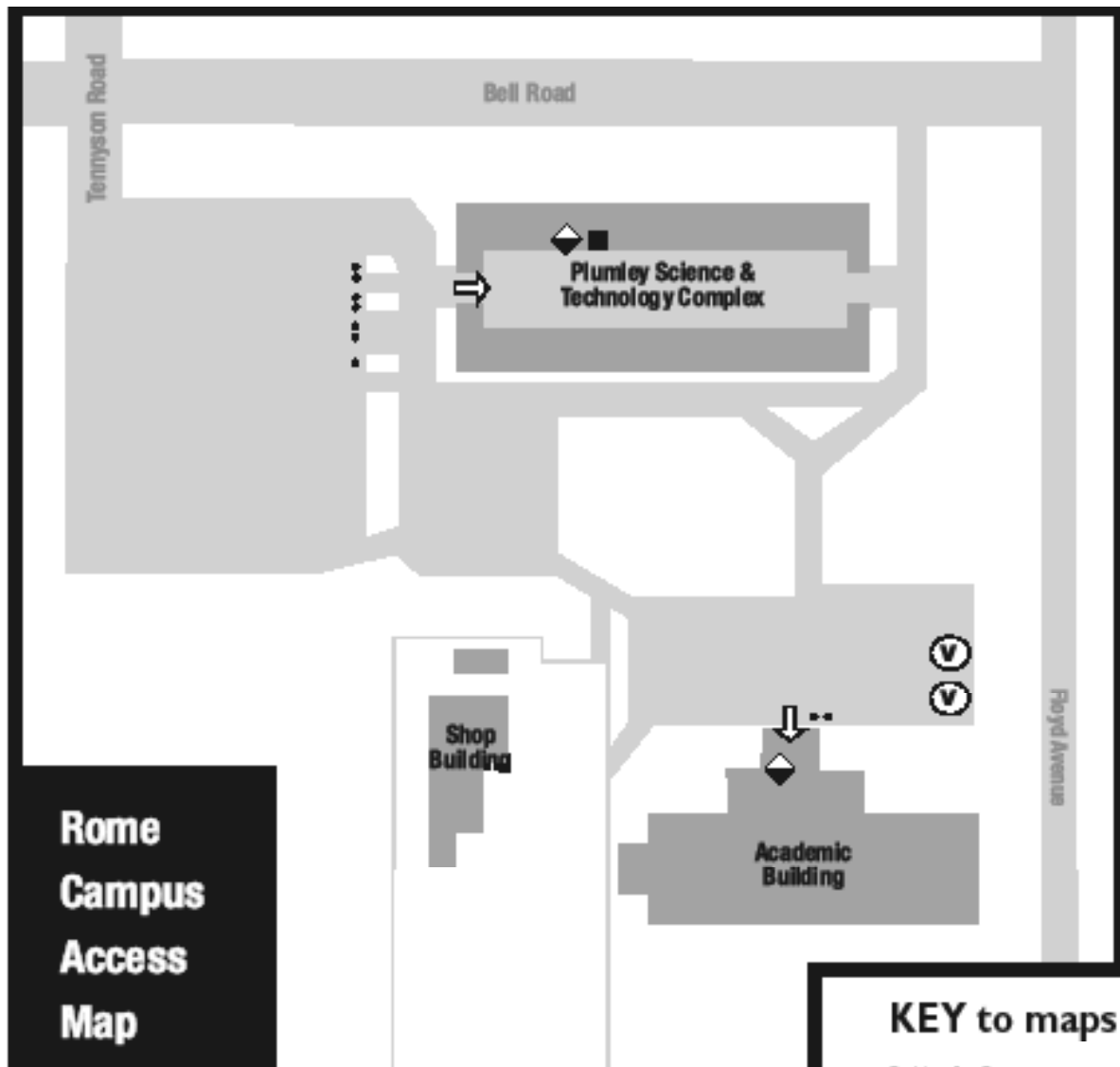
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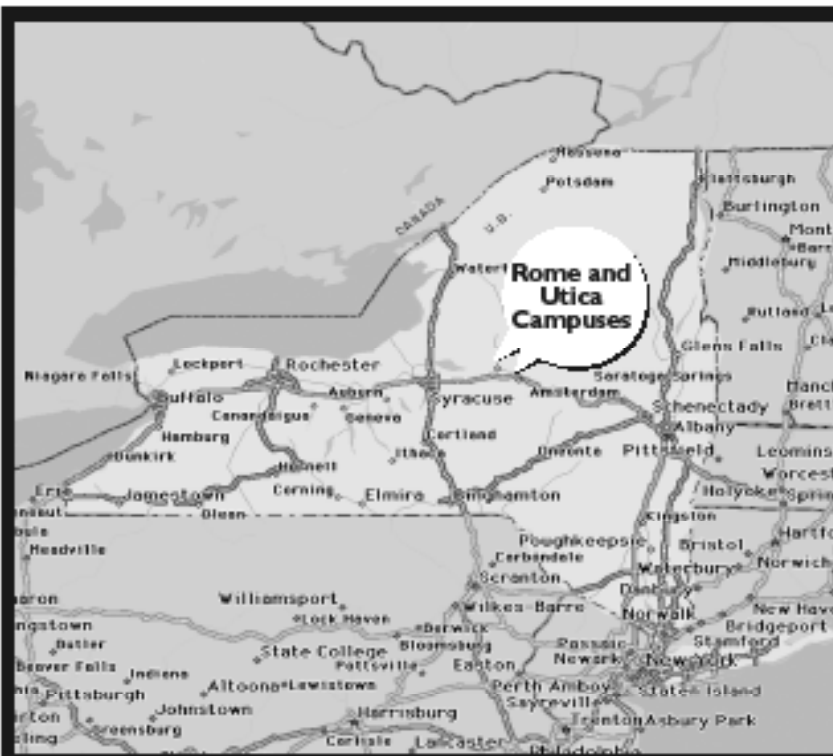
**X - Y - Z**

# Mohawk Valley Community College Utica Campus Map





- ### KEY to maps
- Parking for Persons with Disabilities
  - ◊ Areas of Refuge
  - ↓ Accessible Entrance with Automatic Opener
  - Elevator
  - ▨ Accessible Sidewalks and Roadways
  - Walkways Restricted to Vehicle Traffic
  - ☎ Telephones
  - ☎ Blue Light Emergency Phones
  - ★ Admissions Office
  - Office for Students With Disabilities
  - Ⓢ Commercial Service Vehicle Parking - Faculty/Staff unloading areas
  - Ⓥ Visitor Parking



**Rome and Utica Campuses**

**Driving Directions - Utica Campus**

**From East or West:**

Take the N.Y. State Thruway to exit 31. Take Route 790 West to the junction of Route 12 South to the Burnstone Rd. Exit (Faxon Hospital/MYCC-eastbound)...see directions below "from Burnstone Rd."

**From North or South**

Although there are several routes that connect to Utica, we recommend using Route 12 as your target point. As you approach the Utica Area, follow Route 12 to the Burnstone Rd. Exit (Faxon Hospital/MYCC-eastbound)... see directions below "from Burnstone Rd."

**From Burnstone Rd.**

Once you exit from Route 12, you should be heading east on Burnstone Rd. towards Faxon Hospital. Continue straight ahead. At the traffic light after the Hospital (Genesee St. intersection) keep to your right and continue straight across Genesee St. onto the Memorial Parkway. Continue straight ahead for approximately 3 miles. At the intersection of Sherman Drive and the Parkway (you'll see the MYCC sign on the corner on your left), turn left, follow to the traffic light on Sherman Dr. and take a right onto campus. If visitor parking is filled when you reach campus, park in any non-restricted space available.

**Driving Directions - Rome Campus**

**From the North**

Take either Route 26 or 46 into the City of Rome. Take a left onto either W. Linden St. (from 26) or E. Linden St. (from 46). Follow E. Linden St. to Garden St. Take a left on Garden St. and follow to Floyd Ave. The campus is approximately 1/2 mile up Floyd Ave. on your left.

**From the West or Southwest**

Take either the N.Y. State Thruway to exit 24 or Route 5. As you reach the junction of Route 365, follow Route 365 East to the junction of Route 26 North. Follow Route 26 north towards downtown Rome. See directions below "from downtown Rome."

**From the East or Southeast**

Take the N.Y. State Thruway to Exit 32 or Route 5 to the junction of Route 233. Take Route 233 North towards Rome. At the end of Route 233, you will have to follow the signs to Route 49 for downtown Rome. Route 49 will junction quickly with Route 26 North which will lead you into downtown Rome. Follow directions below "from downtown Rome".

**From Downtown Rome**

As you approach downtown Rome on Route 26 you will be coming to an intersection where a number of routes merge together. Follow the signs for Route 46 North (Black River Blvd.). This will take you past Ft. Seneca Historical Landmark (on left) and the Rome Fire Station (on right). At the next traffic light past the Fire Station, turn right onto Floyd Ave. The campus is approximately 1 mile up Floyd Ave. on your left. Turn left onto campus drive and park in any available non-restricted space.