SUNY ECC Advanced Studies Course Descriptions

**Art**

**AT 200 - Art Drawing I**  
*Credit Hours: 3*  
Art Drawing I is an introductory foundation course that explores a variety of drawing techniques and media. Emphasis will be placed on drawing from direct observation of forms in space. This course will involve the study and practice of the visual elements of composition and provides a solid foundation for development in any of the visual arts.  
*Fulfills SUNY General Education – The Arts.*

**AT 210 - Painting I**  
*Credit Hours: 3*  
Painting I is a foundation course that introduces the student to basic painting techniques with an emphasis on color theory and composition. This course provides a solid foundation for further painting exploration.  
*Fulfills SUNY General Education – The Arts.*

**Astronomy**

**AS 180 - Astronomy**  
*Credit Hours: 4*  
A one-semester course designed to acquaint the student with the solar system and selected topics from studies of the stars and nebulae. Topics include the beginnings of astronomy, Ptolemy to Newton, earth and moon system, tools and methods of the astronomer, planets and satellites, comets and meteors, stars, stellar systems, galaxies and cosmology. AS 180 with AS 181 satisfies a science lecture laboratory requirement for science and non-science majors.  
*Fulfills SUNY General Education – Natural Sciences.*  
Concurrent Registration: AS 181

**AS 181 - Lab for AS 180**  
*Credit Hours: Included in the 4.0 credit hours for AS 180*  
To be taken concurrently with AS 180. The laboratory will include experiments designed to reinforce the astronomical principles covered in AS 180 lectures and will give students training in data analysis and report writing. AS 180 with AS 181 satisfies the lecture laboratory science requirement for science and non-science majors. This laboratory course is to be taken concurrently with the lecture course AS 180 Astronomy.  
*Fulfills SUNY General Education – Natural Sciences.*  
Concurrent Registration: AS 180

**Biology**

**BI 110 - Biology I**  
*Credit Hours: 3*  
Consideration is given to the scientific method, cell biochemistry and physiology, cell structure and function, genetics and biotechnology.  
*Fulfills SUNY General Education – Natural Sciences.*  
BI 115 lab is required for all medical laboratory, medical office and science majors and recommended for all others.

**BI 112 - Biology II**  
*Credit Hours: 3*  
A survey will be made of humans and other organisms to include the following systems: digestive, circulatory, respiratory, nervous and muscular systems. Animal behavior, evolution and ecology are also discussed. The
ecology section will include the human relationship to the natural world and the effects of technology on the ecosystem.
Prerequisites: BI 110
Lab BI 117 is recommended.

**BI 115 - Laboratory for BI 110**
*Credit Hours: 1.5*
The laboratory will include physical and biochemical characteristics of cells, tissues, structure of plants and animals, genetics and DNA analysis.
*Fulfills SUNY General Education – Natural Sciences.*
Concurrent Registration: BI 110

**BI 117 - Laboratory for BI 112**
*Credit Hours: 1.5*
The laboratory will deal with vertebrate anatomy and physiology. This will be followed by a study of fundamental ecological techniques.
Concurrent Registration: BI 112

**BI 147 - Survey Anatomy and Physiology**
*Credit Hours: 3*
A science elective designed for non-science majors. This one-semester course presents basic introductory information on cells and chemistry. An overview of structures and functions of the systems of the human body will be discussed. This course is recommended as a preparation for BI 150 and BI 152 for students who have not had a recent biology course. This course does not satisfy the science requirement for liberal arts/ science majors.
*Fulfills SUNY General Education – Natural Sciences.*

**Biomanufacturing**

**BT 101 - Intro to Biomanufacturing and Food Processing**
*Credit Hours: 3*
This course is designed to provide a basic overview of the biomanufacturing and food industry. It will provide a thorough understanding of the organizational structure of a manufacturing facility and the steps involved from discovery to commercialization. Exposure to the basic principles will provide a better understanding of career opportunities and possibilities.

**BT 105 - Quality Control Science**
*Credit Hours: 3*
This course emphasizes the fundamental skills needed to work in a biomanufacturing facility. Students will learn basic laboratory skills such as pipetting, preparing solutions, measuring weights and volumes, aseptic techniques and proper gowning procedures. Students will gain an understanding of biosafety, as well as Standard Operating Procedures (SOPs).

**Building Management and Maintenance**

**BM 130 - Building Systems I**
*Credit Hours: 3*
A course providing an overview of residential and commercial structural systems found in urban settings. Major topical areas include common construction techniques, maintenance practices, safety standards, material selection, tool and equipment usage necessary for routine facilities operation.

**BM 281 - Facilities Maintenance & Environmental Topics**
*Credit Hours: 3*
A course designed as an introduction to the fundamental operating principals, maintenance and troubleshooting for a variety of mechanical and electrical systems found in facilities and industry. Maintenance management is featured through the application of preventative and predictive maintenance. Systems studied include computerized maintenance management (CMMS); safety; service & repair principles; electrical, electronic and programmable controllers; refrigeration; boilers; HVAC; mechanical; fluid power and troubleshooting.
Business Administration
BU 120 - Introduction to Accounting
Credit Hours: 3
This is a course with dual emphasis. It acclimates the student to accounting principles starting with the journal and ending with the balance sheet and income statement. It also acts as a refresher course as it deals with the in-depth mathematical calculations involved in financial accounting.

BU 121 - Accounting Principles I
Credit Hours: 4
A comprehensive study of the basic elements of accounting with the completion of a practice set of books for a representative business concern including cost receipts and payments, payroll, petty cash, purchases and sales records, accounts receivable, operational assets, accounts payable and the preparation of a financial statement, with a laboratory period at the option of the instructor.

BU 140 - Introduction to Business
Credit Hours: 3
The course is a survey course which introduces the student to the contemporary business world. Topics include economic factors, forms of business ownership, managing people in organizations, principles of marketing, managing information, and various financial issues.

BU 142 – Business Communication
Credit Hours: 3
This course focuses on the improvement of oral, nonverbal, and written communication. Emphasis will be given to communicating effectively, presenting a professional image, developing strong verbal communication skills, and writing effective business documents (e-mail messages, letters, memos, and reports). This course also includes instruction on interviewing techniques and resume preparation.

BU 233 - Consumer Finance
Credit Hours: 3
A general interest course designed to help the individual better understand the financial world in which we live today. Topics will enhance one’s ability to make personal financial decisions which will include establishing an individual’s financial goals, making decisions on saving money, making investments, buying a car, acquiring insurance and budgeting. This course is designed to benefit all and therefore, no prior business training is required.
Fulfills SUNY General Education – Social Sciences.

Chemistry
CH 180 - University Chemistry I
Credit Hours: 3
The first course of a two-course sequence; detailed introduction to chemistry for science, engineering, or health-related majors. Example topics include: dimensional analysis, chemical nomenclature, states and classes of matter, atomic theory, quantum theory, gas laws, chemical equations and stoichiometry, periodicity, chemical bonding and thermochemistry.
Fulfills SUNY General Education – Natural Sciences.
Corequisites: CH 181

CH 181 - Lab for CH 180
Credit Hours: 1.5
Topics include: laboratory techniques, physical properties, use and care of analytical balance, gravimetric determinations, gas laws, molecular weight determinations, solubility and fractional crystallization, chromatography, vapor pressure, heat of vaporization and thermochemistry.
Fulfills SUNY General Education – Natural Sciences.
Concurrent Registration: CH 180

CH 182 - University Chemistry II
Credit Hours: 3
The second course of a two-course sequence; detailed introduction to chemistry for science, engineering, or health-related majors. Example topics include: intermolecular forces, colligative properties, chemical kinetics, equilibria, thermodynamics, electrochemistry, nuclear chemistry, and organic chemistry.
Prerequisites: CH 180
Corequisites: CH 183 (lab) is highly recommended as a co-requisite.

**CH 183 - Lab for CH 182**  
**Credit Hours:** 1.5  
Molecular weight by freezing point depression, electrochemistry, volumetric analysis, equilibrium constant determination, rates of reaction and qualitative analysis.  
**Prerequisites:** CH 181  
**Concurrent Registration:** CH 182

**Computer Aided Drafting and Design Technology**  
**DF 108 - Technical Graphics I & AutoCAD**  
**Credit Hours:** 3  
The purpose of this course is to provide students with an understanding of the importance of engineering graphic communication to the design process. Students will gain hands-on experience creating freehand sketches, CAD technical drawings using orthographic projections, sections, auxiliary views and isometric drawings. The course presents logical, well-tested, step-by-step instruction on traditional drafting techniques and AutoCAD commands.  

**DF 109 - Tech Graphics II & Inventor**  
**Credit Hours:** 3  
This is a continuation of DF 108. The purpose of this course is to continue to provide students with an understanding of the importance of engineering graphic communication to the design process. Students will gain more hands-on experience creating freehand sketches, CAD technical drawings using more complex orthographic projections, sections, auxiliary views and isometric drawings. The course presents logical, well-tested, step-by-step instruction on traditional drafting techniques and inventor commands.  
**Prerequisites:** DF 108

**DF 230 - Introduction to Solid Works**  
**Credit Hours:** 2  
An introduction to drafting and modeling software for development of working drawings, which detail the manufacturer and assembly of mechanical components and devises. The course includes instruction for preparing both virtual and actual presentations utilizing printers and plotters using Solid Works software.

**Criminal Justice**  
**CR 150 - Introduction to Criminal Justice**  
**Credit Hours:** 3  
This course is designed to provide the student with an overview of the American criminal justice system, to provide sufficient background knowledge for students to become conversant in the important concepts relating to criminal justice, and to prepare students for success in other criminal justice classes as well as for careers in public service.

**CR 160 – Criminology**  
**Credit Hours:** 3  
A study of crime and society in the United States; the sociological theory of criminal behavior, indexes of crime, relationships of criminal behavior to the home institutions, race and nativity, psychopathy, culture and behavior systems.

**CR 250 - Introduction to Corrections**  
**Credit Hours:** 3  
This course is designed to study the history of corrections in the world. The history of correction from 2000 BC to the present will be covered. This course will cover the following areas: the American system of corrections (including prisons); penitentiary; jails; probation; parole; juvenile justice; and alternate punishment concept/usages.  
**Prerequisites:** CR 150, CR 160 or permission of instructor.

**Drama-Theatre**  
**DT 101 - Introduction to Drama and Theatre**  
**Credit Hours:** 3  
Broad informal introduction to central theatrical and literary elements of drama. Readings from classical and
modern plays and surrounding criticism includes use of available presentations (radio, film, TV, recordings). First-hand experience of local theatre provokes analysis of theatre as a present and living form of human expression.

Fulfills the following SUNY General Education categories: The Arts or Humanities

Note: A course can only be used to fulfill one General Education category.

**DT 103 - Introduction to Theatre**
*Credit Hours: 3*

An introduction to the theatre experience. This course will involve a survey of the development of theatre, acting theory and techniques, directing theory and methods and basic principles of stage design and stagecraft. Study will involve the relationship of these elements to the script and will emphasize the theatre as a form of cultural and social expression.

Fulfills the following SUNY General Education categories: The Arts or Humanities

Note: A course can only be used to fulfill one General Education category.

**Early Childhood**

**CC 200 - Early Childhood Education I**
*Credit Hours: 3*

Introduces the student to Early Childhood Education. Examines the role and career of the Early Childhood professional. Introduces the student to NAEYC Core Values/Code of Ethical Conduct, NYS Core Body of Knowledge, and the NYS Early Learning Guidelines. Discusses the history and theory of Early Childhood Education. Discusses the social, intellectual, emotional and physical development of the young child; the child’s needs and how the Early Childhood professionals and centers meet these needs. Introduces the activities and materials of Early Childhood Education with an emphasis on literacy. Reviews regulations and standards of what constitutes quality Early Childhood programs. Students are required to visit and write a report on one Early Childhood Education Center in the Buffalo metropolitan or suburban area. They will also enter into a relationship with that center which will become a Service Learning opportunity.

Concurrent Registration: CC 201

**CC 201 - Early Childhood Lab I**
*Credit Hours: 1.5*

Course correlated with CC 200 - Early Childhood Education I. CC 201 is held at an off-site, high quality early childhood program and is designed to introduce students to working with young children and their teachers. Under the direct supervision of the ECC instructor, students will have the opportunity to interact with and observe children and staff in a professional setting.

Concurrent Registration: CC 200

**Emergency Medical Technology/Paramedic**

**EG 113 - EMT Basic**
*Credit Hours: 8*

The fundamentals of basic life support, human anatomy and physiology, assessment-based care of medical and trauma emergencies, extrication and transportation form the core of this course. Cardial electrophysiology and rhythm recognition using semi-automatic defibrillators is taught. Basic cardiology, rhythm recognition and cardiac defibrillation using semi-automatic equipment and assistance with patient’s prescribed medications are also included. Guest lecturers from in-hospital and pre-hospital field units are utilized and students are required to spend 10 hours of clinical observation in the area emergency departments. The clinical sites require verification of physical exam and immunizations. Successful completion may lead to New York State Basic EMT Certification.

Requirements for NYS Certification:

- 100% attendance is required for eligibility to sit for the NYS written exam; student must be 18 years of age, and have no criminal record, in order to sit for exam; student must have a minimum of 80% overall course average; student must pass the final practical evaluation; and ten (10) hours of clinical time must be completed and documentation on file with the course instructors.

**English**

**EN 110 - College Composition**
*Credit Hours: 3*

A course designed to develop writing skills through a variety of writing tasks. The course will emphasize the use
of rhetorical strategies in development of ideas, mastery of basic scholarly conventions, and application of critical thinking skills. Reading selections support the aims of the course. A documented research paper is required.

_Fulfills SUNY General Education – Basic Communication._

**EN 111 - Composition and Interpretation of Literature**
*Credit Hours: 3*
A course designed to assist the student in understanding and appreciating fiction, drama and poetry. Stress will be placed on oral and written criticism.

_Fulfills the following SUNY General Education categories: The Arts or Humanities._

Note: a course can only be used to fulfill one General Education category.

Prerequisites: EN 110 or EN 120 or permission of the instructor.

**EN 114 - Public Speaking**
*Credit Hours: 3*
The development of clear and effective oral communication. Students will learn discussion techniques and prepare and deliver various types of speeches.

**EN 120 - Composition and Occupational Communication**
*Credit Hours: 3*
Development of skills in writing, reading, speaking and critical thinking. Students will have written and oral practice in a variety of business and technical reports.

**EN 140 - Creative Writing I**
*Credit Hours: 3*
Through a wide variety of poetry and fiction, students will have the opportunity to develop their creative writing skills in both genres and produce a project in each.

_Fulfills SUNY General Education – The Arts._

**EN 210 - American Literature to (1865) I**
*Credit Hours: 3*
An introductory survey of American literature and its relationships to literary, historical, and socio-political movements from its beginnings to the Civil War.

_Fulfills the following SUNY General Education categories: The Arts or Humanities._

Note: A course can only be used to fulfill one General Education category.

**EN 211 - American Literature Since (1865) II**
*Credit Hours: 3*
An introductory survey of American literature and its relationships to literary, historical, and socio-political movements from 1865 to the present.

_Fulfills the following SUNY General Education categories: The Arts or Humanities._

Note: A course can only be used to fulfill one General Education category.

**EN 220 - British Literature I**
*Credit Hours: 3*
A survey of selected works of major British writers from the Anglo-Saxon period to 1800 with a consideration of English literary tradition.

_Fulfills the following SUNY General Education categories: The Arts or Humanities._

Note: A course can only be used to fulfill one General Education category.

**EN 221 - British Literature II**
*Credit Hours: 3*
A survey of selected works of major British writers from the Romantic period to the present with a consideration of English literary tradition.

_Fulfills the following SUNY General Education categories: The Arts or Humanities._

Note: A course can only be used to fulfill one General Education category.
Foreign Language-French/Spanish
FR 112 - Intermediate French
Credit Hours: 3.5
A continuation of FR 110-111. The aim of this course is to improve the student's fluency in audio-lingual skills with special emphasis on the understanding of the grammatical structure of French through selected contemporary French texts. 
Fulfills SUNY General Education – Foreign Language.

FR 205 - Introduction to French Literature
Credit Hours: 3.0
Basic works by French authors will be read. Oral and written work will focus on the comprehension of the text, the background of the author and writings will be assigned relative to the readings. An overall review of the grammatical structure of the language will be included.
Prerequisites: FR 112 or the equivalent

SP 112 - Intermediate Spanish I
Credit Hours: 3.5
A continuation of the grammar structure of the Spanish language with emphasis on the subjunctive mood and compound indicative tenses. Students will be required to prepare written and oral work as assigned by the professor. The course content will expand the vocabulary and sentence structure beyond the basic level and establish a solid foundation in the language. For students who passed the third year high school NYS Regents or equivalency of study in the language or successful completion of SP 111. 
Fulfills SUNY General Education – Foreign Language.

SP 205 - Introduction to Spanish Literature
Credit Hours: 3
Basic works by authors from various Spanish speaking countries will be read. Oral and written work will focus on the comprehension of the text, the background of the author and writings will be assigned relative to the readings. An overall review of the grammatical structure of the language will be included.
Fulfills SUNY General Education – Foreign Language.
Prerequisites: SP 110, SP 111 or the equivalent.

General Studies
GS 111 - College Success Skills
Credit Hours: 3
This course provides an opportunity for students to learn and adopt methods and strategies to promote personal growth and success in college and in life. Topics include: learning styles, problem solving and creativity, cultural diversity, bibliographic instruction, time/task management, methods of inquiry and critical thinking, academic policies and procedures.

Geology
GL 170 - Field Ecology
Credit Hours: 3
A field-oriented lecture and laboratory experience which will examine varied environments and the unique biotic factors associated with them. A diverse array of environmental issues will be presented, with attention to the concepts of the environment, pollution, and the balance of man-made environments. Lectures and laboratory experiments will be conducted both on and off campus, and will be focused on the areas of environmental analysis, general ecology and conservation ecology. Several field trips are required. A car pool or a car for field trips are required.

Government
GO 103 - International Political Relations
Credit Hours: 3
This course is designed to introduce students to the theme of world politics and the evolution of global political systems. The course will address the following topics: system characteristics and factors that cause international systems to change, nationalism and national interests, power and force as instruments of international politics, North-South issues, the international legal system, progress in the resolution of global economic and social and environmental problems.
Fulfills SUNY General Education – Social Sciences.

Health
HT 101 - Health
Credit Hours: 3
This is an introductory course designed to provide a broad spectrum of information in the areas of health and wellness. Upon course completion, the student will be able to distinguish and discuss health concerns related to personal lives, community and the environment.

History
HI 100 - Foundations of Western Civilization
Credit Hours: 3
This course will survey the classical world—Hellenic, Hellenistic and Roman—and address its role in the formation of Western civilization.
Fulfills SUNY General Education – Western Civilization.

HI 101 - American History I
Credit Hours: 3
A survey of American history from the colonial period to the Civil War.
Fulfills SUNY General Education – American History.

HI 102 - American History II
Credit Hours: 3
A survey of American history from Reconstruction to the contemporary era.
Fulfills SUNY General Education – American History.

HI 231 - Civil War and Reconstruction
Credit Hours: 3
This course is a survey of the causes, course and effects of the Civil War and Reconstruction. It focuses on the political, economic, social and military events of the era.
Fulfills SUNY General Education – American History for students scoring 85 or above on the NYS Regents Exam in U.S. History.

HI 241 - History of World War II
Credit Hours: 3
A study of World War II: the broad historical background, the military, diplomatic, technological, social and cultural history, and its enduring impact on the societies of the world.
Fulfills SUNY General Education – Western Civilization.

Information Technology
DA 103 - Introduction to Information Technology
Credit Hours: 4
Overview of how information technology is used in everyday life. Topics include the history of computers, hardware, software, data, information, networks, telecommunications, e-commerce, systems development, specialized information systems, the personal and social impact of computers, and current topics in IT.

DA 105 - Introduction to Structured Programming
Credit Hours: 3
A non-programming theory course which emphasizes the analysis and design phases of the software development cycle. The analysis of program specifications determine the completeness of the specification. The use of various structured techniques and tools to design programs and evaluate program designs.

DA 106 - Introduction to Microcomputer Applications
Credit Hours: 3
The study of four major microcomputer applications: word processing, spreadsheets, presentations and database management, plus microcomputer operating systems fundamentals. The completion of projects in
each of the application areas using a commercially available microcomputer product.

Mathematics

MT 125 - College Mathematics
Credit Hours: 4
The first course in a two-semester sequence of college algebra and trigonometry. The sequence is preparatory for an introductory or survey level of calculus. Basic algebra skills are reviewed and extended. Functions, in general, and their inverses are studied along with the properties, graphs and transformations of linear, quadratic, absolute value, radical, rational, logarithmic and exponential functions. Equations of the above functions as well as linear systems of equations and linear and absolute value inequalities are solved. Related application problems are incorporated throughout.
Fulfills SUNY General Education – Mathematics.

MT 126 - College Mathematics II
Credit Hours: 4
A study of trigonometry and analytic geometry. Topics included will be fundamental trigonometry, graphs of trigonometric functions, trigonometric identities and equations, inverse trigonometric functions, oblique triangles, complex numbers, analytic geometry, systems of quadratic equations and inequalities.
Fulfills SUNY General Education – Mathematics.

MT 143 - Introductory Statistics I
Credit Hours: 4
This four-credit course includes concepts and computer skills which are valuable in a variety of life and work applications, as well as in more advanced coursework. This course will include topics from descriptive and inferential statistics, such as graphing, measures of central tendency and dispersion, probability frequency distributions, Central Limit Theorem, the normal distribution, sampling concepts, estimation, hypothesis testing, linear regression, correlation, utilization of a statistical software package, interpretation of computer output, and explaining and interpreting statistical analysis.
Fulfills SUNY General Education – Mathematics.

MT 175 - Survey of Calculus I
Credit Hours: 4
Primarily designed for the non-engineering student who desires or requires calculus as a tool. This may include Liberal Arts, Business, Pre-Med, Pre-Pharmacy, Computer Information Systems and others. Topics include the limit, continuity and differentiability of algebraic functions; maxima and minima; introduction to integration; exponential and logarithmic functions and their differentiation and integration; and applications of differentiation and integration.
Fulfills SUNY General Education – Mathematics.

MT 180 - Pre-Calculus Mathematics
Credit Hours: 4
Solutions to equations and inequalities, behavior of polynomial, rational, transcendental and other functions, sequences and series, two and three dimensional coordinate systems, vectors and matrices. Topics in this course are essential for students who will enroll in the MT 181-182-283 sequence. Graphing calculators will be used throughout the course. No mathematics elective credit will be given to Liberal Arts - Mathematics majors if taken after passing MT181.
Fulfills SUNY General Education – Mathematics.

MT 181 - Calculus and Analytic Geometry I
Credit Hours: 4
Intended for mathematics, science and engineering students, or anyone interested in seeing a rigorous approach to calculus. First in a four semester sequence. Topics from analytic geometry, limits, the derivative and its applications, continuity, integration and transcendental functions.
Fulfills SUNY General Education – Mathematics.

Paralegal

PA 205 - Introduction to Law
Credit Hours: 3
This course is designed to provide the student with a general understanding of the law and our legal system.
The textbook, classroom lectures and other materials will provide the student with the essential background in
law that any undergraduate ought to have. The intent is to cover basic fields of law such as property rights,
contracts, torts, civil actions and criminal law. This course will examine changes in the law in response to
historical events and their impact on society as a whole.
*Fulfills SUNY General Education – Social Sciences.*

**Physical Education**

**PE 109 - Introduction to Exercise Science**
*Credit Hours: 3*
This course introduces the scientific discipline of Exercise Science. The course will examine the fields of
exercise physiology, biomechanics, sport psychology, motor control and motor learning, sports-related injuries,
exercise nutrition and the health benefits of physical activity. The course will benefit those who plan to continue
study in exercise science, physical education, health related professions or those with a general interest in the
science of exercise and movements.

**PE 202 - Physical Fitness I**
*Credit Hours: 1*
An introductory class emphasizing the development of an individualized fitness program. Students will engage
in a variety of activities while gaining knowledge of the health-related components of physical fitness to improve
their overall fitness level. Students will focus on reaching the standards for entrance into the NYS police

**PE 203 - Physical Fitness II**
*Credit Hours: 1*
An introductory class emphasizing the development of an individualized fitness program. Students will engage
in a variety of activities while gaining knowledge on how to apply the FITT principles to improve their overall
fitness level. Students will focus on reaching the standards for entrance into the NYS police academy

**PE 223 - Weight Training I**
*Credit Hours: 1*
An introductory class emphasizing the development of an individualized weight training program. Students will engage
in a variety of strength and endurance training activities, while gaining knowledge about the importance
of muscular fitness for a healthy lifestyle.

**PE 224 - Weight Training II**
*Credit Hours: 1*
A class emphasizing the development of an individualized weight training program. Students will engage in a
variety of strength and endurance training activities, while gaining knowledge about the importance of muscular
fitness for a healthy lifestyle.

**PE 289 - Lifeguarding**
*Credit Hours: 1*
The purpose of this course is to provide participants with the knowledge and skills necessary to prevent,
recognize and respond to aquatic situations and to provide professional-level care until emergency medical
services (EMS) personnel take over. Successful completion of this course may lead to American Red Cross
Lifeguarding certification. Prerequisites: 15 years old; excellent swim skills; swim test at first class: swim 300
yards continuously demonstrating breath control and rhythmic breathing, tread water for 2 minutes using only
legs, and complete a timed event within 1 minute and 40 seconds.

**Physics**

**PH 120 - Environmental Science**
*Credit Hours: 3*
Diverse arrays of environmental issues are presented with particular attention to the concepts of energy and its
role in the environment, pollution, population, resource use and the balance of man-made environments. *Fulfills
SUNY General Education – Natural Sciences.*
Concurrent Registration: PH 121 recommended.
PH 121 - Lab for Environmental Science  
*Credit Hours: 1*  
This lab science elective satisfies the lab science course requirement for non-science majors. It is a required course for both the Environmental Science and the Environmental Technology degree programs.  
*Fulfills SUNY General Education – Natural Sciences.*  
Concurrent Registration: PH 120

**Telecommunications Technology**  
**TE 211 - Telecommunications III**  
*Credit Hours: 4*  
This course describes the architecture, components and operation of routers and switches. Students analyze, configure, verify and troubleshoot the primary routing protocols RIPv1, RIPv2, EIGRP and OSPF. The course also explains how to configure switches for basic functionality and how to implement Virtual LANs, VTP and Inter-VLAN routing in a converged network. Wireless networks are also explored. Laboratory exercises will be required.  
Prerequisites: TE 210 or permission of the instructor.

**TE 212 - Telecommunications IV**  
*Credit Hours: 3*  
A survey of current and emerging technologies in telecommunications will be presented. Topics included are telecommunications access and transport technologies, VOIP, wireless communications and network security. Lectures, interactive learning, demonstration and site visits will be employed. Laboratory exercises will be required.  
Prerequisites: TE 210 or permission of the instructor.

**Visual Communication Technology-Graphic Arts/Printing**  
**GA 125 - Create With Illustrator®**  
*Credit Hours: 2.5*  
The definition and creation of object-oriented vector graphics will be the focus of this course as well as the exploration of the role of an illustrator. Students will learn how to master basic techniques of creating an original piece of digital art in Adobe Illustrator. Studies in advertising along with the integration of creative copy, the use of typography and creative problem solving will be emphasized. The course objective is to have students develop a variety of multi-colored visual projects that emphasize creativity and problem solving for inclusion in a portfolio.

**GA 131 - Photoshop I®**  
*Credit Hours: 2*  
This course introduces the student to the basics of Photoshop using a MacIntosh computer. The Photoshop menu and sub-menu will be explored along with various interactive panels. Students will gain practical knowledge from hands-on laboratory projects.

**GA 145 - Web Page Design with Dreamweaver**  
*Credit Hours: 3*  
The theory and hands-on operation of Web design including basic and advanced functions will be covered using Adobe Dreamweaver. The concepts of Web page design, utilizing interactivity, and information organization as they relate to constructing effective Web pages. The course objective will be to design and execute a multi-page Web site utilizing Adobe Dreamweaver.