General education requirements

For all A.A., A.S., and Nursing A.A.S. degrees

SUNY General Education requirements promote broad intellectual, cultural, and social development, integrated with the specific goals of individual degree programs.

Your curriculum at Cayuga Community College will address SUNY requirements for competencies in critical thinking and information management.

To fulfill SUNY General Education requirements for an A.A. or A.S. degree at Cayuga, you must complete courses in 7 out of the 10 categories as listed below.

To find the specific categories needed to meet the requirements of a particular degree program, refer to the program description in this catalog.

The SUNY General Education requirements do not apply to A.A.S. degree programs. However, if you are in any A.A.S. program and plan to transfer to a SUNY school, we strongly recommend that you fulfill as much of the SUNY General Education requirements as possible. Please be sure to discuss this with your adviser.

To discuss a waiver of General Education requirements, contact the Office of Academic Programs at 315-255-1743, extension 2360.

Required by all:

Basic Communication *(Gen Ed Req 10)*
ENGL 101 Freshman English I
ENGL 104 Advanced Expository Writing

Required by all (choose one):

Mathematics *(Gen Ed Req 1)*
MATH 102 Intermediate Algebra
MATH 104 College Algebra and Trigonometry
MATH 106 Precalculus
MATH 108 Calculus I
MATH 112 Contemporary Math
MATH 115-116 Concepts of Elementary Math I and II (two-course unit)
MATH 201 Calculus II
MATH 202 Calculus III
MATH 203 Linear Algebra
MATH 204 Differential Equations
MATH 210 Math/Data Structures
MATH 212 Discrete Mathematics
MATH 214 Statistics

Required by all:

Humanities *(Gen Ed Req 7)*
ENGL 102 Freshman English II
ENGL 165 Literary London

Required by all - choose American History or Western Civilization:

American History *(Gen Ed Req 4)*
HIST 201 History of the United States I
HIST 202 History of the United States II

Western Civilization *(Gen Ed Req 5)*
ENGL 205 English Literature to the 19th Century
ENGL 206 English Literature 19th Century to Present
HIST 101 Western Civilization I
HIST 102 Western Civilization II

Required by all (choose one):

Natural Sciences *(Gen Ed Req 2)*
BIOL 100 Human Biology
BIOL 101 Essentials of Biology
BIOL 103 Biological Principles I
BIOL 104 Biological Principles II
BIOL 105 Botany
BIOL 106 Zoology
BIOL 203 Anatomy and Physiology I
BIOL 204 Anatomy and Physiology II
BIOL 208 Conservation of Natural Resources
BIOL 214 Cell Biology
BIOL 216 General Microbiology
BIOL 223 General Ecology
BIOL 224 Marine Biology
CHEM 101 Elements of General Chemistry I
CHEM 103 General Chemistry I
CHEM 104 General Chemistry II
CHEM 207 Organic Chemistry I
CHEM 208 Organic Chemistry II
GEOL 101 Earth Science
GEOL 110 Physical Geology
GEOL 111 Historical Geology
GIS 101 Foundations of GIS
PHYS 103 General Physics I
PHYS 104 General Physics II
PHYS 200 Physics I Mechanics
PHYS 201 Physics II Electricity and Magnetism
PHYS 202 Physics III Modern Physics

Required by all (choose one):

Social Sciences *(Gen Ed Req 3)*
ANTH 101 Introduction to Anthropology
ECON 201 Introduction to Economics I
ECON 202 Introduction to Economics II
GEOG 101 World Geography
GIS 110 Human Geography
GIS 111 Introduction to GIS
GIS 205 Introduction to Vector GIS
PSY 101 Introduction to Psychology
PSCI 102 American Government
SOC 101 Introduction to Sociology

Required by all - choose one course, either from Other World Civilizations or from The Arts:

Other World Civilizations *(Gen Ed Req 6)*
ART 139 Art of Diverse Cultures
ENGL 201 World Literature I
ENGL 202 World Literature II
ENGL 240 Mythology
ENGL 247 Native American Myth, Legend, and Literature
HIST 111 World Civ I
HIST 112 World Civ II
INT 239 Interdisciplinary Study in Native American Culture and Education
PHIL 203 World Religions
PSCI 214 Comp Legal Sys

The Arts *(Gen Ed Req 8)*
ART 103 Essentials of Art
ART 104 Painting Studio I
ART 106 Expressive Drawing I
ART 112 Two-Dimensional Design
ART 113 Three-Dimensional Design
ART 131 Introduction to Ceramics
ART 160 Life Drawing
ART 215 Computer Graphics
ART 221 Textile Design: Resist and Print Techniques
ART 231 Ceramic Sculpture
ART 250 Intro Photography and Darkroom Techniques
ART 251 Advanced Photography and Darkroom Tech
ART 252 Photoshop
ART 255 Silkscreen Print
ART 260 Printmaking Workshop
ENGL 211 Creative Writing
MUSI 104 Music Essentials
MUSI 112 Music in Performance
MUSI 154 Piano I
MUSI 158 Guitar
TELC 103 Moving Image
TELC 150 Photography: Digital Imaging, Visual Communication
TELC 207 TV Production I
TELC 208 TV Production II
THA 101 Introduction to Theatre
THA 113 Introduction to Technical Theatre (Stagecraft)
THA 152 Basic Acting

Optional (choose one):

Foreign Language *(Gen Ed Req 9)*
*ASL 101 American Sign Language I
*ASL 102 American Sign Language II
FREN 101 Elementary French I
FREN 102 Elementary French II
FREN 103 Intermediate French I
FREN 104 Intermediate French II
SPAN 101 Elementary Spanish I
SPAN 102 Elementary Spanish II
SPAN 103 Intermediate Spanish I
SPAN 104 Intermediate Spanish II
SPAN 111 Conversational Spanish I
SPAN 112 Conversational Spanish II

**American Sign Language may be used to satisfy this category only by students in the following programs:*

- *programs leading to certification in early childhood, childhood and adolescence education;*
- *programs leading to careers where there is likely to be significant contact with the hearing-impaired.*

Elective course disciplines

Certain programs of study include elective courses in various academic categories. Course disciplines within these categories are as follows, along with their corresponding prefixes:

Behavioral Sciences
- Anthropology (ANTH)
- Behavioral Sciences (BEH)
- Psychology (PSY)
- Sociology (SOC)

Social Sciences
- American Sign Language (ASL)*
- Economics (ECON)
- Geography (GEOG)
- History (HIST)
- Political Science (PSCI)
- Geographic Information Systems (GIS) 110, 111 and 205 may be applied as Social Sciences electives

*May be used to satisfy Liberal Arts or free electives and the Foreign Language General Education requirement for students matriculated in Early Childhood, Education or other programs leading to careers where there is likely to be significant contact with the hearing impaired.

Science and Mathematics
- Biology (BIOL)
- Chemistry (CHEM)
- Electronics (ELEC)
- Geology (GEOL)
- Mathematics (MATH)
- Physics (PHYS)
- Engineering (ENGR) 201, 202, and 210 may be applied as Mathematics electives
- Geographic Information Systems (GIS) 101 may be applied as a Science elective

English
- English (ENGL)

Humanities
- Art (ART)
- Foreign Languages* - French, Italian, Spanish (FREN, ITAL, SPAN)
- Music (MUSI)
- Philosophy (PHIL)
- Theatre Arts (THA)

*For information about American Sign Language see Social Sciences above

Liberal Arts
- Includes all disciplines above and Honors (HON) seminar, and Interdisciplinary Studies (INT)

Other Elective Disciplines

Certain courses in other disciplines may apply as electives in specific degree programs. Prefixes for these may include BUS, CJ, CS, DRFT, ECH, EDU, ENGR, ENTR, GIS, HLTH, INT, LIB, NURS, PE, SD, TELC. See degree program pages for details.

These disciplines and all Liberal Arts elective categories may also be used to fulfill non-specific electives in any degree program.

Degree programs: overview

Cayuga Community College has been authorized by the Board of Regents of the University of the State of New York to grant the Associate in Arts (A.A.), Associate in Science (A.S.), and Associate in Applied Science (A.A.S.) degrees.

Cayuga's degree programs are registered with the New York State Department of Education (the number in parentheses following the program title represents the New York State Education Department HEGIS code). You may need to attend evening classes if you wish to complete a degree program as outlined in this catalog. To complete a degree program within two years, plan to enroll beginning with fall semester and to carry at least 17 credit hours per semester for four semesters.

Each degree program listed in this catalog is in compliance with state-mandated General Education requirements. These are applicable to all students who have matriculated in these programs as of fall 2001 or later. Students who entered before fall 2001 should contact their division chair to ascertain how these changes will affect their chosen program of study.

If you wish to transfer after completing your degree at Cayuga, be advised that certain programs at upper-division colleges and universities may require basic preparation in the liberal arts and sciences, mathematics, science, and business. According to the Board of Regents for the State of New York, at least three-quarters of the credits for an A.A. degree, one-half of the credits for an A.S. degree, and one-third of the credits for an A.A.S. degree must be in liberal arts and sciences.

Information on careers is available in publications such as the *Occupational Outlook Handbook* and other sources located in the Student Development Office and the College Library. You should also contact the Student Development Office's transfer adviser for assistance with planning.

Associate in Arts (A.A.)

The Associate in Arts (A.A.) degree may be appropriate if you plan to transfer to a four-year college or university to pursue a bachelor of arts (B.A.) or bachelor of science (B.S.) degree, and you desire basic liberal arts and science courses rather than specific career preparation. You should select elective courses in the A.A. program according to the requirements of your intended transfer institution and major field of study. If you show strong academic ability, you may want to apply for Honors study (page 30).

Cayuga offers A.A. degree programs in
- Liberal Arts and Science/Humanities and Social Science (5649)
- Liberal Arts and Sciences/Adolescence Education (5649)
- Liberal Arts and Sciences/Childhood Education (5649)

Associate in Science (A.S.)

The Associate in Science (A.S.) degree may be appropriate if you plan to transfer to a four-year college or university to pursue a bachelor of arts (B.A.) or bachelor of science (B.S.) degree and desire a focus on science, mathematics, engineering science, computer science, or business administration. You should select elective courses in the A.S. program according to the requirements of your intended transfer institution and major field of study. If you show strong academic ability, you may want to apply for Honors study (page 31).

Cayuga offers A.S. degree programs in
- Business – Business Administration (5004)
- Computer Science (5101)
- Geographic Information Systems (5399)
- Information Technology (5101)
- Liberal Arts and Science/Mathematics (5617)
- Liberal Arts and Science/Mathematics and Science (5649)
- Studio Art and Design (5610)

Associate in Applied Science (A.A.S.)

The Associate in Applied Science (A.A.S.) degree may be appropriate if you are looking for preparation for immediate entry into a particular career field.

Cayuga offers A.A.S. degree programs in
- Business – Accounting (5002)
- Business – Business Administration (5004)
- Computer Hardware/Software Design
- Computer Information Systems (5101)
- Criminal Justice – Corrections (5505)
- Criminal Justice – Police (5505)
- Early Childhood (5503)
- Electrical Technology – Electronics (5310)
- Mechanical Technology – Computer-Aided Design (5303)
- Telecommunications – Audio-Radio Production (5310)
- Telecommunications – Radio and Television Broadcasting (5008)
- Telecommunications Technology (5310)
- Undergraduate – Nursing (5208.10)

Qualifications for a degree

To qualify for a degree from Cayuga, you must:
- Matriculate and complete the degree requirements (including General Education, pages 35–36) with a minimum grade point average (GPA) of 2.0. You are matriculated if you have been formally accepted as a candidate for a degree program.
- Earn at least 30 credit hours at Cayuga. Of these, 18 must be among the last 30 credit hours applied to the degree. Exceptions to this policy may be made in keeping with intercollegiate articulations or other interorganizational agreements.
- Be recommended by the faculty for the degree.
- Submit a Degree Candidate Survey Form to the Registrar's Office at least one semester before graduation.
- Satisfy all financial obligations at the time of graduation.

For help with questions about transferring credit from other colleges, or for information about a student's academic record, contact the Registrar's Office at 315-255-1743 x 2260.

Business: Accounting A.A.S.

This program is intended for those planning to enter the accounting profession upon completion of the degree.

Degree Requirements

Students receive instruction in the field's core subject areas. Those who enroll at a time other than the fall semester may need more than four semesters to complete the required sequence of courses. Some third- and fourth-semester business courses are only offered during the day.

The curriculum listed on this page represents the minimum coursework required for the A.A.S. degree in Business: Accounting. Any exception must have the written consent of the chair of the Division of Behavioral/Social Sciences, Business, Criminal Justice, Teacher Education, Physical Education/ Health.

Career Possibilities

Junior staff accountant, general account manager, account clerk and others

Transfer Information

Students should contact their advisers and/or the transfer counselor in the Student Development Office for information on transfer planning. Early consultation to plan the most appropriate course sequence will optimize transferability.

Courses		**Credit Hours**
First Semester		
(all courses available in Auburn and Fulton)		
ENGL 101	Freshman English I	3
BUS 101	Principles of Accounting I*	4
BUS 103	Principles of Business	3
BUS 225	Microcomputer Application Software	3
	Math**	3-4
	Health	1
	Physical Education	1
		18-19
Second Semester		
(all courses available in Auburn and Fulton)		
ENGL 102	Freshman English II	
or ENGL 270	Technical Writing	3
BUS 102	Principles of Accounting II*	4
BUS 205	Business Law I	3
	Math/Science**	3-4
	Elective	3
	Physical Education	1
		17-18
Third Semester		
(some courses available only in Auburn)		
ENGL 221	Effective Speech: Public Address	
or ENGL 222	Effective Speech: Group Discussion	3
BUS 090	Small Business Accounting*	1
BUS 201	Intermediate Accounting I*	4
BUS 222	Federal Income Tax*	3
BUS 227	Corporate Finance	3
ECON 201	Intro to Economics I	3
		17
Fourth Semester		
(some courses available only in Auburn)		
BUS 202	Intermediate Accounting II*	4
BUS 209	Cost Accounting*	3
BUS 220	Business Statistics	3
BUS 221	Accounting Systems with Microcomputer Applications*	3
ECON 202	Intro to Economics II	3
		16
Total Credit Hours		**68-70**

* To be eligible for this degree, a student must earn a C or higher in this course.

** MATH 102 or higher

Business: Business Administration A.A.S.

A program designed for students wishing to obtain a General Education in business and who intend to enter the business community upon completion of degree requirements.

Degree Requirements

Students who plan to transfer into upper-level programs at other institutions should pursue the A.S. Business: Business Administration degree.

The curriculum listed on this page represents the minimum coursework required for the A.A.S. Business: Business Administration degree. Any exception must be with the written consent of the chair of the Division of Behavioral/ Social Sciences, Business, Criminal Justice, Teacher Education, Physical Education/Health.

Career Possibilities

Career opportunities will depend on elective concentration.

Transfer Information

Students should contact their advisers and/or the transfer counselor in the Student Development Office for information on transfer planning. Early consultation to plan the most appropriate course sequence will optimize transferability.

Courses		**Credit Hours**
First Semester		
ENGL 101	Freshman English I	3
BUS 101	Principles of Accounting I	4
BUS 103	Principles of Business	3
BUS 225	Microcomputer Application Software	3
	Math*	3-4
	Physical Education	1
		17-18
Second Semester		
ENGL 102	Freshman English II	3
BUS 102	Principles of Accounting II	4
BUS 205	Business Law I	3
BUS 150	Business Communications	3
	Math/Science	3-4
	Physical Education	1
		17-18
Third Semester		
BUS 200	Principles of Management	3
BUS 204	Marketing	3
ECON 201	Intro to Economics I	3
	Behavioral/Social Sciences	3
	Business**	3-4
	Health	1
		16-17
Fourth Semester		
ENGL 221	Speech: Public Address	3
ECON 202	Intro to Economics II	3
	Behavioral/Social Sciences	3
	Business**	3-4
	Elective	3-4
		15-17
Total Credit Hours		**65-70**

* Students may elect to take BUS 105 and 106 to fulfill the 3-credit-hour math elective. If this sequence is elected, the business math courses will not fulfill any other degree requirement.

** Business electives include any BUS, ECON, ENTR, WS or CS course. In addition, PE 170 and PE 270 can be taken as business electives.

Business: Business Administration A.A.S.
CONCENTRATIONS

Concentrations offer focused electives in Entrepreneurship, Sports Management and Wine Studies for enhanced career and transfer opportunities. Concentrations are not majors and are not required to earn Business Administration degree. Consult with an academic adviser before scheduling courses for a concentration.

Entrepreneurship Concentration
This concentration will help students develop entrepreneurial skills and build confidence in starting their own business or in developing innovative ideas. The three classes listed below constitute an Entrepreneurship Concentration within a Business Administration A.A.S. degree.

ENTR 200	The Entrepreneurial Process (3 cr.)
ENTR 202	Innovation and Creativity (3 cr.)
ENTR 204	Social Entrepreneurship and Non Profit Management (3 cr.)

Sports Management Concentration
This concentration allows students to build business management and marketing skills in the area of Sports Management. By using these courses as business electives and free electives, students can earn a Business Administration A.A.S. degree, and seek employment or transfer to a bachelor's program in Sports Management.

P.E. 170	Sports Management (3 cr.)
P.E. 270	Sports Promotions (3 cr.)
P.E. 290	Internship in Sports Management (3 cr.)

Wine Studies Concentration
The four classes listed below constitute a Wine Studies Concentration within a Business Administration A.A.S. degree. Students must be 21 or older to enroll. WS=Wine Studies prefix. BIOL 103 is a prerequisite for W.S 180.

W.S. 110	Introduction to Wines of the World (3 cr.)
BIOL 103	Biological Principles 1 (4 cr.)
W.S. 180	Introduction to Enology and Viticulture (4 cr.)
BUS 250	Wine Business Management, Marketing and Sales (4 cr.)

Business: Business Administration A.S.

A program for students who are interested in transferring to a baccalaureate program in accounting, business administration, secondary business education, marketing, or related fields.

Degree Requirements

General Education requirements must be met before the A.S. degree will be granted. For details on General Education requirements, see pages 35-36.

The curriculum listed on this page represent the minimum course requirements for the A.S. degree in Business: Business Administration. Any exceptions must have the written consent of the chair of the Division of Behavioral/Social Sciences, Business, Criminal Justice, Teacher Education, Physical Education/Health.

Career Possibilities

Upon completion of a baccalaureate or higher degree, a student is typically prepared to enter the fields of accounting, business administration, secondary business education and marketing.

Transfer Information

Students should contact their advisers and/or the transfer counselor in the Student Development Office for transfer information. Early consultation to plan the most appropriate course sequence will optimize transferability.

Courses		**Credit Hours**
First Semester		
ENGL 101	Freshman English I	3
BUS 101	Principles of Accounting I	4
BUS 103	Principles of Business	3
	Math*	3-4
	Science**	4
	Physical Education	1
		18-19
Second Semester		
ENGL 102	Freshman English II	3
BUS 102	Principles of Accounting II	4
BUS 225	Microcomputer App. Software	3
	Math*	3-4
	Science**	4
	Physical Education	1
		18-19
Third Semester		
ENGL 221	Effective Speech: Public Address	3
BUS 205	Business Law I	3
ECON 201	Intro to Economics I	3
	Humanities Elective†	3
	Math/Science	3-4
	Health	1
		16-17
Fourth Semester		
BUS 204	Marketing	3
ECON 202	Intro to Economics II	3
MATH 214	Statistics	3
	Behavioral/Social Sciences	3
HIST 101, 102, 201 or 202		3
		15
Total Credit Hours		**67-70**

* Completion of this degree requires mathematics competency of at least MATH 106. Completion of MATH 108 is recommended.

** It is recommended that the student, with academic advisement, take an 8-credit hour sequence in one of the following disciplines: biology, chemistry, geology or physics.

† ART 139, 103, 104, 106, 112, 113, 131, 160, 215, 221, 231, 250, 251, 252, 255, 260; MUSI 104, 112, 154, 158; THA 101, 113, 152; PHIL 203

Computer Hardware / Software Design A.A.S.

This program offers exciting and rewarding opportunities in the rapidly developing computer hardware/software industry.

Degree Requirements

This curriculum provides the knowledge and skill in both hardware and software needed to enter a professional career in computer design.

The curriculum listed on this page represents the minimum coursework required for the A.A.S. degree in Computer Hardware/Software Design. Any exception must have the written consent of the chair of the Division of Natural and Health Sciences, Mathematics, and Technology.

A background in algebra and trigonometry is recommended.

Career Possibilities

Entry-level positions for technicians in various fields of computers, and in programming, computer operations, communications, computer science, and automation.

Transfer Information

Students planning to transfer should contact their advisers and/or a transfer counselor in the Student Development Office for more information. Early consultation to plan the most appropriate course sequence will optimize transferability.

Courses		**Credit Hours**
First Semester		
ENGL 101	Freshman English 1	3
ELEC 101	Electrical Circuits	4
ELEC 105	Introduction to Digital Computers	4
C.S. 120	Foundations of Computer Science	3
MATH 104	College Algebra and Trigonometry	3
		17
Second Semester		
ENGL 102	Freshman English II	
or ENGL 270	Technical Writing	3
ELEC 102	Basic Electronics	4
ELEC 107	Fund. of Microcomputers	4
C.S. 200	Programming in Visual Basic	3
MATH 106	Pre-Calculus	3
	Physical Education	1
		18
Third Semester		
BUS 225	Application Software	3
C.S. 080	Microcomputer Maintenance	1
C.S. 222	Programming in C/C++	3
	Behavioral/Social Sciences	3
	Elective*	3-4
	Health	1
	Physical Education	1
		15-16
Fourth Semester		
BUS 226	Advanced Application Software	3
C.S. 225	Intro to Networks	3
C.S. 238	Java	3
	Behavioral/Social Sciences	3
	Technical Elective **	3
		15
Total Credit Hours		**65-66**

* Recommended electives:
C.S. 219 Database Management Systems
C.S. 228 Introduction to Unix/Linux
C.S. 235 Web Page Design
C.S. 236 Advanced Visual Basic
C.S. 237 Internet Security
ELEC 209 Programmable Logic Controllers

** ELEC 209 or CS 228 or CS 236

Computer Information Systems A.A.S.

This program is intended to provide a foundation in the concepts and principles of computer information systems. It includes methods of analyzing and designing business information systems for computer use.

Degree Requirements

The curriculum is structured for students entering in the fall semester. Full-time students entering at another time should consult with a computer science instructor regarding the sequence of courses. Students may be required to take certain courses in the evening.

The curriculum listed on this page represents the minimum coursework required for the A.A.S. degree in Computer Information Systems. Any exception must have the written consent of the chair of the Division of Natural and Health Sciences, Mathematics, and Technology.

Career Possibilities

Entry-level positions in programming, computer operations, sales, systems analysis, and management.

Transfer Information

Students should contact their advisers and/or the transfer counselor in the Student Development Office for information on transfer planning. Early consultation to plan the most appropriate course sequence will optimize transferability.

Courses		**Credit Hours**
First Semester		
ENGL 101	Freshman English I	3
BUS 101	Principles of Accounting I	4
BUS 225	Microcomputer Application Software	3
C.S. 120	Foundations of Computer Science	3
MATH 104	College Algebra and Trigonometry (or higher)*	3
	Physical Education	1
		17
Second Semester		
C.S. 200	Programming in Visual Basic	3
	Behavioral/Social Sciences	3
C.S. 225	Intro Networks	3
BUS 226	Advanced Microcomputer Application Software	3
ENGL 102 or ENGL 270	Freshman English II Technical Writing	3
	Physical Education	1
		16
Third Semester		
ENGL 221	Effective Speech: Public Address	3
BUS 103	Principles of Business	3
C.S. 080	Microcomputer Maintenance	1
C.S. 215	Systems Analysis and Design	3
C.S. 222	Programming in C/C++	3
	Math/Science	3-4
		16-17
Fourth Semester		
C.S. 219	Database Management Systems	3
C.S. 237	Internet Security	3
C.S. 238	Java	3
	Behavioral/Social Sciences	3
	Elective	3
	Health	1
		16
Total Credit Hours		**65-66**

* MATH 112, 115, or 116 will ***not*** fulfill Math requirement.

Computer Information Systems A.A.S.
INTERNET TECHNOLOGY OPTION

This option offers a variation of the current Computer Information Systems degree program, enabling students to specialize in designing applications specifically for the internet. The emphasis is on applied learning through laboratory practice, using the latest hardware and software.

Degree Requirements

The Internet Technology option provides training for developing programming applications and information systems for the Internet. It will feature in-depth training in the use and design of software for Internet applications. The emphasis is on applied learning through laboratory practice using the latest hardware and software.

Graduates of this degree program option will have acquired skills in Internet programming, problem-solving, communications, web-based application software, computer systems, and networks.

The curriculum listed on this page represents the minimum coursework required for the A.A.S. degree in Computer Information Systems: Internet Technology Option. Any exception must have the written consent of the chair of the Division of Natural and Health Sciences, Mathematics, and Technology.

Career Possibilities

Entry level positions as web designer/developer, webmaster, software engineer, network administrator, and network support specialist.

Transfer Information

Students planning to transfer should contact their advisers and/or a transfer counselor in the Student Development Office for more information. Early consultation to plan the most appropriate course sequence will optimize transferability.

Courses		**Credit Hours**
First Semester		
ENGL 101	Freshman English I	3
C.S. 080	Microcomputer Maintenance	1
C.S. 120	Foundations of Computer Science	3
BUS 225	Microcomputer Application Software	3
BUS 103	Principles of Business	3
MATH 104	College Algebra and Trigonometry (or higher)*	3
	Health	1
		17
Second Semester		
ENGL 102	Freshman English II	
or ENGL 270	Technical Writing	3
C.S. 200	Programming in Visual Basic	3
BUS 226	Advanced Application Software	3
	Behavioral/Social Sciences Elective	3
	Math/Science	3
	Physical Education	1
		16
Third Semester		
C.S. 082	Help Desk	1
C.S. 215	Systems Analysis and Design	3
ENGL 221	Effective Speech: Public Address	3
C.S. 228	Intro to Unix/Linux	3
C.S. 236	Advanced Visual Basic	3
	Behavioral/Social Sciences Elective	3
	Physical Education	1
		17
Fourth Semester		
C.S. 219	Database Management Systems	3
C.S. 225	Intro to Networks	3
C.S. 235	Web Page Design	3
C.S. 237	Internet Security	3
C.S. 238	Java	3
	Liberal Arts Elective	3
		18
Total Credit Hours		**68**

* Depending on the student's math placement. MATH 112, 115, or 116 will not fulfill Math requirement.

Computer Science A.S.

A mathematics and computer programming based program designed to prepare students for transfer to a bachelor of science degree program.

Degree Requirements

General Education requirements must be met before the A.S. degree will be granted. For details on General Education requirements, see pages 35-36.

The curriculum listed on this page is required for an A.S. degree in Computer Science. Students may be required to complete certain degree requirements in the evening. Any exception must have the written consent of the chair of the Division of Natural and Health Sciences, Mathematics, and Technology.

Academic Preparation

Three years of high school mathematics required; four years of mathematics recommended.

Career Possibilities

Transfer to a four-year school for training as a software programmer, applications programmer, or systems analyst.

Transfer Information

Students should contact their advisers and/or the transfer counselor in the Student Development Office for information on transfer planning. Early consultation to plan the most appropriate course sequence will optimize transferability.

Courses		**Credit Hours**
First Semester		
ENGL 101	Freshman English I	3
C.S. 120	Foundations of Computer Science	3
BUS 225	Microcomputer Application Software	3
	Behavioral/Social Sciences*	3
	Math**	3-4
	Health	1
		16-17
Second Semester		
ENGL 102	Freshman English II	3
C.S. 200	Programming in Visual Basic	3
	Behavioral/Social Sciences*	3
	Math**	3-4
	Humanities***	3
	Physical Education	1
		16-17
Third Semester		
ENGL 201-206		
or ENGL 221	Effective Speech: Public Address	3
or ENGL 222	Effective Speech: Group Discussion	3
C.S. 222	Programming in *C/C++*	3
C.S. 215	Systems Analysis and Design	3
	Liberal Arts	3
	Science†	4
	Physical Education	1
		17
Fourth Semester		
MATH 203	Linear Algebra	3
MATH 212	Discrete Math	3
C.S. 238	Java	3
HIST 101, 102, 201 or 202		3
	Science†	4
		16
Total Credit Hours		**65-67**

* Choose one: PSY 101, SOC 101, ECON 201 or 202, ANTH 101.

** Minimum mathematics requirements: MATH 108 and 201.

*** ART 139, 103, 104, 106, 112, 113, 131, 160, 215, 221, 231, 250, 251, 255, 260; MUSI 104, 112, 154, 158; THA 101, 113, 152; PHIL 203.

† Must be a sequence of one of the following:
BIOL 103-104 or BIOL 105-106
CHEM 103-104
PHYS 103-104 or PHYS 200-201
GEOL 110-111

Information Technology A.S.

This program allows students to build a foundation for transfer into four-year information technology or other technology-related programs. Information Technology focuses on designing and managing technologies for user productivity. IT careers are in high demand and include specialties in game design, web design and administration, network administration, and information security.

Degree Requirements:

General Education requirements must be met before the A.S. degree will be granted. For details on General Education requirements, see pages 35-36. The curriculum listed on this page is required for an A.S. degree in Information Technology. Students must choose a particular concentration area and use the courses listed in concentration areas (see next page) to fulfill degree requirements. Any exception must have the written consent of the chair of the Division of Natural and Health Sciences, Mathematics, and Technology.

The minimum math prerequisite for earning credit toward this program is MATH 104 College Algebra and Trigonometry which could be used for elective credit; however, to get the most out of the program, the student should place into MATH 106 Pre-Calculus.

Career Possibilities

Transfer to a four-year program provides training for careers such as games designer, network and data communications analyst, network administrator, web developer, web administrator, IT consultant, computer security specialist, security engineer, systems administrator, and database administrator.

Transfer Information

Students should contact their advisers and/or the transfer counselor in the Student Development Center for information on transfer planning. Early consultation to plan the most appropriate course sequence will optimize transferability.

Concentrations

Creative Game Design, Web Design, Network Administration and Cybersecurity. (see page 48).

Courses		**Credit Hours**
First Semester		
ENGL 101	Freshman English I	3
C.S. 080	Microcomputer Maintenance	1
C.S. 120	Foundations of Computer Science	3
BUS 225	Application Software	3
MATH 106	Pre-Calculus (or higher)	3
		16
Second Semester		
ENGL 102	Freshman English II	3
C.S. 082	Help Desk	1
C.S. 225	Networking	3
C.S. 235	Web Page Design	3
MATH 212	Discrete Math or	
MATH 214	Statistics	3
	Concentration Elective*	3
	Concentration Elective*	3
	Physical Education	1
		17
Third Semester		
C.S. 222	Programming in C/C++ or	
C.S. 200	Programming in Visual Basic	3
HIST 101, 102, 201, or 202		3
	Behavioral/Social Science	3
	Concentration Elective *	3
	Lab Science***	4
	Physical Education	1
		17
Fourth Semester		
C.S. 219	Database Management Systems	3
C.S. 238	Java	3
	Arts or Other Civ. Elective**	3
	Concentration Elective*	3
	Liberal Arts Elective	3-4
	Health	1
		16-17
Total Credit Hours		**66-67**

*The courses listed in concentrations below must be used to fulfill degree requirements.

** Depending on the concentration, students should choose an art or other civilizations elective that optimizes general education credits.

***Choose from the following courses: BIO 103-106, CHEM 103-104, GEOL 110-111, PHYS 103-104.

Information Technology A.S.
CONCENTRATIONS

Creative Game Design Concentration
This concentration will develop skills related to video game design. It provides a mix of computer art, programming, scriptwriting, and telecommunications media courses and gives students a broad perspective of the elements in today's gaming industry. The courses emphasize learning through hands-on labs and projects.

Choose any 4 courses for the concentration (12 credits):

ART 112	Two-Dimensional Design
ART 215	Computer Graphics/Illustration
C.S. 237	Internet Security
ENGL 239	Video Game Narrative
TELC 210	Video Game Design
TELC 178	Digital Animation

Web Design Concentration
This concentration will build a foundation for programming and designing Web sites and working with multimedia rich elements for web design.

Choose any 4 courses for the concentration (12 credits):

ART 215	Computer Graphics/Illustrator
ART 252	Photoshop
C.S. 215	Systems Analysis
C.S. 237	Internet Security
C.S. 238	Introduction to Unix/Linux
TELC 178	Digital Animation

Network Administration Concentration
This concentration will build a foundation for network design, installation, maintenance, and security and prepare students for further study and certification in network administration. Network administration is one of the fastest growing career fields, especially in network security.

Required course for Liberal Arts requirements (3 credits):
ENGL 270 Technical Writing

Choose any 3 additional courses for the concentration (9 credits):

C.S. 180	Data Communications
C.S. 215	Systems Analysis
C.S. 237	Internet Security
C.S. 228	Introduction to Unix/Linux
BUS 101	Principles of Accounting I
BUS 200	Principles of Management

Cybersecurity Concentration
This concentration will build a foundation for one of the fastest growing careers today based on the growing need for investigating computer crime and securing databases. The courses serve as a foundation to transfer into an information security or computer forensics degree program at a four-year institution.

Required course for Liberal Arts requirements (3 credits):
ENGL 270 Technical Writing

Choose any 3 courses for the concentration (9 credits):

C.J. 111	Introduction to Justice Systems
C.J. 115	Criminal Law
C.J. 119	Criminal Investigations
C.J. 123	Laws of Evidence
C.S. 237	Internet Security

Criminal Justice: Corrections A.A.S.

This program is structured to meet the needs of professional corrections personnel.

Degree Requirements

The program provides a broad insight into the total correctional process with emphasis on the areas of probation and parole.

The curriculum listed on this page represents the minimum coursework required for the A.A.S. degree in Criminal Justice: Corrections. Any exception in major courses must have the written consent of the chair of the Division of Behavioral/Social Sciences, Business, Criminal Justice, Teacher Education, Physical Education/Health.

The student should be aware that entrance into the corrections field demands certain physical requirements, plus a rigorous background investigation.

Career Possibilities

Corrections officer in the New York State Correctional System; careers as a probation or parole officer require transfer and completion of a four-year or graduate degree.

Courses		**Credit Hours**
First Semester		
ENGL 101	Freshman English I	3
C.J. 111	Intro to Justice Systems	3
C.J. 115	Criminal Law	3
PSY 101	Intro Psychology	3
	Math/Science	3-4
	Health	1
	Physical Education	1
		17-18
Second Semester		
ENGL 102	Freshman English II	3
C.J. 112	Org/Admin of Justice Systems	3
SOC 101	Intro Sociology	3
	Behavioral Sciences	3
	Math/Science*	3-4
	Physical Education	1
		16-17
Third Semester		
ENGL 221	Effective Speech: Public Address	
or ENGL 222	Effective Speech: Group Discussion	3
C.J. 117	Juvenile Delinquency	3
C.J. 121	Institutional Corrections	3
	Behavioral/Social Sciences	3
	Elective**	3
		15
Fourth Semester		
C.J. 211	Case Studies in Criminal Behavior	3
C.J. 213	Community Corrections	3
C.J. 220	Criminology	3
	Electives	6
		15
Total Credit Hours		**63-65**

* CHEM 108 (Forensic Sciences) may be used as a science requirement.

** Spanish for Law Enforcement recommended.

Criminal Justice: Police A.A.S.

This program prepares the student for employment and advancement in the field of law enforcement. It is also designed to prepare students for transfer to a four-year institution offering a criminal justice major.

Degree Requirements

The curriculum listed on this page represents the minimum coursework required for the A.A.S. degree in Criminal Justice: Police. Any exception in major courses must have the written consent of the chair of the Division of Behavioral/ Social Sciences, Business, Criminal Justice, Teacher Education, Physical Education/Health.

Students should be aware that entrance into the police science field demands certain physical requirements, plus a rigorous background investigation.

Career Possibilities

Appointment as sworn officer in police or sheriff's department, peace officer, conservation officer or state police officer.

Courses		**Credit Hours**
First Semester		
ENGL 101	Freshman English I	3
C.J. 111	Intro to Justice Systems	3
C.J. 115	Criminal Law	3
PSY 101	Intro Psychology	3
	Math/Science	3-4
	Health	1
	Physical Education	1
		17-18
Second Semester		
ENGL 102	Freshman English II	3
C.J. 112	Org/Admin of Justice Systems	3
C.J. 119	Criminal Investigations	3
CHEM 108	Forensic Science	3
	Behavioral Sciences	3
	Physical Education	1
		16
Third Semester		
ENGL 221	Effective Speech: Public Address	
or ENGL 222	Effective Speech: Group Discussion	3
C.J. 117	Juvenile Delinquency	3
C.J. 123	Laws of Evidence	3
	Social Sciences	3
	Elective*	3
		15
Fourth Semester		
C.J. 220	Criminology	3
C.J. 222	Constitutional Law	3
	Behavioral/Social Sciences	3
	Electives	6
		15
Total Credit Hours		**63-64**

* Spanish for Law Enforcement recommended.

Early Childhood A.A.S.

This program is designed for persons interested in child care, preschool, and early childhood education.

Degree Requirements

The curriculum listed on this page is required for the A.A.S. degree in Early Childhood.

Transfer for Early Childhood or Education course credit will only be granted after transcript review by the Education Coordinator.

Graduation Requirements: In order to graduate with the AAS degree in Early Childhood, students must demonstrate competency (a grade of C- or higher) in five Key Assessments. The Key Assessments are completed in each of the core early childhood courses (ECH 101, 102, 103, 104, 110, and 111 and BEH 101). This requirement also applies to students who have transferred credits to Cayuga Community College from another college. Please contact the Early Childhood coordinator if you have any questions.

Program Accreditation

This degree is accredited by the National Association for the Education of Young Children (NAEYC), 1313 L. Street, NW, Washington, DC 20005, www.naeyc.org.

General Information

For individuals interested in working with children, Cayuga also offers a Liberal Arts A.A. degree with an Early Childhood concentration, as well as an Early Childhood Certificate and Teacher Assistant and Child Development Associate (CDA) coursework. In addition. Specific information about each program is available through the Student Development office.

Transfer Information

Students planning to transfer into a four-year degree program in Early Childhood should contact their adviser, the College's transfer counselor, or the Early Childhood coordinator to plan the most appropriate course sequence for optimum transferability. It is suggested that students who wish to transfer into four-year degree programs complete the A.A. degree in Liberal Arts with an Early Childhood concentration.

Additional Information

Students must be physically able to satisfactorily and safely perform duties associated with the care and education of children from birth to eight years of age.

Students are required to have police and child abuse clearances and physical examinations prior to beginning their field experience classes (ECH 103 and 104).

Note: Students with certain criminal histories will not be able to satisfy field experience requirements for the completion of the degree. In addition, students are required to submit to alcohol and/or drug testing upon request by either the College or any of the cooperating field placement sites. Students who test positive are subject to removal from the field placement and will therefore not be able to satisfy requirements for the completion of the degree. Refusal to submit to the test will result in the student being asked to leave the field placement site and may result in dismissal from the course and/or the program.

Courses		**Credit Hours**
First Semester		
ENGL 101	Freshman English I	3
ART 103	Essentials of Art	3
HIST 201	US History I	3
PSY 101	Intro Psychology	3
ECH 110	Methods and Materials in Early Childhood Education*	3
EDU 120	Technology for Teachers	1
		16
Second Semester		
ENGL 209	Children's Literature	3
ECH 111	Infants and Toddlers*	3
PSY 215	Child Psychology	3
BIOL 209	Basic Nutrition	3
P.E. 146	CPR Basic Support	1
	Elective	2-3
		15-16
Third Semester		
ECH 101	Intro Early Childhood Education*	3
ECH 103	Early Childhood Field Experience I*	3
ECH 222	Teaching Math & Science*	3
PSY 217	Intro Children with Exceptionalities	3
P.E. 199	Physical Education for Children	2
HLTH 103	Health	1
		15
Fourth Semester		
ENGL 221	Effective Speech: Public Address	3
BEH 101	Language and Literacy Development*	3
ECH 102	Curriculum and Assessment*	3
ECH 104	Early Childhood Field Exp. II*	3
P.E. 145	First Aid	1
	Elective**	3
		16
Total Credit Hours		**62-63**

* A minimum grade of C- (70) is required to complete graduation requirements.

** Library 102 recommended elective

Electrical Technology: Electronics A.A.S.

This program prepares the student for employment and advancement in the field of electronics.

Degree Requirements

Cayuga's "hands-on" learning environment focuses on experimentation with the use of various pieces of test equipment and helps students develop troubleshooting skills for sophisticated electronic systems.

The curriculum provides the graduate with fundamental knowledge in DC and AC circuitry, digital circuits, microprocessor systems, programmable logic controllers, and high-frequency systems. Our experimental and simulation laboratory environments help students gain necessary application experience in the proper use of multimeters, oscilloscopes, logic pulsers and probes, logic analyzers, spectrum analyzers, and network analyzers.

Academic Preparation

A background in algebra and trigonometry is recommended.

Career Possibilities

Positions in the fields of computers, robotics, medical instrumentation, audio/radio frequency communication, and manufacturing include

- Engineering Technical Assistant
- Electronic Test and Repair Technician
- Industrial Control Technician
- Calibration and Test Technician
- Field Service Technician
- Electronic Assembler

Transfer Information

Students should contact their advisers and/or the transfer counselor in the Student Development Office for information on transfer planning. Early consultation to plan the most appropriate course sequence will optimize transferability.

Courses		**Credit Hours**
First Semester		
ENGL 101	Freshman English I	3
ELEC 101	Electrical Circuits	4
ELEC 105	Intro to Digital Computers	4
	Elective	3-4
	Behavioral/Social Sciences	3
		17-18
Second Semester		
ENGL 102	Freshman English II	
or ENGL 270	Technical Writing	3
ELEC 102	Basic Electronics	4
ELEC 107	Fund. of Microcomputers	4
MATH 114	Applied Mathematics	
or MATH 104	College Algebra and Trigonometry (or higher)*	3
C.S. 200	Programming in Visual Basic	
or C.S. 222	Programming in C/C++	3
	Physical Education	1
		18
Third Semester		
ELEC 201	Intermediate Electronics	4
ELEC 209	Programmable Logic Controllers	3
ENGR 207	Quality Assurance	3
PHYS 103	General Physics I	4
	Technical Elective**	3-4
		17-18
Fourth Semester		
ELEC 204	Industrial Electronics	4
ELEC 208	Radio Frequency Communications	4
PHYS 104	General Physics II	4
	Behavioral/Social Sciences	3
	Health	1
	Physical Education	1
		17
Total Credit Hours		**69-71**

* Math 112, 115, or 116 will not fulfill Math requirement.

** The following will fulfill this requirement:
BUS 225 or BUS 226.
C.S. 200 or higher
Drafting
Electronics
Engineering
Geographic Information Systems
Math (except Math 112, 115, or 116)
Physics

Geographic Information Systems (GIS) A.S.

The associate in science degree program in GIS prepares graduates to continue their studies toward a baccalaureate degree in Geographic Information Systems, or in related majors such as geographic information technology, resources management, geography, urban planning, and environmental science. Although it is a transfer program, students acquire skills that qualify them to pursue career opportunities after completion of the degree. The GIS program is closely associated with the Institute for the Application of Geospatial Technologies located at the College.

Degree Requirements

General Education requirements must be met before the A.S. degree will be granted. For details on General Education requirements, see pages 35-36.

The courses listed on this page represent the minimum requirements for the A.S. degree in Geographic Information Systems.

Career Possibilities

Upon successful completion of the A.S. program, students will have the skills required to pursue career opportunities at companies using GIS, GPS, and remote sensing technologies, or they could qualify to transfer directly to a four-year program at a participating university for a bachelor's degree.

Transfer Information

Cayuga has an articulation agreement in GIS with SUNY College at Cortland, as well as an articulation agreement with SUNY College of Environmental Science and Forestry in Syracuse for transfer into either Environmental Science or Natural Resources Management. For these and other transfer institutions, students should contact their advisers and/or a transfer counselor in the Student Development Office for more information. Early consultation to plan the most appropriate course sequence will optimize transferability.

Courses		**Credit Hours**
First Semester		
ENGL 101	Freshman English I	3
C.S. 120	Foundations of Computer Science	3
MATH 102	Intermediate Algebra (or higher)*	3
BUS 225	Microcomputer Application Software	3
GIS 111	Introduction to GIS	3
	Physical Education	1
		16
Second Semester		
ENGL 102	Freshman English II	3
GIS 121	Remote Sensing and Aerial Photogrammetry	3
GIS 122	Spatial Modeling with Raster GIS	3
C.S. 200	Programming in Visual Basic	3
	Math/Science Elective	3-4
	Physical Education	1
		16-17
Third Semester		
GIS 205	Introduction to Vector GIS	3
GEOL 110	Physical Geology	4
BIOL 103 or BIOL 105	Biological Principles I / Botany	4
HIST 101	Western Civilization	3
	Other Civilization/Arts Elective	3
	Health	1
		18
Fourth Semester		
GIS 220	Advanced GIS	3
GIS 222	GIS Programming	3
HIST 201 or 202	History of the United States I/II	3
ECON 201 or 202	Introduction to Economics I/II	3
	Elective	3-4
		15-16
Total Credit Hours		**65-67**

* Math 112, 115, or 116 will not fulfill Math requirement.

Liberal Arts and Sciences: Adolescence Education A.A.

This program is designed for students interested in transferring to a bachelor's degree program in Adolescence Education at a SUNY institution.

Degree Requirements

Please note that students in this program must complete one of the following concentrations to satisfy degree requirements: Biology, Chemistry, Earth Science, English, History/Social Studies, or Mathematics (see next page). Students must complete a minimum of 12 credit hours in one of the designated concentrations. In some cases liberal arts electives may need to be used to fulfill concentration requirements.

Transfer for Early Childhood or Education course credit will only be granted after transcript review by the Education Coordinator.

General Education requirements must be met before the degree will be granted. For information on General Education requirements see pages 35-36.

A computer literacy requirement applies and may be satisfied either by completing designated courses or by passing a computer literacy test.

Transfer Information

Students planning to transfer to a SUNY four-year degree program in Adolescence Education should contact their adviser, the transfer counselor, or the Education coordinator. Please note: This program may not be appropriate for students interested in transferring to private colleges or universities; students should consult with their chosen institution to plan the most appropriate course sequence.

Additional Information

Note: Students may be required to have police and child abuse clearances and physicals before beginning field experience classes. Individuals with certain criminal histories will not be able to satisfy field experience requirements for the completion of the degree. In addition, students are required to submit to alcohol and/or drug testing upon request by either the College or any of the cooperating field placement sites. Students who test positive are subject to removal from the field placement and will therefore not be able to satisfy requirements for the completion of the degree. Refusal to submit to the test will result in the student being asked to leave the field placement site and may result in dismissal from the course and/or the program.

Other Cayuga Programs

Cayuga offers several additional programs for individuals interested in working with children in a variety of settings. Options available include Teacher Assistant coursework, CDA (Child Development Associate) coursework, Early Childhood Certificate, Early Childhood A.A.S., A.A. in Liberal Arts and Sciences / Childhood Education, and A.A. in Liberal Arts and Sciences / Humanities and Social Sciences with concentrations in Early Childhood or Education. For details consult the College catalog or contact the Education program coordinator.

Courses		**Credit Hours**
First Semester		
ENGL 101	Freshman English I	3
	Concentration Elective	3
	Foreign Language*	3-4
PSY 101	Introduction to Psychology	3
	Mathematics	3
	Physical Education	1
		16-17
Second Semester		
ENGL 102	Freshman English II	3
	Foreign Language*	3-4
PSY 216	Adolescent Psychology	3
HIST 101 or 102	Western Civilization I or II	3
	Concentration Elective	3-4
		15-17
Third Semester		
ENGL 201 or 202	World Literature I or II	3
	Mathematics or Science Elective**	3-4
	Health	1
	Physical Education	1
	Liberal Arts Elective	3
	The Arts Elective†	3
	Computer Literacy course or Elective	1
		15-16
Fourth Semester		
HIST 201 or HIST 202	US History I or US History II	3
SOC 110	Race and Ethnicity	3
	Liberal Arts Elective	3
	Science Elective**	3-4
EDU 201	Foundations of American Education††	3
EDU 203	Field Experience: Adolescence††	1
		16-17
Total Credit Hours		**62-67**

* Although Spanish 111 and 112 will fulfill degree requirements and SUNY General Education requirements at Cayuga Community College, they may not satisfy requirements at the transfer institution. Students are advised to contact their prospective transfer institution before enrolling in these courses.

** A combination of two science disciplines is recommended, for example Biology/Geology or Chemistry/Physics. At least one must be a lab science. Students are advised to contact their prospective transfer institution before enrolling in these courses.

† See General Education requirements for The Arts, page 35.

†† EDU 201 and 203 must be taken concurrently. Credit for EDU 201 is contingent upon successful completion of EDU 203.

Adolescence Education A.A.
CONCENTRATIONS

Students in the Liberal Arts and Sciences: Adolescence Education A.A. program (see previous page) must select one of the following concentrations to complete degree requirements: Biology, Chemistry, Earth Science, English, History/Social Studies, or Mathematics. Curriculum requirements for each are listed below.

Note:
- You must complete a minimum of 12 credit hours in one of the designated concentrations.
- When planning your schedule, carefully note prerequisites, course sequencing, and availability of courses.
- To plan the most appropriate course selection, you should consult with your intended four-year transfer institution.

Biology Concentration
The following courses must be completed:
BIOL 103 and 104
CHEM 103 and 104

Chemistry Concentration
The following courses must be completed:
CHEM 103, 104, 207, and 208
MATH 108 and 201

Earth Science Concentration
The following courses must be completed:
CHEM 103 and 104
GEOL 110 and 111

English Concentration
The following courses must be completed:
ENGL 101, 102, and 209
Choose one: ENGL 203, 204, 205, 206, 235, 245, or 247

History/Social Studies Concentration
The following courses must be completed:
HIST 201 and 202
Choose two: ECON 201, ECON 202, PSCI 102

Mathematics Concentration
The following courses must be completed:
MATH 108, 201, 202, and 203

Liberal Arts and Sciences: Childhood Education A.A.

This program is designed for students interested in transferring to a bachelor's degree program in Childhood Education at a SUNY institution.

Degree Requirements

Please note that students in this program must complete one of the following concentrations to satisfy degree requirements: English, General Science, or History/Social Studies (for required courses, see next page). Students must complete a minimum of 12 credit hours in one of these concentrations. In some cases liberal arts electives must be used to fulfill concentration requirements.

Transfer for Early Childhood or Education course credit will only be granted after transcript review by the Education Coordinator.

General Education requirements must be met before the degree will be granted. For specific information on General Education requirements see pages 35-36.

A computer literacy requirement applies and may be satisfied either by completing designated courses or by passing a computer literacy test.

Transfer Information

Students planning to transfer to a SUNY four-year degree program in Childhood Education should consult with their adviser, the transfer counselor, or the Education coordinator. Please note: This program may not be appropriate for students interested in transferring to private colleges or universities; students should consult with their chosen institution to plan the most appropriate course sequence.

Additional Information

Note: Students may be required to have police and child abuse clearances and physicals before beginning field experience classes. Individuals with certain criminal histories will not be able to satisfy field experience requirements for the completion of the degree. In addition, students are required to submit to alcohol and/or drug testing upon request by either the College or any of the cooperating field placement sites. Students who test positive are subject to removal from the field placement and will therefore not be able to satisfy requirements for the completion of the degree. Refusal to submit to the test will result in the student being asked to leave the field placement site and may result in dismissal from the course and/or the program.

Other Cayuga Programs

Cayuga offers several additional programs for individuals interested in working with children in a variety of settings. Options available include Teacher Assistant coursework, CDA (Child Development Associate) coursework, Early Childhood Certificate, Early Childhood A.A.S., A.A. in Liberal Arts and Sciences / Childhood Education, and A.A. in Liberal Arts and Sciences / Humanities and Social Sciences with concentrations in Early Childhood or Education. For details consult the College catalog or contact the Education program coordinator.

Courses		**Credit Hours**
First Semester		
ENGL 101	Freshman English I	3
HIST 101	Western Civilization I	
or HIST 102	Western Civilization II	3
	Foreign Language*	3-4
PSY 101	Introduction to Psychology	3
MATH 115	Elementary Mathematics I	3
	Health	1
		16-17
Second Semester		
ENGL 102	Freshman English II	3
	Foreign Language*	3-4
PSY 215	Child Psychology	3
MATH 116	Elementary Mathematics II	3
SOC 110	Race and Ethnicity	3
		15-16
Third Semester		
ENGL 201	World Literature I	
or ENGL 202	World Literature II	3
HIST 201	US History I	
or HIST 202	US History II	3
	Science Elective (General Ed.)**	3-4
	Liberal Arts or Concentration Elective	3
	The Arts Elective†	3
	Elective (recommended: EDU 120 Technology for Teachers)	1
		16-17
Fourth Semester		
ENGL 209	Children's Literature	3
	Liberal Arts or Concentration Elective	3
	Science or Concentration Elective**	3-4
P.E. 199	Physical Education for Children	2
EDU 201	Foundations of American Education††	3
EDU 203	Field Experience: Childhood††	1
		16-17
Total Credit Hours		**63-67**

* Although Spanish 111 and 112 will fulfill degree requirements and SUNY General Education requirements at Cayuga Community College, they may not satisfy requirements at the transfer institution. Students are advised to contact their prospective transfer institution before enrolling in these courses.

** A combination of two science disciplines is recommended, for example Biology/Geology or Chemistry/Physics. Students are advised to contact their prospective transfer institution before enrolling in these courses.

† See General Education requirements for The Arts, page 35.

†† EDU 201 and 203 must be taken concurrently. Transfer credit for EDU 201 is contingent upon successful completion of EDU 203.

Childhood Education A.A.
CONCENTRATIONS

Students in the Liberal Arts and Sciences: Childhood Education A.A. program (see previous page) must select one of the following concentrations to complete degree requirements: English, General Science, or History/Social Studies. Curriculum requirements for each are listed below.

Note:
- You must complete a minimum of 12 credit hours in one of the designated concentrations.
- When planning your schedule, pay close attention to pre-requisites, course sequencing, and availability of courses.
- To plan the most appropriate course selection, you should consult with your intended transfer institution.

English Concentration
The following courses must be completed:
ENGL 101, 102, and 209
Choose one: ENGL 203, 204, 205, 206, 235, 245, or 247

General Science Concentration
Four of the following courses must be completed:
BIOL 103, 104, 105, 216
CHEM 103, 104
GEOL 110, 111
PHYS 103, 104

History/Social Studies Concentration
The following courses must be completed:
HIST 201 and 202
Choose two: HIST 101, 102, 155, 199

Liberal Arts and Science: Humanities and Social Sciences A.A.

This program is designed for students who plan to transfer and continue their studies in the humanities or social sciences, leading to a bachelor's degree.

Degree Requirements
General Education requirements must be met before the A.A. degree will be granted. For details on General Education requirements, see pages 35-36.

Credit Requirements
A minimum of 62 credits but fewer than 120 credits with an average grade of C (2.000).

Curriculum Requirements
The course of study leading to this degree should be an organized curriculum comprised primarily of courses in the Liberal Arts and Sciences.

English and Humanities
18 credit hours

ENGL 101-102	(6 credits)
ENGL 201-206	(3 credits)
Humanities	(3 credits)
Electives	(6 credits)

Humanities: Art, Foreign Languages, Music, Philosophy, Theatre Arts. ENGL 101 or higher will fulfill English and Humanities requirement.

Behavioral and Social Sciences
12 credit hours
At least 3 credit hours in ANTH 101, ECON 201, ECON 202, PSY 101, or SOC 101
3 credit hours in HIST 101, 102, 201, or 202
Behavioral and Social Sciences: Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology.

Natural Sciences and Mathematics
9-12 credit hours
To fulfill the mathematics/science requirement for the A.A. Liberal Arts degree, select ***one*** of the following:
OPTION 1: 3-4 credit hours in math ***and two*** 4-credit hour science courses.
OPTION 2: 3-4 credit hours in math ***and three*** 3-credit hour science courses
OPTION 3: 6-8 credit hours in math ***and one*** 3-4 credit hour science course.
Natural Sciences: biology, chemistry, geology, and physics.

For Options 1, 2, and 3, MATH 115 and 116 will fulfill math, General Education, and computer literacy requirements ***for education majors only***. Written waivers from the chair of college studies in Fulton, or the chair of Math, Science and Technology in Auburn, may be granted on a case-by-case basis.

For Options 1 and 2, MATH 102 or higher (except 115 or 116) will fulfill math requirement. For Option 3, MATH 101 or higher (except 115 or 116) will fulfill math requirement.

MATH 101, BIO 209, BIO 213, and CHEM 108 will not satisfy General Education requirements.

Computer Literacy
(required for all students)
Any of the following courses will satisfy the computer literacy requirement, or students may apply to their division chair to waive the requirement by passing a computer literacy test: ART 215 or 252; BUS 150, 225, or 226; CS 035, 070, 103, 110, or higher; EDU 120; ENGL 049; LIB 102; MATH 112 or 116; SD 102; TELC 104, 105, 170, 171, 175, or 199; or any online course.

Liberal Arts Electives
9 credit hours
See page 37 for definition of Liberal Arts electives.

Other World Civilizations / The Arts
3 credits from either Other World Civilizations ***or*** The Arts. See pages 35-36 for a listing of acceptable course choices. If any listed course has been taken to meet another requirement, then the "Other World Civilizations or The Arts" requirement has been met.

Electives
8-11 credit hours
Adequate to meet a total of 62 credit hours
No more than 6 credit hours total in MUSI 100 and Physical Education courses carrying fewer than 3 credits may be applied toward the A.A. degree. Students planning to seek a B.A. degree should complete a foreign language through the intermediate level.

Health and Physical Education
1 credit hour in Health
2 credit hours in Physical Education

Liberal Arts and Science: Humanities and Social Sciences A.A.

CONCENTRATIONS

Concentrations offer focused electives in Criminal Justice, Early Childhood, Education, Literature, Music, Psychology, Theatre and Writing for enhanced career and transfer opportunities. Concentrations are not majors and are not required to earn the Liberal Arts / Humanities and Social Sciences degree. Consult with an academic adviser before scheduling courses for a concentration.

Criminal Justice Concentration

This program is designed for students who plan to transfer to a bachelor's degree program and continue studies in Criminal Justice, Law, Pre-Law, Criminology or Forensic Psychology. By utilizing free electives, students can build a concentration in criminal justice while fulfilling General Education and liberal arts requirements.

If you plan to transfer to a bachelor's degree program, you should consult with your prospective school to determine the appropriate course selection for optimum transfer of credits.

The following courses can be selected for the Criminal Justice concentration and will meet various elective requirements for the Liberal Arts/Humanities and Social Sciences degree:

C.J. 111	Introduction to Justice Systems*
C.J 220	Criminology*
	or PSY 206 Abnormal Psychology**
C.J. 117	Juvenile Delinquency*
CHEM 108	Forensic Chemistry†

*Meets free elective requirements (8–11 credit hours allowed).
**Behavioral/Social Sciences or Liberal Arts elective
†Can be used for one of the required Science electives or as a Liberal Arts elective.

Early Childhood Concentration

This program is designed for students seeking the flexibility of a Liberal Arts A.A. degree with specific coursework in Early Childhood Education.

To complete the concentration, ECH 101, 102, 105, 106, and 110 are required and will fulfill the 8–11 general electives needed for the Liberal Arts degree. MATH 115 and 116 are recommended; MATH 116 may be used to fulfill the computer literacy requirement.

In order to graduate with an A.A degree in Liberal Arts with an Early Childhood concentration, the student must demonstrate competency (a grade of C- or higher) in four Key Assessments. The Key Assessments are completed in the core early childhood courses (ECH 101, 102, 105, 106 and 110).

This requirement also applies to students who have transferred credits to Cayuga from another college.

Transfer for Early Childhood or Education course credit will only be granted after transcript review by the Education Coordinator.

Note: A minimum grade of C- (70) is required in ECH 101, 102, 105, 106, and 110 to fulfill degree requirements. For students who take BEH 101 as an elective, a minimum C (-70) grade is required.

Students must be physically able to satisfactorily and safely perform duties associated with the care and education of children from birth to eight years of age.

Cayuga has an articulation agreement for transfer to Keuka College. In addition, transfer arrangements have been made with SUNY Cortland, SUNY Oswego, SUNY Fredonia, and the College of St. Rose.

Note: Students may be required to have police and child abuse clearances and physicals before beginning field experience classes. Individuals with certain criminal histories will not be able to satisfy field experience requirements for the completion of the degree. In addition, students are required to submit to alcohol and/or drug testing upon request by either the College or any of the cooperating field placement sites. Students who test positive are subject to removal from the field placement and will therefore not be able to satisfy requirements for the completion of the degree. Refusal to submit to the test will result in the student being asked to leave the field placement site and may result in dismissal from the course and/or the program.

For further information, please contact the Early Childhood coordinator.

Education Concentration

This program is designed for students who plan to transfer to a bachelor's degree program at a non-SUNY school to continue studies in a childhood or adolescence education program. (For information on Cayuga's Early Childhood concentration, see the preceding section.)

To complete the Education concentration, the following courses are required: EDU 201 and EDU 203. In addition, at least 6 credit hours from the following courses are required: EDU 120, PSY 215 or 216, PSY 217 BEH 101, SOC 110

Transfer for Early Childhood or Education course credit will only be granted after transcript review by the Education Coordinator.

Because of varying requirements among bachelor's degree programs, students should contact Cayuga's transfer counselor or Education coordinator to maximize transferability of coursework to the desired institution.
Note: Students may be required to have police and child abuse clearances and physicals before beginning field experience classes. Individuals with certain criminal histories will not be able to satisfy field experience requirements for the completion of the degree. In addition, students are required to submit to alcohol and/or drug testing upon request by either the College or any of the cooperating field placement sites. Students who test positive are subject to removal from the field placement and will therefore not be able to satisfy requirements for the completion of the degree. Refusal to submit to the test will result in the student being asked to leave the field placement site and may result in dismissal from the course and/or the program.

Literature Concentration

The concentration in Literature is designed for transfer preparation toward a bachelor's degree in English Studies or English Education. Graduates may prepare for work as teachers, enter the field of publishing, write for journals, magazines, and online publications, earn graduate research degrees, enter law school, start their own businesses, or find their calling in the political sphere, working for non-profits, foundations, or government agencies.

Within an A.A. degree this concentration requires a minimum of 4 literature courses. Students planning to transfer to a baccalaureate program should contact their future school as early as possible to determine the best course selection from those listed.

Under current catalog guidelines, all courses listed below may be used as English, Liberal Arts, or free electives.
Choose 2-4 courses from English 201-207:
World Literature I*, II*
American Literature to the Late 19th Century
American Literature Late 19th Century to Present
English Literature to the 19th Century
English Literature 19th Century to Present
Shakespeare
Choose 0–2 from the following specialized courses:

ENGL 209	Children's Literature
ENGL 226	Contemporary American Novels
ENGL 227	Poetry: Poems and Poets
ENGL 230	The Bible as Literature
ENGL 235	Women and Writing
ENGL 237	Film and Literature
ENGL 239	Special Topics
ENGL 240	Mythology*
ENGL 245	African-American Literary Traditions
ENGL 247	Native American Myth, Legend, Literature
ENGL 250	Folklore
ENGL 255	Science Fiction and Fantasy

*Meets General Education requirement for Other World Civilizations/The Arts.

Music Concentration

This concentration is designed for students who plan to transfer into Music programs at four-year colleges and universities.

Choose the following to fulfill 9 credits of humanities and 3-6 credits of liberal arts or free electives

MUSI 101	Music Appreciation (3 credits)
MUSI 105	Music Theory (3 credits)
MUSI 200	Applied Music Lessons (2 credits)
MUSI 102	Jazz (3 credits)
	or MUSI 111 Rock (3 credits)
MUSI 115	Jazz Ensemble (3 credits)
	or MUSI 100 College Chorus (1-3 credits)

Psychology Concentration

This concentration is designed for students interested in studying psychology, human services, social work, or education upon transfer to a bachelor's degree program. As a concentration within the Liberal Arts / Humanities and Social Sciences degree, this concentration enables students to choose from a variety of psychology courses offered at Cayuga by selecting courses in the behavioral sciences, liberal arts, or free elective categories.

All students within this concentration must take the prerequisite Psychology 101 (Introduction to Psychology), which fulfills a General Education requirement.

Students must take 3 additional psychology courses from the following list. Note: For all courses except PSY 207, PSY 101 is a prerequisite. Some courses listed may not be offered each semester.

PSY 205	Psychology of Personality
PSY 206	Abnormal Psychology
PSY 207	Organizational Behavior
PSY 212	Developmental Psychology – Life Span
PSY 214	Selected Topics in Psychology
PSY 215	Child Psychology
PSY 216	Adolescent Psychology
PSY 217	Introduction to Children with Exceptionalities

Due to the nature of the liberal arts components of the degree program, students should expect ease of transfer to similar programs elsewhere. Cayuga's transfer counselor can assist in planning for transfer to four-year colleges and universities.

Theatre Concentration

This concentration is designed for students who plan to transfer into Theatre programs at four-year colleges and universities, students who wish to transfer as English majors or other liberal arts majors, and students who are interested in obtaining practice in working in theatre as actors, directors, and technicians.

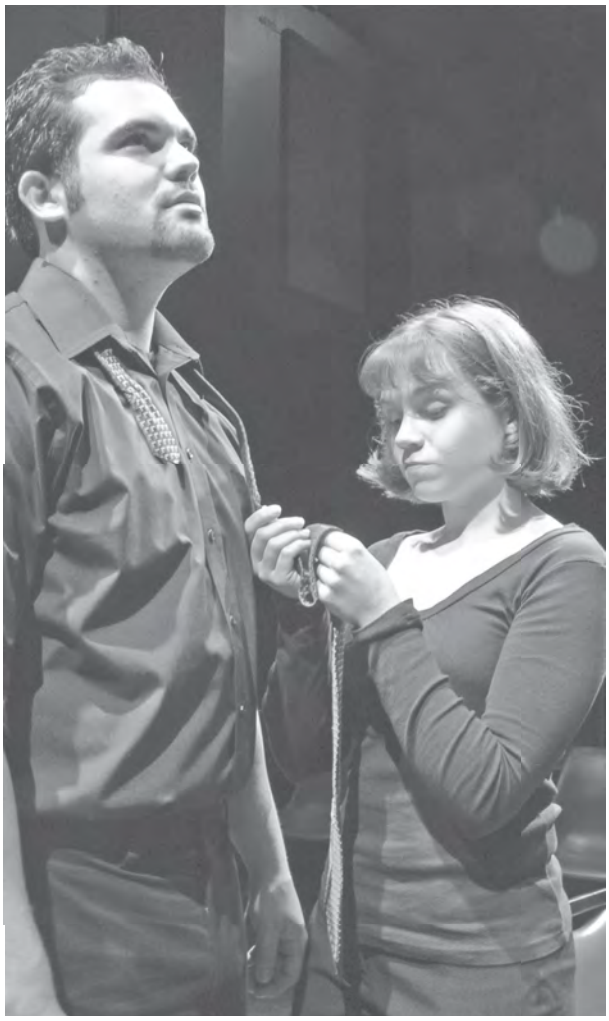
Choose the following courses to fulfill 3 hours of Humanities requirements and 6 hours of English or Humanities elective requirements:

THA 101	Introduction to Theatre*
THA 113	Introduction to Technical Theatre*
THA 152	Basic Acting*

Choose one of the following for Liberal Arts elective credit:

ENGL 207	Shakespeare
THA 165	Selected Topics in International Theatre: The London Theatre
THA 210	Creating a Character

* Meets General Education requirement for The Arts



Writing Concentration

This concentration is designed for Liberal Arts A.A. students who are interested in graduating with an emphasis in written communication for future employment needs or transfer. Students in this concentration experience varied writing classes in order to understand fundamental differences between writing disciplines and/or to help select writing programs upon transfer. (Within an A.A. degree this concentration requires a minimum of three writing courses beyond English 101 and 102 totaling 9-13 credits.)

Choose at least three from the writing courses offered below:

ENGL 104	Advanced Expository Writing (3 credits)
ENGL 110	Writing Research in the Discipline† (1 credit)
ENGL 211	Creative Writing*†
ENGL 217	Writing for the Media† or TELC 204 Journalism Practicum (3 elective credits)
ENGL 238	Selected Topics† (1 credit) (if on topic of language or writing)
ENGL 239	Special Topics† (if on topic of language or writing)
ENGL 260	Professional Writing Practicum†
ENGL 270	Technical Writing†

* Designates courses that meet the General Education requirements for Other Civ/Arts

† Under current catalog guidelines may be used as an English or Liberal Arts elective

Liberal Arts and Science: Mathematics A.S.

This program is designed for students who plan to transfer and continue their studies in mathematics leading to a bachelor's degree.

Degree Requirements

General Education requirements must be met before the A.S. degree will be granted. For details on General Education requirements, see pages 35-36.

The curriculum listed on this page is required for an A.S. degree in Mathematics. Any exception must be with written consent of the chair of the Division of Natural and Health Science, Mathematics, and Technology.

Academic Preparation

A minimum of four years of high school mathematics required.

Career Possibilities

A broad-based background in mathematics is excellent preparation for continued study in computer science, statistics, chemistry, physics, engineering, and many newly developing fields where the utilization of modern technology is pervasive.

Courses		**Credit Hours**
First Semester		
ENGL 101	Freshman English I	3
MATH 108	Calculus I	4
MATH 214	Statistics	3
	Science*	4
	Physical Education	1
		15
Second Semester		
ENGL 102	Freshman English II	3
MATH 201	Calculus II	4
MATH 203	Linear Algebra	3
	Science*	4
	Health	1
	Physical Education	1
		16
Third Semester		
ENGL 221	Effective Speech: Public Address	
or ENGL 222	Effective Speech: Group Discussion	3
MATH 202	Calculus III	4
C.S. 222	Programming in C/C++	3
HIST 101, 102, 201 or 202		
	Western Civilization I or II	
	or United States History I or II	3
	Elective	3-4
		16-17
Fourth Semester		
ENGL 201	World Literature I	
or ENGL 202	World Literature II	3
MATH 204	Differential Equations	4
	Behavioral/Social Sciences**	6
MATH 212	Discrete Mathematics	3
		16
Total Credit Hours		**63-64**

* Must be a sequence of one of the following:
BIOL 103-104 or BIOL 105-106
CHEM 103-104
PHYS 103-104 or PHYS 200-201
GEOL 110-111

** At least 3 credit hours in one of the following: ANTH 101, ECON 201, ECON 202, PSY 101, or SOC 101

Liberal Arts and Science: Mathematics and Science A.S.

This program is designed for students who plan to transfer and continue their studies in science and mathematics leading to a bachelor's degree.

Degree Requirements

General Education requirements must be met prior to granting of the A.S. degree. For details on General Education requirements, see pages 35-36.

Credit Requirements

A minimum of 62 credits, but fewer than 120, with an average grade of C (2.0).

Curriculum Requirements

The course of study leading to this degree should be an organized curriculum composed of courses in the Liberal Arts and Sciences.

English and Humanities
12 credit hours, to include
- ENGL 101-102 (6 credits)
- ENGL 201-206, 103, 221, 222, 270 (3 credits)
- Humanities: 3 credits from art, foreign languages, music, philosophy, or theatre arts

Behavioral and Social Sciences
9 credit hours, to include
- At least 3 credit hours in ANTH 101, ECON 201, ECON 202, PSY 101 or SOC 101
- 3 credit hours in HIST 101, HIST 102, HIST 201 or HIST 202
- Behavioral and Social Sciences: anthropology, economics, geography, history, political science, psychology, sociology

Natural Sciences and Mathematics
20 credit hours (minimum), to include
- Biology, chemistry, electronics, geology, mathematics, physics
- 8 credit hours natural sciences sequence: biology, chemistry, geology, or physics
- 6-8 credit hours mathematics
  - 3-4 credits MATH 106, 108, 201-204, 212 or 214
  - 3-4 credits MATH 108, 201-204, or 214
- 4-8 credit hours science/mathematics electives

Note: Students who complete a mathematics sequence course with a C or better cannot take a lower sequence course for credit.

Liberal Arts Electives
9 credit hours
See page 37 for definition of Liberal Arts electives.

Electives
9 credit hours
No more than six credit hours total in MUSI 100 and physical education courses carrying fewer than 3 credits may be applied towards the A.S. degree.

Other World Civilizations / The Arts
Three credits from either Other World Civilizations ***or*** The Arts. See pages 35-36 for a listing of acceptable course choices. If any of the listed courses have been taken to meet another requirement, then the "Other World Civilizations or The Arts" requirement has been met.

Health and Physical Education Electives
1 credit hour in Health
2 credit hours in Physical education

Liberal Arts and Science: Mathematics and Science A.S.
CONCENTRATIONS

Within the Liberal Arts: Mathematics and Science degree program, concentrations are available in Biology, Chemistry, Geographic Information Systems (GIS), and Geology to emphasize experience in a particular field for career preparation or transfer. The information below lists the courses required to fulfill specific concentrations. To complete a concentration, meet with your academic adviser and select the specified courses as part of Natural Sciences and Mathematics requirements.

These concentrations are not majors, nor are they required to complete the Liberal Arts A.S. degree. The courses required for these concentrations will meet some of the Natural Sciences and Mathematics, Liberal Arts, or General Education electives that must be completed in order to earn a degree in Liberal Arts: Mathematics and Science (see pages 35–36).

Note: Course requirements vary among four-year science programs. It is imperative that students planning to transfer to a four-year college seek assistance from that college as early as possible when planning courses at Cayuga.

Biology Concentration
Designed for students who wish to study Biochemistry, Pharmacy, Pre-Medicine, or other health profession areas.

Required Courses–Year 1

BIOL 103-104	Principles of Biology I–II	8 cr
	or	
BIOL 105-106	Botany and Zoology	8 cr
CHEM 103-104	General Chemistry I–II	8 cr

Required Courses–Year 2

6-8 credits selected from the following:

BIOL 203/204	Human Anatomy and Physiology I–II	8 cr
BIOL 208	Conservation and Natural Resources	3 cr
BIOL 213	Current Issues in Biology	3 cr
BIOL 214	Cell Biology	4 cr
BIOL 216	General Microbiology	4 cr

Recommended Courses

PHYS 103-104, MATH 108, MATH 201

Chemistry Concentration
Designed for students who plan to transfer to four-year programs and continue their studies in Chemistry or related areas such as Biochemistry, Pharmacy, Pre-Medicine, or Medical Technology programs.

Required Courses

CHEM 103-104	General Chemistry I-II	8 cr
CHEM 207-208	Organic Chemistry I-II	8 cr
MATH 108, 201	Calculus I-II	8 cr

Recommended Courses

PHYS 103-104

Geographic Information Systems (GIS) Concentration
Designed for students who plan to transfer to a four-year program and continue their studies in Geographic Information Systems or related areas such as Resources Management, Geography, Urban Planning, or Environmental Science. It is strongly recommended that students consult with their chosen school as early as possible to determine the appropriate course selection for optimum transferability.

Required Courses

CHEM 103-104	General Chemistry I-II	8 cr
BIOL 103-106		8 cr

Select two of the following Biology courses:

BIOL 103	Principles of Biology I	
BIOL 104	Principles of Biology II	
BIOL 105	Botany	
BIOL 106	Zoology	
GIS 111	Introduction to GIS	3 cr
GIS 121	Remote Sensing	3 cr
GIS 122	Spatial Modeling with Raster GIS	3 cr

Recommended Courses

GEOL 110	Physical Geology	4 cr
MATH 108	Calculus I	4 cr
MATH 214	Statistics	3 cr

Geology Concentration
Designed for students who plan to transfer and continue studies in Geology or related areas such as Agronomy, Cartography, Land Use Management, Teaching or Environmental Sciences and Engineering.

Required Courses

GEOL 101	Earth Science*	3 cr
GEOL 110	Physical Geology	4 cr
GEOL 111	Historical Geology	4 cr
CHEM 103-104	General Chemistry I-II	8 cr

* GEOL 101 is a prerequisite for students who have not taken high school earth science, and is strongly recommended for any student planning to enter the teaching profession.

Recommended Courses

BIOL 105-106, PHYS 103-104

Mechanical Technology: Computer-Aided Design A.A.S.

This program is designed to prepare students for employment in the field of mechanical design and drafting, with an in-depth course of study in the technological aspects of the design profession.

Degree Requirements

Computer-aided design and mechanical design concepts are integrated throughout the curriculum and used for second-year design projects. The curriculum incorporates generally-accepted design/drafting standards as well as subjects related to the construction and manufacturing industries, allowing graduates flexibility in seeking entry-level employment. The program is also appropriate for students who wish to transfer to a four-year institution in mechanical technology. Students wishing to continue studies toward a Mechanical Technology Engineering degree are encouraged to take a higher mathematics sequence (MATH 108-201) and PHYS 103-104.

Academic Preparation

MATH 102 competency or equivalent strongly recommended.

Career Possibilities

Architectural/mechanical drafter, engineering technician, mechanical designer, tool design, quality assurance, CNC machining, CAD designer.

Transfer Information

Students should consult their advisers and/or the transfer counselor in the Student Development Office for information on transfer planning. Early consultation to plan the most appropriate course sequence will optimize transferability.

Courses		Credit Hours
First Semester		
ENGL 101	Freshman English I	3
ENGR 126	Computer-Aided Design	4
MATH 102	Intermediate Algebra (or higher)*	3
ENGR 103	Manufacturing Materials/Processes	3
	Behavioral/Social Sciences or Humanities**	3
	Health	1
	Physical Education	1
		18
Second Semester		
ENGL 102	Freshman English II	
or ENGL 270	Technical Writing	3
ENGR 228	CAD III Solid Modeling	3
DRFT 122	Mechanical/Industrial CAD	4
DRFT 125	Architectural Drafting	4
MATH 104	College Algebra and Trigonometry	
or MATH 114	Technical Math (or higher)*	3
	Physical Education	1
		18
Third Semester		
DRFT 221	Tool and Die Design	4
DRFT 230	Process Piping Design	3
PHYS 103	General Physics I	4
ENGR 207	Quality Assurance	3
	Technology Elective††	3-4
		17-18
Fourth Semester		
DRFT 220	Machine Design	4
ENGR 203	Applied Statics/Strength of Materials	4
ENGR 208	Computer Numerical Control	4
	Behavioral/Social Sciences†	3
ART 103	Essentials of Art	
or ART 112	Two-Dimensional Design	
or ART 113	Three-Dimensional Design	3
		18
Total Credit Hours		**71-72**

* Math 112, 115, or 116 will not fulfill the Math requirement.

** Electives in Humanities or Behavioral or Social Sciences will fulfill requirement.

† Electives in Behavioral or Social Sciences will fulfill requirement.

†† The following will fulfill this requirement: BUS 225, BUS 226, C.S. 200 or higher, Drafting, Electronics, Engineering, GIS, Math, Physics.

Nursing A.A.S.

The Program

The Nursing program at Cayuga Community College prepares the student for entry into the profession of Nursing. Upon graduation, students receive the Associate in Applied Science degree in Nursing and are eligible to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN). The overall NCLEX-RN passing rate for Cayuga nursing students exceeds state and national averages.

The curriculum offers a balance of courses in general education and nursing. Students are provided with the theoretical knowledge and clinical practice needed to provide nursing care for individuals throughout the life span. Learning experiences are provided in the classroom, nursing laboratory, and a variety of clinical settings.

Nursing education is available at both the Auburn and Fulton campuses of Cayuga Community College. The Auburn program admits students *every* fall. The Fulton program admits *every other* fall (even years).

Employment opportunities for entry-level graduates include hospitals, ambulatory care, skilled nursing facilities, and community agencies.

For information about the program on the College web site, visit www.cayuga-cc.edu/academics/programs/nursing and www.cayuga-cc.edu/admissions/application_process/nursing.php.

Program Accreditation

Cayuga's Nursing program is fully accredited by the National League for Nursing Accrediting Commission (NLNAC), 3343 Peachtree Road, Atlanta, GA 30326, www.nlnac.org.

Admission Requirements

The following prerequisites must be completed before applying to the Nursing program:

- High school or equivalency diploma
- Algebra math proficiency:
  - Testing into MATH 102 or higher on the Cayuga placement test, *or*
  - Completion of MATH 099 or higher with a grade of C (or equivalent) or higher, *or*
  - Completion of pre-calculus or higher in high school with a grade of C (or equivalent) or higher
- Satisfactory completion (C or 70% or higher) of high school or college biology
- Satisfactory completion (C or 70% or higher) of high school or college chemistry
- Minimum cumulative GPA or overall high school average of C (2.0)
- Pre-admission Nursing Entrance Exam (for information and dates of tests, visit www.cayuga-cc.edu/admissions/application_process/nursing.php and see the section under the subhead "Admission to the Program: Steps and Deadlines.") A grade of 70 or higher is required in all components of the exam.
- Satisfactory completion (C+ or higher) of Biology 203 and 204 is strongly suggested
- English language proficiency as demonstrated by compliance with minimum required TOEFL score.
- May be required to consent to background check and/or drug testing upon request by college or affiliating clinical agency.

Admission Process

Applicants are encouraged to attend a Nursing Information Session. For information on dates and times visit www.cayuga-cc.edu/admissions/application_process/nursing.php. Admission to the Nursing program is a two-application process. Applicants must fill out both the College admissions application and a Nursing admission application. Completion of these two applications does not guarantee admission to the program. Note:

- January 15 is the postmark deadline to apply for fall admission.
- October 31 is the postmark deadline to apply for spring admission.
- Attendance at a Nursing Information Session is strongly recommended.
- The Pre-admission Nursing Entrance Exam must be completed by the application postmark deadline.
- All applications will be considered competitively.
- Applicants will be notified of acceptance decision in March for fall admission and December for spring admission.
- Applicants not accepted must reapply to be considered for admission the following year.

LPN Advanced Placement

Advanced placement in Cayuga's Nursing program is based on available space in Nursing 102.

Licensed Practical Nurses must meet the following admission requirements to challenge Nursing 100 and 101:

- Satisfy the criteria stated in Admission Requirements.
- Complete BIOL 203 with a C+ or higher (ENGL 101 and BIOL 204 are strongly suggested).
- Graduate from a state-certified LPN program within 2 years with a GPA of 3.0 (80%) *or*
- Complete the Excelsior College online Fundamentals of Nursing Exam (www.excelsior.edu) with a score of B (80%) or higher.
- Meet with the Director of Nursing prior to October 31 deadline.
- Complete the Nursing Department Skill Competency Evaluation (www.cayuga-cc.edu/admissions/application_process/nursing/nursing-skill-competency.php) with a grade of Satisfactory.

- Complete the non-credit Nursing Bridge Course (www.cayuga-cc.edu/admissions/application_process/nursing/nursing-bridge-course.php) offered in December or January.
- Submit current LPN license.

Transfer into the Program

Students requesting transfer from another Nursing program must:

- Satisfy the admission criteria stated in the admission requirement.
- Submit a written request for consideration of transfer on the Nursing Transfer Request form (available at www.cayuga-cc.edu/admissions/application_process/nursing.php) to the Director of Nursing. The only nursing course that may be accepted for transfer is Nursing 101 pending review of course syllabus. A minimum grade of C+ (77) is required for Nursing 101 credit transfer.
- Apply for admission through the Admissions Office by October 31. (See www.cayuga-cc.edu/admissions/application_process/nursing.php)
- Complete the Nursing department Skill Competency Evaluation (www.cayuga-cc.edu/admissions/application_process/nursing/nursing-skill-competency.php) with a grade of Satisfactory.
- Complete the non-credit Nursing Bridge Course (www.cayuga-cc.edu/admissions/application_process/nursing/nursing-bridge-course.php) offered in December or January.

Program Progression

- A minimum passing grade of 77 (C+) must be achieved in each Nursing course. A grade less than C+ is considered an unsuccessful attempt.
- A "Satisfactory" clinical grade must be achieved in each clinical Nursing course.
- A minimum passing grade of C+ is required in BIOL 203, 204, and 216 courses taken after September 1, 2008. This requirement does not apply to biology courses completed before September 2008.
- A student is limited to one W or unsuccessful attempt in any clinical Nursing course (NURS 101, 102, 214, 215, 216, 217). A second W or unsuccessful attempt in any clinical Nursing course will result in dismissal from the program.
- All required Nursing courses (with the exception of NURS 101) must be taken at Cayuga Community College.
- The following grading system is used by the Nursing faculty:

A	**93–100**	**C**	**73-76**
A-	**90-92**	**C-**	**70-72**
B+	**87–89**	**D+**	**67-69**
B	**83-86**	**D**	**63-66**
B-	**80–82**	**D-**	**60-62**
C+	**77–79**	**F**	**less than 62**

- A student receiving a W or a grade less than C+ in NURS 101 or 102 must reapply for admission to the Nursing program through the Admissions Office in accordance with specified application deadlines.
- A student receiving a W or a grade less than C+ in NURS 214, 215, 216, or 217 must apply for re-entry to the program through the director of Nursing (e-mail alfieri@cayuga-cc.edu). The student must schedule a meeting with the director of Nursing three months prior to the semester start date. Academic counseling will be initiated to develop a success plan. Re-entry is granted on a space-available basis and upon compliance with the re-entry procedure.
- A student seeking re-entry to the Nursing program must meet program policies in effect at the date of re-entry.
- Program requirements must be completed within three years of the initial admission.

Legal Limitations for RN Licensure

There is a requirement that the applicant for the licensure exam be of "good moral character." Applicants should be aware that eligibility for licensure as a registered nurse in New York State by persons who have been convicted of a crime (felony or misdemeanor) or have charges pending in any state or country will be determined through an investigation by the New York State Education Office of Professional Discipline. Refer to www.op.nysed.gov/nursing for specific criteria.

Degree Requirements

The following curriculum represents the Nursing course sequence and minimum requirements for the A.A.S. degree in Nursing (total of 69 credit hours).

Note: Additional fees for Nursing students are listed on page 19.

Courses		Credit Hours
First Semester		
ENGL 101	Freshman English I	3
NURS 100	Nursing Success Strategies	1
NURS 101	Fundamentals of Patient Care	8
BIOL 203	Anatomy and Physiology I	4
	Physical Education	1
		17
Second Semester		
NURS 102	Nursing in Physical/Mental Health I	8
NURS 212	Health Assessment I	1.5
SOC 101	Introduction to Sociology	3
BIOL 204	Anatomy and Physiology II	4
		16.5
Third Semester		
NURS 214	Family/Community Nursing I	4
NURS 215	Nursing in Physical/Mental Health II	4
NURS 213	Health Assessment II	1.5
BIOL 216	General Microbiology	4
PSY 101	Introduction to Psychology	3
	Physical Education	1
		17.5
Fourth Semester		
ENGL 221	Effective Speech: Public Address	3
NURS 216	Family/Community Nursing II	4
NURS 217	Nursing in Physical/Mental Health III	4
NURS 203	Trends in Nursing	1
NURS 207	Pharmacology	3
PSY 212	Developmental Psychology	3
		18
Total Credit Hours		**69**

Learning Experiences

Theory instruction is provided in a variety of formats: on campus, on line or video conferencing may be used. Clinical learning experiences are provided in a variety of area health facilities. Clinical schedules include days, evenings and occasional weekends. Students must provide their own transportation to clinical facilities. Clinical agencies include but are not limited to Auburn Nursing Home, Finger Lakes Center for Living, Seneca Hill Manor, Auburn Memorial Hospital, Community General Hospital, University Hospital, Veterans Medical Center, Oswego Hospital, Hutchings Psychiatric Center, Oswego County Health Department, and Cayuga County Health Department.

Technical Standards

Technical standards are abilities and behaviors that a nursing student must be able to perform in order to function in a safe manner. It is essential that students of nursing meet the functional requirements outlined on www.cayuga-cc.edu/academics/programs/nursing/enrollment_requirements.php with or without reasonable accommodations.

Disabilities Services

Nursing students must be able to meet all established academic and clinical requirements to successfully complete the program. In accordance with law and College policy, no qualified individual with a disability shall, on the basis of that disability, be excluded from the program. Cayuga Community College will provide reasonable accommodations to a qualified individual with a disability. The Office of Disability Services is responsible for determining if reasonable accommodations can be identified and for ensuring that such accommodations are provided for students. It is the responsibility of the applicant or student to request the accommodations needed to meet the program's Technical Standards (see above). To be eligible for a reasonable accommodation, applicants must provide clear documentation of disability. Arranging for accommodations is a confidential process. Contact the Office of Disability Services (trerise@cayuga-cc.edu) and the director of Nursing (alfieri@cayuga-cc.edu) if you think you may need an accommodation for a disability.

Health Requirements

After being accepted into the Nursing program, the student must show evidence of the following prior to August 15:

- Completed physical exam and updated annually. The health record must show no physical condition which would limit safe performance of technical standards (see www.cayuga-cc.edu/academics/programs/nursing/enrollment_requirements.php)
- Completed Mantoux test and immunization records
- Compliance with New York State health requirements

CPR Requirement

The student must hold CPR certification throughout the program. American Heart Association certification (BLS for Adults, Infant and Child) and Red Cross certification (Professional Rescuer Course) are valid for two years. Online certification or re-certification is accepted. Note: "Heart Saver" and "Community CPR" do not meet the CPR requirement. Evidence of CPR certification must be submitted to the Nursing Education office by August 15.

Graduation Requirement

The candidate for the Associate in Applied Science degree in Nursing must meet the following requirements:

- Completion of 69 credits (60 credits for LPN Advanced Placement)
- Completion of General Education distribution requirements as well as the Nursing curriculum
- Cumulative average of no less than 2.0 and a minimum grade of "C+" in each Nursing and Biology course

Transferring into Bachelor's Degree Nursing Programs

Cayuga Community College has articulation agreements with a number of baccalaureate nursing programs. For information on these, contact the director of Nursing.

Studio Art and Design A.S.

This is a transfer program for students planning a career in the visual arts.

Degree Requirements

Students will complete traditional art foundation courses (drawing, painting, design, and art history) and explore studio disciplines in which they may concentrate upon transfer to a four-year institution. Emphasis is placed on the student's creative and aesthetic development and the professional application of formal design skills.

General Education requirements must be met prior to granting of the A.S. degree. For details on General Education requirements, see pages 35-36.

Concentrations Available

Six concentrations are offered for Studio Art and Design students who wish to focus on specific media in their degree program. These concentrations are listed on the following page, along with courses required for completion. Students may select any studio course to fulfill studio elective requirements. Note: To earn the Studio Art and Design degree, it is not necessary to complete a concentration.

Career Possibilities

Advertisements, packaging, textiles, book covers, posters, furniture, architectural forms, and more are designed by professionals trained in studio art. Students will be encouraged to consider how to apply their skills to industry, freelance opportunities, or the creation of an artist-operated business.

Transfer Information

Students planning to transfer should consult their advisers and/or a transfer counselor in the Student Development Office for more information. Early consultation to plan the most appropriate course sequence will optimize transferability.

Courses		**Credit Hours**
First Semester		
ART 101	Art History: Ancient to Gothic	3
ART 112	Two-Dimensional Design	3
ART 106	Expressive Drawing	3
ENGL 101	Freshman English I	3
MATH 102 or higher		3-4
	Physical Education	1
		16-17
Second Semester		
ART 102	Art History: Renaissance to Modern	3
ART 104	Painting	3
ART 160	Life Drawing	3
ENGL 102	Freshman English II	3
	Behavioral/Social Sciences*	3
	Physical Education	1
		16
Third Semester		
ART 113	Three-Dimensional Design	3
ART	Electives**	6
HIST 101	Western Civilization I	
or HIST 102	Western Civilization II	
or HIST 201	History of the United States I	
or HIST 202	History of the United States II	3
	Science Elective†	3-4
	Health	1
		16-17
Fourth Semester		
ART	Electives**	6
	Math or Science Elective	3-4
	Behavioral/Social Sciences	3
ENGL 201-206		3
		15-16
Total Credit Hours		**63-66**

* Choose one: ANTH 101, SOC 101, PSY 101, ECON 201, ECON 202.

** ART 131, 140, 212, 215, 221, 222, 231, 250, 251, 252, 253, 255, 260

† Science must be from General Education list (see pages 35-36).

Studio Art and Design A.S.
CONCENTRATIONS

Ceramics Concentration
ART 131 Intro Ceramics
ART 231 Ceramic Sculpture
Two studio courses of student's choice

Fine Arts Concentration
ART 131 Intro Ceramics
ART 253 Digital Photography
ART 255 Silk Screen Printing
ART 260 Printmaking Workshop

Graphic Design Concentration
ART 215 Computer Graphics
ART 252 Photoshop
ART 253 Digital Photography
ART 255 Silkscreen Printing

Photography Concentration
ART 250 Intro Photography
ART 252 Photoshop
ART 253 Digital Photography
One studio course of student's choice

Printmaking Concentration
ART 222 Textile Design: Direct Applications
ART 250 Intro Photography
ART 255 Silk Screen Printing
ART 260 Printmaking Workshop

Textile Design Concentration
ART 221 Textile Design: Resist and Print Techniques
ART 222 Textile Design: Direct Applications
ART 255 Silk Screen Printing
ART 260 Printmaking Workshop

Telecommunications Technology A.A.S.

This program prepares students for employment in telecommunications and related industries.

Degree Requirements

Students learn to operate, install, maintain, and repair audio, video, RF, and specialized communications equipment used in the media and telecommunications industries.

Students work on engineering, operations, and production projects in a professional environment. Cayuga's facilities include video studio diagnostic stations, electronics labs, and a fully operational radio lab used for technical instruction. Internships are required in area industry facilities. Program graduates are eligible to receive certification as broadcast technologists from the Society of Broadcast Engineers.

The curriculum listed on this page represents the minimum coursework required for the A.A.S. degree in Telecommunications Technology. Some required courses are offered only in the evening.

Academic Preparation

Required: algebra; readiness for ENGL 101.

Career Possibilities

Graduates are employed as telecommunications specialists in a variety of fields and as radio, television, audio, and cable TV engineers and technicians.

Transfer Information

Students should contact their advisers and/or the transfer counselor in the Student Development Office for information on transfer planning. Early consultation to plan the most appropriate course sequence will optimize transferability.

Courses		**Credit Hours**
First Semester		
(Available in Auburn and/or Fulton)		
ENGL 101	Freshman English I	3
MATH 102	Intermediate Algebra	3
ELEC 101	Electrical Circuits	4
ELEC 105	Intro to Digital Computers	4
TELC 104	Audio / Video Prod. Techniques I	3
		17
Second Semester		
(Available in Auburn and/or Fulton)		
ENGL 102	Freshman English II	3
ELEC 102	Basic Electronics	4
TELC 102	Intro to Telecommunications	3
C.S. 110	Exploring Computer Technology	3
	Health	1
	Physical Education	1
		15
Third Semester		
(Available in Auburn)		
TELC 140	Analysis of Broadcast Equipment Systems	3
TELC 220	Advanced Audio Production	3
TELC 207	Television Production I	4
ELEC 201	Intermediate Electronics	4
	Telecommunications Elective	3
		17
Fourth Semester		
(Available in Auburn)		
TELC 260	Broadcast Systems Maintenance	3
TELC 275	Internship Radio/TV	3
ELEC 208	RF Communications	4
C.S. 180	Principles of Data Communications	3
C.S. 225	Intro to Networks	3
	Physical Education	1
		17
Total Credit Hours		**66**

Telecommunications: Audio-Radio Production A.A.S.

This program is designed to prepare students for entry-level positions in audio and radio production.

Degree Requirements

Upon completion of the program, students will be able to perform audio functions including music and sound recording and audio programming, mixing, re-recording, splicing, dubbing and over-dubbing, setting up and connecting sound reinforcement equipment on location, determining site characteristics, and mixing live audio.

For more information about Cayuga's Telecommunications programs, visit the Telcom web site at www.telcomcayuga.com.

The curriculum listed on this page represents the minimum coursework required for the A.A.S. degree in Telecommunications: Audio-Radio Production. Some required courses are offered only in the evening.

Academic Preparation

Readiness for ENGL 101

Career Possibilities

Graduates may work in the music recording industry, for radio stations, and in television, motion picture, and video production as recording engineers, audio engineers, audio operators, board operators, sound technicians, or mixers.

Transfer Information

Cayuga has articulation agreements for related programs offered by Roy H. Park School of Communications at Ithaca College and by SUNY College at Fredonia. For these and other transfer institutions, students should contact their advisers and/or a transfer counselor in the Student Development Office for more information. Early consultation to plan the most appropriate course sequence will optimize transferability.

Courses		**Credit Hours**
First Semester		
ENGL 101	Freshman English I	3
TELC 101	Intro to Mass Media	3
TELC 104	Audio / Video Prod. Techniques I	3
	Math/Science	3
	Health	1
	Physical Education	1
		14
Second Semester		
ENGL 102	Freshman English II	3
TELC 105	Audio / Video Prod. Techniques II	4
MUSI 170	Music Prep for Audio Professionals	3
	Behavioral/Social Sciences	3
	Telecommunications	3
	Physical Education	1
		17
Third Semester		
TELC 207	Video Production I	4
TELC 230	Music/Multi-Track Recording	4
TELC 205	Practicum in Radio Operations	3
TELC 220	Advanced Audio Production	3
	Math/Science	3
		17
Fourth Semester		
TELC 231	Advanced Recording Techniques	4
TELC 208	Video Production II	4
TELC 275	Internship in Radio and TV	3
TELC 240	Audio for Media	3
	Behavioral/Social Sciences	3
		17
Total Credit Hours		**65**

Telecommunications: Audio-Radio Production A.A.S.
MUSIC PRODUCTION OPTION

The Music Production Option is designed for recording students who have an interest or skills in music and wish to apply audio production techniques specifically to that field.

Degree Requirements
Students who receive a degree in Audio-Radio Production with this option may wish to pursue a career in music recording or transfer to a four-year program in music production. Students who wish to transfer should consult with the four-year school for planning and preparation.

For more information about Cayuga's Telecommunications programs, visit the Telcom web site at www.telcomcayuga.com.

Academic Preparation
Readiness for ENGL 101

Career Possibilities
Graduates may work in the music recording industry, for radio stations, and in television, motion picture, and video production as recording engineers, audio engineers, audio operators, board operators, sound technicians, or mixers.

Transfer Information
Cayuga has articulation agreements for related programs offered by Roy H. Park School of Communications at Ithaca College and by SUNY College at Fredonia. For these and other transfer institutions, students should contact their advisers and/or a transfer counselor in the Student Development Office for more information. Early consultation to plan the most appropriate course sequence will optimize transferability.

Courses		**Credit Hours**
First Semester		
ENGL 101	Freshman English I	3
TELC 101	Intro to Mass Media	3
TELC 104	Audio / Video Prod. Techniques I	3
MUSI 101	Music Appreciation	3
	Health	1
	Physical Education	1
		14
Second Semester		
ENGL 102	Freshman English II	3
TELC 105	Audio / Video Prod. Techniques II	4
	Math/Science Elec	3
	Behavioral/Social Sciences	3
MUSI 170	Music Prep. for Audio Professionals	3
	Physical Education	1
		18
Third Semester		
TELC 207	Video Production I	4
TELC 230	Music/Multi-Track Recording	4
MUSI 102	Jazz History	
	or	
MUSI 111	Rock History	3
TELC 220	Advanced Audio Production	3
	Math/Science	3
		17
Fourth Semester		
TELC 231	Advanced Recording Techniques	4
TELC 208	Video Production II	4
TELC 275	Internship in Radio and TV	3
MUSI 154	Piano	
	or	
MUSI 158	Guitar	
	or	
	Telcom or Music Elective*	3
	Behavioral/Social Sciences	3
		17
Total Credit Hours		**66**

* MUSI 154 or 158 is required unless students pass a proficiency test. Students passing the proficiency test will enroll in a MUSI or TELC elective.

Telecommunications: Radio and Television Broadcasting A.A.S.

This program is designed to prepare students for employment in the communications/media industry.

Degree Requirements

Upon completion, students will be able to perform typical management, production, operations, and announcing functions. The program includes work in the College's FM stereo radio station and broadcast-quality color television studio. Internships are required in area industry facilities.

For more information about Cayuga's Telecommunications programs, visit the Telcom web site at www.telcomcayuga.com.

The courses below represent the minimum requirements for the A.A.S. degree in Telecommunications: Radio and Television Broadcasting. Some required courses are offered only in the evening.

Academic Preparation

Readiness for ENGL 101

Career Possibilities

Graduates work as directors, producers, camera operators, technical directors, video editors, industrial video specialists, electronic news gathering specialists, reporters and newscasters, disc jockeys, managers, advertising salespersons, audio engineers, and sound reinforcement technicians.

Transfer Information

Cayuga has articulation agreements for related programs offered by Roy H. Park School of Communications at Ithaca College and by SUNY College at Fredonia. For these and other transfer institutions, students should contact their advisers and/or a transfer counselor in the Student Development Office for more information. Early consultation to plan the most appropriate course sequence will optimize transferability.

Courses		**Credit Hours**
First Semester		
ENGL 101	Freshman English I	3
TELC 101	Intro to Mass Media	3
TELC 104	Audio / Video Prod. Techniques I	3
	Math/Science Elective	3-4
	Health	1
	Physical Education	1
		14-15
Second Semester		
ENGL 102	Freshman English II	3
TELC 105	Audio / Video Prod. Techniques II	4
TELC 114	Lighting	3
	Telecommunications Elective	3
	Elective	3
	Physical Education	1
		17
Third Semester		
TELC 207	Video Production I	4
	Telecommunications Elective	3
	Behavioral/Social Sciences	3
	Math/Science Elective	3-4
	Special Interest Elective**	3
		16-17
Fourth Semester		
TELC 208	Video Production II	4
TELC 275	Internship in Radio and TV	3
	Behavioral/Social Sciences Elective	3
	Liberal Arts Elective	3
	Special Interest Elective**	3
		16
Total Credit Hours		**63-65**

* Students may apply to the Humanities division chair to waive the requirement by taking a computer literacy test.

** Course related to student's career objective; selection must be approved by faculty adviser.

Telecommunications: Radio/TV Broadcasting A.A.S.
CONCENTRATIONS

The Humanities Division has suggested the concentrations below for students wishing to emphasize experience in a particular field of telecommunications or electronic media. Concentrations are not majors, and are not required to complete a degree.

Requirements
Students must consult with an academic adviser before scheduling these courses. These concentrations are designed to fulfill elective requirements within the Telecommunications: Radio/Television Broadcasting degree. They are only open to students enrolled in the Telecommunications: Radio/Television Broadcasting degree program.

Additional Information
For more about Cayuga's Telecommunications programs, visit the department's web site at www.telcomcayuga.com.

Broadcast Journalism Concentration
This concentration is designed for students with an interest in broadcast announcing, sportscasting, broadcast journalism, or journalism.

Courses		**Credit Hours**
TELC 106	Radio and Television Announcing	3
TELC 212	Broadcast Journalism	3
ENGL 217	Media Writing	3
TELC 204	Journalism Practicum	3
	or	
TELC 205	Radio Practicum	3

Digital Media Concentration
This concentration focuses on the techniques and processes used for content creation in interactive and digital media formats by broadcasters and filmmakers.

Courses		**Credit Hours**
TELC 103	Intro to the Moving Image	3
TELC 178	Digital Animation	3
ART 252	Photoshop	3
Imaging elective: choose from		3
TELC 170	Interactive Media Techniques	3
	or	
TELC 171	Interactive Media Techniques I	3

Electronic Publishing Concentration
This concentration focuses on the basic skills required for the creation and design of content used in the production of materials in electronic publishing.

Courses		**Credit Hours**
TELC 150	Digital Imaging	3
TELC 170	Interactive Media Techniques	3
TELC 204	Journalism Practicum	3
ART 252	Photoshop	3
ENGL 217	Media Writing	3

Film and Cinema Studies Concentration

TELC 103	Introduction to the Moving Image	3
ENGL 237	Film and Literature	3
Choose from one of the following:		
TELC 190	Scriptwriting for Film & TV	3
TELC 192	Script Analysis	3

Video / Digital Film Production Concentration
This concentration is designed for students wishing to enhance their skills in the design and production of video and audio content.

Courses		**Credit Hours**
TELC 103	Introduction to the Moving Image	3
TELC 140	Analysis of Broadcast Systems	3
TELC 180	Video Field Production	3
TELC 195	Digital Video Editing	1
Choose from one of the following:		
TELC 190	Scriptwriting for Film & TV	3
	or	
TELC 192	Script Analysis	3

Certificate programs: overview

Cayuga's certificate programs are registered with the New York State Department of Education (the number in parentheses after the program title represents the New York State Education Department HEGIS code). You may need to attend evening classes if you wish to complete a certificate program as outlined in this catalog.

Federal Gainful Employment regulations require that students receive information about potential occupations and expenses related to their certificate goals. Additional information may be found by accessing the Cayuga Community College web site at: www.cayuga-cc.edu/gainful_employment

To view tuition and fees, books, and other expenses associated with your certificate program, please visit www.cayuga-cc.edu/admissions/tuition_and_fees/

These programs (pages 69–71) may be appropriate if you are seeking specific skills but not immediately planning to pursue a two-year degree. Certificate programs

- vary in length of time
- may be pursued either full- or part-time
- should be started in the fall or summer to take advantage of sequential course offerings
- require a cumulative average of 2.0 (C) with completion of all courses listed in the program (Some certificates require completion of certain courses with at least a C grade.)

Cayuga offers certificate programs in

- Accounting (5002)
- Computer-Aided Design (5303)
- Computer Hardware/Software Design (5104)
- Computer Information Systems (5101)
- Correction Administration (5505)
- Criminal Justice (5505)
- Early Childhood (5503)
- Electronics (5310)
- General Business (5001)

Qualifications for a certificate

To qualify for a certificate from Cayuga, you must:

- Matriculate and complete the certificate requirements with a minimum grade point average (GPA) of 2.0. You are matriculated if you have been formally accepted as a candidate for a certificate program.
- Be recommended by the faculty for the certificate.
- Submit a Certificate Application to the Registrar's Office at least one semester before graduation.
- Satisfy all financial obligations at the time of graduation.

For help with questions about transferring credit from other colleges, or for information about a student's academic record, contact the Registrar's Office at 315-255-1743 x 2260.

Accounting Certificate

This program can be completed in one year if the student enters in the first summer session, satisfactorily completes BUS 101 and BUS 102, and then enrolls full-time days in the fall and spring semesters. Upon completion of certificate requirements, students may wish to pursue study toward an A.A.S. degree in Business Accounting.

Courses		Credit Hours
Summer Session I		
BUS 101	Principles of Accounting I*	4
Summer Session II		
BUS 102	Principles of Accounting II*	4
First Semester		
BUS 090	Small Business Accounting*	1
BUS 201	Intermediate Accounting I*	4
BUS 222	Federal Income Tax*	3
BUS 225	Micro Application Software	3
BUS 227	Corporate Finance	3
		14
Second Semester		
BUS 103	Principles of Business	3
BUS 202	Intermediate Accounting II*	4
BUS 209	Cost Accounting*	3
BUS 221	Accounting Systems with Microcomputer Applications*	3
		13

*A grade of C or higher is required to be eligible for the certificate.

Computer-Aided Design Certificate

Upon completion of the certificate requirements, students may wish to continue their course of study toward an A.A.S. degree in Mechanical Technology – Computer-Aided Design.

Courses		Credit Hours
ENGL 101	Freshman English I	3
ENGR 126	Computer-Aided Design	4
MATH 104 or MATH 114	College Algebra and Trigonometry Technical Math for Technologists (or higher)*	3
ENGR 103	Manufacturing Materials and Processes	3
ENGL 270	Technical Writing	3
DRFT 122	Mechanical/Industrial CAD and Design	4
DRFT 125	Architectural Drafting	4
ENGR 228	CAD III Solid Modeling	3
		27

* Math 112, 115, or 116 will *not* fulfill Math requirement.

Computer Hardware/Software Design Certificate

Courses		Credit Hours
First Semester		
C.S. 080	Microcomputer Troubleshooting	1
BUS 225	Application Software	3
C.S. 120	Foundations of Computer Science	3
C.S. 222	Programming in C/C++	3
ELEC 101	Electrical Circuits	4
ELEC 105	Introduction to Digital Computer	4
		18
Second Semester		
BUS 226	Advanced Application Software	3
C.S. 200	Programming in Visual Basic	3
C.S. 238	Java	3
ELEC 102	Basic Electronics	4
ELEC 107	Fundamentals of Microcomputer	4
		17

Computer Information Systems Certificate

To be eligible for this certificate, the student must receive a grade of C or higher in all computer science (C.S.) courses. More than two semesters of study may be required to complete this certificate, and the student may also be required to attend evening classes.

Courses		Credit Hours
First Semester		
BUS 101	Principles of Accounting	4
BUS 225	Microcomputer Application Software	3
C.S. 080	Microcomputer Troubleshooting	1
C.S. 200	Programming in Visual Basic	3
C.S. 100	Keyboarding*	1
C.S. 120	Foundations of Computer Science	3
C.S. 215	Systems Analysis and Design	3
		17-18
Second Semester		
C.S. 219	Database Management Systems	3
C.S. 222	Programming in C/C++	3
C.S. 225	Intro to Networks	3
C.S. 245 or C.S. 237	Programming in COBOL Internet Security	3
C.S. 238	Java	3
BUS 103	Principles of Business	3
		18

* Required for students who are not keyboard proficient.

Correction Administration Certificate

Minimum of three semesters required for completion.

Courses		Credit Hours
C.J. 220	Criminology	3
C.J. 115	Criminal Law	3
C.J. 121	Institutional Corrections	3
C.J. 211	Case Studies in Criminal Behavior	3
C.J. 213	Community Corrections	3
PSY 101	Intro Psychology	3
SOC 101	Intro Sociology	3
	Behavioral/Social Sciences Elective	3
		24

Criminal Justice Certificate

Minimum of three semesters required for completion.

Courses		Credit Hours
C.J. 111	Intro to Justice Systems	3
C.J. 112	Org/Admin. of Justice Systems	3
C.J. 115	Criminal Law	3
C.J. 117	Juvenile Delinquency	3
C.J. 123	Laws of Evidence	3
PSY 101	Intro Psychology	3
SOC 101	Intro Sociology	3
	Behavioral/Social Sciences Elective	3
		24

Early Childhood Certificate

This program can be completed in two semesters if the student enrolls full-time. Students who earn the Early Childhood Certificate may seek employment in child care programs, as teacher assistants, as pre-school teachers, or they may pursue study towards an A.A.S. degree in Early Childhood.

Courses		**Credit Hours**
First Semester		
ECH 101*	Intro to Early Childhood Education	3
ECH 106*	Field Experience - Early Childhood	1
PSY 217	Intro to Children with Exceptionalities	3
ECH 110*	Methods and Materials in Early Child Education	3
ENGL 101	Freshman English I	3
EDU 120	Technology for Teachers	1
P.E. 145	First Aid	1
P.E. 146	CPR	1
		16
Second Semester		
ECH 102*	Curriculum and Assessment	3
ECH 104*	Early Childhood Field Exp. II	3
ECH 111*	Infants and Toddlers	3
ENGL 209	Children's Literature	3
BEH 101*	Language/Literacy Development	3
		15

* Minimum grade of C- (70) is required in BEH 101 and ECH 101, 102, 104, 106, 110, and 111 to complete certificate requirements. See Graduation Requirements below.

Students must be physically able to satisfactorily and safely perform duties associated with the care and education of children from birth to eight years of age.

Transfer for Early Childhood or Education course credit will only be granted after transcript review by the Education Coordinator.

Students are required to have police and child abuse clearances and physical examinations prior to beginning their field experience class (ECH 104).

Note: Students with certain criminal histories will not be able to satisfy field experience requirements for the completion of the certificate. In addition, students are required to submit to alcohol and/or drug testing upon request by either the College or any of the cooperating field placement sites. Students who test positive are subject to removal from the field placement and will therefore not be able to satisfy requirements for the completion of the certificate. Refusal to submit to the test will result in the student being asked to leave the field placement site and may result in dismissal from the course and/or the program.

Graduation Requirements: In order to graduate with the Certificate in Early Childhood, students must demonstrate competency (a grade of 70 or higher) in five Key Assessments. The Key Assessments are completed in each of the core Early Childhood courses (ECH 101, 102, 104, 110, and 111). This requirement also applies to students who have transferred credits to Cayuga from another college.

Please contact the Early Childhood coordinator if you have questions.

Electronics Certificate

This program can be completed in a minimum of four semesters. Upon completion of the certificate requirements, students may wish to continue their study toward an A.A.S. degree in Electrical Technology.

Courses		**Credit Hours**
ELEC 101	Electrical Circuits	4
ELEC 102	Basic Electronics	4
ELEC 105	Introduction to Digital Computers	4
ELEC 107	Fundamentals of Microprocessors	4
ELEC 201	Intermediate Electronics	4
ELEC 204	Industrial Electronics	4
MATH 104 or MATH 114	College Algebra and Trigonometry Technical Math for Technologists (or higher)*	3
		27

* Math 112, 115, or 116 will *not* fulfill Math requirement.

General Business Certificate

The program can be completed in a minimum of two semesters.

Courses		**Credit Hours**
First Semester		
BUS 101	Principles of Accounting I	4
BUS 103	Principles of Business	3
BUS 105	Business Math	3
BUS 150	Business Communications	3
BUS 225	Microcomputer App. Software	3
		16
Second Semester		
ENGL 101	Freshman English I	3
BUS 102	Principles of Accounting II	4
BUS 204	Marketing	3
BUS 205	Business Law I	3
BUS 206 or BUS 200	Human Resource Management Principles of Management	3
		16

Course descriptions

The College reserves the right to limit the number of students registered in any course, to cancel courses for which there is insufficient enrollment, or to make changes in prerequisites, course descriptions, credit allocations, and such schedule and section offerings in the academic year as may be necessary for the proper and efficient functioning of the College.

- "Prerequisite" denotes required coursework that must be completed before beginning a course.
- "Co-requisite" or "concurrent enrollment" denotes required coursework that may be taken concurrently with a course.
- "Recommended background" denotes suggested or supportive education/training.

Academic Support Center

Courses are offered every academic year unless otherwise noted.

ASC 101 Foundations of Tutoring: Principles and Practices (1)
Introduction to principles and practices of peer tutoring, including theoretical background of learning theories and methodologies of one-on-one tutorials and small group cooperative learning. Philosophy, procedures and hands-on practice prepares students to be competent in the peer tutorial process.

ASC 102 CRLA Tutor Internship (2)
Prerequisite: ASC 101. Permission required. This course is designed to provide an internship opportunity to an experienced ASC/CRLA Certified tutor within a discipline-related work experience (classroom/lab/office) working at the discretion of the faculty sponsor. The four core elements include: experiential learning, professional development, performance assessment, and reflection. The student must be on-site for a minimum of 3 hours per week in addition to a 1 hour weekly meeting with the Internship Advisor.

ASC 103 CRLA Tutor Internship II (2)
Prerequisite: ASC 102. Permission required. Based upon the recommendation of the faculty sponsor and internship advisor, a student would have the opportunity to repeat the ASC 102 internship. These students would also serve as mentors to the students taking ASC 102.

American Sign Language

Courses are offered every academic year unless otherwise noted.

ASL 101 American Sign Language I (3)
This course introduces the fundamentals of American Sign Language and is designed for students with little or no previous knowledge of American Sign Language. Students will learn the basics of American Sign Language, including: finger spelling, signs, grammar, syntax, sentence structure, and basic communication skills. In addition, students will explore various facets of deaf culture.

ASL 102 American Sign Language II (3)
Prerequisite: ASL 101. This course is a continuation of American Sign Language I and is designed for students who want to further develop their receptive and expressive finger spelling and signing skills. The course builds on the basics of American Sign Language I, including: finger spelling, signs, grammar, syntax, sentence structure, and basic communication skills. In addition, students will continue to explore various facets of deaf culture.

Anthropology

ANTH 101 Introductory Anthropology (3)
Provides the student with a broad overview of the discipline of Anthropology. The introduction presents the student with a history of the discipline. The course focuses on the basic subfields of Anthropology: Physical Anthropology, Archaeology, Linguistics, and Ethnology, the goal of which is to obtain a comprehensive understanding of humanity. Primatology creates understanding of the physical and social similarities shared by man and his closely-related kin in the animal kingdom. Human evolution is studied with the goal of understanding the processes of both physical evolution and paleoanthropological research. The course then focuses on the development of culture, from simple hunters to advanced civilizations. Case studies are drawn from different regions to emphasize multicultural approached to resolving common human problems.
Every academic year

Art

Courses are offered every academic year unless otherwise noted.

ART 101 Art History: Ancient to Gothic (3)
Prerequisite or concurrent enrollment: ENGL 101. Provides a background in visual arts from the prehistoric period to the Gothic era. Studies the artistic achievements of each era in the context of important historical and philosophical developments. Emphasis on Egypt, Greece, Rome, medieval Europe, and Asia. Slides, lectures, and films. Three class hours weekly.

ART 102 Art History: Renaissance to Modern (3)
Prerequisite or concurrent enrollment: ENGL 101. Provides background in the visual arts from the Renaissance to the Modern Era. Studies the artistic achievements of each era in the context of important historical and philosophical developments. Emphasis on Europe, England, the Americas, Asia, and Africa. Slides, lectures, and films. Three class hours weekly

ART 103 Essentials of Art (3)
Introduces the use of rudimentary art techniques employed by artists, and preschool and elementary school teachers. Focuses on basic design, color theory and elements of composition as well as the application of various drawing and painting techniques. Directs students' interests and talents toward an individual form of self-expression. Two lecture-demonstration hours and two studio hours weekly.

ART 104 Painting Studio I (3)
Prerequisite: ART 103 or ART 112. For students with basic media and composition background, covers the fundamentals of watercolor and acrylic painting, color theory and color mixing, working from models, landscape and personal experience. The art of the past is discussed, assessed, and often utilized while encouraging new approaches to expression. Two lecture-demonstration hours and two studio hours weekly.

ART 105 Painting Studio II (3)
An intermediate painting course in a studio setting in which each student explores one or more of the painting media (watercolor, acrylics, pastel). Stress is on individual expression/creativity through exploration. The basic concern of painting, composition, color theory and subject matter will be discussed, thus affording the student the opportunity to develop his/her own educational "style". Two lecture-demonstration hours/two studio hours weekly. Prerequisite: Permission of instructor.

ART 106 Expressive Drawing I (3)
Recommended background: ART 103 or equivalent. Presents a range of perceptual, conceptual, stylistic and technical skills. Students become familiar with many different methods of observation and presentation. Still life, landscape and conceptual methods are studied. Two lecture-demonstration hours and two studio hours weekly.

ART 107 Expressive Drawing II (3)
This course will be a continuation of techniques and media introduced in Art 106 (Expressive Drawing I). Traditional and non-traditional subject matter will be explored with emphasis on the development of the student's own educational style. Two lecture-demonstration/two studio hours weekly.

ART 112 Two-Dimensional Design (3)
Explores the fundamentals of pictorial organization through a series of visual problems. Students use the elements of art (line, shape, color, texture, value) within principles of design to communicate concepts visually. Two lecture-demonstration hours and two studio hours weekly.
Offered upon indication of need

ART 113 Three-Dimensional Design (3)
Fundamentals of organizing three-dimensional space. Students learn to design space using line, plane, and mass. Traditional approaches (additive and subtractive techniques) as well as contemporary modes of expression. Two lecture-demonstration hours and two studio hours weekly.

ART 131 Introduction to Ceramics (3)
Introduces basic ceramic concepts, hand and wheel techniques, surface decoration and glazes. Develops appreciation for ceramics past and present, and awareness of three-dimensional design. Two class hours and two studio hours weekly.

ART 139 Art of Diverse Cultures (3)
Focuses on contemporary art by the diverse population of American artists. Emphasis on artists of African, Native American, Asian, and Hispanic origin. Explores the subject using slides, lecture, discussion, and films. Three class hours weekly.

ART 140 Issues in Art on Location in New York (3)
An intensive on-site museum and gallery course in New York City. Students view old master works, contemporary art and new genres. Lecture visits may include major museums and galleries, as well as neighborhood art scenes, studios and open-air settings. Three class hours weekly.

ART 160 Life Drawing (3)
Recommended background: ART 106 or equivalent. Drawings concentrate on the human form. Students develop an awareness of anatomical correctness and individual expression is encouraged. Utilizes a variety of drawing media. Two lecture-demonstration hours and two studio hours weekly.

ART 165 Issues in Art on Location - Art and Design in London (3)
Intensive on-site museum and gallery course. Students view old master works and contemporary art. This museum study course focuses on the artist as a member of society–the artist who creates art and designs for community or individual use.

ART 212 Advanced Two-Dimensional Design (3)
Prerequisite: ART 112. This course applies formal skills developed in ART 112 to conceptual and time-based problems. Students will analyze visual information, create a visual language, and explore advanced color theory. Two lecture/-demonstration hours and two studio hours weekly.

ART 215 Computer Graphics / Illustrator (3)
Recommended background: ART 103 or 112 or equivalent. Studio course introduces the basic techniques of digital painting and digital imaging. Students will create original imagery using Adobe Illustrator, input imagery created in another medium, and manipulate photographic imagery. Students will create and manipulate images based on formal design principles and conceptual frameworks. Two lecture/-demonstration hours and two studio hours weekly.

ART 221 Textile Design: Resist and Print Techniques (3)
Recommended background: ART 103 or 112 or equivalent. Introduces basic techniques of creating surface designs on textiles: batik, shibori, silk screen, block printing, and marbling. Students create original designs directly on fabric and discuss the traditional origins of the processes and the innovations introduced by contemporary textile designers. Two lecture-demonstration hours and two studio hours weekly.

ART 222 Textile Design: Direct Applications (3)
Recommended background: ART 103 or 112 or equivalent. Introduces basic techniques to create surface designs on textiles: direct application of dyes (handpainting, screen printing) and discharge processes. Students will create repeat patterns, freeform designs, and a collection of coordinated fabrics. Two lecture-demonstration hours and two studio hours weekly.

ART 231 Ceramic Sculpture (3)
Recommended background: ART 131 or equivalent. Introduces students to sculptural possibilities of clay. Students build large-scale pieced or modular works using hand and wheel techniques. Two lecture-demonstration hours and two studio hours weekly.

ART 250 Introduction to Photography and Darkroom Techniques (3)
Introduces the basics of still photography. Students complete a number of assignments on the use of the 35mm camera system using a technical and aesthetic approach and learn photographic darkroom techniques producing finished prints for critique. Two lecture hours and two lab hours weekly.

ART 251 Advanced Photography and Darkroom Techniques (3)
Prerequisite: ART 250. Builds on principles and techniques acquired in ART 250. Students complete photographic assign-

ments for critique and refine their abilities in the darkroom to produce high quality, full tonal range photographic prints. Assignments include portraiture, photojournalism, and product photography. Two class hours and two lab hours weekly.
Offered upon indication of need

ART 252 Photoshop (3)
Recommended background: ART 250 or equivalent. Lectures, demonstrations and hands-on activities will enable students to discover the basic theory and application of Adobe Photoshop. Students will complete a series of aesthetically inspired assignments pertaining to captured images, processing and manipulating digital images. Images created will be displayed using a computer monitor or outputted to a printer for critique. Two lecture hours and two lab hours weekly.

ART 253 Digital Photography (3)
Recommended background: ART 103, ART 112, ART 250, ART 252. Students will acquire skills needed to fully operate and control a digital single lens reflex camera, digital image editing software and full color photographic printers. As in other art courses students will complete image assignments which will be critiqued in class. Two lecture-demonstration and two studio hours per week.

ART 255 Silk Screen Printing (3)
Recommended background: ART 103 or 112 or equivalent. Introduces basic techniques of water-based silk screen printing; emphasis is on creating prints as fine art. Students learn to print multiples of their imagery and are encouraged to develop their own style and imagery using this medium. Two lecture-demonstration hours and two studio hours weekly.

ART 260 Printmaking Workshop (3)
Recommended background: ART 103 or 112 or equivalent. Introduces the basic techniques of relief printing using linoleum, wood and experimental media. Students also learn basic book binding structures and incorporate their printed imagery in a sequential format. Two lecture-demonstration hours and two studio hours weekly.

Behavioral Sciences

BEH 101 Language and Literacy Development in Young Children (3)
Recommended concurrent enrollment: ECH 102 and 104, ECH 102 and 105, or EDU 201 and 203; child observations/interactions may be required. Surveys development of language and literacy from birth to eight years. Foundations of learning theories; research and philosophies that shape current practice; and models that support emerging readers and writers. Further emphasis on integration of literacy throughout the curriculum, assessment techniques, literacy and diversity, selecting children's literature, working with families.
Every academic year

Biology

Courses are offered every academic year unless otherwise noted.

BIOL 100 Human Biology (4)
Non-sequential course for non-science majors. Balanced introduction to human anatomy and physiology, cancer, genetics and inheritance, development and aging, evolution, ecosystems and populations, human impact on biodiversity and the environment. Three class hours and one two-hour lab weekly.

BIOL 101 Essentials of Biology (3)
Introduces selected topics which may include cell structure and division, tissues, nutrition, digestion, internal transport, respiration, neural control and locomotion, reproduction, genetics, microorganisms and disease, and selected topics in plant biology. Two class hours and one two-hour lab weekly.

BIOL 103 Biological Principles I (4)
Prerequisite: BIOL 101 or high school biology. Deals with the fundamental concepts and principles of biology. Topics include cell structure and function, basic biochemistry and molecular biology, and a survey of the three domains with emphasis on the eukaryotes: protista, fungi, plantae, and animalia. Three class hours and one three-hour lab weekly.

BIOL 104 Biological Principles II (4)
Prerequisite: BIOL 103 or 105 or equivalent. Survey of kingdom animalia; animal structure and function including organization and homeostasis; circulatory, lymphatic, immunity, digestive, respiratory, excretory, nervous, musculoskeletal and endocrine systems; reproduction, development; the genetic basis of life. Three class hours and one three-hour lab weekly.

BIOL 105 Botany (4)
Prerequisite: BIOL 101 or high school biology. Introduces the study of plants; emphasis on physiology, structure, aspects of reproduction, ecology, taxonomy, and economic importance of plants. Three class hours and one three-hour lab weekly.

BIOL 106 Zoology (4)
Prerequisite: BIOL 101 or high school biology. Acquaintance and appreciation of animals and the nature of animal life; concerned with animal morphology, physiology, behavior, evolutionary relationships, development and evolutionary history. Three class hours and one three-hour lab weekly.

BIOL 165 Tropical Marine Biology I (3)
Taught on Grand Cayman Island, West Indies. Includes study of coral reef zonation, marine currents, and ecology of the coral reef, rocky shore, mangrove swamp, coral reef fish, and plankton. Includes snorkeling so students can observe and collect organisms for study. Approximately 50% of course time is spent in the field and 50% in lectures and wet labs.
Offered upon indication of need

BIOL 203 Anatomy and Physiology I (4)
Prerequisite: BIOL 100, 101, 103 or equivalent. Human cell, tissues, skeleton system, muscle physiology, nervous system, special and somatic senses. Three class hours and one two-hour lab weekly.

BIOL 204 Anatomy and Physiology II (4)
Prerequisite: BIOL 203. Continuation of the study of human anatomy and physiology. Topics include circulatory, respiratory, urinary, endocrine, reproductive and digestive systems and water, electrolyte and pH balance. Three class hours and one two-hour lab weekly.

BIOL 206 Microbiology (3)
Prerequisite: BIOL 101 or 103 or equivalent. Surveys the principles of microbiology emphasizing the relationship of microorganisms to human disease. Two class hours and one two-hour lab weekly.
Offered upon indication of need

BIOL 208 Conservation of Natural Resources (3)
For science majors and non-majors, course explores the human relationship with the natural environment by examining critical issues that affect the viability of natural resources, including their importance, distribution, and impacts from human use at local, national, and global levels. Topics include concepts of ecology, air, soil, water, energy, biodiversity, and population dynamics. Field trips are an important part of the laboratory experience. Two class hours, two lab hours weekly.

BIOL 209 Basic Nutrition (3)
Appropriate for science majors and non-majors, also students pursuing a career in healthcare professions. Examines the fundamentals of nutrition, including nutrient composition of foods; physiological factors influencing nutritional needs; behavioral considerations related to food intake; nutrient digestion, assimilation, and storage; energy requirements; life cycle requirements; weight management; diet therapy; fad diets; manufactured food; methods used in dietary assessment and nutrition research. Three class hours weekly.

BIOL 213 Current Issues in Biology (3)
Prerequisite: BIOL 101, 103, or equivalent. Explores contemporary biological issues that are of social and economic importance. Issues selected vary from one semester to another. Oral reports, written reports, and classroom discussions are a part of the teaching format. Appropriate for non-science majors as well as science majors. Three class hours weekly.

BIOL 214 Cell Biology (4)
Prerequisite: BIOL 103 or 105. Covers the anatomy and physiology of the plant and animal cell at a level of detail appropriate for the 200 level of instruction. Three class hours and three lab hours weekly.
Offered upon indication of need

BIOL 216 General Microbiology (4)
Prerequisite: BIOL 100, 101, 103 or equivalent. Balanced introduction to basic microbiology (biochemistry, taxonomy, genetics, and cell biology), clinical microbiology (pathogenic bacteriology); and applied microbiology (food and industrial microbiology and ecological microbiology). Three class hours and three lab hours weekly.

BIOL 218 Emerging Infectious Diseases and Bioterrorism (3)
For science majors or non-majors, this course explores the role of biological, ecological, political, and socioeconomic factors in emerging infectious diseases and bioterrorism. Topics explored include the biology of specific infectious diseases, the relationships between disease agents and vectors, issues related to vaccinations and other disease treatments, the impact of globalization on the spread of emerging infectious diseases, government agencies and disease prevention, food safety, the history and current status of bioterrorism, and societal impacts of emerging infectious diseases and bioterrorism. Three class hours weekly.

BIOL 221 Grade A Potable Water (3)
Studies potable waters, watershed protection and management, water storage, transmission, distribution, methods of treatment, disinfection, chemical and biological analysis of water. Two class hours and one two-hour lab weekly.
Offered upon indication of need

BIOL 222 Waste Water Treatment (3)
Covers the operation and maintenance of municipal and industrial waste water treatment plants. Includes discussion of primary, secondary and tertiary treatment; nutrient removal; biological-oxidation and activated sludge; microbiology of waste water; techniques of handling, sampling and analyzing. Two class hours and one two-hour lab weekly.
Offered upon indication of need

Business

Courses are offered every academic year unless otherwise noted.

BUS 080 Fundamentals of Bookkeeping (1)
Presents the accounting equation, emphasizing the process of analyzing and recording financial information using the double-entry bookkeeping system. Recording of basic transactions and adjustments for service and merchandising enterprises, and maintenance of accounts receivable and accounts payable records. Students currently enrolled in BUS 101 or who have received a grade in BUS 101 of C or higher may not earn credit for this course. Thirty lab hours per semester.

BUS 090 Small Business Accounting (1)
Prerequisite: BUS 101. For accounting majors, instruction in small business accounting procedures in conjunction with current accounting principles and tax requirements. Presents variations of the basic system in BUS 101 applicable to a small retail and service business. Topics include maintenance of cash journals and subsidiary records, year-end conversion from cash to accrual accounting, preparation of payroll and sales tax reports as required of businesses operating in New York State. Fifteen class hours per semester.

BUS 100 Employment Strategies, Techniques and Tools (1)
Introduces skills and resources to compare different types of careers. Covers the job search process from networking through following up leads. Focus on preparation of résumés and job applications along with effective interviewing skills. Attitude, interpersonal skills and personal presentation also covered. Three class hours weekly for five weeks.

BUS 101 Principles of Accounting I (4)
The first of a two-course introduction to accounting. Introduces financial accounting. Covers the accounting cycle, including worksheet and financial statement preparation; receivables and payables; merchandise inventory; fixed and intangible assets; accounting for cash and payroll; and system and control procedures, including bank reconciliations. Study is applied by means of an assigned accounting practice project. Three lecture hours and two lab hours weekly.

BUS 102 Principles of Accounting II (4)
Prerequisite: BUS 101. Second of a two-course introduction to accounting concluding basic elements of financial accounting

and introducing managerial accounting. Includes partnership and corporate accounting, emphasizing corporate earnings, equity and investments; manufacturing inventories, job order costing; product costing and budgeting; standard costing and variances; preparation of statement of cash flows. Course study is applied by means of an assigned accounting practice project. Three lecture hours and two lab hours weekly.

BUS 103 Principles of Business (3)
Overview includes foundations of American business, forms of enterprise, organizing for business, fundamentals of management, the production of goods and services, human relations, union-management relations, marketing, accounting, finance, money and banking, securities and investments, government relations and business law. Three class hours weekly.

BUS 105 Business Mathematics (3)
Focuses on basic math combinations and shortcuts; problems in buying and selling items, including markups, markdowns, percents and discounts; preparation of banking and payroll records; and computation of simple interest and note discounts. Three class hours weekly.

BUS 106 Consumer Mathematics (3)
Prerequisite: BUS 101 or 105. Reviews basic operations, installment buying, real estate, taxes and insurance, investments, financial statements, basic statistics, present value, annuities and sinking funds. Three class hours weekly.

BUS 119 Real Estate Salesperson (5)
This course is designed as preparation for the Real Estate salesperson's examination in compliance with the program of New York State Division of Licenses. The New York State examination must be passed before a salesperson's license is issued. In addition, the program prepares participants for job opportunities in the real estate profession. Students will attend classes to ensure meeting the basic state requirement of 75 hours of class. Note: This course can be taken as an Audit, which means that is does not carry any college credit, however, students who are taking it for the purpose of sitting for the NYS Salesperson's Exam will still need to fulfill the attendance requirements as well as a passing score on the Final Exam. Five lecture hours weekly.

BUS 150 Business Communications (3)
Foundation for developing communication skills. Students apply principles of effective business and personal business correspondence. Job application and oral presentation are highlighted; also covers essentials of grammar, punctuation, spelling, use of reference materials, vocabulary enrichment. Three class hours weekly.

BUS 160 Small Business Management (3)
For students planning to own or manage a small business. Topics include the challenge of ownership and management, planning and organizing a new business, preparing a business plan, location and layout decisions, controlling the business, selecting and managing staff, marketing, accounting, financial and legal considerations. Preparing a comprehensive business plan is a course requirement. Three class hours weekly.

BUS 165 International Business: The British Experience (3)
Study/travel course acquaints students with the scope and nature of international business. Walking tours, lectures, and discussions complement visits to prominent institutions such as the Port of London Authority, Lloyds of London, Bank of England, London Transport Museum, American Embassy, London Stock Exchange, Precious Metals Exchange, and Harrods. Contact with labor and trade (import/export) organizations as well as British and American government officials is also anticipated. Requirements include readings on relevant topics, tours, presentations by officials and a research paper.
Intersession only

BUS 200 Principles of Management (3)
Recommended background: BUS 103. Provides a firm foundation in the primary principles of management. Explores management theory as well as management functions and targets discussion of top and middle managers. Recognizing that the future manager must remain abreast of business trends, current issues are addressed. Three class hours weekly.

BUS 201 Intermediate Accounting I (4)
Prerequisite: BUS 102. First segment of a two-course comprehensive study covers current financial accounting theories and practices promoted by the profession. Includes various financial statements, related schedules; current assets including cash, temporary investments, receivables; inventory valuation and cost procedures; plant and intangible assets; long-term investments, other assets. Students planning to transfer should contact their prospective institution regarding course transferability. BUS 201 accepted for CPA certification credit in New York State. Three lecture hours, two lab hours weekly.

BUS 202 Intermediate Accounting II (4)
Prerequisite: BUS 201. Second of a two-course comprehensive study of financial accounting covers current and contingent liabilities; non-current liabilities; stockholders' equity; accounting for leases, pension costs, income taxes; earnings per share and adequate footnote disclosure; statement of cash flows. Students planning to transfer should contact their intended transfer institution regarding course transferability. BUS 202 is acceptable for CPA certification credit in New York State. Three lecture hours and two lab hours weekly.

BUS 203 Advertising (3)
Recommended background: BUS 103. Planning, creation, use and place of advertising in today's society. The role of the advertising campaign includes extensive study of various media utilized. Creating copy and layout design is an integral part of this course. Three class hours weekly.

BUS 204 Marketing (3)
Recommended background: BUS 103. Concept of market strategy planning includes segmentation and forecasting of consumer and organizational markets. Marketing mix variables include product life cycles, packaging, branding, pricing objectives and strategies, physical distribution, retailing, wholesaling, advertising, public relations, sales promotion, personal selling; marketing environment, marketing research, management processes. Three class hours weekly.

BUS 205 Business Law I (3)
Emphasis is on the nature and function of law: civil and common law, contracts, agency and employment, bailments and personal property. Three class hours weekly.

BUS 206 Human Resource Management (3)
Recommended background: BUS 103. Personnel management in business; recruitment, selection, testing, employee development; psychological impact of individual and group behavior, motivation, morale, communication; management and labor relations; remuneration and security. Three class hours weekly.

BUS 207 Business Law II (3)
Prerequisite: BUS 205 or permission of instructor. Continuation of Business Law I. Topics include negotiable instruments, sales, real property, estates, bankruptcy and business organizations. Three class hours weekly.

BUS 208 Retailing (3)
Recommended background: BUS 103. Familiarizes students with merchandising and operational situations. Focuses on skills required to solve problems and make sound management decisions in areas such as choosing an effective form of business organization, location and site selection, store layout, sales promotion, customer relations, merchandise handling and display, and customer service. Three class hours weekly.

BUS 209 Cost Accounting (3)
Prerequisite: BUS 102. Focused on the managerial aspects of cost accounting with emphasis on planning and control. Includes contemporary cost terminology, cost-volume-profit analysis, cost behavior patterns, responsibility accounting, absorption and variable costing, activity-based costing, job and process costing, budgeting, standard costing, variance analyses, accounting for joint products, by-products, spoilage, waste, defective units, and scrap. Students planning to transfer should contact their intended transfer institution regarding course credit transferability. Course is accepted for CPA certification credit in New York State. Three lecture hours weekly.

BUS 210 Principles of Merchandise Buying (3)
Recommended background: BUS 208. Focuses on the role and responsibilities of merchandise buyers in various types of retail organizations. Covers retail customer analysis, what to buy, how much, from whom, and a careful study of the merchandise assortment. Also covers the computer as an aid to the buyer, buying from foreign markets and the buyer's role in advertising, promotion and sales. Three class hours weekly.

BUS 216 Salesmanship (3)
Recommended background: BUS 103. Covers the fundamentals of selling with emphasis on meeting the customer's need. Focuses on the selling process: company history and policies, product knowledge, prospecting, the preapproach, the approach, the sales presentation, the demonstration, handling objections and the close. Three class hours weekly.

BUS 219 Real Estate Broker (3)
Designed as preparation for the Real Estate Broker's examination in compliance with the New York State Division of Licenses. The New York State examination must be passed before a salesperson's license is issued. In addition, the program prepares participants for job opportunities in the real estate profession. Students will attend classes to ensure meeting the basic state requirement of 75 hours of class. Note: This course can be taken as an Audit, which means that is does not carry any college credit, however, students who are taking it for the purpose of sitting for the NYS Salesperson's Exam will still need to fulfill the attendance requirements as well as a passing score on the Final Exam. Five lecture hours weekly.
Offered upon indication of need

BUS 220 Business Statistics (3)
Covers the application of statistical procedure to business decision making. Considers the nature and assembling of statistical data, methods of presentation, frequency distribution, measures of central tendency, dispersion, time series, sampling techniques, estimation, hypothesis testing, regression and correlation, index numbers, probability and forecasting. Recommended for business and computer information systems/data processing students only. Three class hours weekly.

BUS 221 Accounting Systems with Microcomputer Applications (3)
Prerequisite: BUS 102, 225. Comprehensive course in accounting systems with practical Windows applications. Includes creating spreadsheet applications for financial and managerial purposes, use of computerized general ledger, accounts receivable, accounts payable, payroll, depreciation accounting systems. Two hours lecture, two lab hours weekly.

BUS 222 Federal Income Tax (3)
Prerequisite: BUS 101. Introduces federal taxation and presents basic tenets of the federal income tax system emphasizing the preparation of returns in accordance with current tax statutes. Topics include determining gross income, itemized and business deductions, capital gains and losses, tax credits, payroll taxes, partnership and corporate returns. Study includes an assigned practice project. Three class hours weekly.

BUS 225 Microcomputer Application Software (3)
Recommended background: basic microcomputer skills such as using Windows menus and mouse, creating, saving, and printing files. Briefly covers microcomputer hardware, the Windows operating system and its file management capabilities. Provides coverage of the features and functions of application programs for word processing, electronic spreadsheets, database management, and presentation graphics. Lecture and hands-on assignments emphasize application to typical business problems. Curriculum is based on the core competencies required for Microsoft Office Specialist (MOS) certification. Two hours lecture, two hours lab weekly.

BUS 226 Advanced Microcomputer Applications Software (3)
Prerequisite: BUS 225. Includes the advanced features of word processing, spreadsheets, database management software, presentation graphics. Topics include workgroups, forms, master documents, list and data management, macros, one-to-many and many-to-many relationships, and applications with multilevel switchboards. Students complete hands-on projects using microcomputer lab equipment and software. Curriculum is based on the intermediate-to-advanced competencies for Microsoft Office Specialist (MOS) certification. Two hours lecture, two hours lab weekly.

BUS 227 Corporate Finance (3)
Prerequisite: BUS 102. Focuses on the managerial theories and practices of corporate finance, emphasizing the making of financial decisions. Topics include the environment of finance, financial analysis and planning techniques, time value of money,

capital budgeting, cost of capital, working capital management, and sources of short-term and long-term financing. Three class hours weekly.

BUS 229 Professional Merchandising (3)
Recommended background: BUS 208. Training in the skills and techniques of visual merchandising; development of managerial values in the role of the professional retailer. Includes the role and types of display in retailing, design principles and elements, arrangements, props, fixtures, materials, observing and rating displays; also decision making, leadership and supervision communication, and team management. Three class hours weekly.

BUS 239 Selected Topics in Business (3)
Required background: BUS 103 Principles of Business. Devoted to selected topics in the area of business which may include but not be limited to the following; current trends, concepts, and evolving issues in the business environment.

BUS 245 Supervisory Management (3)
Recommended background: BUS 103. Focuses on issues commonly confronting first-line managers. Topics studied include the role of supervisory management, problem solving and decision making, communication, group dynamics, motivational leadership, team building and total quality management, managing human relations and building relationships with superiors and peers. Three class hours weekly.

BUS 246 Non-Profit Accounting (3)
Prerequisite: BUS 101 & 102. Recommended: BUS 227. Designed to introduce students to the core concepts, principles and practices of Government and Not-for-Profit Accounting and financial reporting under the Governmental Accounting Standards Board (GASB). Emphasis will be focused on scope of the reporting entity, revenue/expense recognition, asset/liability valuation, budgeting, capital projects and reporting requirements. Study is applied by means of an assigned practice set.

BUS 248 Event Planning (3)
Recommended background: BUS 103.. Designed to introduce students to event planning. The course will focus on the planning and management of corporate events, conferences, workshops, meetings and conventions. Specific topics will include location planning, budgeting, venue requirements/contracts, menu planning, event marketing, guest registration, and risk/issue management. Projects will involve the student volunteering in an authentic event planning experience.

BUS 250 Wine Business Management, Marketing, and Sales (4)
This course is a comprehensive class covering essential elements needed to succeed in the wine business. Research and demographics of wine consumers will be studied, with an emphasis on looking toward the future. Topics of study include business strategy for the wine industry, the business of enology and viticulture, supply chain management and quality control, marketing and branding, distribution, sales, tourism, media and public relations, global marketing, exporting and importing, financial aspects, accounting and tax, human resources management, legalities, establishment of a tasting room, and environmental and social responsibility. The class is limited to students 21 years of age and older.

BUS 260 Introduction to Project Management (3)
Recommended background BUS 103. Course is designed to introduce students to project management and to the struggles and challenges associated with projects. The course will focus on the hands-on problems of managing a project. It will broadly cover the operational and conceptual issues faced by project managers. Upon completion of this course, students should be able to develop, execute, and control a basic project plan capable of supporting business objectives linked to measures of success for a single project.

BUS 270 Foundations of e-Business (3)
Recommended background: BUS 103. Foundation course in concepts, strategies, and techniques to build e-commerce applications for profitability and growth. Concepts include planning, designing, and evaluating web sites, launching an e-business, marketing the e-business, and addressing ethical and legal factors. In addition, methods for providing security and integrity of data traffic through encryption, firewalls, and other means is explored. Strategies include redefining business models, changing the corporate culture, reinventing business processes, and establishing reliable customer service, and key life cycle of e-commerce. Three class hours weekly. Offered upon indication of need.

BUS 275 Business Internship (3)
Prerequisites: Sophomore status with at least 30 credit hours (12 of those hours within the sponsoring academic department), a GPA of 2.5 or higher and recommendation from a business faculty member. Course provides an opportunity for qualified students to connect classroom learning with practical work experience. Designed to help the student develop marketable skills and gain valuable contacts. Each student's internship process and completion includes learning objectives, job preparation instruction, a faculty/internship sponsor, and a site supervisor. Students will complete at least 100 hours of work experience during the semester and 20 classroom hours. ***Students must provide their own transportation to off-campus locations***.

Chemistry

Courses are offered every academic year unless otherwise noted.

CHEM 101 Elements of General Chemistry I (4)
Prerequisite: MATH 099 or equivalent. Introduces basic laws and theories of chemistry: measurements, the metric system, atomic structure, bonding, periodic law, nomenclature, equations, calculations involving equations, and thermochemistry. Brief introduction to acid-base chemistry and organic chemistry. Three class hours and one three-hour lab weekly.

CHEM 103 General Chemistry I (4)
Prerequisite: high school chemistry and completion of or concurrent enrollment in MATH 104. Includes basic calculations, periodic trends of the elements, introduction to precipitation, acid-base and oxidation reduction reactions, ionic and covalent bonding, introduction to thermodynamics, and gas laws. Three class hours, one three-hour lab weekly.

CHEM 104 General Chemistry II (4)
Prerequisite: CHEM 103. Continuation of CHEM 103; includes the study of liquids, solids, phase changes, chemical kinetics, chemical and aqueous equilibria (acid-base, solubility), thermo-

dynamics, electrochemistry, transition elements and coordination chemistry, and introduction to organic chemistry. Three class hours and one three-hour lab weekly.

CHEM 108 Forensic Science (3)
Provides criminal justice students with a basic knowledge of forensic science as applied to criminal investigation and related police science fields. Focuses on applied forensic science, laboratory techniques and procedures. Two class hours and two lab hours weekly.

CHEM 123 Fuel Cell Systems (3)
Prerequisite: CHEM 103 and MATH 104 or higher. Fuel cell technology gives rise to a range of types of systems with varying operating parameters and applications. This course describes the operating features of a fuel cell and the underlying chemical, thermodynamic, and physical factors that determine its performance, as the basis for an appreciation of the benefits of fuel cell systems and their operating characteristics compared with conventional technology.

CHEM 207 Organic Chemistry I (4)
Prerequisite: CHEM 103-104. Study of organic compounds: nomenclature, properties, preparations; reactions, mechanisms and preparation, purification and analysis of organic materials. Laboratory work emphasizes technique and involves development of important basic skills. Preparation, purification and analysis of organic materials are also studied. Three class hours and one three-hour lab weekly.

CHEM 208 Organic Chemistry II (4)
Prerequisite: CHEM 207. Course is a continuation of Organic Chemistry I. Three class hours and one three-hour lab weekly.

College Success

Courses are offered every academic year unless otherwise noted.

CAY 100 Foundations for College Success (1)
Cayuga 100 is designed to increase students' success in college, and is designed for students who are not able to take CAY 101. This course will introduce a few of the key On Course principles: active learning, personal responsibility, self-motivation, self-awareness, and emotional intelligence. Through readings, journals, class activities, and group projects, students will use many proven strategies for creating academic, professional and personal success. One credit hour. *Note: CAY 100 or 101 may be required based on academic preparation and placement test results.*

CAY 101 Foundations for College Success (3)
Cayuga 101 is designed to increase students' success in college. The purpose of the course is for students to be able to understand, evaluate, and plan to navigate critical aspects of college life at Cayuga Community College. This course will help students achieve success in college and in life by following the eight On Course principles: personal responsibility, self-motivation, self-management, interdependence, self-awareness, lifelong learning, emotional intelligence and belief in themselves. Additionally, this course will create opportunities for students to master effective study skills. Through readings, journals, class activities, group projects and a comprehensive final project, students will learn about college expectations, using many proven strategies for creating academic, professional and personal success. Three contact hours weekly. *Note: CAY 100 or 101 may be required based on academic preparation and placement test results.*

Computer Science

Courses are offered every academic year unless otherwise noted.

C.S. 025 Electronic Spreadsheets (1)
Introduces the capabilities of electronic spreadsheets. Students learn how to create, save, retrieve, and print spreadsheets, write formulas, use functions, format numeric data, create graphs from spreadsheet data, sort data, and modify the spreadsheet display. Three hours per week for five weeks.

C.S. 035 Computer Literacy (1)
For students who wish to gain an understanding of computers and how they are used. Covers computer types, input/output devices, personal computer hardware and software including application software. Lab assignments are completed in the microcomputer lab. Course is closed to students who have completed C.S. 110. Five weeks/three class hours weekly.

C.S. 055 Introduction to Microsoft Word for Windows (1)
Introductory hands-on class emphasizes practice in creating, editing and formatting a variety of documents. No previous computer experience is necessary but typing ability of at least 30 WPM is recommended. Meets for a total of 15 hours.

C.S. 056 Intermediate Microsoft Word for Windows (1)
Topics covered include formatting (page size and orientation, headers and footers, column format, importing pictures), designing tables, merging files, templates, styles and style sheets, wizards, macros, and AutoText. Three class hours weekly for five weeks.

C.S. 070 Introduction to the Internet (1)
For students with no internet experience, includes the nature of the internet, e-mail, chat, Telnet, FTP, Usenet, ListServers, World Wide Web, search engines, and basic HTML for a web page. Includes demonstration and hands-on experience. Three class hours for five weeks.

C.S. 080 Microcomputer Maintenance (1)
Designed to provide familiarity with the basic hardware components of a computer system, specifically the motherboard, microprocessor, hard disk, RAM, and interface boards. Working in a laboratory setting, students complete hands-on exercises in testing, upgrading, and modifying computer components. Three class hours for five weeks.

C.S. 082 Help Desk Concepts / Software Concerns (1)
Prerequisite: BUS 225 or MS Office applications experience. Overview of the knowledge, skills, and concepts of typical help or support desk functioning. Also introduces selected technical problems and solutions as well as discussions of technical communications.

C.S. 100 Keyboarding (1)
For students who have had no previous typing instruction. Using the touch system, students learn the keyboard and numeric pad and apply this skill on a computer terminal. Meets for a total of 25 hours.

C.S. 103 Windows Operating Systems (1)
An understanding of Windows capabilities and features. No prior computer experience is required. Fundamentals of using the interface, working on the desktop, working with disks, creating files with Windows programs, managing files and folders, modifying the desktop work environment, installing and uninstalling programs, performing file and Web searching, and using integrated Internet Explorer features. Class meets for a total of 15 hours.

C.S. 110 Exploring Computer Technology (3)
Course for non–computer science majors builds computer competency and broadens perspective on the use of technology. Hands-on lab projects focus on purchasing computer systems and devices; using productivity software such as word processing, spreadsheets, presentation graphics and e-mail; file management; working in wired and wireless network environments; searching, evaluating, and citing web sources; editing digital photos; working with multimedia; and designing simple web pages.

C.S. 120 Foundations of Computer Science (3)
Prerequisite: Completion of, math placement beyond, or concurrent enrollment, in MATH 102. Introduction to computer science, including data storage and manipulation, operating systems, networking, algorithm development, an overview of programming languages and concepts, and the concept of software engineering. This course is intended for students enrolled in a C.S., C.I.S., GIS, or engineering related program. Three class hours weekly.
Offered upon indication of need

C.S. 180 Principles of Data Communications (3)
Introduces the concepts and components of a data communication system. Covers an overview of data communications, hardware and software associated with data communications, common carriers versus private communications services, and network concepts. Three class hours weekly.

C.S. 200 Programming in Visual Basic (3)
Prerequisite: C.S. 120 or MATH 104 or MATH 114 or equivalent programming experience. Focuses on programming in Visual Basic and introduces computer programming using the Microsoft Visual Basic language. In developing programming techniques, students will have an available tool for exploring many areas of problem-solving with a minimum background. Two one-hour lectures/one two-hour lab weekly.

C.S. 215 Systems Analysis and Design (3)
Recommended background: BUS 225 or equivalent computer application experience. Covers methods involved in analyzing and designing information systems. Focuses on investigation analysis techniques; data flow diagrams; general and detail systems design; layouts for reports, outputs, and files; system development implementation and documentation. Students work on simulated case studies as a team to present solutions that reinforce the life cycle phases of systems analysis and design. Three class hours weekly.

C.S. 219 Database Management Systems (3)
Prerequisite: BUS 225 or equivalent experience using database management software. Focuses on the organization and design of databases that satisfy MIS requirements using relational database management systems. Builds skill in entity relationship diagramming, database normalization, and structured query language. Course also discusses the administration of a database in a client/server environment. Projects are completed in microcomputer lab. Three class hours weekly.

C.S. 222 Programming in C/C++ (3)
Prerequisite: C.S. 120 or MATH 104 or MATH 114 or equivalent programming experience. Foundation course in use of high-level language. To support assigned laboratory exercises, includes use of full-screen editor, compiler, linker, execution environment of a C compiler/interpreter, top-down programming operators, arrays, loops, pointers, control statements, data structures, file processing, disk functions, sorting/searching, and recursion. Two lecture hours, two lab hours weekly.

C.S. 224 Operating Systems for Micros (3)
For students with little computer experience, general introduction to computer software and Windows operating system applications, documents, managing files, word processing, graphics, customizing windows, accessories, networking, and the internet. Two lecture hours and two class hours weekly.

C.S. 225 Introduction to Networks (3)
Recommended background: C.S. 120 or related computer experience. Local networks offer such features as high availability and the ability to support multiple vendor equipment. Broad background in principle architectural forms and design approaches. Three class hours weekly.

C.S. 228 Introduction to Unix/Linux (3)
Recommended background: C.S. 120. Basic operating system concepts, command line programs and utilities, organization of files, processes control, multitasking, shell programming, system administration, the vi editor, and introduction to the basics of awk and perl programming for system administration. Students spend a portion of the class installing, configuring, and administering their own Linux system.

C.S. 235 Web Page Design and Development (3)
Recommended background: BUS 225 or related computer experience. Course provides experience in planning and developing a web page. Students work with HTML and DHTML programming language, web browser, and web page editor as tools to develop a web application. Also introduces CSS and JavaScript programming to add dynamic components to web pages. Two lecture hours and two lab hours weekly.

C.S. 236 Advanced Visual Basic (3)
Prerequisite: C.S. 200 or equivalent computer experience. Defines and teaches the basic skills of Visual Basic, including skills that enable students to browse, receive, and send objects via the internet and place text, pictures, animation, audio commentary; motion video clips; and stereo sound tracks. Two lecture hours and two lab hours weekly.

C.S. 237 Internet Security (3)
Recommended background: C.S. 120 or related experience. Introduction to network security issues including access control, com-

munications, internet and intranet. Step-by-step explanations of design and installation of firewalls and configuring into internet services. Buffer overruns and other software development errors will also be discussed.

C.S. 238 Java (3)
Prerequisite: C.S. 120 or MATH 104 or MATH 114 or equivalent programming experience. Programs, exercises and projects focus on principles of software design and program clarity to solve real-world problems. The language uses object-oriented programming and graphical interface design. Provides graphical, animated, multimedia-based, audio-intensive, multi-threaded, network-based programs using extensive class libraries. Two lecture hours and two lab hours weekly.

C.S. 245 Programming in COBOL (3)
Prerequisite: C.S. 120. Covers COBOL programming language concepts. Students use an online time sharing system to write, compile, debug, test and document programs of varying degrees of difficulty. Programs involve business-oriented applications including sequential files, index files, control breaks, table load and lookup, and on-line queries. Two lecture hours and two lab hours weekly.
Offered upon indication of need

Criminal Justice

Courses are offered every academic year unless otherwise noted.

C.J. 111 Introduction to Justice Systems (3)
Comprehensive survey of justice systems including historical, organizational, social, functional and administrative aspects. Provides the background and principles to introduce students to succeeding specialized courses. Three class hours weekly.

C.J. 112 Organization and Administration of Justice Systems (3)
Covers the techniques of organization and administration within public safety areas. Also covers organizational control, leadership motivation and goals and the study of future trends. Three class hours weekly.
Spring semester only

C.J. 115 Criminal Law (3)
Provides the student with a working knowledge of the NYS Penal Law, its application and enforcement, and its introduction into the court system. Also instructs the student on selected NYS Criminal Procedural Law sections that are applicable in the instruction of the Penal Law.
Fall semester only

C.J. 117 Juvenile Delinquency (3)
Considers factors related to delinquency and crime, problems of treatment within institutions, and the organization and administration of delinquency prevention programs at the state, county and local level. Examines juvenile court procedures and control programs. Three class hours weekly.

C.J. 119 Criminal Investigations (3)
Includes the theory of an investigation, report preparation, conduct at scenes, the collection and preservation of physical evidence, proper investigation of most major crimes and related incidents. Also studies recent innovations in the investigation field. Three class hours weekly.
Spring and Summer only

C.J. 121 Institutional Corrections (3)
Comprehensive study of the origin and development of the philosophy of treatment, administration and structure of the correctional system; legal basis of treatment; institutional training and treatment programs, focusing on today's correctional institutions. Three class hours weekly.

C.J. 123 Laws of Evidence (3)
Focuses on the preparation of evidence for court procedures. Covers preparation of materials, responsibilities and conduct of the officer in court with illustrative cases. Discussion of contemporary court issues with a possibility of actual participation in a courtroom. Three class hours weekly.
Fall semester only

C.J. 165 International Studies: Public Safety in Great Britain (3)
International study course features intensive two-week series of tours, lectures, and discussions. Participants explore British public safety issues and their historical and cultural influences and compare trends in American and British systems of public safety and law. Visits include Inns of Court, Royal Courts of Justice, Parliament House, police and fire stations, and sites not open to the general public. For criminal justice majors and others in law, law enforcement, and public safety fields.
Intersession only

C.J. 211 Case Studies in Criminal Behavior (3)
Prerequisite: C.J. 111. Covers material from the crime to the institutionalization of the criminal. Intensive case analysis shows various types of crime and the methods, treatment and supervision of the individual. Three class hours weekly.
Spring semester only

C.J. 213 Community Corrections (3)
Prerequisite: C.J. 121. Comprehensive survey and examination of New York State correctional structure and its relationship to probation and parole. Examines community treatment in the correctional process, focusing on pre-sentence investigation and selection, supervision and release of probationers and parolees. Includes historical development of probation and parole, alternative treatment methods and analysis of current supervision philosophies.

C.J. 220 Criminology (3)
Prerequisite: CJ 111. Studies the causes of crime and detection and treatment methods. Also covers the historical approach and modern methods. Three class hours weekly.

C.J. 222 Constitutional Law (3)
Prerequisite: CJ 111. Traces the history of common law and development of case law in the United States. Development of an individual's constitutional rights is explored through Supreme Court cases. History of the Exclusionary Rule is followed through cases that changed its application. Controlling cases that apply the First, Second, Fourth, Fifth, Sixth, and Eighth Amendments of the Constitution are studied. Three class hours weekly.
Spring semester only

C.J. 239 Critical Issues in Criminal Justice (3)
Prerequisite: C.J. 111. Course will be devoted to selected contemporary or critical issues surrounding the field and profession of criminal justice. It may take on a particular theme or related themes in criminal justice, or a particular area of criminal justice. This course may be used as a free elective towards the criminal justice program elective, but cannot be taken in lieu of a criminal justice requirement without permission of the division chair. Three class hours weekly.

C.J. 265 Internship in Criminal Justice (3)
Offered to criminal justice majors in cooperation within all the various criminal justice fields. Students have on-the-job training at the selected agency in the area of major interest. Students may participate with the respective Division Chair's authorization and must have maintained a minimum of a 3.0 GPA. In-service students may not perform independent study in the area of their regular employment. Course is limited to 3rd or 4th semester students with approval from the Division Chair. ***Students must provide their own transportation to off-campus locations.*** *Offered upon indication of need*

Drafting

Courses are offered every academic year unless otherwise noted.

DRFT 122 Mechanical / Industrial CAD (4)
Prerequisite: ENGR 126 or equivalent. Focuses on mechanical design principles and practices in various specialized areas of mechanical/industrial drafting. Topics include bearings and shafts, gearing and cams, threads, fasteners, and springs. Introduces industrial dimensioning and tolerancing principles based on ANSI Y14.5M standards. Detailed representation is accomplished using two- and three-dimensional drawing techniques. Two class hours and four lab hours weekly.

DRFT 125 Architectural Drafting (4)
Recommended background: ENGR 126. Introduces students to basic concepts and techniques related to wood-frame construction. Focuses on methods and materials employed in the construction industry for a residential or light commercial building. Students prepare a complete set of architectural construction documents during a semester-long project. Computer-aided drafting will be used in the lab. Two class hours and four lab hours weekly.

DRFT 220 Machine Design (4)
Prerequisite: DRFT 122 and ENGR 103, 228 and concurrent enrollment in MATH 104. Using case studies and industrial design problems, students learn to lay out engineered products and systems and prepare drawings and specifications necessary for developing production layouts and details. Emphasis on problem-solving, layout design practices, tolerance stacks, geometric dimensioning and tolerancing, design concepts, procedures, data and decision analysis, and techniques required for machine design drafting of component parts. Computer-aided design and standard machine design practices are used in the laboratory. Two class hours and four lab hours weekly.

DRFT 221 Tool and Die Design (4)
Prerequisite: DRFT 122, ENGR 103, 126, 228. Concurrent enrollment in MATH 104. Using case studies and industrial design problems, students learn to improve manufacturing processes through tool design techniques. Includes problem-solving techniques, process analysis, designing fixtures and jigs, introduction to punch and die sets, quality improvements in manufacturing, and introduction to geometric dimensioning and tolerancing. Computer-aided design will be used in the laboratory. Two class hours and four lab hours weekly.

DRFT 230 Process Piping Design (3)
Prerequisite: ENGR 126. Instructs students in the design principles and standards required for process piping systems for chemical process plants and industrial power plants. Topics include piping, fitting and valve specification; process equipment, pipe support and instrumentation; and the fundamental principles of fluid mechanics. Two class hours and two lab hours weekly.

Early Childhood

Courses are offered every academic year unless otherwise noted.

ECH 101 Introduction to Early Childhood Education (3)
Concurrent enrollment in ECH 103 or 106 is required. Recommended background: PSY 215. Course examines the history and development of early childhood education as well as current trends and issues. The needs of the young child (age 0 to 8) will be studied for the purpose of applying the principles of growth and development to the use of appropriate methods, materials and activities. The development of skills to work with children, parents and the community will be emphasized. Three class hours weekly.

ECH 102 Curriculum and Assessment in Early Childhood Education (3)
Prerequisite: ECH 101 and 110. Concurrent enrollment required with ECH 104 or 105. A continuation of ECH 101, this course examines various aspects of early childhood education with an emphasis on classroom management, multiculturalism, inclusion, and parent and community involvement. Issues such as assessment, philosophy of teaching, record-keeping and curriculum will also be addressed. Students will begin to apply the principles of early childhood education to the development of lessons and thematic units. Three class hours weekly.

ECH 103 Early Childhood Field Experience I (3)
Concurrent enrollment with ECH 101 required. Prerequisite: ECH 110. Course provides practical experience with three- and four-year-old children in an early childhood setting. Students gain knowledge about early childhood programs, trends, and philosophies while observing and working in classrooms serving three- and four-year-olds. Students observe early childhood settings in the community on a weekly basis for the entire semester. In addition to lecture hours, students complete 7 hours of field experience weekly for a combined total of 120 hours. *Students must provide their own transportation to off-campus locations.*

ECH 104 Early Childhood Field Experience II (3)
Concurrent enrollment with ECH 102 required. Prerequisite: ECH 110 and 103 or 106. Provides additional practical experience with children from birth to eight years of age in an early childhood setting with an emphasis on increased involvement with children. Students develop lessons and materials and are

expected to assume an active role in the teaching process by presenting their lessons and materials in the classroom. In addition to lecture hours, students complete 7 hours of field experience weekly for a combined total of 120 hours. *Students must provide their own transportation to off-campus locations.*

ECH 105 Early Childhood Field Experience for Liberal Arts Majors (2)
Concurrent enrollment with ECH 102 required. Prerequisite: ECH 106 and 110. Provides practical experience with three- and four-year-old children in an early childhood setting. Students gain knowledge about early childhood programs by working in classrooms serving three- and four-year-olds. Students observe in community settings on a weekly basis for the entire semester. In addition to lecture hours, students complete 6 hours of field experience weekly for a combined total of 80 hours. *Students must provide their own transportation to off-campus locations.*

ECH 106 Field Experience: Early Childhood (1)
Taken concurrently with ECH 101 by Early Childhood concentration students, Early Childhood Certificate students, and students taking the course as a free elective. Provides practical experience with children from birth through 8 years of age in a variety of early childhood settings. Students observe in classrooms serving infants, toddlers, preschoolers, UPK, kindergarten and grades 1 & 2. Students observe on a weekly basis for the entire semester (three hours field experience weekly) for a minimum of 30 hours and also complete five seminar hours. *Students must provide their own transportation to off-campus locations.*

ECH 110 Methods and Materials for Early Childhood Education (3)
Concurrent enrollment in EDU 120 recommended. This course examines the methods and materials used in early childhood classrooms. Special emphasis is placed on the selection, development, and use of a variety of teaching materials. Topics include learning centers, games, manipulatives, visuals, classroom design, computer resources, films/videos, music, bulletin boards, and professional journals/resources. Three class hours weekly.

ECH 111 Infants and Toddlers (3)
Examination of programs, methods and materials utilized in early childhood education programs serving children from six weeks to three years of age. Special emphasis will be placed on the selection, development, and use of strategies that foster the emotional, physical, social and cognitive development of infants and toddlers. ***Students must complete 20 hours of observation in infant/toddler programs. Students must provide their own transportation to off-campus locations.***

ECH 222 Teaching Math & Science to Young Children (3)
Prerequisites: Math 099 or pass placement test for Math 099, and ECH 110. Examines developmentally appropriate theory and methods for teaching math and science to young children. Hands-on experiences will facilitate the planning and implementation of math and science into the early childhood curriculum. Classroom visits to off-campus sites providing early childhood programs will be required. *Students must provide their own transportation to off-campus locations*

Economics

Courses are offered every academic year unless otherwise noted.

ECON 102 Personal Money Management (3)
For students who desire knowledge in managing their personal finances. Topics include budgeting; saving; borrowing; home purchasing; automobile purchasing; life, auto and home insurance; health, disability and retirement programs; estate planning; and investing. Three class hours weekly.

ECON 201 Introduction to Economics I (3)
Introduces macroeconomics and covers how societies choose to allocate scarce resources within the context of the whole economic system. Focuses on how markets function, various macroeconomic theories, the role of government in an economic system, the international economy, the role of money in an economic system, and the policy responses to the problems of inflation, unemployment and slow economic growth. Three class hours weekly.

ECON 202 Introduction to Economics II (3)
Recommended background: ECON 201. Focuses on the microeconomic structure of our economy including supply and demand theory, individual firm and market theory, and factor market analysis. Topics may include international trade and finance, government regulation, labor-management relations, and the economics of energy and the environment. Three class hours weekly.

ECON 203 Introduction to Labor-Management Relations (3)
Recommended background: ECON 201. Introduces the history and ideology of the American labor movement, collective bargaining, contract administration, dispute resolution, labor legislation and relevant economic theory. Studies contemporary labor-management issues and problems within this topical framework. Students are involved in case studies, simulation exercises, field trips, and class discussion. Guest speakers are invited. Three class hours weekly.
Offered upon indication of need

ECON 205 Money and Banking (3)
Prerequisite: ECON 201. Covers the history and functions of money and credit, commercial banking, central banking, monetary theory, other banking and credit institutions, and international banking. Three class hours weekly.
Offered upon indication of need

Education

Courses are offered every academic year unless otherwise noted.

EDU 120 Technology for Teachers (1)
Concurrent enrollment in ECH 110 recommended for all Early Childhood programs (associate degree, certificate, or concentration). Surveys classroom applications of technology with emphasis on use by the teacher.

EDU 201 Foundations of American Education (3)
Concurrent enrollment in EDU 203 required. Examines issues of education and the social, historical, philosophical, political, and cultural foundations which influenced their development; also examines the social purposes of education through social and

behavioral sciences; explores the impact of social differences on education; helps the student develop a personal philosophy of education; and examines the relationship of schooling to democratic principles. Students must successfully complete EDU 203 to receive credit for this course.

EDU 203 Field Experience: Childhood / Adolescence (1)
Concurrent enrollment in EDU 201 required. Practical experience with children in grades 1-12 in a school setting. Students observe in classrooms based on their chosen area of interest (childhood: grade 1-6; or adolescence: grade 7-12). Students observe on a weekly basis for the entire semester (two hours field experience weekly) for a minimum of 30 hours. *Students must provide their own transportation to off-campus locations.*

Electronics

Courses are offered every academic year unless otherwise noted.

ELEC 101 Electrical Circuits (4)
Prerequisite or co-requisite: MATH 102. Focuses on the general principles of DC and AC circuitry with emphasis on the use of multimeters and oscilloscopes. Introduces a computer simulation program to aid the students in validating their experimental results and developing troubleshooting skills. Required of students enrolled in Electrical Technology and recommended to all students desiring a beginning course in electronics. No prior electronics knowledge is necessary. Two class hours and two two-hour labs weekly.

ELEC 102 Basic Electronics (4)
Prerequisite: ELEC 101. Introduces the diode and transistor semiconductor devices within the applications of rectification, amplification, and advanced waveform shaping. Emphasis on multimeters and oscilloscopes throughout the experimental and simulation experiments. Two class hours and two two-hour labs weekly.

ELEC 104 Electronics Drafting with CADD (3)
Studies the drafting principles and practices used in electrical and electronic design. Introduces students to the fundamentals of engineering drawings including the use of standards, orthographic projection, and dimensioning. Provides students with a basic understanding of computer aided drafting and design. Focuses on using CADD systems in the preparation of schematic diagrams, logic diagrams, connection diagrams, PLC diagrams, printed circuit board design, and electronic packaging design. Two class hours and three lab hours weekly.
Offered upon indication of need

ELEC 105 Introduction to Digital Computers (4)
Prerequisite or co-requisite: MATH 102 or equivalent. Concentrates on digital integrated circuits including logic gates, arithmetic circuits, flip-flops, latches, registers, and memories. Focuses on schematic analysis of a simple digital computer to complement the students' troubleshooting development and understanding of the application of digital circuits. Emphasis on logic pulsers and probes test equipment for the laboratory work, and logic analyzers for the computer simulation experiments. No prior electronics knowledge is necessary. Two class hours and two two-hour labs weekly.

ELEC 107 Fundamentals of Microcomputers (4)
Prerequisite: ELEC 105. Introduces the internal structure of microprocessors through assembly language programming exercises. Emphasizes roles of hardware and software within a microcomputer through interfacing experiments between the microprocessor and various peripheral devices. Compares the features between the 8-, 16- and 32-bit microprocessors on the market. Two class hours and two 2-hour labs weekly.

ELEC 201 Intermediate Electronics (4)
Prerequisite: ELEC 102. Focuses on oscillators, operational amplifiers, power amplifiers, Field Effect Transistors (FETs), 555-timers. Emphasizes use of multimeters and oscilloscopes for experimental and computer simulation troubleshooting exercises. Two class hours and two two-hour labs weekly.

ELEC 204 Industrial Electronics (4)
Prerequisite: ELEC 201. Focus on power control and instrumentation; emphasis on applying electronic concepts from ELEC 101, 102, 105, 201. Topics include schematics, ladder diagrams, varistors, thermistors, UJTs, DIACs, TRIACs, SCRs, hall effect sensors, photo transmitters and detectors, pressure sensors, proximity detectors, optoisolators, relays, solid state relays, timers, timing relays, solenoids, temperature sensing devices, motors. Two class hours, two two-hour labs weekly.

ELEC 207 Semiconductor Manufacturing Process Overview (3)
Recommended background or concurrent enrollment: CHEM 101. Overview of the fabrication and operation of integrated circuits and MicroElectroMechanical (MEM) devices. The course covers the process, materials, and equipment used in semiconductor manufacturing. Three class hours weekly.
Offered upon indication of need

ELEC 208 Radio Frequency Communication (4)
Prerequisite: ELEC 102. Focus on comparison of time-domain equipment (oscilloscopes, time-domain reflectometers) to frequency-domain equipment (spectrum and network analyzers). Applications of AM/FM modulation and impedance matching, characterization of microwave systems (introduces reflection coefficient, voltage standing wave ratio, insertion loss, S-parameters, Smith chart). Introduces soldering techniques, schematic interpretation, and, through computer simulations, operations behind spectrum and network analyzer test equipment. Three class hours, one two-hour lab weekly.

ELEC 209 Programmable Logic Controllers (3)
Prerequisite: ELEC 105. Focus on sequential programmable logic controllers applied to industrial processes: ladder diagrams, input/output devices, application programming design of beginning through advanced functions. Introduces a PLC simulation program to gain experience in configuring and troubleshooting software programs. Three class hours weekly.

Engineering

Courses are offered every academic year unless otherwise noted.

ENGR 103 Manufacturing Materials and Processes (3)
Introduces the materials and manufacturing processes with which designers, technicians and engineers must be familiar. Includes

introduction to safety, measurement, materials, metal cutting technology, and metallurgy, and introduction to standard material removal processes including drilling, milling, lathe work, surface finishing operations, and some advanced technologies. Three class hours weekly.

ENGR 126 Computer-Aided Design (4)
Develops basic drafting skills using microcomputer CAD systems. Provides the skills to develop detail drawings, including orthographic projection and application of standard dimensioning practices. Drawing assignments use CAD system operators to draw, modify, dimension and plot two-dimensional part drawings. Two class hours and four lab hours weekly.

ENGR 203 Applied Statics and Strength of Materials (4)
Prerequisite: MATH 104. Develops the procedures and methods necessary for studying the effects of forces on structural and mechanical systems, as well as the material strengths required to safely resist these forces. Studies friction, motion, forces and their effects, concepts of stress and strain, shear, and the reaction of materials to temperature, unusual environments, and mechanical loading. Four class hours weekly.

ENGR 207 Quality Assurance (3)
Presents the basic concepts and practical applications of quality assurance in manufacturing. Introduction to probability and statistics precedes study of statistical process control. Covers quality concepts and systems, as well as a variety of statistical techniques, including control charts for variables, control charts for attributes, pareto diagrams, and process capability studies. Two class hours and two lab hours weekly.

ENGR 208 Computer Numerical Control (4)
Prerequisite: ENGR 103, 228 and MATH 104. Prepares students with the necessary skills to program CNC machine tools. The industry standard EIA RS-274D "G and M Code" programming is used to produce a part on the CNC equipment. Lectures cover CAD/CAM applications, programming, sub-routines, tooling, work holding and cutting theory. The laboratory allows students to practice by programming and machining parts. Three class hours and two lab hours weekly.

ENGR 220 Construction Methods and Materials (4)
Prerequisite: ENGR 126 and DRFT 125. Introduces basic construction materials, their properties, manufacture and application to the building industry. Focuses on the proper design of various building elements—foundations, floors, walls and roofs—and the selection of suitable building materials and products. Three class hours and two lab hours weekly.
Offered upon indication of need

ENGR 221 Building Mechanical and Electrical Systems (4)
Prerequisites: ENGR 126 and DRFT 125. Familiarizes students with systems which must be engineered and safely integrated into a building: hot water heating, HVAC, water supply, sanitary and storm drainage, lighting, electrical supply, and occupant safety systems. In the laboratory, students design and lay out a heating, cooling, water supply, sanitary drainage, storm drainage, lighting and electrical system for an industrial building. Three class hours and two lab hours weekly.
Offered upon indication of need

ENGR 228 Computer Aided Drafting III - Solid Modeling (3)
Prerequisite: ENGR 126. Assumes basic knowledge of computer-aided drafting and design concepts and proficiency in using system menus to create 2- and 3-dimensional drawings. Covers 3D solid modeling sketching, profiling, constraining, dimensioning, viewing, editing, revolving, sweeping, lofting, and other advanced techniques, solid assembly modeling with advanced drawing creation, and annotation techniques. Techniques and assembly drawings are the main focus. Two class hours and two lab hours weekly.

English

Courses are offered every academic year unless otherwise noted.

ENGL 049 English Skills (No Credit)
Reinforces ENGL 098 with additional instruction and practice in lab settings with word processing. Instructors meet with students individually to identify skill needs and work on areas of deficiency. Students must register concurrently in a paired section of ENGL 098. Three class hours weekly.

ENGL 097 Fundamentals of Reading (No Credit)
Designed to assist students in developing reading skills so they are prepared to handle college-level reading materials. Students are presented with techniques in vocabulary development and comprehension skills as well as strategies for learning from college textbooks. Three class hours weekly.

ENGL 098 Fundamentals of Writing (No Credit)
Designed for the study and improvement of basic writing skills and techniques, focusing on grammar, the sentence, the paragraph and short essay. Three class hours weekly.

ENGL 101 Freshman English I (3)
Basic composition course includes reading expository prose and short stories, writing expository themes, and practicum research techniques. Three class hours weekly. *NOTE: Based on academic preparation and placement test results, ENGL 097 and/or ENGL 098 may be required before enrolling in ENGL 101.*

ENGL 102 Freshman English II (3)
Prerequisite: ENGL 101. Continuation of ENGL 101. Includes introduction to literature (novel, drama, poetry) and writing critical themes based on readings. Three class hours weekly.

ENGL 104 Advanced Expository Writing (3)
Prerequisite: ENGL 101. Designed to improve the ability to write effectively in expository and argumentative composition. Appropriate forms of discourse, methods of organization, support, style and logic. Three class hours weekly. NOTE: Course may be used as an English or Liberal Arts elective, but cannot be taken in lieu of required English courses.
Offered upon indication of need

ENGL 110 Writing Research in the Discipline (1)
Prerequisite: ENGL 101. Provides intensive instruction in the writing of research in specific disciplines: behavioral and social sciences, natural sciences, business, humanities, etc. Three class hours per week for five weeks. NOTE: Course cannot be taken in lieu of any required English course.

ENGL 150 College Reading and Study Skills (3)
Improves understanding of the learning process for more effective reading and studying. Presents theories, techniques and practice in reading comprehension, organization, vocabulary development, textbook analysis, library and research skills, study and listening habits. Three class hours weekly. NOTE: May not be taken in lieu of a required English course.

ENGL 165 Literary London (3)
Recommended background: ENGL 101-102. Literary London is an intensive, on-site course that examines London through the lens of selected samples of English Literature. In the manner of Chaucer, modern day literary pilgrims will travel to various London sites that they will explore through the poetry, fiction, nonfiction, and drama of various periods of British literature (medieval to contemporary). Tours, lectures, discussions, and walks will locate the literature students read in a specific place while the literary pieces will deepen students' understanding of the history, geography, and culture of the city.

ENGL 201-206
Depending upon curriculum, one or more of these courses must be taken to satisfy the English requirement in literature.

ENGL 201 World Literature I (3)
Prerequisite: ENGL 101-102. Surveys significant writings in world literature with focus on values, techniques and major movements in literature from ancient to early modern. Analyzes literary, cultural, historical and philosophical impact of the works on diverse images of human identity. Includes works and writers such as ancient Egyptian poetry, Hebrew Bible, Bhagavad-Gita, Qu'ran, Plato, Confucius, Ferdowski, Shikibu and the No Theater. Three class hours weekly.

ENGL 202 World Literature II (3)
Prerequisite: ENGL 101-102. Continues from ENGL 201 to focus on poetry, short stories, plays and short novels of major writers from modern to contemporary works. Analysis and evaluation of historical, literary and cultural values includes such writers as Tagore, Joyce, Tuquan, Basho, Senghor, Mahfouz, Neruda, Achebe and Soyinka. Three class hours weekly.

ENGL 203 American Literature to the Late 19th Century (3)
Prerequisite: ENGL 101-102. Surveys significant writing from the 17th, 18th and 19th centuries in American literature. Analysis includes the general movements of thought, literary techniques and themes revealed in the works of representative writers. Also may consider selected works of late 19th and turn-of-the-century writers. Three class hours weekly.

ENGL 204 American Literature Late 19th Century to Present (3)
Prerequisite: ENGL 101-102. Continuation of ENGL 203. Surveys American prose, poetry, and drama in the late 19th and 20th centuries. Analysis includes the general movements of thought, literary techniques and themes revealed in the works of representative writers. Three class hours weekly.

ENGL 205 English Literature to the 19th Century (3)
Prerequisite: ENGL 101-102. Surveys literature of England from Beowulf, tracing major contributions and movements. Historical, philosophical and aesthetic influences of significant writers, and development of poetry and drama as genres through Beowulf, Chaucer, Spenser, Shakespeare, Milton, Dryden, Pope, Swift and Johnson. Three class hours weekly.

ENGL 206 English Literature 19th Century to Present (3)
Prerequisite: ENGL 101-102. Survey of English literature analyzes development of poetry, drama and novel as genres. Presents significant philosophical, historical and aesthetic influences; emphasis on such figures as Wordsworth, Coleridge, Shelley, Byron, Keats, Browning, Tennyson, Arnold, Carlyle, Shaw, Conrad, Yeats and Eliot. Three class hours weekly.

ENGL 207 Shakespeare (3)
Prerequisite: ENGL 101-102. Studies Shakespeare's dramatic art through his treatment of character, theme, form, and structure. Readings include early and later tragedies, comedies, histories, and non-dramatic works. Includes focus on Shakespeare as a representative of Elizabethan England. Papers required on topics such as biographical materials, dramatic companies, theatres, sources, criticism. Three class hours weekly. NOTE: May be used as an English or Liberal Arts elective, but cannot be taken in lieu of required literature courses.
Alternate academic years

ENGL 209 Children's Literature (3)
Prerequisite: ENGL 101. Survey course covers traditional and contemporary children's literature. Fairy tales and other works emerging from oral tradition, picture books, poetry, juvenile novels, and non-fiction and informational books are all considered, for both general literary qualities and what they offer to children. Course develops critical perceptiveness. Three class hours weekly. NOTE: Required for Early Childhood students and for those planning a career in elementary education. May also be used as an English or Liberal Arts elective, but cannot be taken in lieu of required literature courses.

ENGL 211 Creative Writing (3)
Prerequisite: ENGL 101 and ENGL 102, or concurrent enrollment in ENGL 102, required. Develops the abilities of students interested in creative writing with an emphasis on the techniques used in writing modern short stories and poems. Practice is provided in preparing manuscripts for possible publication. Three class hours weekly. NOTE: May be used as an English or Liberal Arts elective, but cannot be taken in lieu of any required English course.

ENGL 217 Media Writing (3)
Prerequisite: ENGL 101. A basic course focusing on writing and preparing information for the mass media. Covers techniques for writing for print (newspaper and magazine), broadcast (radio and television), advertising, public relations and online media. Three class hours weekly. NOTE: May be used as an English or Liberal Arts elective, but cannot be taken in lieu of a required English course.

ENGL 221 Effective Speech: Public Address (3)
Prerequisite: ENGL 101. Designed to develop an ability to meet, with some ease and competence, demands for speaking by the educated person: concepts, physical behavior, vocal quality, preparation, organization; development and delivery of basic types of public speeches. Three class hours weekly. NOTE: Course is

required in certain curricula and may be used as an English or Liberal Arts elective, but cannot be taken in lieu of a required literature course.

ENGL 222 Effective Speech: Group Discussion (3)
Prerequisite: ENGL 101. The theories and principles of group communication. Designed to enable students to develop problem-solving, decision-making, conflict management, and leadership skills in group situations. Students participate in group projects to set goals, plan strategies, and present results. Three class hours weekly. NOTE: Course is required in certain curricula and may be used as an English or Liberal Arts elective, but cannot be taken in lieu of a required literature course.

ENGL 226 Contemporary American Novels (3)
Prerequisite: ENGL 101-102. Representative writers of post-World War II America, focusing on the ways that novels reflect contemporary society. Selected writers include Norman Mailer, Saul Bellow, Flannery O'Connor, Robert Penn Warren, John Updike, Eudora Welty, John O'Hara, Truman Capote, Philip Roth and others. Three class hours weekly. NOTE: May be used as an English or Liberal Arts elective, but cannot be taken in lieu of required literature courses.
Offered upon indication of need

ENGL 227 Poetry: Poems and Poets (3)
Prerequisite: ENGL 101-102. Detailed introduction to the poetry genre through reading, listening to, discussing, and writing about poems and poets. Not confined to any period or nationality; rather, considers a wide range of possibilities, styles and concerns of poetry. Special attention to the work of selected poets, both old and new, for a sense of individuality and variety of vision and language. Three class hours weekly. NOTE: May be taken as an English or Liberal Arts elective, but cannot be taken in lieu of any required English course.

ENGL 230 The Bible as Literature (3)
Prerequisite: ENGL 101. Literary survey of the Bible including epic literature, lyric poetry, epistolary literature, wisdom literature and prophetic literature. The course's intent is to present a non-theological approach to Bible study with emphasis on its literary merit as evidenced through the various types of literature previously listed. Three class hours weekly. NOTE: May be used as an English or Liberal Arts elective, but cannot be taken in lieu of required literature courses.
Alternate academic years

ENGL 231 Comics as Literature (3)
Prerequisite: ENGL 101-102. Analysis of the comic book in terms of its unique poetics (interplay of word and image); themes suggested in various works; history and development of the form and its subgenres, expectations of readers. Also explores the influence of history, culture, and economics on comic book artists and writers, definitions of "literature," how these apply to comic books, and the resulting tensions.

ENGL 234 Captivity, Punishment, and Torture (3)
Prerequisite: ENGL 101-102. Issues of captivity, punishment, and torture are addressed through the discipline of the Humanities. Exploring human constructs and concerns through memoir, biography, and fiction, includes experiences of captives; forms of punishment from corporal to incarceration to capital punishment; definitions of torture; impact on survivors, effectiveness in obtaining information, and making torture acceptable to the torturer and civil society.

ENGL 235 Women and Writing (3)
Recommended background: ENGL 101-102. Explores the relationship between women and writing and the challenge writing has posed for women. Focus is on writing by women; also considers how women have been represented by men. Features such 19th- and 20th-century writers as Charlotte Bronte, Mary Shelley, Edith Wharton, Emily Dickinson, Jane Austen, and Toni Morrison. Three class hours weekly.

ENGL 237 Film and Literature (3)
Prerequisite: ENGL 101-102. The relationships between film and literature, particularly novels adapted for the screen. Reading of selected novels and some plays, viewing film versions, discussion and analysis. Three class hours weekly. Note: May be used as an English or Liberal Arts elective, but cannot be taken in lieu of any required English course.

ENGL 238 Special Topics (1)
Recommended background: ENGL 101-102. Devoted to a theme or topic in literature of language or to the works of a major writer or select group of writers. NOTE: May be used as an English or Liberal Arts elective, but cannot be taken in lieu of required literature courses. Three class hours weekly for five weeks or equivalent.

ENGL 239 Special Topics (3)
Recommended background: ENGL 101-102. Devoted to a theme or topic in literature of language or to the works of a major writer or group of writers. NOTE: May be used as an English or Liberal Arts elective, but cannot be taken in lieu of required literature courses. Three class hours weekly.

ENGL 240 Mythology (3)
Prerequisite: ENGL 101.A survey of representative cosmogonies, major deities, and hero tales: Graeco-Roman, Teutonic, Middle Eastern, North and South American, and Asiatic. The course considers the descriptive tales and the polytheistic concepts of at least one representative culture from each major area. Three class hours weekly. NOTE: This course may be used as an English or Liberal Arts elective but cannot be taken in lieu of required literature courses.

ENGL 245 African-American Literary Traditions (3)
Recommended background: ENGL 101-102. Examines the content, form, and literary devices and techniques of selected African-American literature from slavery to contemporary; fosters an understanding of negative consequences of racial stereotyping. Three class hours weekly.
Offered upon indication of need

ENGL 247 Native American Myth, Legend, and Literature (3)
Introduces Native American creation myths and trickster tales. Follows the development of myth and legend into a distinctive Native American literary form, covering pertinent Native American culture and history. Three class hours weekly.

ENGL 250 Folklore (3)
Prerequisite: ENGL 101. Survey of American folklore through place names, mining camps and mines, cattle brands, quilt names, Ozark fiddle tunes, racehorses, hound dog names, nicknames. Considers children's folklore, street cries, legends, epitaphs, folk songs, ballads, superstitions; focus on the uniting qualities of American folklore. Three class hours weekly. Note: May be used as an English or Liberal Arts elective, but cannot be taken in lieu of a required literature course.
Alternate academic years

ENGL 255 Science Fiction and Fantasy (3)
Prerequisite: ENGL 101. Recommended background: ENGL 102. This introduction to the historical background of science fiction explores the relationship between science fiction and classical horror and fantasy literature, and suggests critical methodologies for reading and writing about such material. Students are asked to enjoy this literature, view it critically, and note how it reflects concerns not only for the future but also for its own cultural time period. Three class hours weekly.

ENGL 260 Professional Writing Practicum (3)
Prerequisite: ENGL 101. This course introduces students to several forms of professional writing, such as grant writing and publicity writing that call for higher level writing skills. Students then gain professional experience by working with actual clients and developing written material to accommodate their needs.

ENGL 270 Technical Writing (3)
Prerequisite: ENGL 101. Designed to help students understand the process of creating, shaping, and communicating technical information so that people can use it safely, effectively, and efficiently. Students will learn that technical documents are addressed to particular readers; technical documents help those readers solve problems, are part of an organizational context, are often created collaboratively, using design to increase readability, and involve graphics. Students will practice writing technical documents that are honest, clear, accurate, comprehensive, accessible, concise, professional in appearance, and correct. Such documents may include memos, email, and letters; instructions; definitions and descriptions; proposals and formal written reports; job application material including cover letters and resumes. NOTE: This course may be used as an English or Liberal Arts elective but cannot be taken in lieu of required English courses.

Entrepreneurial Studies

Courses are offered every academic year unless otherwise noted.

ENTR 200 The Entrepreneurial Process (3)
Covers the role of social and economic entrepreneurship and its impact on local, regional, national, and global cultures and economies. Students will evaluate the skills and commitment necessary to successfully operate an entrepreneurial venture, and will review the challenges and rewards of entrepreneurship as a career choice, as well as entrance strategies to achieve the goal. Students can explore areas and projects of interest individually and in teams. Three class hours weekly

ENTR 202 Innovation and Creativity (3)
This course is designed to have the student learn the value of innovation and creativity in achieving successful outcomes. They will investigate the relationship between entrepreneurial thinking and the creative mindset that leads to idea generation and new venture creation. The student will explore the factors that inspire and promote creativity in individuals and organizations. The student will develop skills and techniques for working in teams to find innovative solutions to existing and emerging challenges applicable to profit and non-profit entities. Four contact hours.

ENTR 204 Social Entrepreneurship & Non-Profit Management (3)
This course is designed to have the student learn the process of recognizing and pursuing opportunities to create social value. The student will learn to be more innovative, resourceful and results-oriented. They will learn to draw upon the best thinking in both the business and non-profit worlds to develop strategies that maximize their social impact. Effective administrative and management techniques and practices will also be explored as they apply to social enterprises. Three contact hours per week.

French

Courses are offered every academic year unless otherwise noted.

FREN 101–102, 103–104
Elementary and intermediate foreign languages begin in the fall as a year sequence. Students who need a full year should be aware of this. When in doubt about placement, seek advice from foreign language faculty or the Humanities Division chair.

FREN 101-102
Elementary French I-II (4 / Semester)
First-level comprehensive courses build a foundation in communication through necessary structures and vocabulary to function in everyday situations. The four skills (listening, speaking, reading, writing) are developed through class, labs, and assignments. Films, computer games, word processing, interactive videos and simple readings provide information on the French-speaking world and reinforce the curriculum. Recommended for beginning students to meet a foreign language requirement for degree or career. (Students who have had French through Regents level may not enroll in FREN 101-102.) Three class hours weekly/required lab. FREN 101 is the prerequisite for FREN 102.

FREN 103-104
Intermediate French I-II (3 / Semester)
Reviews and refines understanding of the structures of French, broadens the speaking and reading vocabulary and comprehension, and develops writing ability. Emphasis is on communication. Films, interactive videos, tapes, readings, word processing and computer programs are used as support materials. Recommended for students with a year of college French, high school Regents French, or two strong years of high school French. Three class hours weekly. FREN 103 is the prerequisite for FREN 104.

FREN 111-112
Conversational French I-II (3 / Semester)
Level I: no prerequisite. Level II presupposes basic knowledge of French. Elementary conversation course primarily for developing oral comprehension and expression. Includes reading, writing and structural considerations; evaluation is based largely on oral performance. Three class hours weekly.

Geographic Information Systems

Courses are offered every academic year unless otherwise noted.

GIS 101 Foundations of Geographic Information Science (3)
Fundamental concepts of spatial understanding and analysis for non-GIS majors. Introduces basic principles of GIS (Geographic Information Systems), RS (Remote Sensing), and GPS (Global Positioning System) and their applications in exploring and analyzing geospatial information. Students apply geographic information technologies to collect, manipulate, integrate, visualize, and analyze spatial data to generate information for solving complex problems. Hands-on lab training reinforces conceptual elements explained and discussed in lectures. Two lecture hours and two lab hours weekly.

GIS 110 Human Geography (3)
Human Geography is the study of the relationship between human and physical environments. The course examines the interrelationship between geography and culture and the nature of the impact of physical environment upon cultural development.

GIS 111 Introduction to GIS (3)
Introductory course presents basic GIS theories and concepts. Fundamentals explored include a brief introduction to basic cartographic principles, data types, map scales, coordinate systems and projections. Hands-on training includes manipulating, analyzing, and creating maps using an industry-standard GIS system. Two class hours, two lab hours weekly.
Fall semester only

GIS 121 Remote Sensing and Aerial Photogrammetry (3)
Overview of theory and principles of remote sensing and aerial photogrammetry. Students learn how to use remotely sensed images in resource exploration and base mapping. Introduces fundamentals of photogrammetry, basic image interpretation, and classification techniques. Two class hours, two lab hours weekly.
Spring semester only

GIS 122 Spatial Modeling with Raster GIS (3)
Recommended background: GIS 111. Part of a sequence of GIS courses; provides hands-on training in modeling and analysis of spatial data using a raster GIS. Offers an in-depth understanding of raster GIS capabilities and helps students apply GIS technologies more effectively in spatial analysis and modeling. Two class hours, two lab hours weekly.
Spring semester only

GIS 205 Introduction to Vector GIS (3)
Recommended background: GIS 101 or GIS 111. Introduction to vector GIS, particularly ArcGIS. Functional and analytical capabilities of ArcGIS are introduced. Building on GIS 111 fundamentals, students learn data query, manipulation, integration, and analysis techniques in the vector domain. Two class hours, two lab hours weekly.
Fall semester only

GIS 220 Advanced GIS (3)
Prerequisite: GIS 205. Upper-level GIS course focuses on advanced topics including planning, management, raster-vector integration, and data quality issues. Students learn how to do customization, spatial modeling, advanced editing and database query in an ArcGIS environment. Combines components of geographic information technologies from previous semesters. Two class hours, two lab hours weekly.
Spring semester only

GIS 222 GIS Programming (3)
Recommended background: CS 200 and GIS 205. Introduces basic structure and capabilities of object-oriented programming in a GIS environment. Students learn how to automate GIS operations and customize user interface using programming language available in ArcGIS. Three class hours weekly.
Spring semester only

GIS 251 Special Topics (1)
Brief overview of geographic information technologies (GIT). Basic theories and principles of a particular aspect of GIT are discussed. Students gain hands-on experience in collecting, editing, and manipulating spatial or geographic data for viewing and analysis. Ten class hours, ten lab hours.
Offered upon indication of need

GIS 252 Special Topics (2)
Introduction to geographic information technologies (GIT). Basic theories and applications of GIS and GPS are discussed and students gain hands-on training in collecting, editing, manipulating, processing, and analyzing spatial or geographic data for various applications. Ten class hours, ten lab hours weekly for two weeks or in any other combination.
Offered upon indication of need

GIS 253 Special Topics (3)
Extensive experience in applying geographic information technologies (GIT) includes basic theories and applications with hands-on training in collecting, editing, manipulating, processing, and integrating spatial or geographic data from diverse sources for analysis and modeling. Ten class hours, ten lab hours weekly for three weeks or any other combination.
Offered upon indication of need

GIS 275 Internship in GIS (3)
Prerequisite: GIS 111 or 101 and GIS 121 or equivalent experience. Individual study and field experience applying GIS technology in a work place setting. Requires a minimum of six hours weekly at an internship site and a biweekly class meeting for a progress report. Requires a summary presentation and a journal of on-site activities.
Offered upon indication of need.

Geography

Courses are offered every academic year unless otherwise noted.

GEOG 051 The Middle East (1)
Seeks to explain the conflict between the Arab world and Israel. Examines the conflict's causes and the Palestinian refugee question. Also covers geographic significance of the region and oil politics. Three class hours weekly for five weeks.
Offered upon indication of need

GEOG 101 World Geography (3)
Introduction to modern geography examines selected social, economic, political and military aspects of Europe, the former

Soviet Union, the Middle East and, if time permits, Asia or Latin America. Three class hours weekly.

GEOG 105 The United States (3)
Study of U.S. regions including Alaska. Discusses current trends in population growth, migration, urbanization and resource use. Three class hours weekly.
Alternate academic years

GIS 110 Human Geography (3)
See the course description under Geographical Information Systems.

Geology

Courses are offered every academic year unless otherwise noted.

GEOL 101 Earth Science (3)
Introduces selected topics in geology, meteorology and astronomy with emphasis on current environmental issues as related to these fields. An entry-level course in earth science. Two class hours and one two-hour lab weekly.

GEOL 110 Physical Geology (4)
Recommended background: GEOL 101 or high school earth science. General survey course in the basic principles of physical geology with in-depth coverage of selected topics such as streams, glaciers, ground water, weathering, soils, mass wasting, structural deformation, earthquakes and volcanoes. Laboratory exercises focus on rock and mineral identification, topographic and aerial map interpretation. Six field trips and a field project are designed to emphasize local geology. Three class hours and one three-hour lab or field trip weekly.

GEOL 111 Historical Geology (4)
Recommended background: GEOL 101 or high school earth science. General survey of the basic principles of historical geology, focusing on the sequence of events and geologic forces influencing the formation of the earth and the evolution of life forms. Topics include plate tectonics, sedimentation, stratigraphy, evolution, and paleontology. Laboratory exercises and field trips focus on regional and local strata, stratigraphy, geologic maps, fossil identification and collection. Three class hours and one three-hour lab or field trip weekly.

Health

Courses are offered every academic year unless otherwise noted.

HLTH 101 Alcoholism and Its Effects (1)
Lecture/discussion course presents a brief history of the use and abuse of alcohol in society, the effects of alcohol on the body, family, and career. Societal effects of alcohol use as well as treatment and control of alcoholism are discussed with respect to current trends.

HLTH 102 Drugs, Alcohol and Tobacco (1)
Provides information on the types of substances that lend themselves to abuse through habituation, tolerance or addiction. Discusses effects and consequences of drugs, alcohol and tobacco on physiological and behavioral aspects of one's life. Also includes the problems of drug use from over-the-counter remedies to illegal trafficking.

HLTH 103 Health (1)
A survey of topics including units in fitness, nutrition, drug, alcohol and tobacco education and responsible sexuality. Intended to inform students of health risks and behavior modifications that will achieve optimum wellness in all dimensions of their lives.

HLTH 104 Personal Health (3)
In-depth course in maintaining lifelong good health examines emotional health, drug education, family health, personal fitness, disease, consumer, and environmental health. Three class hours weekly.

HLTH 105 Wellness and Weight Management (1)
Techniques for assessing physical fitness and body composition. Develop an individualized program to attain and maintain a healthy weight, and improve fitness by applying principles of physical fitness and weight management.

History

Courses are offered every academic year unless otherwise noted.

HIST 101 Western Civilization I (3)
Topical approach to Western civilization addresses political, social, intellectual and economic issues; extends beyond past politics and chronologies to increase understanding of the historical record. Course focuses on European cultures from classical antiquity to 17th century; may extend further for in-depth historical treatment. Topics serve as case studies from which to evaluate the present. Three class hours weekly.

HIST 102 Western Civilization II (3)
Surveys major developments in European history from the 17th century to the present. Some topics may extend further for in-depth perspective. Focuses on the behavior of the many as well as the notable few. Topics serve as case studies from which to evaluate the present. Non-European peoples are of concern only as they and their histories impinge on the development of European culture. Three class hours weekly.

HIST 111 World Civilizations I (3)
Survey of cultural interactions between civilizations; inquiry into ideas, events, and people as forces for contact, change, and continuity in human issues. Exploring China, India, Africa, the Middle East, and the Americas, ideas may include imperialist expansion, industrial transformation, revolts, , wars, historiography of the other, slavery and race, religion and society, economy and ecology, decolonization, nationalism, globalism. Emphasizes relationships of events and global interaction of movements and ideas. Three class hours weekly.
Alternate academic years

HIST 112 World Civilizations II (3)
Builds on HIST 111 to explore different issues but common challenges in the past. Changes over time, experienced differently in various regions, result in a global network. How people adapt and evolve provides a basis for comparing times, places, communities, and experiences. Focus is 18th century to present; topics may extend further. Three class hours weekly.
Alternate academic years

HIST 115 Leaders of the 20th Century (3)
Examines the challenge to democratic nations and the international status quo by totalitarian regimes from 1919 to 1939. Explores the development of nationalistic rivalries prior to 1919, the crisis provoked by totalitarian states, and the societies of totalitarian states. Examines the influence of personalities such as Hitler, Mussolini, Stalin, Roosevelt and Churchill upon historical developments. Three class hours weekly.
Alternate academic years

HIST 120 World War II (3)
Examines political relationships and military conflicts among nations from 1939 to 1945. Includes development of nationalistic rivalries preceding 1939 in introductory material, and the course concludes with a description of the establishment of the postwar system of international alliances. Three class hours weekly.
Alternate academic years

HIST 155 Modern Africa (3)
Surveys African history from ancient to present time. Focuses on Africa in the modern world with emphasis on interaction with Europe and America since 1500. Also covers nationalism and nation building since 1940. Three class hours weekly.
Offered upon indication of need

HIST 199 Blacks in America (3)
Overview of African backgrounds including the movement of African cultures to the Americas. Studies the history of blacks in America, black-white relationships and the current position of blacks in American society. Three class hours weekly.
Offered upon indication of need

HIST 201 History of the United States I (3)
Survey of the growth and development of the U.S. from colonial times to 1865, focusing on the formation of the federal government, Jeffersonian and Jacksonian democracy, westward expansion and the Civil War. Three class hours weekly.

HIST 202 History of the United States II (3)
Surveys the growth and development of the U.S. from 1865 to the present with emphasis on economic growth after 1880 and emergence as a world power during World War I. Also: the Great Depression, U.S. role in World War II, the Cold War and America's role in today's world. Three class hours weekly.

HIST 210 American Military History (3)
Traces the development of American military thought as well as evolution of military technology and weaponry, focusing on wars fought from the Revolution to the Vietnam conflict. Discussion of the current status of military technology and the future of warfare. Three class hours weekly.
Offered upon indication of need

HIST 222 The History of New York State (3)
Prerequisite: readiness for or completion of ENGL 101 or instructor's permission. Recommended background: HIST 201 or 202. A survey of the history of New York from pre-colonial times to the present. Topics include the Native New Yorkers (pre-colonial, colonial, and New York State), Colonial New Netherlands and New York, New York in the French and Indian War and the American Revolution, the Erie Canal, New York's reforms (abolition, women's rights, religious, etc.), New York in the Civil War, immigration and migration, and the emergence of New York State in the modern world. Three hours of class per week.

HIST 224 Women in American History (3)
Prerequisite: readiness for or completion of ENGL 101 or instructor's permission. Recommended background: HIST 201 or 202. A study of the historical experience of women in America from the colonial period through modern times. Topics include the examination of women and work, education, legal and political status, religious movements, and social organizations, with attention to issues of age, class, race, power, sexuality, and regionalization as significant variables in women's experience.

HIST 226 Civil War and Reconstruction (3)
Prerequisite: Readiness for or completion of ENGL 101 or instructor's permission. Recommended background: HIST 201. This course covers the social, economic, and political causes of the Civil War, an in-depth view of its military execution, a geographic study of the war, some of the political and military figures involved, and the Reconstruction of the parts of the United States affected by the war following its conclusion. In order to enhance the students' ability to reason historically, the course will include a variety of political and cultural perspectives and a substantial amount of readings from primary historical resources.

HIST 239 Selected Topics (3)
This course is devoted to a particular historical event or personage, a particular theme or related themes in history, or the history of a particular area of the world. Note: This course may be used as a social sciences or liberal arts elective, but cannot be taken in lieu of a history requirement without permission of the division chair. Three class hours weekly.

Honors

Courses are offered every academic year unless otherwise noted.

HON 201-202 Honors Seminar (3 / semester)
Discussion-oriented class gives students the opportunity to think across disciplinary lines and engage in discussion and writing about significant questions in the field of expertise of the instructor. Since the seminar is defined by method and structure rather than by content, actual content can vary. The course is an opportunity for close faculty/student mentoring. Open to sophomore Honors Study students; others with instructor's permission. Three class hours weekly.

Humanities

HE 239 Special Topics in the Disciplines (3)
Presents a topic or theme developed by faculty in different disciplines. Students approach the topic using various tools, methods, and skills from more than one disciplinary perspective. Course fosters appreciation of varying and often differing approaches to the same issue. Students enlarge their own perspectives; learn to think in more creative, original, and unconventional ways; practice synthesizing and integrating widely varying materials; and become more sensitive to disciplinary, political, and other biases. Prerequisites to be determined by individual instructors and divisions.
Offered upon indication of need

Interdisciplinary Studies

INT 239 Interdisciplinary Study in Native American Culture and Education (3)
This interdisciplinary study course includes a series of seminars and discussions and culminates in a week-long, on-site service learning experience in a school serving Native American children. Students will explore past and present perspectives of Native American culture to facilitate intercultural understanding. Service learning opportunities include, but are not limited to, in-class tutoring of children (pre-K through 12th grade), implementation of a week-long art program, and special programming for the library, computer lab, reading rooms, and physical education classes. Opportunities may exist for other special projects based on student interest and instructor approval. May be used as a Liberal Arts or free elective, or to satisfy Honors study requirements.
Intersession only

Italian

Courses are offered every academic year unless otherwise noted.

ITAL 111–112 Italian Conversation Level I-II (3 / semester)
For students who wish to learn, speak and understand Italian, but who are not primarily interested in reading or writing the language. Emphasis on correct pronunciation, idiomatic expressions, basic vocabulary and minimal grammar and structure necessary for speaking. Three class hours weekly.
Offered upon indication of need

ITAL 165 Italian Language, Art and Culture (3)
Two-week study/travel course in Italy. Offers a unique opportunity to explore Italian life and culture, past and present. Lectures in English on various aspects of Italian culture, art-walks covering Roman, Medieval, Renaissance, Baroque art and architecture, visits to noted museums and churches, and Italian conversation meetings. Cities visited are Rome, Florence, Venice, Assisi, Pompei, Amalfi Coast and Sorrento. No knowledge of Italian is required.
Offered upon indication of need

Library

Courses are offered every academic year unless otherwise noted.

LIB 102 Information Research Skills (1)
Recommended for all students, a hands-on foundation for information literacy and research skills, using traditional library resources and computer applications. Topics include understanding the research process; accessing sources through the online catalog, electronic databases, and the World Wide Web; evaluating sources; using information ethically and legally to fill an information need. Especially appropriate for students beginning college studies; also useful for students who want to be more successful in research projects for other college courses. Class meets twice a week for five weeks.
Every academic year

Mathematics

Courses are offered every academic year unless otherwise noted.

MATH 070 Basic Algebra (No Credit)
See Math Flowchart, page 114. Provides the basic mathematical skills necessary to enter MATH 099. Topics include operations of whole numbers and signed numbers, fractions and decimals, as well as ratio, proportions, and percents. Introduces equations, geometric applications, the laws of exponents, operations with polynomials, and basic factoring. Three class hours weekly.

MATH 099 Elementary Algebra (No Credit)
See Math Flowchart, page 114. Topics include the algebra of whole numbers, integers, and rational numbers; binary operations involving polynomials; introduction of the laws of exponents; equation-solving techniques for first-degree equations; solving simultaneous linear equations by graphing, substitution and addition methods; word problems. Assistance is available in the Academic Support Center. No previous knowledge of algebra is assumed. Three class hours weekly.

MATH 101 Elementary Mathematics with Computer Applications (3)
Prerequisite: MATH 099 or equivalent. Set operations, logic, probability, elementary statistics, mathematical systems, systems of numeration, the structure of number systems, and an introduction to geometry. Introduction to computers with elementary programming is studied and applied to some of the listed topics. Use of microcomputers, available in the Academic Support Center and Microcomputer Lab, is an integral part of the course. Three class hours weekly.
Offered upon indication of need

MATH 102 Intermediate Algebra (3)
Prerequisite: MATH 099 or pass placement test for MATH 099. Assumes knowledge of elementary algebra. Reviews basic algebraic concepts, then progresses to rational exponents; solution of linear, rational, quadratic and radical equations; introduction of the function concept; factoring polynomials, synthetic division, and the algebra of radicals. Includes applications with word problems. Assistance is available in the Academic Support Center. Three class hours weekly.

MATH 104 College Algebra and Trigonometry (3)
Prerequisite: MATH 102 or equivalent. (See Math Flowchart, page 114.) Continuation of MATH 102 introduces the basics of trigonometry and reviews basic properties of the complex number system. The concept of function is applied to algebraic, rational, exponential, logarithmic and trigonometric functions. Emphasis on applications of trigonometry to right and oblique triangles and vectors. Assistance available at Academic Support Center. A scientific calculator is required. Three class hours weekly.

MATH 106 Pre-Calculus (3)
Prerequisite: MATH 104 or equivalent. (See Math Flowchart, page 114.) Completes the study of algebraic and trigonometric skills necessary for successful study of calculus. Trigonometric functions and identities are applied to analytic geometry. Systems of equations and inequalities are solved using algebraic, graphical and matrix/determinant methods. Theory of equations including remainder, factor and De Moivre's theorem are used to study and help in graphing of equations. Introduces series and sequences

(arithmetic and geometric), the binomial theorem, and mathematical induction. Assistance is available in the Academic Support Center. A scientific calculator is required. Three class hours weekly.

MATH 108 Calculus I (4)
Prerequisite: MATH 106 or equivalent. (See Math Flowchart, page 114.) Studies functions; properties of limits and continuity; derivatives with applications to related rates, maximum/minimum and curve sketching; the chain rule; differentials; the mean value theorem; Newton's Method; integration with applications to plane areas, volumes of solids of revolution by disk, shell, and cross sections. Differentiation and integration of exponential and logarithmic functions are applied to growth and decay. Four class hours weekly.

MATH 112 Contemporary Mathematics (3)
Prerequisite: MATH 099 or equivalent. (See Math Flowchart, page 114.) Prepares students for an understanding of arithmetic, algebra, geometry, data analysis, and quantitative reasoning. Students will show competence in these skill areas with additional support using the computer software including the resources available on the internet. Three class hours weekly.

MATH 114 Applied Mathematics for Technologists (3)
Prerequisite: MATH 102 or pass placement test for MATH 104. Intended for Mechanical Technology and Electrical Technology students, but open to any student. With emphasis on applications, focuses on various topics of algebra and trigonometry including mathematics misconceptions, linear/quadratic equations and functions, common and natural logarithms, properties of logarithms, trigonometric functions, right angle trigonometry, and the law of sines and cosines. Applications include calculator limitations, proportions, unit analysis, projectile motion, frequency response of electrical systems, vector and component analysis, and coordinate analysis of complex shapes. Assistance is available in the Academic Support Center. A scientific calculator is required. Three class hours weekly.

MATH 115 Concepts of Elementary Mathematics I (3)
Prerequisite: MATH 099 or pass placement test for MATH 099. An experiential investigation of mathematical concepts currently taught in elementary school such as problem solving, sets and relations, numeration systems, whole numbers, integers, rational numbers, real numbers, and number theory. Students gain a comprehensive understanding of the curriculum recommended by the National Council of Teachers of Mathematics (NCTM) Standards and learn various ways to communicate comprehension to the elementary student.

MATH 116 Concepts of Elementary Mathematics II (3)
Prerequisite: MATH 099 or pass placement test for MATH 099. An experiential investigation of mathematical concepts currently taught in elementary school, such as probability, statistics, geometry, and the metric system. Students develop a comprehensive understanding of the curriculum recommended by the National Council of Teachers of Mathematics (NCTM) Standards, and learn various ways to communicate their comprehension to the elementary student.

MATH 201 Calculus II (4)
Prerequisite: MATH 108 or equivalent. (See Math Flowchart, page 114.) Continuation of Calculus I. Topics include applications of integration in arc length and surface area, work, fluid pressure and fluid force, moments and centroids, integration techniques, L'Hopital's Rule and improper integrals. Also covers sequences, infinite series, Taylor Series, interval of convergence, conic sections, parametric equations, polar equations and their graphs. Four class hours weekly.

MATH 202 Calculus III (4)
Prerequisite: MATH 201 or equivalent. (See Math Flowchart, page 114.) Multivariable calculus including vectors in planes and space; lines, planes and surfaces in space; rectangular, cylindrical and spherical coordinates; vector-valued functions, motion, arc length and curvature; functions of several variables, partial derivatives, chain rules, directional derivatives and gradients, tangent planes; Lagrange multipliers. Also multiple integration applied to volume center of mass and surface area; vector analysis including vector fields, line integrals, Green's Theorem, parametric surfaces, surface integrals, divergence, curl and Stokes' Theorem. Four class hours weekly.

MATH 203 Linear Algebra (3)
Prerequisite: MATH 108 or equivalent. (See Math Flowchart, page 114.) Introduces linear algebra with emphasis on interpretation and the development of computational techniques. Topics include systems of equations; matrices are utilized for the interpretation of vector spaces, subspaces, independence bases, dimension, inner product, outerproduct, orthogonal and orthonormal sets. Also the transformation of matrices, matrix operations, inverses, conditions for invertibility, determinants and their properties. The characteristics equation and its eigenvalue are used for problem solving and the development of linear transformations. Three class hours weekly.

MATH 204 Differential Equations and Series (4)
Prerequisite: MATH 201. (See Math Flowchart, page 114.) Techniques for solving differential equations of first and higher order; focus on linear differential equations. Methods include separation of variables, undetermined coefficients, variation of parameters, D-operators, Laplace transforms and infinite series. Applications include formulation, solution and interpretation of initial and boundary value problems in physics, electricity and engineering. Four class hours weekly.

MATH 210 Math / Data Structures (3)
Prerequisite: C.S. 222. Introduces the student to most commonly used data structures and their implementation. Algorithms and operations show the use of major data structures in computer science. Includes stacks, symbol tables, queues, sets, search trees, strings and graphs. Study provides a basis for developing new algorithms. Three class hours weekly.

MATH 212 Discrete Mathematics (3)
Prerequisite: MATH 106 or equivalent. Introduction includes propositional and predicate logic, sets, functions, matrix algebra, number theory, algorithms, valid arguments, direct and indirect proofs, proof by contradiction, mathematical induction, permutations, combinations and other counting techniques, and discrete probability.

MATH 214 Statistics (3)
Prerequisite: MATH 104 or equivalent. Topics range from data collection, descriptive statistics and linear regression models to inferential statistics. Includes probability, counting principles, and

binomial probability distribution. Normal probability distribution and student's t-distribution are discussed in single and two-populations applications. Statistical inference (confidence intervals and hypothesis testing) in sociology, psychology, and business/industry are stressed. Additional topics may include Chi-square goodness of fit test, tests for independence, and testing the significance of the linear regression model. Three class hours weekly.

Music

Courses are offered every academic year unless otherwise noted.

MUSI 100 College Chorus (1)
Open to all students. Provides an opportunity for students to enjoy and develop their singing voices. Activities include concerts for the College and community. Three lab hours weekly. May be repeated for a maximum of four credit hours.

MUSI 101 Music Appreciation (3)
Studies the art of music listening including the basic elements of music, a variety of musical styles and performing media. Recordings and audio visual materials are supplemented with live music. Three class hours weekly.

MUSI 102 Jazz (3)
History and appreciation of jazz for all musical experience levels. Includes discrimination between jazz and related styles; other listening skills include analysis of aspects of form, rhythm, harmony and melody. Three class hours weekly.

MUSI 104 Music Essentials (3)
Presents music fundamentals to students and prospective teachers in pre-K, elementary, special, or physical education programs. Study at the piano keyboard introduces students to reading and writing music notation. Three class hours weekly.

MUSI 105 Music Theory (3)
Prerequisite: MUSI 101. This course is designed for all students interested in the study of music theory concepts. Students will develop skills in music theory and analysis, music composition, arranging and aural cognition. Three class hours weekly.

MUSI 111 Rock (3)
History and appreciation of rock music for students of all musical experience levels. Topics include rock artists, form, rhythm, harmony and melody; also discriminating between rock and related styles. Three class hours weekly.

MUSI 112 Music in Performance (3)
Two-week course in music appreciation through live performances utilizes a trip to New York City. Detailed study and analysis of works precedes concert attendance. Concerts may include a Broadway musical, choral music, an opera or ballet, the symphony and/or a jazz performance.
Offered upon indication of need

MUSI 115 Jazz Ensemble (3)
Course explores the repertoire for the jazz ensemble which includes: swing, bebop, hard bop, cool, avant-garde, and fusion jazz styles. The jazz ensemble is for any level of improviser, however an audition is required for placement.

MUSI 121 World Music (3)
Introduction to World Music will explore the musical traditions of selective African, Asian, Caribbean, Eastern European and Latin American cultures. Three class hours weekly.

MUSI 152 Class Voice (2)
Designed for students of any singing ability who desire to improve their singing voice. Students learn how to produce a good singing tone and sing effectively. Three lab hours weekly.

MUSI 154 Piano I (3)
For beginning piano players. Students proceed at their individual pace learning basic theoretical concepts as applied to the keyboard. Students learn how to play piano melodies and perform written works. Correct piano technique is taught as well as proper phrasing and expressiveness in playing. Three class hours and one lab hour weekly.

MUSI 156 Piano II (3)
Recommended background: MUSI 104, 154, private piano study or equivalent. Students move at an individual pace and build on previous playing skills. Solutions for technical problems are given. Three class hours and one lab hour weekly.
Offered upon indication of need

MUSI 158 Guitar (3)
Students of any playing level may enroll in this guitar course. Beginning students learn at their own pace to read music, chord notation, and to play chords, scales and fingering. Three class hours and one lab hour weekly.

MUSI 170 Music Preparation for Audio Professionals (3)
Prerequisite: TELC 104. Addresses the musical needs of both aspiring audio professionals and general students. Students have the opportunity to become comfortable with musical as well as technical language. Three class hours weekly.

MUSI 200 Applied Music Lessons (2)
Prerequisite: Department audition required. This course enables students to study privately with an instructor with the same instrumental or vocal specialization, depending on availability of faculty.

MUSI 205 Music Composition (3)
Prerequisites: MUSI 105, MUSI 154. In this course, intermediate concepts and materials of music composition are covered. The student will have assigned projects in motive and phrase development, periodic construction, phrase shape, and part writing. The student will complete short pieces for keyboard and small instrumental/vocal combinations.

MUSI 210 Special Topics in Music (3)
Course is devoted to a specific topic or area of expertise in music. Students will have an opportunity to experience an area of music study not fully covered in other courses.

Nursing

Courses are offered every academic year unless otherwise noted.

NURS 100 Nursing Success Strategies (1)
Concurrent enrollment: NURS 101. Provides matriculated nursing students with skills to develop and implement a successful plan of study in the nursing curriculum. Emphasis is placed on awareness of learning style, goal setting, time management, student nurse stress management, critical thinking skills, study techniques, NCLEX (National Council Licensure Exam) test-taking techniques and use of college academic resources. This course focuses on the application of practical strategies to enhance the student's ability to survive and thrive within the academic rigors of a nursing program. One class hour weekly for fifteen weeks.

NURS 101 Fundamentals of Patient Care (8)
Concurrent enrollment in or completion of BIOL 203. Adult, child, and infant CPR certification required prior to clinical. This course provides the foundation upon which all nursing courses are built. The student will learn the fundamental principles of interpersonal, technical and cognitive skills related to individualized client care of an adult's basic human needs. Learning activities are planned to develop the student's ability to think critically, to reason and form judgments, and to assess, analyze and resolve client-centered problems. The roles of the nurse as provider of care, manager of care and member of the profession are introduced. Clinical experiences are correlated with theory by selection of clients in subacute and long term care settings. The student is expected to demonstrate competency of selected nursing skills in the Nursing Lab. Four class hours and twelve clinical laboratory hours weekly.

NURS 102 Nursing in Physical / Mental Health I (8)
Prerequisite: NURS 101 and BIOL 203. Concurrent enrollment in or completion of BIOL 204, NURS 212. Adult, child and infant CPR certification. This course builds upon the skills, abilities and knowledge developed in Nursing 101. The student will learn interpersonal, technical and cognitive skills related to individualized nursing care of adults with common medical-surgical disorders. Learning activities are planned to develop the student's ability to think critically, to reason and form judgments, and to assess, analyze and resolve client-centered problems. The roles of nurse as provider of care, manager of care and member of the profession are further developed. Clinical experiences are correlated with theory by selection of clients in acute care settings. The student is expected to demonstrate competency of selected nursing skills in the Nursing Lab. Four class hours and twelve clinical laboratory hours weekly.

NURS 165 Health Care in Great Britain: Historical, Contemporary, and Future Perspectives (3)
This international study-travel course is offered to health care providers, administrators, and others with an interest in exploring health care issues in Great Britain. The intent is to enrich and broaden the historic and cultural insights of the health care provider through immersion in and study of an international health care system. Participants will meet and exchange ideas with their British peers and compare and contrast variations in past, current, and future trends between the National Health Service and United States health care system. This course will consist of an intensive two week series of tours, lectures, and discussions including well-known London sites associated with past health care issues. Historic and cultural influences will be explored during visits to the Roman baths at Bath, the original Old St. Thomas' Operating Theatre, Stonehenge, the Wellcome Collection, the Nurse's Chapel at Westminster Abbey, the Florence Nightingale Museum, the Gordon Museum, and other sites of interest.
Intersession only.

NURS 203 Trends in Nursing (1)
Concurring Requisite: NURS 216, NURS 217. This course provides students with an overview of contemporary issues and trends and their impact on the nursing profession. The role of the associate degree nurse and the transition from student to member of the profession will be explored. Focuses on the core components within the roles of nurse as manager of care and member within the discipline of nursing. One class hour weekly for fifteen weeks.

NURS 207 Pharmacology (3)
This course provides essential information to promote the knowledge and skills of safe drug therapy. Basic pharmacologic concepts and application of the nursing process in drug therapy establish the framework of this course. The content is organized into topics by therapeutic drug classifications and their effects on particular body systems. The focus on rationales for nursing actions provides a strong knowledge base and scientific foundation for safe and effective drug therapy in clinical nursing practice. Three class hours weekly for fifteen weeks.

NURS 211 Health Assessment (3)
Prerequisite: NURS 101. This course provides the knowledge and skills necessary to collect a comprehensive health history and perform a physical assessment of the integumentary, respiratory, cardiovascular, gastrointestinal, neurological, musculoskeletal, lymphatic, and reproductive systems, and the eyes, ears, nose, throat, head and neck regions. Holistic client assessment is emphasized with nutritional and cultural nursing considerations. The lab component will provide practice and evaluation to ensure basic level competency. Two class hours and two lab hours weekly. Offered upon indication of need.

NURS 212 Health Assessment I (1.5)
Prerequisite: NURS 101. This course provides the knowledge and skills necessary to collect a comprehensive health history and perform a physical assessment of the integumentary, respiratory, cardiovascular and gastrointestinal systems. Holistic client assessment is emphasized with nutritional and cultural nursing considerations. Students will independently practice assessment skills and provide documentation for each body system. One and one-half class hours weekly or ninety minute class weekly.

NURS 213 Health Assessment II (1.5)
Prerequisites: NURS 102, NURS 212. This course will build upon knowledge and skills acquired in Health Assessment I. Comprehensive health history and physical assessment techniques of the neurological, musculoskeletal, lymphatic, reproductive, eyes, ears, nose, throat, head and neck regions and systems will be provided. Holistic client assessment is continued. Students will independently practice assessment skills and provide documentation for each body system. One and one-half class hours weekly or ninety minute class weekly.

NURS 214 Family / Community Nursing I (4)
Prerequisites: NURS 101, NURS 102, BIOL 203, BIOL 204. Adult, child and infant CPR certification. This course builds upon the skills, abilities and knowledge developed in Nursing 101 and Nursing 102. The student will learn interpersonal, technical, and cognitive skills related to individualized nursing care of gynecological clients and children from birth through adolescence, and clients in the community. Learning activities are planned to develop the student's ability to think critically, to reason and form judgments, to assess, analyze and resolve client-centered problems. The roles of nurse as provider of care, manager of care and member of the profession are further developed with increased complexity of client's needs. Clinical experiences are correlated with theory by selection of clients in acute care settings and home care. The student is expected to demonstrate competency of selected nursing skills in the Nursing Lab. Four class hours and twelve clinical laboratory hours weekly for seven weeks.

NURS 215 Nursing in Physical / Mental Health II (4)
Prerequisites: NURS 101, NURS 102, BIOL 203, BIOL 204. Adult, child and infant CPR certification. This course builds upon the skills, abilities, and knowledge developed in Nursing 101 and Nursing 102. The student will learn interpersonal, technical, and cognitive skills related to individualized nursing care of adults with common medical-surgical and mental health disorders. Learning activities are planned to develop the student's ability to think critically, to reason and form judgments, and to assess, analyze and resolve client-centered problems. The roles of nurse as provider of care, manager of care and member of the profession are further developed with increased complexity of client's needs. Clinical experiences are correlated with theory by selection of clients in acute care and mental health settings. The student is expected to demonstrate competency of selected nursing skills in the Nursing Lab. Four class hours and twelve clinical laboratory hours for seven weeks.

NURS 216 Family / Community Nursing II (4)
Prerequisites: NURS 101, NURS 102, NURS 214, NURS 215, BIOL 203, BIOL 204. Adult, child and infant CPR certification. This course builds upon the skills, abilities, and knowledge developed in Nursing 101, Nursing 102, Nursing 214 and Nursing 215. The student will learn interpersonal, technical, and cognitive skills related to individualized nursing care of mothers and infants through the maternity cycle, children with complex medical/surgical needs, and high risk antepartum and postpartum clients in the community. Learning activities are planned to develop the student's ability to think critically, to reason and form judgments, and to assess, analyze and resolve client-centered problems. The roles of nurse as provider of care, manager of care and member of the profession are further developed with increased autonomy and an emphasis on the development of leadership skills. Clinical experiences are correlated with theory by selection of clients in acute care settings, home care and varied community agencies. The student is expected to demonstrate competency of selected nursing skills in the Nursing Lab. Four class hours and twelve clinical laboratory hours weekly for seven weeks.

NURS 217 Nursing in Physical / Mental Health III (4)
Prerequisites: NURS 101, NURS 102, NURS 214, NURS 215, BIOL 203, BIOL 204. Adult, child and infant CPR certification. This course builds upon the skills, abilities, and knowledge developed in Nursing 101, 102, 214, and 215. The student will learn interpersonal, technical, and cognitive skills related to individualized nursing care of adults with complex medical-surgical disorders. Learning activities are planned to develop the student's ability to think critically, to reason and form judgments, and to assess, analyze and resolve client-centered problems. Course content includes neurological, endocrine, and hepatic disorders. The roles of nurse as provider of care, manager of care and member of the profession are further developed with increased autonomy. An emphasis on the development of leadership skills is a focus of this course. Clinical experiences are correlated with theory by selection of clients in acute care settings and the clinical preceptorship. Additionally, the student is expected to demonstrate competency of selected nursing skills in the nursing campus laboratory. Four class hours and twelve clinical laboratory hours weekly for seven weeks.

NURS 220 The Art of Nursing: Alternative Therapies (1)
This course considers the process of providing physical, mental, emotional, and spiritual care to others by focusing on alternative therapies that promote the self-healing capabilities within individuals. Nursing as an art is a caring profession that seeks to assist clients toward favorable health changes. Alternative therapies and their relation to the concept of healing, provide the framework for this course. Offered upon indication of need.

Philosophy

Courses are offered every academic year unless otherwise noted.

PHIL 101 Logic (3)
Introduces informal and formal logic, emphasizing methods of interpreting and evaluating arguments to develop critical thinking and reasoning skills. Three class hours weekly.

PHIL 105 Ethics (3)
Examines alternative theories of the nature of moral value in relation to basic issues concerning rights, justice, freedom and happiness. Course objective is to develop the ability to make well-reasoned judgments about value questions facing the individual and society. Three class hours weekly.

PHIL 201 Introduction to Philosophy (3)
General introduction to philosophy surveys fundamental problems and perspectives representing a range of philosophical fields, periods, and authors. Encourages questioning and reasoning on philosophical issues. Three class hours weekly

PHIL 203 World Religions (3)
Studies the beliefs and religious philosophies of major Eastern and Western religions including Hinduism, Buddhism, Judaism, Christianity and Islam. Three class hours weekly.

PHIL 214 Special Topics in Philosophy (3)
This course focuses on selected issues or positions within the philosophical world. The format includes reading lecture and discussion. Topics are chosen from different areas within Philosophy (such as Epistemology or Ethics) to specific philosophers (such as Plato and Aristotle, the Rationalists vs. The Empiricists, the Existentialists). Topics are chosen to allow an in-depth exploration of the subject matter. Three class hours weekly.

Physical Education

Courses are offered every academic year unless otherwise noted.

Lecture Courses

P.E. 148 Independent Study in Physical Education (1)
Designed to meet student's unique circumstances.

P.E. 165 Introduction to Physical Education (1)
For students who wish to transfer into a four-year program in physical education. Explores the diversity of the field, the place of physical education in educational settings, literature and research in the field, and careers. One class hour weekly.
Alternate academic years

P.E. 170 Sports Management (3)
Examines the sports industry and introduces sports management careers. Management functions, unique characteristics of sports, the sports manager's roles, skills, attributes, issues, social and ethical responsibilities. Three class hours weekly.

P.E. 185 Sports Nutrition (1)
This course is designed to meet the need of individuals and athletes desiring to increase their physical fitness capacity through nutrition. Topics such as carbohydrates, fats, proteins, vitamins, minerals, and water in exercise will be discussed. Effects of dietary manipulations, body composition, and supplemental aid will also be discussed.

P.E. 199 Physical Education for Children (2)
To provide philosophy, principles, activities, teaching strategies, evaluation procedures for children ages three to six through lecture and active participation in class.

P.E. 250 Health Sciences Applied to Coaching (3)
A series of interactive exercises and activities designed to study Health Sciences as they apply to coaching sports. Through these activities, exercises and health applications to coaching topics, participants will gain information, organize it for professional and personal use, and apply it to their particular programs. Health Sciences as applied to coaching will also help define selected principles of biology, anatomy, physiology, kinesiology related to coaching, risk minimization, mixed competition, NYSED selection and classification of athletes, age and maturity of athletes. This course meets the New York State coaching certification requirements for health science and is intended to be 45 hours.

P.E. 260 Basic Care and Prevention of Athletic Injuries (3)
Introduces athletic training students and coaches to the fundamental injuries encountered during sports activities. Etiology, prevention and treatment and evaluation of specific injuries to the head, shoulder, hip, knee, and ankle will be stressed. First aid for injuries and emergency procedures will be reviewed. *Students must provide their own transportation to off-campus locations*.

P.E. 263 Internship For Athletic Training (1)
Prerequisite: P.E. 260. Recommended background: anatomy and physiology. Hands-on introduction for athletic training students to basic injuries encountered in sports activities. Etiology, prevention, evaluation, treatment of specific injuries to head, shoulder, hip, knee, and ankle. First aid for injuries and emergency procedures. Three class hours weekly. *Students must provide their own transportation to off-campus locations.*

P.E. 270 Sports Promotions (3)
Recommended background: P.E. 170. Course reviews strategies for selling sports, including advertising, merchandising, licensing, and sponsorship. Three class hours weekly.

P.E. 290 Internship for Sports Management (3)
Prerequisite: Students must be entering the final semester of the Business Administration A.A.S. (Concentration in Sports Management) degree program. This course will provide an opportunity for qualified students to connect classroom learning with practical work experience. Students will identify their career skills and develop specific learning goals for the work assignment. Students will prepare an employment portfolio to present to employer sponsors and interview for an internship position. The internship position will be sponsored by a local area employer for a minimum of 120 work hours. The internship will enable students to meet their learning goals and develop their skills through relevant work projects. Class meetings per student/instructor/sponsor contract.

Personal Defense Courses

P.E. 109 Judo (1)
Designed to provide instruction at all levels of Kodokan Judo. Students will be taught at their own level and pace and may concentrate in one area or pursue several areas of interest. Beginners will learn the basics of Olympic Judo, self-defense and KATA forms. Advanced students will have the opportunity to test their skills and develop or refine new skills. Instruction will be individualized to meet the needs and abilities of each student. Recommended for students considering a career in law enforcement, corrections, military. Three class hours weekly.

P.E. 110 Karate (1)
Basic techniques of Beikokujin Soo Do karate and basic tenets, ethics of the martial arts. Students are taught the fundamental kicks, blocks, strikes, vocabulary, self-defense techniques and katas necessary to attain the rank of gold belt. Additional techniques for advanced students. May be repeated. Three class hours weekly.

P.E. 157 Personal Defense (1)
A planned progression of skills in self-defense situations, including standing, ground fighting, and weapons defense techniques. Psychological strategies, legal responsibilities, and ethical implications will be taught. Three class hours weekly.

First Aid and CPR

P.E. 145 First Aid-Responding to Emergencies (1)
Meets requirements for Red Cross first aid certification: students recognize, evaluate, and prioritize first aid needs and apply appropriate aid in emergencies. One class hour weekly.

P.E. 146 CPR Basic Support (1)
Basic life support in cardiopulmonary resuscitation. Students are trained in course "C" basic life support, meeting American Heart Association standards. One class hour weekly for half the semester.

P.E. 147 CPR Instructor (1)
Prerequisite: P.E. 146. Designed to meet American Heart Association standards. Produces highly skilled C.P.R. instructors. One class hour weekly for half the semester

Fitness Activities

P.E. 130 Weight Training (1)
Use of free weight room. Brief presentation of the history of strength building includes Olympic lifting, power lifting, bodybuilding, strength research, and strength fitness. Three class hours weekly.

P.E. 131 Weight Training Practicum (1)
Review of P.E. 130 and current theories in strength training. Three class hours weekly.

P.E. 144 Fitness Theory and Application (1)
Basic theory of fitness, appraisal of fitness levels and applying knowledge to personal fitness goals. One class hour weekly. *Alternate academic years*

P.E. 161 Fitness Center I (1)
Training program designed to meet cardiovascular requirements and improve strength and flexibility. Following orientation, lecture, assessment, and testing, students attend a specified number of classes on their own. Three class hours weekly.

P.E. 162 Fitness Center II (1)
Prerequisite: P.E. 161. Continues fitness regimen, providing weight control module. Three class hours weekly.

P.E. 163 Fitness Center III Practicum* (1)
Prerequisite: P.E. 162. Pursue fitness goals through aerobic exercise machines including stairmasters, treadmills, aire-dynes, gravitrons and rowers. Sub-maximal aerobic testing available. Three class hours weekly.

P.E. 171 Introduction to Dance (1)
This course will provide students with a basic knowledge in various aspects of dance as a performing art. The psychomotor aspect will focus on body alignment, dance technique, flexibility, execution and recollection of short dance combinations. The cognitive aspect will cover dance history and culture. Proper dance attire is required for dance performances.

Team and Individual Sports

P.E. 128 Basketball (1)
Basic instruction in the skills and fundamentals of basketball. Students learn rules and officiate games within the class setting. Three class hours weekly.

P.E. 129 Basketball Practicum* (1)
Prerequisite: P.E. 128. Opportunity to improve basketball skills in a competitive setting. Three class hours weekly.

**** May not be counted for graduation credit under certain circumstances. See physical education requirements as stipulated for each degree, or contact division chair.***

Varsity Sports

P.E. 020 Varsity Cross Country (1)
Prerequisite: must meet NJCAA academic standard in order to register. Develops specialized training and knowledge in distance running. Special attention given to improving individual peak performance and achieving team recognition.

P.E. 030 Varsity Basketball (1)
Develops specialized knowledge, skills, and strategies. Special attention given to techniques to improve individual peak performance and team competitiveness. *Students must provide their own transportation to practice locations.*

P.E. 035 Varsity Golf I (1)
Prerequisite: Must meet NJCAA academic standard in order to enroll in this class. Develops specialized knowledge, skills and strategies related to the sport of golf. Special attention given to techniques to improve individual peak performance and team competitiveness. Students must provide their own transportation to practice locations.

P.E. 040 Varsity Soccer (1)
Prerequisite: must meet NJCAA academic standard in order to register. Develops specialized knowledge, skills, and strategies in soccer. Special attention given to techniques to improve individual peak performance and team competitiveness. *Students must provide their own transportation to practice locations.*

P.E. 045 Varsity Bowling (1)
Develops specialized knowledge, skills and strategies related to the sport of bowling. Special attention given to techniques to improve individual peak performance and team competitiveness. Pre-requisite: Must meet NJCAA academic standard in order to enroll in this class. ***Students must provide their own transportation to practice locations.***

P.E. 050 Varsity Lacrosse (1)
Develops specialized knowledge, skills, and strategies. Special attention given to techniques to improve individual peak performance and team competitiveness. Prerequisite – must meet NJCAA academic standard in order to enroll in this class. *Students must provide their own transportation to practice locations.*

P.E. 055 Varsity Volleyball (1)
Develops specialized knowledge, skills and strategies related to the sport of volleyball. Special attention given to techniques to improve individual peak performance and team competitiveness. Pre-requisite: Must meet NJCAA academic standard in order to enroll in this class. ***Students must provide their own transportation to practice locations.***

P.E. 060 Varsity Basketball II (1)
Develops specialized knowledge, skills, and strategies. Special attention to techniques to improve individual peak performance and team competitiveness. Prerequisite – must meet NJCAA academic standard in order to enroll in this class. *Students must provide their own transportation to practice locations.*

PE 065 Varsity Golf II (1)
Prerequisite: PE 035. Continues to develop specialized knowledge, skills and strategies related to the sport of golf. Special attention given to techniques to improve individual peak perfor-

mance and team competitiveness. Students must provide their own transportation to practice locations.

P.E. 070 Varsity Soccer II (1)
Prerequisite: must meet NJCAA academic standard in order to register. Develops specialized knowledge, skills, and strategies. Special attention given to techniques to improve individual peak performance and team competitiveness. *Students must provide their own transportation to practice locations.*

P.E. 075 Varsity Bowling II (1)
Develops specialized knowledge, skills and strategies related to the sport of bowling. Special attention given to techniques to improve individual peak performance and team competitiveness. Pre-requisite: Must meet NJCAA academic standard in order to enroll in this class. ***Students must provide their own transportation to practice locations.***

P.E. 080 Varsity Lacrosse II (1)
Prerequisite: must meet NJCAA academic standard in order to register. Develops specialized knowledge, skills, and strategies. Special attention given to techniques to improve individual peak performance and team competitiveness. *Students must provide their own transportation to practice locations.*

PE 085 Varsity Volleyball II (1)
Develops specialized knowledge, skills and strategies related to the sport of volleyball. Special attention given to techniques to improve individual peak performance and team competitiveness. Pre-requisite: Must meet NJCAA academic standard in order to enroll in this class. ***Students must provide their own transportation to practice locations.***

P.E. 090 Varsity Cross Country II (1)
Prerequisite: must meet NJCAA academic standard in order to register. Develops specialized training and knowledge in distance running. Special attention given to improving individual peak performance and achieving team recognition.

Physics

Courses are offered every academic year unless otherwise noted.

PHYS 101 Technical Physics I (4)
Prerequisite: MATH 099 or equivalent. Introduces the basic principles of physics including scalars and vectors, displacement velocity and acceleration, force, work, energy, momentum, circular and rotational motion. Three class hours and one three-hour lab weekly.
Offered upon indication of need

PHYS 102 Technical Physics II (4)
Prerequisite: PHYS 101. Continuation of PHYS 101. Covers the principles of electricity, magnetism, waves, sound, light, and an introduction to optics. Three class hours and one three-hour lab weekly.
Offered upon indication of need

PHYS 103 General Physics I (4)
Recommended background: MATH 104 or MATH 114 (or both concurrently), high school physics. For students with satisfactory experience in physics. Includes kinematics in one and two dimensions, Newton's Laws of motion, free body diagrams, work-energy theorem, conservation of energy and linear momentum, center of mass, centripetal acceleration, translations and rotations of rigid bodies, torque and equilibrium. Three class hours and one three-hour lab weekly.

PHYS 104 General Physics II (4)
Recommended background: MATH 104 or MATH 114 and high school physics. Continuation of PHYS 103. Course content includes Kirchhoff's voltage and current rules; reactance and resonance; electromagnetism, Faraday's Law, standing waves, the Doppler effect, reflection and refraction, mirror and lens ray diagrams, interference, diffraction and polarization. Three class hours and one three-hour lab weekly.

PHYS 200 Physics I – Mechanics (4)
Prerequisite: MATH 108 or equivalent. First in a three-course sequence for engineering students and science or math majors with strong mathematics background. Study of Newton's Laws, work and energy, gravitation of falling bodies, motion in a plane, momentum, rotation of a rigid body, elasticity, periodic motion, hydrostatics, fluids in motions, temperature, heat and energy, heat transfer, change of state and thermodynamic laws. Three class hours and one three-hour lab weekly.

PHYS 201 Physics II – Electricity and Magnetism (4)
Prerequisite: PHYS 200 and concurrent enrollment in MATH 202. A study of the electromagnetic theory using Maxwell's equations, DC and AC circuitry, electrical instruments, measurement, machinery and discharges and an Introduction to Optics. Three class hours and one three-hour lab weekly.

PHYS 202 Physics III – Modern Physics (4)
Prerequisite: PHYS 201. Studies electromagnetic wave properties including propagation, reflection, refraction, diffraction polarization and optical instruments. Also, atomic structure, quantum theory, relativity, nuclear models and radioactivity. Three class hours and one three-hour lab weekly.
Offered upon indication of need

Political Science

Courses are offered every academic year unless otherwise noted.

PSCI 101 Modern Government (3)
Examines fundamental political concepts, theories and issues. Emphasis on the nature and importance of politics, aspects of the political community, states and nations, and the process and machinery of government. Covers a comparison of governments of several modern nations. Three class hours weekly.

PSCI 102 American Government (3)
Introduction to the national system of government and politics, this course describes, analyzes and explains the political process in America as it relates to the national government. Study includes the founding process, federalism, the legislative, executive and judicial branches, the operation of parties and elections, the role of law and the courts in rights and liberties, and the process of creating both domestic and foreign policy. The course seeks to give students an understanding of the way behavior of the President, Congressional members, Supreme Court justices and ordinary citizens influences formulation of governmental policies.

PSCI 206 International Relations (3)
Covers issues pertaining to international peace and security, economic relations, human rights, social and cultural developments, colonialism and international law. These issues are discussed in terms of their development and importance. Also considers actions of the international community in dealing with these problems. Three class hours weekly.
Offered upon indication of need

PSCI 207 U.S. Constitution (3)
Introduces the study of public law. Covers separation and delegation of governmental powers, the federal system, powers of the national government, the judicial function and its limitations, due process and civil liberties. Three class hours weekly.
Offered upon indication of need

PSCI 214 Comparative Legal Traditions (3)
Recommended background: PSCI 102, CJ 111, or CJ 115. Examines the legal and criminal justice systems of different nations and cultures. Focus on the influence of historical, political and social factors on these systems. Compares other societies and the United States in perceived causes of crime and differing approaches to rehabilitation and crime prevention. Cultures representing Europe, Africa, Asia and America, (before 1500 CE), are included. Three class hours weekly.
Offered upon indication of need

Psychology

Courses are offered every academic year unless otherwise noted.

PSY 101 Introductory Psychology (3)
Basic orientation to the psychology of human behavior. Studies the aims and methods of psychological investigation and measurement, and biological and social influences on behavior. Also focuses on learning, motivation, emotion, perception, and personality development. Three class hours weekly.

PSY 105 Psychology of Interpersonal Relations (1)
Study of techniques to help understand, get along with, communicate with, and influence other people. Not designed as an encounter group, but includes active demonstrations as required. Characteristics of self-concept, group structure and leadership, personal perception, affiliations. One class hour weekly for 15 weeks or 3 class hours weekly for 5 weeks.
Offered upon indication of need

PSY 106 Psychology of Sleep and Dreams (1)
Basic theory and current research on sleep and dreams. Topics include sleep patterns, deprivation, disorders and dream work. Extensive class discussion of actual dream reports and interpretations. One class hour weekly for 15 weeks or 3 class hours weekly for 5 weeks.

PSY 107 Introduction to Hypnosis and Meditation (1)
Theory, research, practice of hypnosis, self-hypnosis, meditation. Includes similarities, differences, use for personal growth, methods, potential benefits and abuses. 1 class hour weekly for 15 weeks or 3 class hours weekly for 5 weeks.
Alternate academic years

PSY 165 Psychology of Multicultural London (3)
Prerequisite: Completion of PSY 101 or an Introduction to Psychology course. London is known as the multicultural center of Europe and has the largest non-white population of any European city. This course will not only investigate the broad aspects of psychology, but will also examine how diversity effects the population as a whole. Students will be able to observe the perspectives of different cultural groups and their traditions, language, and customs. Individual and multicultural identities will be also investigated. Several historic sites including the famous Freud museum, London's street markets, and various ethnic neighborhoods will be explored.

PSY 203 Social Psychology and Interpersonal Relations (3)
Prerequisite: PSY 101. Basic social psychology concepts in contemporary theoretical orientations and related research findings. Covers motivation, personality, attitude formation and change, leadership, group dynamics, roles, social norms, audiences, collective behavior. Three class hours weekly.
Offered upon indication of need

PSY 205 Psychology of Personality (3)
Prerequisite: PSY 101. Basic orientation to the psychology of personality. Examines major theories including psychoanalytic, behavior, humanistic, phenomenological and others. Explores certain general issues such as achievement, motivation, psychopathology, sexual adjustment, and personal religious orientation. Three class hours weekly.
Alternate academic years

PSY 206 Abnormal Psychology (3)
Prerequisite: PSY 101. Scientific view of abnormal behavior and mental illness covers historical overview, unscientific attitudes and legends; emergence of science; movements; classifications; origins of behavior; personality; defensive reactions; psychoneuroses; functional and organic psychosis; addiction; mental deficiency; psychosis of the aged; criminal psychosis; diagnostic procedures and types of therapy. Also examines modern mental hospitals and clinics and discusses professional disciplines. Three class hours weekly.

PSY 207 Organizational Behavior (3)
Recommended background: PSY 101. Considers psychological principles, applications and methods relating to problems in business, industry and the professions. Topics include management, development, behavioral engineering/productivity, motivation, leadership, social interactions, job selection and adjustment and research methods. A lecture, discussion and case study approach is taken. Three class hours weekly.
Alternate academic years

PSY 211 The Social Psychological Aspects of Aging and Death (3)
Prerequisite: PSY 101. An understanding of the psychological and sociological implications of growing old. Examines what the aging process involves and how it affects the individual in various aspects of everyday life. Also examined is the phenomenon of death as it affects the individual and society. Students examine the psychological problems involved in dealing with death as well as practical problems such as funeral preparation and expense. Three class hours weekly.

PSY 212 Development Psychology - Life Span (3)
Prerequisite: PSY 101. Introduction to the foundations of human development across the life span. Developmental processes and issues characterizing various stages of aging are studied, with attention to the interrelationships of the various stages and intergenerational issues. Three class hours weekly.

PSY 213 Psychology of Sport and Motivation (3)
Prerequisite: PSY 101. Examines sport psychology and motivation, goal-setting, group dynamics. Characteristics of successful athletes, coaching and counseling young athletes, motivational theories, team development, attribution theories, female athletes, building athletes' self-esteem. Focuses on the perspective of coaches and counselors in educational and community settings. Three class hours weekly.
Alternate academic years

PSY 214 Selected Topics in Psychology (3)
Prerequisite: PSY 101. Studies contemporary issues. A reading and discussion oriented format. Topics include learning and motivation, perception and consciousness, psychology, literature and art, stress, and distress. Three class hours weekly.

PSY 215 Child Psychology (3)
Prerequisite: PSY 101. Examines human growth and development from conception to puberty. Students are exposed to a scientific perspective regarding theory and research in the areas of physical, cognitive and psychosocial development. Topics include childbirth, language development, child abuse and parenting styles. Three class hours weekly.

PSY 216 Adolescent Psychology (3)
Prerequisite: PSY 101. Examines the growth and behavior of the adolescent and young adult. Studies the effect of physical and environmental changes on the individual, physical, social, emotional, and personal growth and development. Considers individual differences, applications of development and the effect of rapidly changing times. Three class hours weekly.

PSY 217 Introduction to Children with Exceptionalities (3)
Recommended background: PSY 101. Focusing on working with children in an educational setting, course introduces students to the various exceptionalities, characteristics of children with exceptionalities, federal and state laws, educational implications, and strategies for working effectively with families and other professionals. *Off-campus observations may be required; students must provide their own transportation.*

PSY 220 Psychology of Alcohol, Drug Use and Abuse (3)
Prerequisite or concurrent enrollment: PSY 101. Introductory orientation to the psychology of human behavior related to substance use, abuse, and dependence; aims and methods of psychological investigation; the impact of alcohol and drug use on the individual, family, and community. A review of alcohol, prescription medications, over-the-counter medications, and illegal substances is examined and discussed. 3 class hours weekly.
Offered upon indication of need

PSY 221 Assessment, Evaluation and Treatment Planning (3)
Prerequisites: PSY 101 and PSY 220. Orientation to assessment, evaluation, and developing treatment plans for the addicted client as in cases of substance use, abuse, and dependence. It explores the assessment of alcohol and drug use on the individual, family, and community. It studies the aims and methods of treatment utilization specifically designed towards the addicted client. 3 class hours weekly.
Offered upon indication of need

Sociology

Courses are offered every academic year unless otherwise noted.

SOC 101 Introductory Sociology (3)
Introduces sociology as a science concerned with relationships, institutions, organizations, and the physical environment. Outlines the major theories as a basis for sociological perspectives on social issues. Covers the origins of sociology as a science, diverse patterns of social organization from a global perspective, the nature and substance of cultural systems and social institutions, and sociological perspectives in analyzing trends in human society. Three class hours weekly.

SOC 102 Contemporary Social Issues (3)
Prerequisite: SOC 101. An in-depth examination of selected social problems, their nature, causes, extent and their effect upon society. Includes theoretical explanations, significant research studies and evaluations of various techniques of control. Three class hours weekly.
Offered upon indication of need

SOC 104 Marriage and the Family (3)
Prerequisite: SOC 101. Presents a sociological analysis of the family and its forms and functions in a variety of cultural settings. It provides students with a sociological framework for viewing one of the major social institutions of society in a global context – its origins, structure, functions, and the many challenges it faces in the 21st century. Three class hours weekly.
Offered upon indication of need

SOC 105 Deviant Behavior (3)
Prerequisite: SOC 101. Sociological approach to the nature and substance of deviant behavior. Examines the body of sociological theory dealing with the causes, distribution, and societal reaction to deviant behavior. Three class hours weekly.
Offered upon indication of need

SOC 110 Race and Ethnicity (3)
Prerequisite: One of the following courses: SOC 101, ANTH 101, HIST 101, 102, 201, or 202. Provides an overview of the social and ethnic diversity of the United States. Delves into the cultures of various racial and ethnic American minorities and deals with theories of prejudice, discrimination and inter-group relations. Discusses techniques for eliminating these problems. Three class hours weekly.

SOC 120 Sociology of Sport and Leisure (3)
Recommended background: SOC 101. The study of sport and leisure in society is concerned with how sport influences, and in turn, is influenced by, institutions (education, politics, religion,

science, economics, mass media). Sport has been described as a microcosm of our society values—competition, materialism, bureaucracy, power (Coakley, 1986; Eitzen and Sage, 1982). The pervasiveness of sport as an institution is the academic focus of the course. Three class hours weekly.
Alternate academic years

SOC 203 Selected Topics in Substance Abuse (3)
Prerequisite: SOC 101 or PSY 101. Studies contemporary issues and problems through readings, discussion, role-playing, experiential work. Topics cover addictive/compulsive behaviors, medical and religious models of addiction; learning theory and addiction; addiction to alcohol, legal and illegal drugs, love, sex, food, cigarettes, coffee, shopping, soap operas, gambling; workaholic syndrome; cleaning compulsion; hypochondria; weight problems including bulimia and anorexia; family patterns in addiction; children of addictive/maladjusted families; other addictions/compulsive behaviors as viewed in public and therapy. Three class hours weekly.
Offered upon indication of need

Spanish

Courses are offered every academic year unless otherwise noted.

SPAN 101–102, 103–104
Elementary and intermediate foreign languages begin in the fall only and continue as a year sequence. Students who need a full year should be aware of this. When in doubt about placement, students are urged to seek advice of foreign language faculty or the Humanities Division chair.

SPAN 101-102 Elementary Spanish I-II (4 / semester)
Introduces fundamentals of Spanish grammar and develops all four skills of communication: listening, speaking, reading and writing. Videos and music help familiarize students with cultural aspects of Hispanic society. Focus on classroom audiolingual practice, supplemented by laboratory work. Recommended for beginning students to meet a foreign language requirement for degree or career. (Native Spanish speakers should not enroll. Students who have had high school Spanish through Regents level may not take SPAN 101-102.) Three class hours weekly/required laboratory. SPAN 101 is the prerequisite for SPAN 102.

SPAN 103-104 Intermediate Spanish I-II (3 / semester)
Improves understanding, speaking, reading, and writing through review and further study of grammar, readings, and video material on Hispanic civilization, people, and culture. Recommended for students with a year of college Spanish, high school Regents Spanish, or two strong years of high school Spanish. Three class hours weekly. SPAN 103 is the prerequisite for SPAN 104.

SPAN 111-112 Spanish Conversation I-II (3 / semester)
Level I: no prerequisite. Level II presupposes basic knowledge of Spanish Develops proficiency in speaking and understanding basic Spanish. Videocassettes and slides are used to familiarize students with everyday life in the Hispanic world. Practice with tapes is encouraged. No previous knowledge of Spanish is required for SPAN 111. Three class hours weekly.

SPAN 121 Spanish for Law Enforcement Professionals (3)
Thorough verbal and written practice of Spanish vocabulary pertaining to the Criminal Justice field. Vocabulary pertains to basic information, arrest, booking, DUI, Vehicle Search, Miranda Rights, etc. Cultural issues as they pertain to certain field situations are discussed. Three class hours weekly.

SPAN 131 Spanish for Healthcare Professionals (3)
Extensive verbal and written practice of Spanish vocabulary pertaining to the Health Care Field. Spanish will be practiced through the use of visual aids, textbook exercises, as well as verbal and written conversations with attention to cultural issues as they pertain to the health care field. Three class hours weekly.

Student Development

Courses are offered every academic year unless otherwise noted.

S.D. 101 Career and Life Planning (3)
Provides a systematic method for making career and life style decisions. Presents a structured method for practicing effective decision-making skills, clarifying one's values and learning job-hunting techniques. Examines other topics that influence life and career choices such as goal setting, stress management and communication styles. Individuals develop personal strategies for short- and long-term educational and career planning. Three class hours weekly.

S.D. 102 College Success (1)
Extended orientation to college, recommended for the first freshman semester. Addresses academic success through topics such as getting organized, reading for learning, test-taking skills, faculty expectations, careers and choosing a major, library research, college services, extracurricular activities, personal growth. Two class hours weekly.

S.D. 201 Introduction to Civic Engagement (3)
As the introductory course for the Civic Engagement, this course will involve students in field experiences in community agencies and help them reflect on the meanings of community, service and leadership as they work with agencies. Recognizing civic responsibilities and the value of volunteerism as related to community development, students will examine and explore leadership theory and techniques as demonstrated by community members. ***Students must provide their own transportation to off-campus sites.***

Telecommunications

Courses are offered every academic year unless otherwise noted.

TELC 101 Introduction to Mass Media (3)
Prerequisite: ENGL 101 or concurrent enrollment. Introduces the practices and business aspects of American mass media industries. Explores the history, structure, organization, function and effects of mass media. Three class hours weekly.

TELC 102 Introduction to Telecommunications (3)
Introduces the practices and business aspects of American telecommunications industries. Explores the history, structure, organization, and function of telecommunications. Three class hours weekly.

TELC 103 Introduction to the Moving Image (3)
Covers the development and employment of television and film techniques. Emphasis on how these techniques are used as a form of artistic expression and create meaning. Classic films, from the silent period to the present day, and television programs are screened. Three class hours weekly.

TELC 104 Audio / Video Production Techniques I (3)
Focuses on basic audio and video production techniques. Students attend two weekly lectures dealing with how telecommunications equipment works, with emphasis on the proper operations of video and audio devices. One two-hour lab per week provides the opportunity to practice the techniques explained in lectures. The actual operation of audio and video production equipment begins the first week of class. Material discussed is divided equally between audio and video topics. Two class hours/ two lab hours weekly.

TELC 105 Audio / Video Production Techniques II (4)
Prerequisite: TELC 104. Teaches the techniques of planning and executing audio and video productions and how to apply them to the basic audio/video production techniques acquired in TELC 104. Provides additional training in the use of audio and video equipment. Requires production of original audio and video programs suitable for distribution in a variety of media. Two class hours/four lab hours weekly.

TELC 106 Radio and Television Announcing (3)
Prerequisite: TELC 104. Develops the techniques involved in non-dramatic performance in the broadcast industry. Includes the mechanics of voice, diction and vocal presentation with emphasis on message design and communicating ideas. Students complete a variety of exercises for presentation in the radio and television media. Three class hours weekly.

TELC 114 Lighting (3)
Lectures and labs teach the theories and methods of lighting for television, film, and theatre production. Basic design as well as instrument selection and application, control systems, electricity, circuiting and color theory will be covered. Required for radio and television majors. Three class hours weekly.

TELC 140 Analysis of Broadcast Equipment Systems (3)
Recommended background: TELC 104 or ELEC 101. Lecture and laboratory course teaches how various components within radio, television and cable facilities form a working system. Emphasis on proper interface of equipment, equipment compatibility, and changes and substitutions which may be made during equipment failures. Three class hours weekly.

TELC 150 Photography: Digital Imaging and Visual Communications (3)
Lectures, demonstrations and hands-on activities explore the theory and applications of film-based and electronic imaging. Students learn how to work with captured images, process and manipulate digital images, and create picture files that can be sequenced, saved or outputted to electronic imaging or printing devices. Three class hours weekly.

TELC 165 Broadcasting: The British Experience (3)
Travel-study course offers a comprehensive view of the broadcasting industry in Great Britain. Examines the major differences between the British and American broadcasting systems, as well as the impact of American programming and technology in Britain. Includes visits to broadcast facilities and lectures by professionals in the British broadcasting industry.
Intersession only

TELC 170 Introduction to Interactive Media Techniques I (3)
Introduction to techniques and processes of content creation in interactive and digital media formats. Covers the use of CDs, DVDs and websites by broadcast, cable, satellite and internet delivery providers. Two classes, two lab hours weekly.
Offered upon indication of need

TELC 171 Introduction to Interactive Media Techniques II (3)
Prerequisite: TELC 170. This course is designed to give students basic knowledge of the audio, video and imaging systems used by broadcasters and filmmakers to produce digital and interactive media. Two classes, two lab hours weekly.
Offered upon indication of need

TELC 175 Interactive Media Production (3)
Prerequisite: TELC 170. In this class students will produce an interactive media project, suitable for use by a media outlet (radio or television broadcaster, film or video producer) in a digital format. Two classes, two lab hours weekly.
Offered upon indication of need

TELC 176 Video Game Design (3)
This course introduces the student to the development and design of video games. Students will design and develop basic video games. Students will learn to prepare a game plan in developing their games and create game environments such as action games, maze games and multi-player games. Students will learn to use sprites, objects, events and actions and sounds in game development. They will also learn game mechanics, interactivity controls, level design, game variable adjustments, game behaviors, creating computer-based opponents and methods for making games challenging to prospective players. Students will be introduced to software used to create original game resources such as objects, sounds and visual elements. Finally students will be able to post their completed games online to share with others. Three lecture hours weekly.

TELC 178 Digital Animation (3)
This course introduces the student to 3-D computer generated graphic animation. The students will use animation software to develop skills in animation art and technique. Students will explore software interface and develop skills for working in three dimensions, with mesh modeling and multi-resolution sculpting. Students will learn to use materials, textures, texture mapping and unwrapping techniques. They will learn the basic concepts of animation and animating characters and objects. Instruction will include lighting objects in the 3 dimensional workspace. Finally students will learn the procedure for rendering their projects for use in other media and game creation applications. Three lecture hours weekly.

TELC 180 Video Field Production (3)
Prerequisite: TELC 104. An introductory course in video field production. Students will learn the aesthetics and techniques of single camera on-location video recording and postproduction editing. Includes practice in planning location shoots, operating camcorders, location lighting and audio, and video editing. Students will produce single-camera video projects individually and in groups. Two lecture, two lab hours weekly.

TELC 190 Script Writing for Film & Television (3)
Introduces the student to the process of writing scripts for film and television. The stages of script development will be explored. Emphasis will be placed on dramatic structure, character development, plot structure and dialogue. Three lecture hours.

TELC 192 Script Analysis and Production (3)
Prerequisite: TELC 104. Introduces the student to the analysis and development of scripts from written form into actual video and film productions. Each student will take an idea for a short narrative film through the stages of concept, script, and finished production and produce a short narrative production. Three lecture hours weekly.
Offered upon indication of need

TELC 195 Advanced Video Editing (1)
This course provides in-depth experience in the operation of specific video editing software and hardware technologies.

TELC 199 Selected Topics in Telecommunications Technology (1)
Provides experience in the operation of specific software and hardware technologies in audio, video, telecommunications and related media fields. One class hour weekly for 15 weeks or three class hours weekly for five weeks.
Offered upon indication of need

TELC 204 Journalism Practicum (3)
Extensive experience in the operation of a college newspaper. Students participate in editorial, design, advertising, and circulation activities. Requires a minimum of six hours per week of practical activity and two class hours per week. Also requires research into a specific area of newspaper operations.

TELC 205 Practicum in Radio Operations (3)
Prerequisite: TELC 104. Provides extensive experience in radio operations. Students may participate in on-air operations, public service production, or news gathering and presentation. Requires at least 10 hours per week of practical activity and one 1-1/2 hour class period for each student for 10 weeks. Also requires research into a specific area of radio management, operations or engineering.

TELC 206 Practicum in Radio Operations Management (3)
Prerequisite: TELC 205. Extensive experience including all phases of operations management and decision-making for all activities at the student radio station. Includes FCC legal and technical compliance, selection and training of staff, music format, selection policy, news, station promotion, traffic, and continuity. Requires at least 10 hours per week of practical activity and one 1-1/2 hour class period for 10 weeks, and research into a specific area of radio management. Enrollment limited to student managers of the college's radio station.

TELC 207 Video Production I (4)
Prerequisite: TELC 104. Hands-on equipment operations course builds on knowledge from TELC 104. Lectures cover equipment use and production techniques. TV studio, portable television equipment, and editing facility are used in weekly four-hour labs. Students produce several studio and remote programs which may be cablecast for public viewing. Two class hours and four lab hours weekly.

TELC 208 Video Production II (4)
Prerequisite: TELC 207. Combines production knowledge from TELC 104 and 207 with effective communication theory. Lectures emphasize preproduction planning, audience research, and effective script design. Labs add experience and expertise in operations. Students produce studio programs for public view, and small teams work on longer remote productions requiring more sophisticated message design and technical editing. Two class hours and four lab hours weekly.

TELC 210 Special Topics in Telecommunications and Mass Media (3)
Devoted to a specific topic or area of expertise in audio, video, or media-related field. An opportunity for in-depth experience in an area not fully covered in other classes.
Offered upon indication of need

TELC 212 Broadcast Journalism (3)
Prerequisite: TELC 104. Students will learn the fundamental principles and skills of producing local television newscasts including news judgment and story selection, information gathering, writing and editing copy, working with video and other visuals, preparation of news in various formats including packages, formatting news programs and basic studio production techniques. (two lecture hours, two lab hours)

TELC 220 Advanced Audio Production (3)
Prerequisite: TELC 104. Provides an advanced understanding of audio equipment in the field and in the recording studio. Topical areas include sound reinforcement, recording studio techniques and acoustic analysis. Three class hours weekly.

TELC 230 Music / Multi-Track Recording (4)
Prerequisite: TELC 104. Co-requisite: TELC 220. An advanced course in sound recording. Instruction in the methodology of both live and multi-track recording, including acoustics, microphones, recording devices, mixing consoles, loudspeakers, and software. Emphasis on multi-track recording technology including overdubbing, remixing and signal processing. Also studies basic industry practices. Two class hours/four lab hours weekly.

TELC 231 Advanced Recording Techniques (4)
Prerequisite: TELC 230. An advanced course in multi-track recording technology and recording industry practices. Topics include business aspects of the recording industry; studio operations and maintenance, current practices and anticipated future developments. Covers an in-depth study of over-dubbing, remixing and album production through the production of recorded material. Students plan, develop and produce all aspects of a professional quality recording production. Two class hours/four lab hours weekly.

TELC 240 Audio for Media (3)
Prerequisite: TELC 104. Designed to develop understanding of the relationship of audio production to various related media including radio, television, video, multimedia and film. Emphasis on sound design and on the creation and recording of radio spots, dialogue, music beds and soundtracks. Students produce several projects under the supervision of the instructor. Three class hours weekly.

TELC 260 Broadcast Systems Maintenance (3)
Recommended background: TELC 140. Provides instruction in the maintenance of radio and television broadcast equipment. Emphasis on procedures common in daily routine preventive maintenance. Three class hours weekly.

TELC 270 RF Transmission Systems (3)
Recommended background: MATH 104 and ELEC 102. Provides instruction in the operation and maintenance of RF Transmission Systems. Studies radio and TV broadcasting systems, microwave, satellite and cable systems for video, audio, voice and data. Includes visits to various types of transmission facilities. Three class hours weekly.

TELC 275 Internship in Radio and TV (3)
Prerequisite: TELC 104 and 207. Intensive individual study and field experience in a telecommunications area of choice to obtain in-service training at a broadcasting facility. Requires a minimum of eight hours weekly at internship site and one weekly class meeting for a progress report. Requires periodic written reports and a journal of on-site activities. May be taken only during the final semester. One class hour weekly.

TELC 280 Video/Film Business Practicum (3)
Prerequisite: TELC 104. This course introduces students to the practice of managing an independent production company. Students gain experience in program origination, program development, production, legal issues, copyright regulations, marketing and distribution. Participation, under the supervision of faculty and staff, in the college's student production company, C3 Studios, is required.

TELC 282 Music Business Practicum (3)
Prerequisite: TELC 104. This course introduces students to the practice of managing a record company. Students gain experience in A&R, legal issues, copyright regulations, recording, publishing, marketing and distribution. Participation, under the supervision of faculty and staff, in the college's student record company, Cayuga Records, is required.

Theatre Arts

Courses are offered every academic year unless otherwise noted.

THA 101 Introduction to Theatre (3)
In this lecture course, students will explore the components that make up the world of theatre. Class discussions cover far ranging topics such as audience development, acting, directing, designing, history and the business of show business; what it takes to create a show, whether on Broadway or in Auburn, NY. Students will learn that there is more to theatre than what is seen up on the stage. No acting is required for this class. Three class hours weekly.

THA 110 Theatre Practicum (1)
Prerequisite: THA 113 or 152, or concurrent enrollment. Theatre production is not a subject that can be learned passively. Students in this course will be actively involved in the creation and operation of a live theatre performance. Participation may include, but is not limited to: publicity, acting, directing, scenery construction and painting, costuming, lighting, audio, running crews and stage management. May be repeated for a maximum of 4 credits.

THA 113 Introduction to Technical Theatre (3)
Lecture and hands-on course develops awareness and appreciation as it explores scenic construction and painting, lighting, costuming, make-up, properties, stage management, show run crews and safety practices. Note: Course requires hours outside of class for the preparation of a live theatre piece.
Alternate academic years

THA 152 Basic Acting (3)
Treating Acting as an avocation rather than a profession, this course introduces some of the physical, mental and vocal techniques used by actors. Students become aware of the image they present. Class participation is required through improvisationalexercises, scene work and character studies, with an emphasis on process rather than performance. Three class hours weekly.
Alternate academic years

THA 165 Selected Topics in International Theatre: The London Theatre (3)
Participants spend two weeks in London attending and discussing plays presented by the National Theatre, Royal Shakespeare Company in Stratford-on-Avon, several West End theatres, and experimental companies of the Fringe. Seminars discuss productions with guests from these companies, including directors, actors, playwrights and designers.
Intersession only

THA 210 Creating a Character (3)
Prerequisite: THA 152. The course builds on the introductory material learned in Basic Acting. It concentrates on the skills used by modern actors to develop a realistic character portrayal. The techniques of the great acting teachers of the 20th century will be explored. This studio course requires acting in class. Three class hours weekly.
Alternate academic years

THA 238 Special Topics in Theatre (1)
Course is devoted to a specific topic or area of expertise in Theatre. Students will have an opportunity to experience an area of theatre study not fully covered in other courses. This course may be repeated for credit up to three credits, depending on subject matter.

THA 239 Special Topics in Theatre (3)
Course is devoted to a specific topic or area of expertise in Theatre. Students will have an opportunity to experience an area of theatre study not fully covered in other courses.

Wine Studies

Courses are offered every academic year unless otherwise noted.

W.S. 110 Introduction to Wines of the World (3)
This course is a comprehensive class covering the basics of wine, taste and evaluation of wines, and the most prominent wine regions in the world. Specifically, we will study wines, terroir, and wine laws from the following countries and states: France, Italy, Spain, Portugal, Germany, Hungary, Greece, Canada, Australia, New Zealand, Chile, Argentina, South Africa, California, Washington, Oregon, and New York, with emphasis on the Finger Lakes region. Other regions from Europe, the Mediterranean, and the United States may also be evaluated. This class will also study the history of wine and introduce all of the major grape varieties. A tasting lab will be included with each class where we will study wines' appearance, aroma, taste, and texture. Wine descriptors and terminology will be learned and enhanced as the class progresses. The class is limited to students 21 years of age and older

W.S. 180 Introduction to Viticulture and Enology (4)
Course covers the fundamentals of viticulture (growing grapes) and enology (making wine). The course is designed as an elective for students completing the A.A.S. degree in Business Administration with Wine Studies Concentration. Students will learn basic grape physiology such as the major varieties, pruning and trellising, soils, climate conditions, and major grape diseases. Basic fermentation techniques such as primary alcohol fermentation involving yeast and secondary malolactic fermentation involving bacteria will also be covered. Simple chemical analysis will include sulfur dioxide, alcohol, acid, and sugar determination. Students will order grapes from a winery, ferment the grapes to wine, and analyze the wine using materials and instruments supplied in their wine kits.