



COURSE DESCRIPTIONS

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GENERAL NOTE: All courses described in this catalog are regularly offered unless noted as follows: FA— fall semester only; WI — intersession/winter term only; SP— spring semester only; SU — summer session only.* The College reserves the right to cancel any course when the enrollment is insufficient to support the course. The right is also reserved not to offer a course if resources become unavailable or if the course has been dropped from the curriculum since the last printing of this catalog.

General Education

Students who plan on earning an A.A. or A.S. degree are expected to complete courses in seven (7) of the (10) State University of New York (SUNY) General Education categories. Please consult with your academic advisor for specific course selections.

The General Education Knowledge areas are listed accordingly: A: Arts; C: Communications; F: Foreign Language; H: Humanities; M: Mathematics; N: Natural Sciences; O: Other Civilizations; S: Social Sciences; U: U.S. History; W: Western Civilization.

Courses are listed in alphabetical order by title. An index of page numbers is found in the back of this book.

*s.h. means semester hours.

Non-Credit Laboratory Courses (Course listings)

The purpose of these labs is to provide supplementary instruction for students who desire it on a non-credit basis. Fees are covered as part of credit tuition and/or lab fees.

C001 Computer Laboratory Non-Credit

This course has been designed to provide supervised hands-on computer experience for those students enrolled in data processing and mathematics courses requiring understanding of computer operation and use of computer terminals. Hours vary according to student needs.

C002 Office Technology Laboratory Non-Credit

This course is designed to provide instructional support for those students enrolled in office technology and word processing courses and to provide alternate instructional experiences for those who wish to learn independently. Hours vary according to student needs.

C003 Nursing Laboratory Non-Credit

This course has been designed to provide instructional support for those students enrolled in nursing courses and to provide alternate instructional experiences for those who wish to learn independently. Hours vary according to student needs.

C004 Mathematics Laboratory Non-Credit

This course has been designed to provide remedial assistance in mathematics for students planning to enroll or currently enrolled in any of the traditional mathematics courses offered at the College. Hours vary according to student needs.

C005 Accounting Laboratory Non-Credit

This course has been designed to provide remedial support experiences for those students enrolled in traditional accounting courses, and to provide alternative experiences for those who wish to learn independently to update their vocational skills in accounting. Hours vary according to student needs.



C006 Study Skills Laboratory Non-Credit

Students work independently under the supervision of the instructor, who set up an individualized remedial program to enhance the student's study skills and college-level performance. *Hours vary according to student needs.*

C007 Electricity Laboratory Non-Credit

This course has been designed to provide hands-on electric circuitry experience for those students enrolled in electrical programs that require additional work in electricity. *Hours vary according to student needs.*

C008 Academic Software Skills Non-Credit

This course has been designed to provide academic computing skill experience for those students enrolled in Career/Liberal Arts & Science programs that require additional work with various software packages. *Hours vary according to student needs.*

English as a Second Language Intensive Language Program (EF) (Course listings)

Fulton-Montgomery Community College offers a full-time non-credit Intensive English as a Second Language (ESL) Program for students who need to improve their language ability before beginning full-time study in a college degree program. The ESL Language Program is also intended for those who want to study English for career or social purposes. Students are given instruction in listening, reading, writing and speaking skills as well as American culture studies. A free placement exam is required before enrollment. For more information contact the Office of International Student & ESL Programs.

All ESL courses beginning with the EF prefix are non-credit/credit-equivalent remedial courses and may be used to meet credit requirements of any athletic, enrollment, financial aid and immigration requirements. However, they cannot be used as electives towards graduation and may not be substituted for any English requirement of any curricula. Students seeking to meet these requirements are required to be matriculated into

a degree program and have a pre-filled program of study form completed prior to enrollment. Tuition charged for credit-equivalent hour courses are consistent with credit hour charges.

The core courses of the Intensive English Language Program include the following four skill areas: Listening Skills, Reading Skills, Writing Skills, and Speaking Skills. Courses are available in multiple language proficiency levels. Each course has 75 hours of intensive language classroom instruction; 5 credit-equivalent hours. Advice and recommendation of the ESL faculty may also allow students to enroll in credit-bearing courses related to their academic goals.

Listening Skills

Practice in aural comprehension, sound discrimination, vocabulary building, and comprehension of main ideas and inferences. Related reading, writing and note-taking activities. This course may lead to further English language studies at higher levels or be repeated, depending on the progress of the student. *Hours of class per week: 3. Credit-Equivalent hours: 5.*

Reading Skills

Practice in comprehension of basic written communication, simple descriptive and narrative texts to more advanced academic materials, study skills, and expository writing. Dictionary usage, vocabulary expansion. Related writing and speaking activities. This course may lead to further English language studies at higher levels or be repeated, depending on the progress of the student. *Hours or class per week: 5. Credit-Equivalent hours: 5.*

Writing Skills

Written reinforcement of grammatical concepts and basic writing tasks and handwriting improvement to the development of written communication skills in preparation for college expository and argumentative composition. Composition from sentence level activities to the paragraph and short essay levels. Integration of related skills. This course may lead to further English language studies at higher levels or be repeated, depending on the progress of the student. *Hours of class per week: 5. Credit-Equivalent hours: 5.*

**Speaking Skills**

Development from simple speaking skills to skills for conversational and academic contexts. Practice in exposition, guided discussion and debate. Related listening, reading and writing activities as well as note-taking and academic study skills. This course may lead to further English language studies at higher levels or be repeated, depending on the progress of the student. *Hours of class per week: 5. Credit-Equivalent hours: 5.*

Orientation to American Culture

Assistance through lecture/workshop/field trip and guest speaker series in adjusting to life and studies at FMCC and the surrounding community, and in understanding specific and broader aspects of American culture. Mandatory for all incoming full-time international students. *Hours of class per week: 5. Credit-Equivalent hours: 5.*

Content Based ESL I

Students are taught English language skills while also studying various topics and themes related to a subject matter class. Vocabulary, discussion, and written activities, including note-taking and essay preparation, will center on various academic themes. This course may lead to further English Language Studies at higher levels or be repeated, depending on the progress of the student. *Hours of class per week: 5. Credit-Equivalent hours: 5.*

**Art
(Course listings)****AR 100 Studio 3 s.h.**

A beginner's course designed to introduce the student to a variety of basic art media and visual aesthetic principles. The course focuses on developing self-expression through the media of design, drawing, painting, printmaking, and sculpture, as well as on evaluating art through class critiques. (Does not fulfill Fine Arts major requirements) *Hours of class per week: 4. General Education: A.*

AR 101 Art History I FA 3 s.h.

Introduction to the history of art. A survey of world painting, sculpture, and architecture from prehistoric times to the Renaissance. The course emphasizes stylistic developments and appreciation of man's aesthetic achievements. Presentation combines lecture,

text, and visual materials. *Hours of class per week: 3. General Education: A.*

AR 110 Language of Visual Art 3 s.h.

This is a non-majors art appreciation course that covers the functioning and meaning of art in various forms and purposes. The course explores how and why the arts exist as human invention for sharing experience and how they are made. Such art forms as painting, sculpture, architecture, photography, crafts, and commercial art will be examined in this course. Does not fulfill Fine Arts major requirements. *Hours of class per week: 3. General Education: A.*

AR 102 Art History II SP 3 s.h.

A continuing introductory course to the History of Art. This course surveys world painting, sculpture, and architecture, from the Renaissance to the present. Prerequisite: None (AR 101 recommended). *Hours of class per week: 3. General Education: A.*

AR 106 Survey of Non-Western Art History 3 s.h.

A survey course focusing on the cultural and historical heritage of selected Non-Western societies from the ancient world to the present day. Exposure through multimedia to painting, sculpture, architecture and decorative arts from a variety of cultures including those of Africa, Asia, Oceania and the Americas. *Hours of class per week: 3. General Education: O.*

AR 150 Two-Dimensional Design FA 3 s.h.

An introduction to the elements and principles of two-dimensional design. The course focuses on visual design as a language to be explored through aesthetic creative problems. Topics include organization, balance, contrast, rhythm, texture, visual movement, and color theory. *Hours of class per week: 4. General Education: A.*

AR 160 Three-Dimensional Design SP 3 s.h.

An introduction to the elements and principles of three-dimensional design as they relate to art, architecture and product design. Form, space, balance, proportion, texture, color and function will be explored through a series of creative visual problems in which aesthetic solutions will be sought. The course will also focus on the evaluation and analysis of a designed form. *Hours of class per week: 4. General Education: A.*

**AR 161 Principles of Photography I FA 3 s.h.**

This course is designed to introduce students to fundamental camera and darkroom techniques. Through lectures, we will discuss various choices in camera, film, lighting, composition, developing and print enlarging. Students will be required to have own 35mm SLR camera. *Lab fees. Hours of class per week: 4. General Education: A.*

AR 162 Principles of Photography II SP 3 s.h.

This course is designed to help foster student's artistic abilities while using photography as the medium. All technical information is taught in AR 161 Art Photography I and is a prerequisite for this course. Photo II is created with the artist in mind. Projects, ideas, and concepts are limited only to the student's creativity. Students are required to have their own 35 mm camera. *Lab fees. Prerequisite: AR 161. Hours of class per week: 4.*

AR 200 Printmaking I FA 3 s.h.

An introduction to basic printmaking techniques. Topics include intaglio printmaking (etching and engraving), the relief print (woodcut and linoleum cut), mono and collograph printmaking. Students develop the conceptual and technical skills needed to produce original prints. The course stresses the development of appropriate attitudes towards quality, organization, and self-discipline along with growth in creative expression. *Prerequisite: AR 100 or 210. Hours of class per week: 4.*

AR 210 Drawing I FA 3 s.h.

A preliminary course which concentrates on the development of technical and creative skills necessary to make drawings as expressive visual language. Topics will include visual composition, line, value, gesture, volume and linear perspective. Drawings will be made from observed and non-observed subjects. *Hours of class per week: 4. General Education: A.*

AR 211 Drawing II SP 3 s.h.

An exploration of drawing using a wider variety of media, with emphasis on creative personal expression. Topics include the development of expressive composition, content and technique, drawing from both non-observed and observed subjects. *Prerequisite: AR 210 or permission of instructor. Hours of class per week: 4. General Education: A.*

AR 220 Painting I FA 3 s.h.

An introduction to painting with water-based acrylic paint utilizing traditional and contemporary techniques. Topics to be covered will be visual composition, application techniques, material use, color theory, value and texture. An emphasis will be placed on seeking personal creative solutions through the exploration of a variety of techniques. Paintings will be made from observed and non-observed subjects. *Prerequisite: None (AR 210 recommended). Hours of class per week: 4. General Education: A.*

AR 221 Painting II SP 3 s.h.

A continuation of the exploration of aesthetic concepts, composition, techniques, and expressive methods used in painting. The course encourages individuals to further develop the technical skill and creativity in the medium of painting. *Prerequisite: AR 220 or permission of the instructor. Hours of class per week: 4. General Education: A.*

AR 230 Watercolor Painting 3 s.h.

An introduction to watercolor painting focusing on basic concepts, techniques, and materials needed to produce creative works in a watercolor medium. The course emphasizes developing compositions through the use of expressive design elements such as movement, value, texture, balance, and color theory. It explores the creative process through a variety of visual problems derived from both observed and subjective sources. *Prerequisite: None (AR 210 recommended). Hours of class per week: 4. General Education: A.*

AR 240 Life Drawing 3 s.h.

Students will develop anatomical knowledge of the human figure while enhancing drawing techniques. Building upon basic drawing skills, this course will focus on observed perspective techniques such as foreshortening and visual viewpoints, gesture studies, strengthening visual memory and drawing sequential action figures. Included will be application and analysis of compositional issues as well as an overview of mainstream figural concepts in contemporary art and illustration. Student will work with the human figure and explore how objective and subjective knowledge work together to create competent and creative images. *Lab fee. Prerequisite: AR 210 Drawing I or permission of instructor. Hours of class per week: 4.*

**AR 245 Introduction to Sculpture 3 s.h.**

The study and exploration of sculpture materials and techniques necessary to produce works of art in a three dimensional form. Basic techniques used will include modeling, carving, casting, welding and wood fabrication methods. Sculpture will be made in a variety of materials and may include clay, stone, wood, metal and found materials. Forms will be created using both additive and subtractive processes. Topics will include: expressive use of form balance, rhythm, emphasis, texture and color. A lab fee is required. *Prerequisite: AR 160 or permission of instructor. Hours of class per week: 4. General Education: A.*

AR 275 Ceramics I FA 3 s.h.

A general course in pottery using a variety of forming techniques, including hand-building techniques, slab, wheel throwing, and ceramic sculpture. It covers concepts relating to clay, glazes, slips, aesthetic and functional form, and firing techniques. Students are required to furnish their own clay. *Lab fee. Hours of class per week: 4. General Education: A.*

AR 295 Gallery Management FA-SP 3 s.h.

An introduction to the operation and management of a contemporary exhibition space. Practical experience will be gained through participation in planning, installing and coordinating a variety of exhibitions in the college's gallery. These exhibitions will be part of the Gallery's yearly exhibition schedule and will allow students to work with a variety of visiting artists as well as curate exhibitions dealing with historical or other cultural subjects. Class projects and lecture demonstrations will be used to explain the theories and procedures of curatorial practices for museums and galleries. Topics will include: display principles, curatorial practices, public relations, management practices as well as exhibition preparation and maintenance. Three field trips will be taken during the semester. *Prerequisites: AR 150; AR 160 highly recommended. Hours of class per week: 4*

AR 300 Fine Arts Seminar SP 3 s.h.

The course allows the student opportunity to develop professional presentation and career skills for employment, college transfer, and exhibition opportunities. It focuses on the development of aesthetic judgment and familiarization with past and current art trends.

Topics include portfolios, resumés, presentations, and business matters of concern to artists. *Hours of class per week: 4.*

**Automotive Technology
(Course listings)**

Automotive Technology courses may meet at sites other than the main campus. Students must make their own transportation arrangements.

Students may need special clothing or equipment in addition to texts. Details are provided by the instructor.

AT 121 Introduction to Automotive Function FA 3 s.h.

A basic course dealing with the construction, principles of operation, and identification of chassis units and support components. Consideration is given to tool identification, shop safety, methods of operation, special tools, automotive terminology, publication, and basic welding (arc and oxyacetylene). *Hours of class per week: 2. Hours of lab per week: 3.*

AR 122 Theory of Internal Combustion Engine FA 3 s.h.

Investigates the basic principles of internal combustion engines, cycles, engine types, construction, and services. Compression condition, noise identification, and internal engine condition analysis is studied through lab experience with high-tech diagnostic equipment. *Hours of class per week: 2. Hours of lab per week: 3.*

AT 123 Internal Combustion Engine Support Systems SP 3 s.h.

Study of the lubrication, cooling, fuel, and emission systems of the internal combustion engine. Experience is gained in the laboratory with test equipment and the infrared unit. *Prerequisites: AT 121, 122, SC 161, or permission of instructor. Hours of class per week: 2. Hours of lab per week: 3.*

AT 124 Automotive Electrical Systems FA 3 s.h.

Application of the principles of electricity to the design, operation, service and repair of automotive electrical starting, lighting, charging and ignition systems. *Prerequisites: AT 121, 122, completion of/concurrent registration in SC 162, or permission of instructor. Hours of class per week: 2. Hours of lab per week: 3.*



AT 225 Automotive Chassis Systems FA 3 s.h.

A more advanced study of steering and suspension designs, including rear suspension, front-end geometry, tire design features and service, and standard and power disc and drum brake systems including basic air conditioning. Prerequisites: AT 121, SC 162, or permission of instructor. Hours of class per week: 2. Hours of lab per week: 3.

AT 226 Power-Trains — Design Features & Analysis SP 3 s.h.

Investigation of the automotive power train. Topics considered include clutches, standard transmission design, automatic transmission designs, drive lines, conventional and limited slip differentials, and axle and wheel bearing requirements. Laboratory experience with special transmission tools, measuring devices, and special pressing equipment is included. Prerequisites: AT 121, SC 162, completion of/concurrent registration in AT 225, or permission of instructor. Hours of class per week: 2. Hours of lab per week: 3.

AT 227 Electronic Engine & Chassis Analysis SP 3 s.h.

This course deals with diagnostics and running problems of the modern automobile. Computerized engine and chassis systems are examined using modern test equipment and hand held scanners. Prerequisites: AT 123, 124, 225, 226, SC 162, or permission of instructor. Hours of class per week: 2. Hours of lab per week: 3.

AT 228 Consumer Relations & Services SP 3 s.h.

The focus of this course will be dealing with the concepts of wholesale and retail operation as they relate to automotive service manager-customer relations, factory representation-dealer relations, and inspection and service for customer comforts. The experience will include field observation of service manager operation and factory warranty function and how it relates to the dealership service technician. Hours of class per week: 3.

Biology (Course listings)

BI 171 Modern Biology FA 4 s.h.

A course in general biological principles relating cell structure to function. Topics discussed include the origin and evolution of life; biochemistry; energetics; the molecular basis of cell metabolism; principles of heredity and the genetic control of cell activity; cell division; the homeostatic regulation of the cell environment. Physiological processes at the organismic level are analyzed and correlated with the simpler manifestations at the cell level. The course emphasizes modern research, the nature and philosophy of science, and the art of experimentation as carried on concurrently in the laboratory portion of the course. Hours of class per week: 3. Hours of lab per week: 3. General Education: N.

BI 172 Plant Biology 4 s.h.

A lecture, lab and field course that introduces major topics of plant biology. Topics include: evolutionary relationships of the major plant groups from algae to angiosperms, microanatomy, morphology, development, life cycles, physiology and photosynthesis. Emphasis is on the land plants especially the angiosperms. Included is an introduction to the ecology of major land plant groups. Prerequisite: BI 171 or permission of instructor. Hours of class per week: 3. Hours of lab per week: 3. General Education: N.

BI 173 Animal Biology SP 4 s.h.

An evolutionary survey of the animals, from protozoa through chordata. Physiological systems are studied, with a focus on general performance and comparative differences among animal groups. The course examines the roles of ecosystem niches and adaptive potential, so that the student becomes aware of the evolutionary significance of the structures studied. It also emphasizes relationships among organisms, with a special focus on impacts on and by humans. Prerequisite: BI 171 or permission of instructor. Hours of class per week: 3. Hours of lab per week: 3. General Education: N.



BI 175 Fundamentals of Tropical Biology 4 s.h.

This course covers organismal, population, community and ecosystem ecology as it applies to tropical ecosystems. Topics include evolution and adaptation to tropical climate and weather, tropical biodiversity, tropical habitats including mangroves, dry land habitats, hardwood hammocks, pinelands, cypress domes and rainforests; tropical community interactions including pollination biology, dispersal, competition, predation, parasitism and mutualism, and conserving biodiversity in the tropics. Field trips will be made to various sites in South Florida including the grounds of the Kampong National Tropical Botanical Gardens, Big Cypress National Park and Everglades National Park. *Hours of class per week: 3. Hours of lab per week: 3. General Education: N.*

BI 181 Anatomy & Physiology I

FA 4 s.h.

BI 182 Anatomy & Physiology II

SP 4 s.h.

A two-semester course exploring the human body as an integrated complex of systems. This course provides a systems approach to the study of human anatomy and physiology. In the first semester students will investigate the concepts of biology and chemistry necessary to the understanding of physiology. They will investigate the structure and function of the cell, tissues, joints, the skeletal, muscular, nervous systems and special senses. In the second semester the emphasis is on studies of blood, the circulatory, digestive, urinary reproductive and endocrine systems as well as metabolism and acid base balance and electrolytes. The laboratory for each session is designed to reinforce the lecture materials and will include dissections of vertebrates as well as experiments on animal tissue and human subjects. *Hours of class per week: 3. Hours of lab per week: 3.*

BI 276 Ecology

SP 4 s.h.

A study of ecological principles that pertain to individual organisms, populations, communities and ecosystems. Topics include temperature, water and energy balance within organisms, population distribution and abundance, intraspecific and interspecific

interactions, species abundance and diversity, energy flow and nutrient cycling through communities, and some mechanisms of population, community and ecosystem change over time. Laboratories will focus on both lab and field techniques in ecology with a strong emphasis on experimental design. *Prerequisite: BI 172 or BI 173 or permission of instructor. (MA 151 strongly recommended). Hours of class per week: 3.*

BI 282 Microbiology

4 s.h.

A lecture and lab course that introduces major topics of microbiology. Topics include: microbial cell structure, function, physiology, metabolism, genetics, diversity, and ecology. Applied microbiology topics include: biotechnology and medical microbiology. Students are introduced to basic microbiological skills in the laboratory including: sampling for microbes, aseptic technique, isolation, culturing, identification, and light microscopy techniques. Major emphasis is on bacteria. Other organisms discussed include: viruses, fungi and eukaryotic human parasites. *Prerequisite: BI 171 or SC 135 or both BI 181 and BI 182 or permission of instructor. Hours of class per week: 3. Hours of lab per week: 3.*

Business: Business Administration, Accounting (Course listings)

Business Administration

BU 101 Principles of Business

3 s.h.

An introductory course to the diverse world of business, its structure, its operations and its impact upon each of us as employees, as consumers, as individuals, and as members of society. The course acquaints the student with major disciplines of business, such as management, marketing, finance, human resource management and production management, from which the student may choose a career core for future study and training. The course may use case studies and computerized and manual business games. *Hours of class per week: 3.*



BU 103 Mathematics of Business Finance 3 s.h.

A review of the basic fundamentals and use of shortcut operations in arithmetic computations. Instruction in financial topics dealing with bank loans, interest, credit cards, bank reconciliation, property taxes, payroll, inventory, depreciation, trade and cash discounts, partial payments, markup and markdown, and present value. *Hours of class per week: 3.*

BU 130 Speedwriting 3 s.h.

Students will develop fast, efficient note-taking skills for use in many careers (including office support) and for personal use through the development of Speedwriting, an alphabetic shorthand system. Specific uses for Speedwriting are recording minutes of meetings, telephone messages, class notes, instructions, and dictated correspondence. This course is open to all students.

BU 137 Business Communication 3 s.h.

Emphasis on composing various types of business communications in a clear and concise manner while maintaining readers' goodwill. The course also includes a review of grammar and mechanics of writing, spelling, and some public speaking. Prerequisite: None. (OT 133 or equivalent recommended). *Hours of class per week: 3.*

BU 141 Marketing 3 s.h.

Introduction to the basic principles and terminology used in the marketing field. Familiarity with the variety of environmental factors that influence marketing decisions as well as the importance of a customer-oriented philosophy of doing business. Topics covered include: determining marketing opportunities, environmental analysis, consumer buying behavior, as well as product planning, promotion, distribution and pricing. The importance of market research is also discussed. *Hours of class per week: 3.*

BU 145 Salesmanship 3 s.h.

A comprehensive treatment of professional salesmanship, including an analysis of consumer types and buying motives, the approach and development of sales strategy. Students are required to make sales presentations in role-playing situations. The course places equal emphasis selling consumer and industrial products. Prerequisite: BU 141 or permission of instructor. *Hours of class per week: 3.*

BU 151 Human Resources Management 3 s.h.

Introduction to the basic principles, techniques and terminology used in the human resources field. Topics covered include: human resource planning, job analysis and design, equal opportunity laws, recruitment, selection, orientation, training, performance appraisals, wages, incentives and benefits. Unions and collective bargaining are also discussed. *Hours of class per week: 3.*

BU 153 Supervision SP 3 s.h.

Study of the supervisor, key person in a company's chain of command. Supervisory role as perceived by superiors, subordinates, and peers. Study of the skills, attitudes and aptitudes necessary for effective supervision. Emphasis on practical solutions to employer-employee problems within supervisor's authority and responsibility. The course uses lecture, case discussion, and role-playing instructional techniques. Prerequisite: BU 101. *Hours of class per week: 3.*

BU 160 Introduction to Finance 3 s.h.

The course introduces the student to the role of finance in modern business operations, providing a survey of both internal and external financial requirements and transactions handled primarily by mid-management personnel. Prerequisite: BU 121. *Hours of class per week: 3.*

BU 170 Advertising 3 s.h.

A survey of the advertising field, policies, procedures, and practices in planning and preparing various types of advertisements and selecting media. Prerequisite: BU 141 or permission of instructor. *Hours of class per week: 3.*

BU 171 Business Law I 3 s.h.

This course is designed to introduce students to the substantive legal areas of constitutional law, crimes, torts, common law contracts, sales contracts and commercial paper as it applies to their personal lives and to the business environment. The interaction of business ethics and the law is also examined. *Hours of class per week: 3.*



BU 172 Business Law II 3 s.h.

This course provides in-depth treatment of the substantive legal areas of agency law partnership law, corporation law, employment law and government regulation of business. The interaction of business ethics and law is also examined. Prerequisites: BU 171 recommended. *Hours of class per week: 3.*

BU 179 Principles of Management 3 s.h.

The course deals with the basic principles of management with applications to both entry-level positions and middle managers. It covers principles such as the nature and role of the manager, the decision-making process, and the traditional management functions of planning, organizing, leading and controlling. *Hours of class per week: 3.*

BU 183 Purchasing 3 s.h.

This course covers the nature and importance of the procurement function in modern business organizations. Topics covered include development of sources of supply; purchasing procedures, policies and techniques; the negotiation of process; vendor selection and price determination as well as the service, quality and legal aspects of purchasing. *Hours of class per week: 3.*

BU 201 Principles of Global Business 3 s.h.

A study of the basic concepts pertaining to global business and communication, including cultural, economic, political, legal, and geographic aspects of developed and developing countries. The course addresses global marketing, management, financing, production, sourcing, communication, and ethics to acquaint the student with various areas of global business. *Prerequisites: BU 101, EC 180, or permission of instructor. Hours of class per week: 3.*

BU 243 Retail Management SP 3 s.h.

A study of the principles and problems in the management of retail operations covering organization, store planning, selecting locations, customer services, merchandising policies, stock levels, and purchasing procedures. *Prerequisite: BU 101, BU 141 or permission of instructor. Hours of class per week: 3.*

BU 265 Small Business Management 3 s.h.

The course provides essential concepts of starting and operating a small business with a focus on developing a business plan. Topics covered include ways to become an entrepreneur, franchise operations, marketing plans, financial plans and management plans. *Prerequisite: BU 141 and BU 121 recommended. Hours of class per week: 3.*

BU 298-299 Business Internship 1-4 s.h.

The Business Internship serves as a structure for the awarding of credit for prearranged academically applicable work experiences. Students who have satisfactorily completed relevant business courses may be placed with an approved agency on a part-time basis. Participation requires the approval of a Business Instructor and the appropriate Academic Dean. Evaluation of the student's performance is the responsibility of the instructor. A maximum of eight (8) semester hours of credit may be earned by any one student. *Prerequisites: Previous business relevant coursework, approval of instructor and dean. Hours of class per week: 1-4.*

Accounting (Course listings)

BU 121 Accounting I 4 s.h.

This course serves as an introduction to financial accounting. This course introduces the concept of transaction analysis, the accounting cycle, double entry bookkeeping and the creation of financial statements (Income Statement, Statement of Owner's Equity and the Balance Sheet). Specific Balance Sheet accounts and their corresponding impact on the Income Statement are examined in detail including Cash, Inventory, Accounts Receivables, Notes Receivable, and Fixed Assets. Emphasis is on sole proprietorships and partnerships. *Hours of class per week: 4.*

BU 122 Accounting II 4 s.h.

This course is a continuation of BU 121. The topics covered in this course include accounting for liabilities, corporation accounting, the preparation of the statement of cash flows and financial statement analysis. *Prerequisite: BU 121. Hours of class per week: 4.*

**BU 147 Computerized Accounting:
Principals and Applications 4 s.h.**

A hands-on laboratory based introductory accounting course, Computerized Accounting: Principals and Applications provides students with real-world exposure to use of leading microcomputer accounting solutions. Primary computerized accounting principles covered include Receivables, Payables, Inventory, and Payroll; culminating in the generation of end-of-period financial statements in conformity with Generally Accepted Accounting Principles. Additional topics include: Fixed Assets Depreciation, Bond Interest Amortization and Present Value Analysis. *Prerequisites: CS 105 and BU 121 or permission of instructor. Hours of class per week: 4.*

BU 221 Intermediate Accounting I FA 4 s.h.

This course covers the theoretical framework of accounting with emphasis on the cost, matching, revenue and full disclosure concepts and how they relate to the preparation of the four required financial statements. A detailed review of the accounting cycle is also covered. *Prerequisite: BU 122. Hours of class per week: 4.*

BU 222 Intermediate Accounting II SP 4 s.h.

This course provides a detailed examination of specific financial statement accounts or group of accounts, including but not limited to inventory, bonds payable, investments, stockholders' equity, fixed assets and leases. The examination reviews the specific GAAP rules that apply to each account or group of accounts covered as well as their presentation on the financial statements. *Prerequisite: BU 221. Hours of class per week: 4.*

BU 224 Cost Accounting FA 3 s.h.

Accounting for direct labor, materials, and factory overhead under both on-job-order costing and process costing. Standard cost principles and procedures; budgeting and direct decision-making is among other topics covered. *Prerequisite: BU 122. Hours of class per week: 3.*

BU 225 Federal Income Taxes SP 3 s.h.

This course studies federal tax law and regulations. It covers the tax formula, gross income, exclusions, deductions, tax credits, gains and losses and the

computation of income tax liability. This course provides practice in the preparation of individual tax returns and the preparation of tax returns for sole proprietorships. *Prerequisite: BU 121 or permission of instructor. Hours of class per week: 3.*

BU 261 Managerial Accounting SP 3 s.h.

A course devoted to the use, rather than the construction, of accounting records and statements. Topics covered are analysis and interpretation of financial data, flow of funds, cost concepts and applications, budget, and decision-making. *Prerequisite: BU 122 or permission of instructor. Hours of class per week: 3.*

**Chemistry
(Course listings)
(See also SC 170, 171)****CH 173 General Chemistry I FA 4 s.h.****CH 174 General Chemistry II SP 4 s.h.**

This course provides a comprehensive introduction to fundamental chemical principles. Topics include scientific notation, dimensional analysis, thermo chemistry, atomic theory, periodicity, bonding, states of matter, solutions, electrochemistry, thermodynamics, kinetics, nuclear chemistry, and a brief introduction to organic chemistry. *Prerequisites: High School Algebra, MA 147 or permission of instructor. Hours of class per week: 3. Hours of lab per week: 3. CH 173-General Education: N.*

CH 221 Organic Chemistry I FA 4 s.h.**CH 222 Organic Chemistry II SP 4 s.h.**

An integrated course examining the structure, synthesis and reactions of aliphatic and aromatic organic compounds and stressing the underlying principles of reaction mechanisms, kinetics, stereochemistry and detection techniques. The second half of the course (CH 222) is a continuation of the first half and includes the study of fats, carbohydrates, proteins and nucleic acids. The laboratory is designed to familiarize the student with basic techniques of organic chemistry including extractions, crystallization, distillation and chromatography, and the application of these techniques to qualitative analysis and synthesis. *Prerequisites: CH 173-174. Hours of class per week: 3. Hours of lab per week: 3.*



Criminal Justice (Course listings)

CJ 101 Introduction to Criminal Justice 3 s.h.

A survey of the historical and philosophical development of law enforcement; analysis of the court system; the criminal justice process; constitutional limitations placed upon the criminal justice system. The course emphasizes the interrelationship between these agencies and future trends in law enforcement. *Hours of class per week: 3.*

CJ 103 Criminal Law 3 s.h.

A survey of the history and philosophy of criminal law; the scope, purpose, definition and classification of modern criminal law; offenses against the person, property offenses; and a discussion of the relationship between the Constitutional rights of the individual and the protection of society. *Hours of class per week: 3.*

CJ 105 Principles of Criminal Investigation 3 s.h.

An analysis of the nature and purpose of criminal investigation. Discussion includes various methods of investigation, the interview, the interrogation of witnesses and suspects, collection and preservation of evidence, use of informants, techniques of surveillance and special investigation techniques, methods used in police science laboratory, ballistics, documents, serology, photography, and related forensic services. *Prerequisite: CJ 103. Hours of class per week: 3.*

CJ 107 Police-Community Relations 3 s.h.

Survey of the numerous and complex factors involved in the area of human rights. Topics covered include controlling racial prejudice in the community; the role of police as professionals; and examination of prejudice and discrimination and their effects and implications for police in a changing society. The course surveys the history and development of civil rights and liberties. *Hours of class per week: 3.*

CJ 112 Introduction to Police Organization & Management 3 s.h.

The principles of administration and management as they apply to law enforcement agencies. A study of police organizational structure, responsibilities, and interrelationships; an analysis of staff-line relationships and functions within the context of a police environment.

Analysis of the functions of specialized units within police organizations, including police planning and research, patrol operations, internal affairs, and public relations. Principles of personnel management and supervision; police labor relations; consideration of alternative and comparative models of law enforcement organizations; the elements of organized crime and impact on police operations and management. *Hours of class per week: 3.*

CJ 113 Private Sector Issues 3 s.h.

This course is designed to familiarize the student with the legal and historical aspects of private sector police. Special attention will be given to the differences between public and private sector police. Principles and practices related to internal loss prevention will be covered. The legal and ethical responsibilities of private sector police in relation to issues of safety and health. *Hours of class per week: 3.*

CJ 121 Introduction to Corrections 3 s.h.

A course designed to expose the student to the history of, and theories behind, various types of correctional programs. The corrections field is comprised of many areas. The course explores the continuum of correctional services from probation to community corrections to institutional facilities, both the function of the facility and the inmate subculture, through parole. Further, the course addresses basic philosophical issues in corrections and focuses on the relationship between system goals and the needs of society. *Hours of class per week: 3.*

CJ 260 Criminal Prosecution Seminar SP 3 s.h.

A practical, realistic, simulated prosecution of a hypothetical criminal case, from investigation through arrest, arraignment, pre-trial hearings, trial and appeal. Students are required to engage in the same discretionary decision-making as practiced by Police, Prosecutors and the Courts. The class prepares documents used in the prosecutorial process, including search warrants and their supporting affidavits, arrest and charging documents, pre-trial motion and answering papers, and basic appellate arguments. Students engage in courtroom testimony and presentation of evidence through role-playing in simulated hearings. *Prerequisites: CJ 103, 104, 105, permission of instructor. Hours of class per week: 3.*



CJ 289 Professional Development Seminar 1 s.h.

This is a capstone course which surveys the current and anticipated opportunities for a career within the Criminal Justice System through a variety of methods that may include on site experiences, field surveys, professional publications, speakers and symposiums. Through documented self-assessment, students will identify their educational strengths and weaknesses and determine formal and informal methods for further professional growth and development. Students are expected to investigate and present a professional topic review. *Hours of class per week: 1.*

CJ 298-299 Criminal Justice Internship 1-4 s.h.

The Criminal Justice Internship serves as a structure for the awarding of credit for prearranged academically applicable work experiences. Students who have satisfactorily completed relevant criminal justice courses may be placed with an approved agency on a part-time basis. Participation requires the approval of a Criminal Justice Instructor and the appropriate Academic Dean. Evaluation of the student's performance is the responsibility of the instructor. A maximum of eight (8) semester hours of credit may be earned by any one student. *Prerequisites: Previous criminal justice relevant coursework, approval of instructor and Dean. Hours of class per week: To Be Announced.*

Collaborative Career Learning (COCAL) (Course listings)

CL 191 Collaborative Career Learning I 8 s.h.

CL 192 Collaborative Career Learning II 8 s.h.

These courses provide a structured approach to specialized individual career orientation, training, and development. Competency objectives are identified as a basis for learning. Local business and industry sites are used as classroom/laboratories. A college COCAL coordinator monitors and evaluates students with industry personnel. Areas of career study are limited to those areas not offered by the College in traditional curricula. *Prerequisite: Enrollment in Collaborative Career Learning. Co-requisite: Six to nine credits of on-campus study related to career area. Hours of class per week: 12 at business & industry site.*

CL 193 Collaborative Career Learning III 8 s.h.

CL 194 Collaborative Career Learning IV 8 s.h.

These courses are designed for students who, because of changes in the job market, or individual career goals, need "re-careering" in a structured environment. Competency objectives are identified as a basis for learning. Local business and industry sites are used as classroom/laboratories. A college COCAL coordinator monitors and evaluates students with industry personnel. Areas of career study are limited to those areas not offered by the College in traditional curricula. *Prerequisites: CL 191-192, enrollment in Collaborative Career Learning Program. Co-requisite: Six to nine credits of on-campus study related to career area. Hours of class per week: 12 at business & industry site.*

CL 199 Career Exploration 1 s.h.

Students are provided with material to assist them in the career decision-making process. Through self-assessment inventories, students identify their interests, skills, work-related values, and experiences. Careers are explored by researching occupations career paths and organizations. Emphasis is on employment fields appropriate to background and preparation for students' COCAL training experience. *Prerequisite: Concurrent registration in CL 191 or permission of instructor. Hours of class per week: 3 (5 wks).*

CL 200 Career Search 1 s.h.

Students are presented with material that provides a better understanding of successful career preparation. Emphasis is on employment for students who are training in fields where entry-level job skills have been identified locally. Content includes practical aspects of the job search. Human Relations as it relates to career development is discussed. *Prerequisite: CL 199 or permission of instructor. Hours of class per week: 3.*

CL 201 Career Success 1 s.h.

Designed for students who are enrolled in COCAL, internships, Work Study, co-ops, or other forms of experiential learning or for those about to graduate and enter into the job market. Students are presented with material that relates work ethic, workplace relationships, workplace diversity, and workplace communication skills to career development.

**Communications
(Course listings)****CO 154 Basic Radio Production 3 s.h.**

This course will provide instruction in the theory and practice of audio production. While the course is radio production, the theory and skills taught are the basis for audio production for television and for online. Students will study the aesthetics and techniques of production, including scripting and editing. *Hours of class per week: 3.*

CO 171 Introduction to Mass Media FA 3 s.h.

This general survey course covers the eight mass media: books, magazines, newspapers, movies, radio, television, records and computers. Students study the history, economics, employment opportunities, and societal impact. Lecture, guest speakers, videos, and the Internet are all used in this course. *Hours of class per week: 3.*

CO 181 Writing for the Mass Media FA 3 s.h.

This class teaches the basics of writing for a newspaper, broadcast station, public relations firm, and advertising agency. This writing course is the foundation for writing for almost all mass media. *Hours of class per week: 3.*

CO 220 Public Relations SP 3 s.h.

The principles and theory of public relations management are discussed in context of clients and business categories. Students learn the role of public relations practitioners as well as the ethical standards used by practitioners. A class or group project is assigned. *Prerequisites: EN 103, CO 171 or permission of instructor. Hours of class per week: 3.*

CO 231 Journalism SP 3 s.h.

A study of the principles and practices of journalism, with special emphasis on print journalism. The course examines critically the question of what constitutes the news, the techniques of newsgathering, news and feature writing, news editing, and ethical questions faced by journalists. *Prerequisites: CO 171 or permission of the instructor. Hours of class per week: 3.*

CO 241 Introduction to Online Journalism FA 3 s.h.

This course will stress how to conceive and create media documents for the Internet. The major emphasis of this course will be on interactive thinking and other

skills that journalists need to use online media effectively. Students produce the campus online newspaper. *Hours of class per week: 3*

CO 254 Television Production 3 s.h.

This is an introduction to the basics of television production. Students learn to use the TV equipment by turning scripts into finished productions. Students learn the basics of linear and non-linear editing and audio production. *Hours of class per week: 4.*

CO 264 Advanced Television Production FA 3 s.h.

Course content focuses on field production, news-reporting, scripting, taping and post-production using non-linear editing techniques. This course incorporates audio production skills. *Prerequisites: CO 254 (CO 171 & EN 103 recommended). Hours of class per week: 3.*

**Computer Information Systems
(Course listings)****CS 105 Microcomputer Applications 3 s.h.**

The course provides an introduction to microcomputers and end-user system/application software. The microcomputer is demonstrated as a tool to support other academic or professional disciplines. Topics include operating systems, word processing, spreadsheet, presentation, database and web page design software. Internet related applications are also used. The course emphasizes familiarization with computer components and the operation of the overall microcomputer system. *Prerequisite: None. Hours of class per week: 3. Additional computer hours as needed.*

CS 112 Advanced Applications 3 s.h.

The course expands on introductory concepts and explores more powerful applications of spreadsheet and database productivity software. Students will develop macros and user defined functions, utilize a higher level programming language, apply advanced techniques such as grouping, aggregates, multi-page forms and worksheets, and data conversion and exchange to develop software solutions. Students are required to use the microcomputer lab to complete various projects assigned. *Prerequisite: CS 105 or permission of instructor. Hours of class per week: 3. Additional computer hours as needed.*

**CS 115 Introduction to****Computer Programming Logic****3 s.h.**

This course presents logic tools used by computer programmers in the program development process. It uses sequence structures, selection structures and repetition structures to develop all problem-solving algorithms. The course is taught language-independent in order to emphasize problem solving rather than computer language syntax. It also covers commonly used data structures (variables, constants, arrays), operators (assignment, math, boolean, relational), and introductory object-oriented programming concepts. Prerequisites: Completion of or concurrent registration in MA 151; completion of or concurrent registration in CS 105 or permission of instructor. *Hours of class per week: 3. Additional computer hours as needed.*

CS 125 C++ Programming**3 s.h.**

Students write computer programs for software engineering applications using C++. The course emphasizes techniques to write, modify, test, and validate programs, as well as interpret design specifications. Other topics include use of an integrated development environment, standard C++ classes, user-defined classes (objects) with encapsulated data members and member functions for object-oriented programming, expressions, control structures, arrays, and pointers. *Prerequisite: CS 115 or permission of instructor. Hours of class per week: 3. Additional computer hours as needed.*

CS 129 Visual Basic Programming**3 s.h.**

This course teaches the basics of visual programming with Visual Basic (VB). This course is for all levels of programmers who wish to apply their knowledge in an object-oriented, event-driven environment. The course will identify the major steps in developing a VB solution. Topics include: Visual Studio development environment, fundamentals of event-driven programming, controls, and Visual Basic syntax. Advanced topics include creating objects, accessing databases, creating multi-form applications, creating menus, creating executable applications, debugging, and error handling. *Prerequisite: CS 115, or permission of instructor. Hours of class per week: 3. Additional computer hours as needed.*

CS 131 Java Programming**3 s.h.**

Java is an object-oriented programming (OOP) language that provides functionality using classes, from which

user defined objects are instantiated. Code can be modularized as free-standing applications and/or web browser executable applets. The course content will include classes, expressions and flow control, selection structures, control structures, methods, the Java Virtual Machine, stream I/O, exception handling, and building GUIs. Students will gain a working knowledge of inheritance vs. composition, subclasses vs. superclasses, polymorphism, and encapsulation. A Java Platform, Standard Edition Development Kit (JDK) will be used for hands-on exercises and projects. The class may be taught in a multi-platform environment. *Prerequisites: CS 115 or equivalent or permission of instructor. Hours of class per week: 3. Additional computer hours as needed.*

CS 160 Database Design & Programming**3 s.h.**

The course expands on introductory database concepts and explores more powerful applications of database design and management. Students design relational tables, queries, forms and reports using database software and maintain data dictionaries. Students will apply entity relationships and data normalization. Students will create programs in Structured Query Language (SQL), create stored procedures, and will implement Open and Object Linked and Embedded Database Connectivity. Through hands-on experience, students master concepts in data mining, report generation and presentation through a front end application such as Crystal Reports. Students will perform database backups on the server. *Prerequisite: CS 115 or permission of instructor. Hours of class per week: 3. Additional computer hours as needed.*

CS 170 Web Site Development**3 s.h.**

Students will develop and manage integrated Web pages using HTML/XHTML and Web page developing tools. Students will utilize graphics processing software to incorporate images. Students will construct Web pages with text, lists, tables, frames, hyperlinks, and publish to a server. There will be an emphasis on writing client-side scripts (JavaScript). Advanced topics include processing user requests and generating dynamic Web pages. Other topics include domain name registration, Web server implementation, and ADA compliance. *Prerequisite: CS 105 or permission of instructor. Hours of class per week: 3. Additional computer hours as needed.*



CS 230 Internet Programming 3 s.h.

This course will cover client and server-side programming concepts and multi-tier architecture that allow students to produce effective, interactive Web applications. Students will create and access MySQL databases through PHP server-side scripting. Students will demonstrate functional ability with HTML/XHTML. Additional topics include authenticating users, shopping-cart technologies, object-oriented programming and e-commerce programming concepts. *Prerequisite: CS 160 and CS 170, or permission of instructor. Hours of class per week: 3. Additional computer hours as needed.*

CS 235 Systems Analysis and Design 3 s.h.

In this course, students will utilize professional methods and techniques to analyze, design, and implement a pilot of an information system. Topics include business concepts and processes, project management, information gathering, data design, written and oral communication, problem solving, input and output design techniques, cost/benefit analysis, presentation methods, and workplace skills. The course is designed to develop interpersonal and team-building skills. *Prerequisite: CS 105 and any one of the following: CS 129, CS 131, CS 125, CS 160 or permission of instructor. Hours of class per week: 3. Additional computer hours as needed.*

CS236 Systems Development and Implementation 3 s.h.

In this course, students will develop and implement a software solution for an application, emphasizing joint application design, test case development, testing vs. production environments, data conversion, changeover, user training, and cost vs. benefit analysis. Students will expand interpersonal, teamwork, project management, and oral and written communication skills in professional scenarios. *Prerequisite: CS 235 or permission of instructor. Hours of class per week: 3. Additional computer hours as needed.*

CS240 Hardware Concepts 3 s.h.

The course provides a hands-on introduction to PC hardware setup. Students will install, configure, upgrade, diagnose and troubleshoot desktop PC's. Students will

disassemble and reassemble PC's, perform preventive maintenance procedures, and maintain safety in a lab environment. Topics include hardware/software concepts, boot process, command prompts, memory, hard drive configuration, expansion cards, fundamentals of installing/supporting operating systems, and using firmware and diagnostic software. *Prerequisites: CS 105. Hours of class per week: 2. Hours of lab per week: 2. Additional computer hours as needed.*

CS241 Networking Concepts 3 s.h.

This course enables students to recognize networking media and topology. The course will identify protocols and Open Source Initiative (OSI) models. Students will identify hardware and software problems of a network and provide network support. Installing and configuring the hardware and software on a local area network of computers is an integral part of the course. Students will install and use proprietary and open source network operating systems. *Prerequisite: CS 240. Hours of class per week: 2. Hours of lab per week: 2. Additional computer hours as needed.*

CS 289 Professional Development Seminar 2 s.h.

This capstone course surveys the current and anticipated opportunities of a career in Computer Information Systems through a variety of methods that may include guest lectures, on-site experiences, field surveys, professional publications, and trade shows. Through documented self-assessment, students identify educational strengths and weaknesses and determine formal and informal methods for further professional growth and development. Students are expected to work in an internship and provide feedback on the internship for discussion. *Co-requisite IN 291 or Higher. Intended for students that have completed at least 12 credits in CS courses. Hours of class per week: 2 consecutive hours. Additional computer hours as needed.*



Computer Technology (See Technology, Computer) Construction (Course listings)

Construction Technology courses may meet at sites other than the main campus. Students must make their own transportation arrangements.

Students may need special clothing or equipment in addition to texts. Details are provided by the instructor.

CT 121 Introduction to Building Trades & Construction Materials FA 3 s.h.

In addition to orienting the new student to the CT program, this course introduces the student to the principles and concepts that are fundamental to the building construction industry. While the course does focus on the characteristics of traditional building materials, the impact that new technology has on materials and methods are also discussed. Other topics of importance to this course are: construction safety, O.S.H.A., the relationship between owner, architect/engineer, and builder, contracts, scheduling, bonding, insurance requirements, building permits, code enforcement, and construction law. *Hours of class per week: 3.*

CT 122 Light Frame Construction I SP 3 s.h.

A study of construction framing materials and techniques for residential and light commercial buildings. The safe and proper use for framing tools and equipment is an integral part of the course. Students will participate in lab activities beginning with framing floor systems and sequentially move through framing systems to include gable and hip roofs, and roof coverings. *Prerequisite: Concurrent registration in CT 121. Hours of class per week: 2. Hours of lab per week: 3.*

CT 123 Light Frame Construction II FA 3 s.h.

A study of construction framing materials and techniques for residential and light commercial buildings. The safe and proper use for framing tools and equipment is an integral part of the course. Students will participate in lab activities that include techniques for:

cornice and rake trim, exterior trim and siding, sheet-rock, jointing and taping, hanging doors and installing windows, and techniques for interior trim. *Prerequisites: CT 121, 122. Hours of class per week: 2. Hours of lab per week: 3.*

CT 124 Blueprint Reading FA 1 s.h.

The student shall learn entry level techniques for obtaining trade information and understanding construction working drawings, blueprints, and spec books for basic residential/light commercial buildings. Parts of a blueprint, scale, reading architectural rulers, azimuth reading, alphabet of lines, symbols, construction math, and terminology are discussed using real jobsite blueprints and examples. HVAC, electrical, and plumbing schematics may be discussed very briefly if time permits. *Hours of class per semester: 1.*

CT 225 Masonry, Concrete & Steel Construction SP 3 s.h.

A study of masonry and concrete construction methods that includes discussions on traditional brick/block laying and pouring concrete that relate to building foundations and masonry exterior veneers. The relationship between concrete foundations and steel spanned buildings are discussed. The safe and proper use for masonry and concrete tools and equipment is an integral part of the course. Students will participate in lab activities that include: laying modern and traditional brick patterns, standard masonry block laying practices, setting concrete wall forms, and placing and finishing concrete slabs. *Prerequisite: CT 121. Hours of class per week: 2. Hours of lab per week: 3.*

CT 226 Plumbing & Climate Control FA 3 s.h.

A basic course in plumbing and climate control, including use of tools, basic lead working, steam and hot water heating, water distribution, venting drainage, and general installation, maintenance, and repair. *Prerequisites: CT 121, 122, 124. Hours of class per week: 2. Hours of lab per week 3.*



CT 228 Construction Estimating **SP 3 s.h.**

While the primary focus of this course is to develop methods for preparing cost estimates for construction projects using the quantity take-off method, this course also details the role of the estimator as part of the construction process. Labor, overheads, equipment rental, subcontractors, profit, scheduling, contracts, and bonding are all discussed in detail. Estimating computer programs are reviewed but all estimating formulas are presented and then the student is required to put those on a computer spreadsheet. For this reason, students will need a thorough knowledge of computer spreadsheets. *Prerequisites: CT 121, 122, 123,124, 225, and Microcomputers. Hours of class per week: 3.*

CT 229 Electrical Wiring I **FA 3 s.h.**

A course dealing with installation of wiring, including armored cable, wiremold, and Romex; installation of wiring boxes, light fixtures, rigid metal conduit and electrical metallic tubing and connectors, and wiring such systems. *Prerequisite: None (EL 125 recommended or permission of instructor). Hours of class per week: 2. Hours of lab per week: 3.*

CT 230 Principles of Soils **SP 3 s.h.**

A study of the principles of erosion control, surface drainage and subsurface drainage. The course considers soil genesis, composition, classification, physical and chemical characteristics in relation to soil moisture, fertility and management. It encompasses all problems related to construction. *Hours of class per week: 2. Hours of lab per semester: 2.*

CT 245 Masonry/Bricklaying **FA 3 s.h.**

A course designed to meet the needs of individuals interested in developing masonry skills beyond what is offered in CT 225. While the primary focus of this course is bricklaying techniques: layout, leads, piers, brick facias, arches, and fireplace construction, students will also participate in lab activities that include: laying glass block, setting wall & floor tile, and applying cultured stone. *Prerequisite: CT 225. Hours of class per week: 2. Hours of lab per week: 3.*

CT 249 Electrical Wiring II **SP 3 s.h.**

A follow-up to Electrical Wiring I with more emphasis on applying the National Electrical Code and using the code book and other sources to help solve problems such as those found on national tests for electricians and electrical inspectors. Special emphasis given to solving electrical problems and issues encountered by

certified electricians and electrical inspectors. *Prerequisite: CT 229. Hours of class per week: 2. Hours of lab per week: 3.*

Directed Study (Course listings) (See also Independent Study)

DS 291-294 Directed Study **1-4 s.h.**

Directed Study affords students the opportunity to study a course already listed in the College catalog but not scheduled during the particular semester. Participation requires the sponsorship of the appropriate instructor and approval of the appropriate Dean. A student taking the Directed Study is expected to confer regularly with the instructor and meet all the requirements of the course. *Hours of class per week: To Be Arranged.*

Economics (Course listings)

EC 180 Introduction to Economics **3 s.h.**

A course designed around topics and problems that emphasize the individual's participation in the economy, both as consumer and supplier of productive resources, and the private and public institutions through which economizing is accomplished. Basic economic concepts are introduced where necessary to explain economic activity. Special attention in discussion sessions to topics such as employment and unemployment, poverty and affluence, education and opportunities, incomes and costs of living. *Hours of class per week: 3.*

EC 282 Macroeconomics **3 s.h.**

An analysis of aggregate economic behavior with application to the dynamic present-day economy. A study in detail of macroeconomic fluctuations of the business cycle with special emphasis on the income-expenditure theory of cycles and trends, forecasting, high level of employment and international trade. The course reviews monetary resources and economic growth policies. *Hours of class per week: 3. General Education: S.*

EC 283 Microeconomics **3 s.h.**

An analysis of economic theory coupled with practical applications related to the consumer and the individual firm. The course considers concepts of a more technical nature relative to price, distribution, production, costs and indifference curves under various market conditions. *Hours of class per week: 3. General Education: S.*



Early Childhood & Teacher Education Transfer (Course listings)

ED 171 Introduction to

Early Childhood Education

FA 3 s.h.

This course presents information and theory regarding developmentally appropriate practice for children from birth to eight years. It emphasizes developing the student's understanding of the importance of creating an effective learning environment; advancing physical and intellectual competence; supporting social and emotional development; establishing relationships with families; and maintaining a commitment to professionalism. Attention is given to skills needed in a variety of program settings, including Head Start, child care, pre-kindergarten, nursery schools and first through third grades. *Hours of class per week: 3.*

ED 175 Foundations of Education

3 s.h.

A study of the historical, philosophical, political, legal, sociological, and ethical bases of (N-12) education in the United States. The course also examines the role of the educator, public and private educational institutions, cultural diversity, and contemporary educational issues. *Hours of class per week: 3.*

ED 180 Safety, Health & Nutrition in Early Childhood

3 s.h.

The course addresses basic issues of safety, health, and nutrition in early childhood. It covers such topics as maintaining a safe and healthy environment, appropriate immunizations, recognizing signs of illness and controlling communicable diseases in early childhood settings. The course includes documenting and reporting child abuse and maltreatment, and it stresses policy development supporting safe and healthy practice in early childhood programs. In addition, the course addresses factors that help promote and maintain the health and well being of the individual working with young children. *Hours of class per week: 3.*

ED 185 Early Childhood Curriculum

3 s.h.

This course is designed to develop and foster a creative and holistic approach to teaching young children in early childhood settings. Using literature, music & movement, science, art, block, and cooking activities, the student explores the potential of varied teaching/

learning techniques for supporting a child's total development. Students work in teams to develop lesson plans and conduct learning activities. Prerequisite: ED 171. *Hours of class per week: 3.*

ED 201 Introduction to Teaching

1 s.h.

This course will include the following topics: professionalism, observation techniques, behavior management, time management, placement preparation, code of ethics, portfolio preparation and career exploration. It is anticipated that students will achieve the Child Abuse Recognition and Reporting certification requirement in this class. *Prerequisites: ED 171 or ED 175, SS 298, or SS 299, SS 291 (may be taken concurrently). Hours of class per week: 1.*

ED 225 Arts & Crafts for

Early Childhood Education

3 s.h.

This course presents materials and techniques for promoting creative artistic development in young children. It explores a variety of art activities. Students gain hands-on experience in the artistic media and the use of art materials. Activities relate to the principles of child development, enhance creativity, and support all areas of the curriculum. *Prerequisites: ED 171, or permission of instructor. Hours of class per week: 3.*

ED 250 Music for

Early Childhood Education

3 s.h.

This course addresses the musical disposition of young children and presents developmentally appropriate instructional techniques for supporting them. It emphasizes helping children develop listening, singing, and beat competency by providing planned and spontaneous musical experiences. The course also covers musical concepts such as melody, rhythm, and form, along with movement activities. *Prerequisites: ED 171, or permission of instructor. Hours of class per week: 3.*

ED 280 Introduction to Young Children with Special Needs

SP 3 s.h.

An introductory course designed to meet the needs of pre-professionals and professionals in early childhood who work with special needs children. The course presents a practical approach to the identification of special needs children, strategies and practices to inclusion in formal and informal settings, and a review of resources available to professionals and parents. *Prerequisites: None (SS 298 recommended). Hours of class per week: 3.*

**ED 293 Introduction Preschool Programs,
Start Up and Management 3 s.h.**

A course designed for students interested in early childhood program management. Topics covered include business styles and relationships, personnel and staff development, marketing, licensing and registration processes, finances, budgeting, space and equipment, safety, children's programs, and the CACFP food management in early childhood settings. *Hours of class per week: 3. Prerequisites: Successful completion of ED 171, ED 180, ED 185. Completion of ED 298 recommended.*

**ED 298-299 Early Childhood
Practicum FA-SP 4 s.h.**

Early Childhood practicum is designed to provide work and learning experience in the field of early childhood education. Individual field experience is developed with community agencies and institutions. In addition, practicum students spend one hour per week in a seminar session where they reflect on their field experiences and integrate the insights they have achieved in their fieldwork. Prerequisites: ED 171, 185, and permission of instructor or Dean. *Hours of class per week: 1. (+ additional hours to be arranged.) Course enrollment restricted to Early Childhood Education Majors.*

**Electricity and Electronics
(Course listings)****EL 125 Electric Circuit Analysis I FA 4 s.h.**

The first course offered in both the Electrical and Computer Technology curriculums. The course investigates the fundamental concepts of voltage, current, and power as applied to both DC and AC circuits and introduces superposition and Thevenin's Theorem. The course investigates the nature of resistance, inductance, capacitance, magnetism, and electromagnetism. The course also develops competencies in electronic tests, measurement methods, and troubleshooting techniques. *Prerequisites: Math A/Course I. Two-year degree students should also be enrolled in MA 151 or 157. Hours of class per week: 3. Hours of lab per week: 2.*

EL 126 Electric Circuit Analysis II FA 4 s.h.

A continuation of EL 125 where analysis methods such as Superposition, Mesh, Nodal, Thevenin's Theorem, and Norton's Theorem are applied to DC, AC, and mixed source electronics circuits. Complex numbers are applied to AC circuit analysis. The course studies concepts of power factor, power factor correction, and maximum power transfer. It uses computer simulation using software to understand circuit transient response and to measure the effects of component tolerance variation and frequency change. It presents many laboratory investigations into resonant circuits and basic filter circuits. *Prerequisites: EL 125. Co-requisite: MA 154 or 158. Hours of class per week: 3. Hours of lab per week: 2.*

**EL 129 Semiconductor &
Fiber Optics Technology 3 s.h.**

This course describes the fabrication process involved in producing integrated circuits, semiconductor devices, and fiber optic components. Students are introduced to the steps in the design, fabrication, and testing of integrated circuits and will become familiar with the technologies used in silicon wafer manufacturing, photolithography, and clean room environments. The theory of fiber optic materials, interfaces and systems is introduced. Students will become familiar with fiber optic cable construction, single mode and multimode fiber, wave propagation, termination and testing methods. *Hours of class per week: 2. Hours of lab per week: 2.*

EL 132 Digital Electronics 4 s.h.

The course introduces Boolean logic and the digital devices necessary to produce digital computing and control circuitry. The course covers fundamental AND, OR, INVERT, NAND, and NOR devices as well as more complex devices such as latches, flip-flops, one-shots, RAM and ROM. Digital circuits studied include counters, registers, shift registers, arithmetic units, error detection and correction, programmable logic, and state machines. The course introduces the student to industry standard combinatorial and sequential design techniques and places a strong emphasis on developing design skills. The content of this course provides the necessary background to understand computer architecture concepts covered in EL 236. *Hours of class per week: 3. Hours of lab per week: 3.*

**EL 229 Electronics I****FA 4 s.h.**

An introduction to the theory, design and application of circuits used in the electronics field. Specific areas of study include diodes, rectifiers, filters, regulators, transistor characteristics, transistor bias, small and large signal amplifiers. *Prerequisites: EL 125. Hours of class per week: 3. Hours of lab per week: 3.*

EL 230 Linear Electronics**SP 3 s.h.**

The course delves deeper into the material developed in EL 229 and investigates additional circuit concepts. It studies the high and low frequency response of amplifiers, using Bode diagrams. Other topics include feedback, oscillators, switching circuits, op amps, and the field effect transistor. In addition, it introduces waveform analysis using the frequency domain. *Prerequisite: EL 229. Hours of class per week: 2. Hours of lab per week: 3.*

EL 234 Telecommunications**SP 4 s.h.**

The course introduces the theory governing electronic communication elements and discusses the various systems used to accomplish communication tasks. Theories covered include radio wave propagation, antennas, transmission lines, frequency and time division multiplexing, and modulation techniques. Systems studied include AM & FM transmitters and receivers, telephone and data communications. *Prerequisites: EL 125. Hours of class per week: 3. Hours of lab per week: 2.*

EL 235 Industrial Electronics & Robotics**SP 4 s.h.**

Students study the theory and operation of semiconductor devices and systems used in industrial controls including fundamentals and applications of robotics. They become familiar with and are able to troubleshoot and repair controls containing semiconductor devices such as SCRs, photoelectric devices, timing circuits, UJTs, speed controls for DC motors, and controls for AC motors and lighting systems. The course includes sensing mechanisms, programming, interfacing and other industrial applications of robotic units. These items are assembled and tested for performance in lab. *Prerequisite: EL 125. Hours of class per week: 3. Hours of lab per week: 3.*

EL 236 Introduction to Microprocessors**SP 4 s.h.**

The course provides an understanding of microprocessor computer architecture. Students learn the hardware and programming details of a microprocessor system. Topics include microprocessor system organization, registers, memory, addressing, machine language programming, interrupts and interfacing. Additional topics include memory technologies, memory system interfacing and programmable logic devices (PLD's). *Prerequisite: EL 132 or equivalent. Hours of class per week: 3. Hours of lab per week: 3.*

**English
(Course listings)****EN 020 Basic English and Reading Comprehension****3 I.C.***

This course teaches the fundamentals of writing, functional usage, and reading comprehension and may, for some students, serve as a prerequisite for further study of composition. It includes a study of grammar, composition, and reading comprehension with an emphasis on the fundamental principles of English language usage. The course assists students in their ability to write clear and concise sentences, to construct effective paragraphs, and to comprehend written materials. *Hours of class per week: 3. *3 institutional (non-degree) credits.*

EN 040 Introduction to Writing**3 I.C.***

This course includes a review of the grammar components and paragraph development, followed by intensive work in the development of short essays. It emphasizes the writing process, paying special attention to methods of organizing, revising, and editing. *Prerequisite: Grade of "C" or above in EN 020, or result of COMPASS placement test. Based on the student's academic background, completion of this course may be necessary preparation for enrollment in courses required for graduation in some academic programs. Hours of class per week: 3. *3 institutional (non-degree) credits.*

**EN 103 English I 3 s.h.**

This course is designed to improve written and oral communication skills. Students learn to write specific types of essays that are coherent and grammatically and mechanically correct. They also participate in a group discussion and/or oral presentation. The course also covers research techniques and procedures for documenting sources. *Prerequisite: Grade of "C" or above in EN 040 or result of COMPASS placement test. Hours of class per week: 3. General Education: C.*

EN 104 English II 3 s.h.

This course expands on the written and oral communication skills learned in EN 103. The written and oral assignments focus on students' understanding, research, and interpretation of such literary genres as short stories, poetry, and drama. *Prerequisite: EN 103. Hours of class per week: 3. General Education: C.*

EN 127 Technical English SP 3 s.h.

This course revolves around the organization, composition, and presentation of technical subject matter, emphasizing description and process of technical reports and manuals. Instruction and practice in technical writing and reporting form an integral part of the course. *Prerequisite: EN 103. Hours of class per week: 3.*

EN 128 Honors English II SP 3 s.h.

This course develops the writing and speaking skills of those students whose backgrounds enable them to function in an intense and independently organized study of the arts and sciences. Among other assignments, students prepare an oral and a written presentation on some aspect of the creative process. In any program, this course may be used to meet the requirement of EN 104. Either EN 104 or 128, but not both, may be credited toward a degree or certificate. *Prerequisite: EN 103 or permission of instructor. Hours of class per week: 3. General Education: C.*

EN 132 Speech 3 s.h.

The course aims to enrich the students ability to communicate. It introduces the students to the forms of public speaking and affords the opportunity to practice both the formal and informal deliveries of speech while maintaining individual expression and creativity. *Hours of class per week: 3.*

EN 140 Introduction to Linguistics 3 s.h.

An introduction to the cognitive science of Linguistics, a field of study which examines the phenomena of human communication. The course will look at how language is produced, how it is examined and explained by linguists and how language functions in human communities. Topics covered will include semantics, morphology, phonology, syntax, socio-linguistics, historical linguistics and language obsolescence. *Prerequisite: EN 103. Hours of class per week: 3. General Education: S.*

EN 150 Reading & Writing Poetry 3 s.h.

This course explores the poetic tradition through creative writing, analytical writing, and close critical reading of published poems and unpublished student poems. Special attention is given to studying the poetic forms and traditions. *Prerequisite: "C" or better in EN 103 or permission of instructor. Hours of class per week: 3. General Education: H.*

EN 200 Short Story 3 s.h.

This course surveys the development of the short story from its origins in the oral tradition to its present form. Through reading and discussion of a wide variety of 19th- and 20th-century short stories, the course emphasizes the artistic development of this literary genre. Course work includes critical papers and group presentations. *Prerequisite: EN 103, 104 or permission of Instructor. Hours of class per week: 3. General Education: H.*

EN 222 Children's Literature 3 s.h.

A survey of all forms of children's literature and a study of a variety of materials relating to the development of literacy in children. Students carry out critical study and evaluation of many children's books in the areas of fiction, non-fiction and poetry. The course examines criteria for the selection of children's books for pleasure, enrichment of curriculum areas, and child development. It also examines appropriate presentation techniques. *Prerequisites: EN 103, 104 or permission of Instructor. Hours of class per week: 3.*

**EN 231 Masterpieces of
World Literature I****FA 3 s.h.**

This course surveys world literature from the Greek and Roman classics through the Renaissance. Readings include such representative authors as Homer, Sophocles, Plato, Virgil, Dante, and Chaucer. *Prerequisite: EN 103, 104 or permission of Instructor. Hours of class per week: 3. General Education: H.*

**EN 232 Masterpieces of World
Literature II****SP 3 s.h.**

This course surveys world literature from the 17th century to the present. Readings include such representative authors as Voltaire, Flaubert, Tolstoy, Woolf, Mann, and Achebe. *Prerequisite: EN 103, 104 or permission of Instructor. Hours of class per week: 3. General Education: H.*

EN 233 American Literature I**FA 3 s.h.**

A survey of the literatures of the United States from pre-Colonial times through the Civil War with an emphasis on representative figures and movements. Discussions stress the cultural-historical contexts of the readings, the emergence of American myths and values, and the formation of an identifiable American style. *Prerequisite: EN 103, 104 or permission of Instructor. Hours of class per week: 3. General Education: H.*

EN 234 American Literature II**SP 3 s.h.**

A survey of the literature of the United States from the Civil War through the present with an emphasis on representative figures and movements. Analysis includes the general movements of thought, literary techniques and themes revealed in the works of representative writers. *Prerequisite: EN 103, 104 or permission of Instructor. Hours of class per week: 3. General Education: H.*

EN 235 Modern Drama**SP 3 s.h.**

An introduction to modern drama as literature, emphasizing on such movements as naturalism, expressionism, and theater of the absurd. Readings include such representative European authors as Ibsen, Strindberg, Chekhov, Pirandello, Lorca, and Ionesco, as well as American playwrights such as O'Neill, Miller, and Williams. Some attention is also paid to non-Western dramas. The course develops appreciation of the theater through class discussion and a required critical writing paper. Students observe a current dramatic production. *Prerequisite: EN 103, 104 or permission of Instructor. Hours of class per week: 3. General Education: H.*

EN 239 Modern Novel**SP 3 s.h.**

The course explores the evolution of the novel as genre from the late 19th through 20th centuries. It considers significant cultural, historical and aesthetic developments of this period, paying special attention to the formal, stylistic, and thematic innovations of the major modern and postmodern authors. Selected novelists include Conrad, Joyce, Woolf, Fitzgerald, Faulkner, Ellison, Waugh, Greene, O'Connor, and Pynchon. *Prerequisite: EN 103, 104 or permission of Instructor. Hours of class per week: 3. General Education: H.*

EN 243 English Literature I**3 s.h.**

A survey of the first eight centuries of English literature examining both thematic and stylistic continuity and significant developments over the course of the period. The course will begin with a close reading of Beowulf before proceeding to representative works of the Middle Ages, Renaissance, and Restoration/Eighteenth Century. Selected readings include the poetry the Gawain poet, Chaucer, Spenser, Donne, Jonson, Marvell, Milton, Dryden, and Pope; the prose of Malory, Bacon, Swift and Johnson; and the drama of the Mystery Plays, Marlowe, Shakespeare, Wycherley, and Congreve. Discussions will examine pertinent historical, biographical and intellectual contexts of the readings. *Prerequisite: EN 103, 104 or permission of Instructor. Hours of class per week: 3. General Education: H.*

EN 244 English Literature II**3 s.h.**

A survey of the last two centuries of English literature examining both thematic and stylistic continuity and significant developments over the course of the period. The course will begin with a close reading of the major Romantic poets before proceeding to representative works in the Victorian, Modern, and Postmodern periods. Selected readings include the poetry of Blake, Wordsworth, Keats, Tennyson, Hardy, Yeats, Eliot, Auden, and Heaney; the prose of Austen, the Brontes, Dickens, Conrad, Joyce, Lawrence, and Woolf; and the drama of Beckett and Pinter. Discussions will examine pertinent historical, biographical and intellectual contexts of the readings. *Prerequisite: EN 103, 104 or permission of Instructor. Hours of class per week: 3. General Education: H.*

**EN 245 World Drama****SP 3 s.h.**

An examination of major dramas from the Greeks to the late nineteenth century, in light of their literary, theatrical, and socio-cultural values. Readings include representative plays from the following periods and movements: Classical Greece and Rome, the Middle Ages, the Renaissance, Neo-Classicism, the Restoration, Romanticism, and Realism. Genres include tragedy, comedy, melodrama, farce, and various hybrids. *Prerequisite: EN 103, 104 or permission of Instructor. Hours of class per week: 3. General Education: H.*

EN 290 Special Topics in Literature**3 s.h.**

This course involves an examination of a topic, a theme, an author, a genre, a period, or a literary tradition not covered extensively in other English courses. Topics vary with each offering, but specific topics are announced before pre-registration. The course may be repeated for credit, but prior topics may not be repeated for additional credit. *Prerequisite: EN 103, 104 or permission of Instructor. Hours of class per week: 3.*

**Educational Resources
(Course listings)****ER 105 Freshman Year Experience****1 s.h.**

The Foundations of College Learning provides an educational foundation for a student's major transition from high school to college and for adults returning to school. Through both the course curriculum and professional staff, students have an opportunity to gain a better understanding of their educational and career goals and the academic skills they need to fulfill these goals. Students will also learn about ways to cope with and balance the academic, social and personal aspects of their lives. The course will provide an introduction to the Fulton-Montgomery campus community and the resources students have available to them at the College. *Hours of class per semester: 15.*

ER 110 Introduction to College Research**1 s.h.**

This course is designed to provide the student with the basic information literacy skills needed to successfully research a college-level term paper. Included are locating book and periodical information in both paper and electronic formats and research using the World Wide Web. The methods used are lecture, assignment, and

hands-on use of materials and equipment. This course may also be offered in a web based, distance learning format. *Hours of class per semester: 15.*

**Engineering
(Course listings)****ES 125 Introduction to Engineering****2 s.h.**

This course provides an orientation to the profession for students choosing an engineering career. It is divided into three parts. Part one introduces the student to the engineering fields and the engineering profession. Part two introduces the student to the engineering design process. Part three introduces the student to computer aided engineering. Hours of class per week: 1. *Hours of lab per week: 2.*

ES 235 Mechanics: Statics**FA 3 s.h.**

A course designed for sophomore engineering, mathematics, and physics majors. It presents the principles of statics of particles and rigid bodies and indicates the general methods of applying them to the solution of varied engineering problems and develops the analytical ability of the student. Topics covered are vector algebra; forces and equilibrium; structures, plane and space trusses, frames and machines; centroids of lines, areas, and volumes; flexible cables, beams with distributed loads; friction; area moments of inertia and mass moments of inertia. *Prerequisites: PH 171, MA 157, and completion of or concurrent registration in MA 158. Hours of class per week: 3.*

ES 236 Mechanics: Dynamics**SP 3 s.h.**

A course designed for sophomore engineering, mathematics, and physics majors. It presents the principles of dynamics of particles and rigid bodies and indicates the general methods of applying them to the solution of varied engineering problems and develops the analytical ability of the student. Topics covered are equations of motion, rectilinear and curvilinear motion, motion relative to translating and rotating axes; work and energy; impulse and momentum; central force motion; simple harmonic motion, damped oscillations and forced oscillations. *Prerequisites: PH 171, MA 157-158. Hours of class per week: 3.*

**ES 251 Materials Science****FA 3 s.h.**

This is a first course in materials science and engineering for Engineering Science majors. The emphasis of the course is on the relationships between structure of solids and their physical properties. Topics covered include atomic and molecular structure, phase equilibria, microstructures, deformation and fracture, materials treatments and processes, metals, ceramics, polymers and composites, electrical and magnetic properties, and materials performance. *Prerequisites: PH 171, CH 173. Hours of class per week: 3.*

ES 281 Electric & Electronic Circuits **SP 4 s.h.**

A course on the analysis of linear and nonlinear circuits, designed for engineering and physics majors. Topics covered are Ohm's law, Kirchoff's laws, superposition principle, mesh analysis, modal analysis, Thevenin's theorem, Norton's theorem, maximum power transfer; inductance and capacitance; response of first and second order systems — natural response, steady state response and complete response; average and rms values, phaser, impedance, complex power, series and parallel resonant circuits; complex frequency, transfer functions, poles and zeroes; characteristics of diodes and transistors and operational amplifiers. *Prerequisites: PH 172, concurrent registration in MA 258. Hours of class per week: 3. Hours of lab per week: 3.*

**Modern Foreign Languages
(Course listings)
(American Sign Language)****FL 141 Elementary French I****FA 3 s.h.**

This is the first part of Elementary French, and it is assumed that the student has little no French. This course focuses on getting students to communicate from day one. Students are expected to prepare grammatical material on their own in the workbook and bring questions and be ready to work with the material in class. Class time is then reserved largely for the use and practice of new material, as well as trouble shooting. Students will be evaluated by a mid-term, final and oral exams. at least 5 journal (writing) assignments, and two class participation evaluations. Quizzes may also be administered periodically during the semester. This course is not open to Native or Heritage speakers of French. *Hours of class per week: 3. General Education: F.*

FL 142 Elementary French II**SP 3 s.h.**

This is the second part of Elementary French, and it is assumed that the student has either one semester or little more than one year of high school French. This course focuses on getting students to communicate from day one. Students are expected to prepare grammatical material on their own in the workbook and bring questions and be ready to work with the material in class. Class time is then reserved largely for the use and practice of new material, as well as trouble shooting. Students will be evaluated by a mid-term, final and oral exams, at least 5 journal (writing) assignments, and two class participation evaluations. Quizzes may also be administered periodically during the semester. This course is not open to Native or Heritage speakers of French. *Hours of class per week: 3. General Education: F.*

FL 143 Elementary Spanish I**FA 3 s.h.**

This is the first part of Elementary Spanish, and it is assumed that the student has little no Spanish. This course focuses on getting students to communicate from day one. Students are expected to prepare grammatical material on their own in the workbook and bring questions and be ready to work with the material in class. Class time is then reserved largely for the use and practice of new material, as well as trouble shooting. Students will be evaluated by a mid-term, final and oral exams, at least 5 journal (writing) assignments, and two class participation evaluations. Quizzes may also be administered periodically during the semester. This course is not open to Native or Heritage speakers of Spanish. *Hours of class per week: 3. General Education: F.*

FL 144 Elementary Spanish II**SP 3 s.h.**

This is the second part of Elementary Spanish, and it is assumed that the student has either one semester or little more than one year of high school Spanish. This course focuses on getting students to communicate from day one. Students are expected to prepare grammatical material on their own in the workbook and bring questions and be ready to work with the material in class. Class time is then reserved largely for the use and practice of new material, as well as trouble shooting. Students will be evaluated by a mid-term, final and oral exams, at least 5 journal (writing) assignments, and two class participation evaluations. Quizzes may also be administered periodically during the semester. This course is not open to Native or Heritage speakers of Spanish. *Hours of class per week: 3. General Education: F.*

**FL 147 Elementary German I FA 3 s.h.**

This is the first part of Elementary German, and it is assumed that the student has little no German. This course focuses on getting students to communicate from day one. Students are expected to prepare grammatical material on their own in the workbook and bring questions and be ready to work with the material in class. Class time is then reserved largely for the use and practice of new material, as well as trouble shooting. Students will be evaluated by a mid-term, final and oral exams. at least 5 journal (writing) assignments, and two class participation evaluations. Quizzes may also be administered periodically during the semester. This course is not open to Native or Heritage speakers of German. *Hours of class per week: 3. General Education: F.*

FL 148 Elementary German II SP 3 s.h.

This is the second part of Elementary German, and it is assumed that the student has either one semester or little more than one year of high school German. This course focuses on getting students to communicate from day one. Students are expected to prepare grammatical material on their own in the workbook and bring questions and be ready to work with the material in class. Class time is then reserved largely for the use and practice of new material, as well as trouble shooting. Students will be evaluated by a mid-term, final and oral exams, at least 5 journal (writing) assignments, and two class participation evaluations. Quizzes may also be administered periodically during the semester. This course is not open to Native or Heritage speakers of German. *Hours of class per week: 3. General Education: F.*

FL 171 Elementary Chinese I 3 s.h.

Students will learn the tone system and the basic grammar of the Chinese spoken language. At the same time, students will begin to learn how to handle everyday situations that involve asking and answering questions, making and responding to simple statements and maintaining uncomplicated face-to-face conversations in Chinese. Topics will be limited to personal background, basic needs such as getting meals, shopping, and transportation, and routine social functions. Students

will begin to learn the Pin Yin system of transcribing Chinese sounds and words. At the end of this course, students will have a speaking vocabulary of approximately 300 Chinese words. *Hours of class per week: 3. General Education: F.*

FL 172 Elementary Chinese II 3 s.h.

Students will master the tone system and most of the basic grammar of the Chinese spoken language. Students will continue to learn how to handle everyday situations that involve asking and answering questions, making and responding to simple statements and maintaining uncomplicated face-to-face conversations in Chinese. Topics will include those in Chinese I, but will also include asking for and understanding information over and above basic needs, such as making train, theater, or hotel reservations. The Pin Yin system will continue to be used, with particular emphasis on its use in modern Chinese/English dictionaries. At the end of the course, students will have a speaking vocabulary of approximately 700 Chinese words. *Prerequisite: FL 171 Elementary Chinese I. Hours of class per week: 3.*

FL 241 Intermediate French I FA 3 s.h.

This is the first part of Intermediate French, and it is assumed that the student has 2 semesters of college French, or about two to three years of High school French. This course focuses on getting students to communicate from day one, and to expand their knowledge of grammar. Students are expected to prepare grammatical material on their own in the workbook, and bring questions and be ready to work with the material in class. Class time is then reserved largely for the use and practice of new material, as well as trouble shooting. Students are required to complete a final course portfolio which will include at least 5 journal (writing) assignments, two class participation evaluations and a final project consisting of three separate components. This class is not open to Native or Heritage Speakers of French. *Hours of class per week: 3.*



FL 242 Intermediate French II **SP 3 s.h.**

This is the second part of Intermediate French, and it is assumed that the student has 3 semesters of college French, or about three to four years of High school French. This course emphasizes more developed writing and conversation in French, as well as a review of main grammar points covered in the first three semesters. Students are expected to prepare grammatical material on their own in workbook, and bring questions and be ready to work with the material in class. Class time is then reserved largely for the use and practice of new material, as well as trouble shooting. Students are required to complete a final class portfolio which will include at least 5 journal (writing) assignments, two class participation evaluations and a final project consisting of three separate components. *Hours of class per week: 3.*

FL 243 Intermediate Spanish I **FA 3 s.h.**

This is the first part of Intermediate Spanish, and it is assumed that the student has 2 semesters of college Spanish, or about two to three years of High school Spanish. This course focuses on getting students to communicate from day one, and to expand their knowledge of grammar. Students are expected to prepare grammatical material on their own in the workbook, and bring questions and be ready to work with the material in class. Class time is then reserved largely for the use and practice of new material, as well as trouble shooting. Students are required to complete a final course portfolio which will include at least 5 journal (writing) assignments, two class participation evaluations and a final project consisting of three separate components. This class is not open to Native or Heritage Speakers of Spanish. Prerequisite: FL 144. *Hours of class per week: 3.*

FL 244 Intermediate Spanish II **SP 3 s.h.**

This is the second part of Intermediate Spanish, and it is assumed that the student has 3 semesters of college Spanish, or about three to four years of High school Spanish. This course emphasizes more developed writing and conversation in Spanish, as well as a review of main grammar points covered in the first three semesters. Students are expected to prepare grammatical material on their own in workbook, and bring questions and be ready to work with the material in

class. Class time is then reserved largely for the use and practice of new material, as well as trouble shooting. Students are required to complete a final class portfolio which will include at least 5 journal (writing) assignments, two class participation evaluations and a final project consisting of three separate components. *Hours of class per week: 3.*

FL 263 Advanced Spanish Composition **3 s.h.**

This course is designed specifically with the heritage speaker of Spanish in mind. Based on culturally centered readings in Spanish, students will develop, and improve, their reading and writing skills in Spanish by producing essays, participating in online threaded discussions and writing a small research paper. While this course directly targets the heritage speaker of Spanish, it might also be appropriate for the native speaker who wants to improve his or her writing skills in the language. Additionally, non-native speakers who have completed at least FL 244, or the equivalent (about 4 to 5 years of high school Spanish), and who wish to continue their study of the language, would also find this a suitable course. *Prerequisites: FL 244 or equivalent (four semesters of college Spanish: 2 semesters of elementary Spanish; 2 intermediate) or four or five years of High School Spanish. General Education: F.*

American Sign Language

SL 101 Elementary American

Sign Language I **3 s.h.**

Introduces American Sign Language, the visual-gestural language of the deaf. Incorporates non-verbal communication techniques, basic sign terminology, basic vocabulary, finger spelling, basic linguistic principles, and conversational skills. Introduces Deaf Culture and the job of an Interpreter. *Hours of class per week: 3.*

SL 102 Elementary American

Sign Language II **3 s.h.**

Expands skills in American Sign Language. Emphasis placed on expressive and receptive conversational skills, including vocabulary expansion, master linguistic principles, classifications, sign fluidity, and transliteration. *Prerequisite: SL 101 Elementary Sign Language I. Hours of class per week: 3.*



Visual Communications (Graphic Arts) (Course listings)

GA 101 Communication Design **FA 3 s.h.**

An introduction and orientation to the graphic communications industry to include the basic history of printing, publishing, advertising to current trends in print and web media. The course emphasis is directed toward the lithographic printing process with an overview of screen printing, flexography, ink jet, laser and basic computer platform comparisons. Creative design methods, various substrates and an introduction of how printed products are made is emphasized. Students learn the basic principles and differences of the various printing process and their basic work flows. Students engage in hands-on-training in digital design software, computer terminology, file formats and utilities using Apple OSX® and Windows computers. A creative approach and overview of the Corel Painter® software application is taught to introduce and apply digital design concepts. *Hours of class per week: 2. Hours of lab per week: 3.*

GA 102 Web Page Design **3 s.h.**

Web Page Design introduces graphic arts students to the world wide web and provides artistic and technical training on how a web page is created and designed. Using page-authoring software, students build and preview text, images and links. Students learn how to apply standard HTML formats without typing HTML codes. In addition, basic flatbed scanning techniques are applied to scan and apply graphic file formats acceptable for viewing on the World Wide Web. Adobe® web authoring software Dreamweaver® and Flash® is used to coincide with Adobe® graphic design software used throughout the Visual Communications Technology Program. Apple OSX® and Windows platform. *Prerequisite: GA 101, Macintosh or Windows knowledge, or instructor's approval. Hours of class per week: 2. Hours of lab per week: 2.*

GA 103 Digital Illustration & Workflow **SP 3 s.h.**

Digital Illustration & Workflow builds on the principles and practices learned in GA 101. The course focuses on practical skills in print media design and lithographic

reproduction. Students learn manual and digital design techniques to include: job planning, duotones, CMYK, RGB, web color spaces, digital imposition and color proofing. Design concepts and job pre-flighting are further explored using Apple® and Windows computers. New print media techniques and workflows are reviewed to familiarize students with past, present and future trade practices. Adobe® Illustrator and QuarkXPress™, software is introduced. *Prerequisite: GA 101. Macintosh or Windows knowledge, or instructor's approval. Hours of class per week: 2. Hours of lab per week: 3.*

GA 104 Digital Publishing & Typography **SP 3 s.h.**

An introduction to digital publishing and design Adobe® InDesign software. This course builds on previous design and technical concepts learned. The course emphasizes the function of typefaces, type identification, point sizes, copyediting, proofreading, style sheets, column guides, and editing skills. File management, scanning, file formats, and color output equipment is used to complete design projects. Students learn image-generating techniques used in advertising, newspaper and the commercial print media sector of the industry. Students gain practical skills in digital publishing and advertising design using the Apple® and Windows computer platforms. Software includes Adobe™ InDesign. *Prerequisite: GA 101. Hours of class per week: 2. Hours of lab per week: 2.*

GA 110 Advanced Web Page Design **3 s.h.**

Conceptual ideas are developed through the use of web page layout and design tools. In addition, students work with support software to create dynamic web pages. Animated Gifs. JPEG. file formats are created and used in conjunction with the software. The course defines tips and tricks used by the graphic arts professionals for combining creative artwork, graphics and text to prepare images for the World Wide Web. This course builds on basic web page design principles. Course projects include analyzing web sites, web color space, web page construction, and the application of design principles for a successful web page. *Prerequisites: GA 102, MM 101, or instructors permission. Hours of class per week: 2. Hours of lab per week: 2.*



GA 124 DTP Using QuarkXPress™ SP 3 s.h.

This course is designed to provide students with hands-on training in basic and intermediate desktop publishing techniques using QuarkXPress™ software. Students gain experience by developing digital publishing skills in the areas of typography, color, page layout and print media techniques. Through learning modules and course projects, students learn file management, setting preferences, working with master pages, creating style sheets, and setting tabs, proofing and editing skills. Students use black & white, color scanning techniques and high-resolution color copying systems to accomplish design projects. *Prerequisite: GA 104 or permission of instructor. Hours of class per week: 2. Hours of lab per week: 2.*

GA 125 Adobe Photoshop® 3 s.h.

Adobe PhotoShop® is a powerful pixel-based image manipulation program. The program features a wide range of image editing tools for adjusting black and white, color photos and artwork. The program is used for the home office, by graphic and digital artists, digital photographers, illustrators and service bureaus. PhotoShop allows the digital artist to add creative enhancements to an image by using PhotoShop's special effects features. This course is for beginners to intermediate users who want to become familiar with the program and its tools. The topics and hands-on training include toolbox identification and importing images from a photo C.D., filters, layers, cropping rotating graphics, making selections, masks, channels, file compression techniques and photo restoration. These techniques are performed using the Apple® Macintosh and the PC platform. *Hours of class per week: 2. Hours of lab per week: 2.*

GA 201 Digital Photography & Design 3 s.h.

This course emphasizes technology, design and the terminology of digital photography. Students learn how to use digital photography as a way to think visually. Students learn the functions of digital cameras. ISO, memory, white balance, photo composition and file management are taught. Pixel-based software digital cameras and scanners are used to capture and manipulate photo images. Students develop new approaches to creative design using digital technology and traditional

design principles. Students restore photos, explore lighting, balance, and special effects. Visual creativity is emphasized to enhance and stimulate creative and original thought processes. *Prerequisite: GA 101, 125, AR 161, Macintosh/PC experience or permission of instructor. Hours of class per week: 2. Hours of lab per week: 2.*

GA 202 Creative Studio Photography 3 s.h.

The emphasis of this course is to build student experiences using studio lighting techniques to capture digital images. Students learn how to manage TIFF, JPEG and RAW camera files using photographic software. Students learn to work with the complexities of studio lighting, and learn creative photographic lighting techniques. The course focuses on digital cameras in the studio, lighting equipment controlling measuring light. Students are also engaged in learning professional software as a tool for image enhancements, creative commercial advertising and graphic design. *Prerequisite: GA 125, or AR 161, or GA 201 Macintosh PC experience or permission of Instructor. Hours of class per week: 2. Hours of lab per week: 2.*

GA 205 Graphic Design 3 s.h.

This course approaches the planning and design aspects of creating complete digital posters, publications, logo work and creative advertisements. Emphasis is directed toward designing multi-color publications produced in advertising agencies, newspaper firms, in-plant printing facilities and commercial print media businesses. Advanced design principles and multiple software applications are used for graphic design. Print and web media specifications are stressed. Job planning techniques using dummy's, thumbnail concepts and design principles are developed. Page impositions and proofing techniques are emphasized. Artwork and design concepts are created manually, or by computer. Offset reproduction, paper specifications, grades and ink relationships are taught. This course emphasized completion of finished digital artwork. Introduction to graphic arts portfolio design. *Hours of class per week: 2. Hours of lab per week: 2.*



GA 207 Entrepreneurship & Portfolio Seminar

3 s.h.

This course is designed to develop knowledge and skills in the area of organizational communication and basic print media management. Emphasis is directed toward the print media, advertising, marketing, publishing and freelance segments of print and web media. Topics include plant and studio layout, the balance sheet, wage policies, inventory control, equipment costing, and leasing and customer service. Creative design projects are emphasized in addition to all software learned in previous courses. Presentation and PDF software is used to develop digital portfolios. This course is designed to stimulate students to develop useful skills for sales, marketing and entrepreneurship in the print media and the publishing industry. Time management, job research, job preparation, transfer options and final portfolio organization is emphasized. Adobe® Acrobat and PowerPoint™ software is used. *Prerequisites: GA 101, GA 103, GA 104, Macintosh™/PC experience or permission of instructor. Hours of class per week: 2. Hours of lab per week: 2.*

Human Development (Course listings)

HD 100 Studies of the Person

3 s.h.

This course investigates the concept of the fully functioning person through the study of theories of psychology and human development and the application of those theories to the self. Topical areas explored include theories of development, models of self-esteem, theories related to the self-actualizing process, stress management, transactional analysis, relationships and death and loss. *Hours of class per week: 3.*

HD 221 Human Relations & Group Dynamics

3 s.h.

A course designed to assist students in acquiring knowledge and skills that enable them to communicate more effectively with other people, individually and in small groups. Learning activities include role-playing and human relations skill training exercises as well as film and lecture presentations on theories of interpersonal communication. Topics include obstacles to communication, attending behavior, listening skills, communication skills, conflict management, systems theory, gender differences, family dynamics, leadership, group roles, group norms and pressures. *Hours of class per week: 3.*

Health (Course listings)

HE 135 Personal Health

3 s.h.

A course dealing with the application of scientific principles of effective, healthful living. Topics include critical areas of health, the causes and effects of health problems, and the practical application of this knowledge toward positive action. The course covers drugs as well as environmental health, family hygiene, mental health, and social diseases. *Hours of class per week: 3.*

HE 136 First Aid & Safety

3 s.h.

A course granting National Safety Council: First Aid (Level III) and CPR Certification, and New York State Education Department First Aid & CPR Certification for Coaches, following satisfactory completion. The course emphasizes safety with discussion of accident causation and prevention in recreation, home, and community. *Hours of class per week: 3.*

HE 138 Health Care Provider CPR

1 s.h.

This course is an American Heart Association CPR course which includes infant, child, and adult CPR.

Human Services (Course listings)

Human Services courses are not credited toward Social Science requirements but may be used for elective Liberal Arts credit.

HS 110 Introduction to Human Services

3 s.h.

This course offers students a general introduction to the field of human services. It defines the present-day structure of the Human Services field as it fits within the broader context of human service professions. The historical evolution of the helping profession provides a background from which to view current social problems. The course discusses the education and training structure as it relates to the development of practical skills, knowledge, and values necessary for successful human service work. It also discusses theoretical concepts that have determined a variety of intervention strategies to meet a vast assortment of client needs. Students study basic topics, beginning with the concept of human needs, which have dictated the shape of the existing network of agencies and services. Self-awareness opportunities encourage students to appraise their suitability to the field. *Hours of class per week: 3.*

**HS 111 Human Services Interventions 3 s.h.**

This course emphasizes the role of the person in the environment and covers the following topics: the helping relationship, observation skills, reporting and recording procedures, effective interviewing techniques, the transition from interview to counseling, problem-solving techniques, the importance of values and ethical standards, as well as issues of diversity and culture. *Hours of class per week: 3.*

HS 211 Problems of Substance Use Disorders 3 s.h.

This course introduces students to the subjects of drug and alcohol—their use, misuse, and abuse. It takes a multidimensional approach, reviewing the historical, social, legal, biological, pharmacological, and psychological aspects of the topic. The course emphasizes the problems that arise from their legal and illegal use. Students are encouraged to think critically and examine personal beliefs and values regarding drug and alcohol use or abuse. In addition, attention is given to methods of prevention and treatment. *Prerequisite: SS 291. Hours of class per week: 3.*

HS 231 Introduction to Gerontology FA 3 s.h.

This course provides a broad-based introduction to the study of human aging. The elderly are considered from several perspectives, including the biological, psychological, sociological, political, and economic. Students explore historical events and current trends in the graying of America. The course highlights individual activities and community services that enhance and improve the quality of life for the older person. *Prerequisite: SS 297. Hours of class per week: 3.*

HS 243 Family Violence Issues SP 3 s.h.

The course examines the phenomenon of violence as it may occur throughout the course of family life. It covers the following topics: child abuse/neglect, including sexual, physical, and emotional abuse; domestic violence or spousal assault; elder abuse. It also examines reporting considerations and discusses the prevention, assessment, and treatment of violent families. It identifies legal and cultural issues. *Prerequisite: SS 281 (291, 294 recommended). Hours of class per week: 3.*

HS 265 Mental Health Services FA 3 s.h.

This course is designed to equip students with the concepts, terms, and structures of the mental health field.

A psychosocial approach focuses on individual mental health needs, community mental health providers, and the role of the paraprofessional. Topics include the identification of mental disorders, current therapy approaches, the use of psychotropic medication, legal issues, ethical and cultural considerations, and appropriate attending skills for mental health workers. *Prerequisites: HS 110 (SS 291, 292 recommended). Hours of class per week: 3.*

HS 298-299 Human Services Internship I & II FA-SP 4 s.h.

Human Services Internship is designed to provide individualized work and learning experiences in the field of human services. Interns spend 10 to 12 hours per week over the course of the semester in a community human service agency. In addition, interns spend one hour per week in a seminar session where they may reflect on their field experiences and integrate the insights they have achieved in their fieldwork. These sessions develop helping skills including sensitivity, empathy, attending, and questioning, confrontation and problem solving. They also address goal setting, case management, and case planning and client assessment. *Prerequisites: An earned grade of "C" or higher in HS 110, HS 111, approval of HS program faculty or Dean. Hours of class per week: 1 + additional hours to be arranged.*

**Humanities: Philosophy and Religion
(Course listings)**

**(See also Art, Communications, English,
Modern Foreign Languages, Music,
Theater)**

HU 200 Myth, Story and Symbol FA 3 s.h.

The course will investigate mythology from a variety of world cultures, storytelling and the oral tradition, as well as symbolism as it relates to the human experience. Coursework will enlighten students to the powerful connection of the three topic areas to modern media, societal beliefs, and social mores. Group activities, oral presentations, and a culminating creative project presentation will comprise the bulk of the coursework. *Prerequisite: EN 103. Hours of class per week: 3. General Education: H.*

**HU 250 Introduction to Philosophy FA 3 s.h.**

An introduction to fundamental philosophical problems in some of the basic divisions of philosophy — metaphysics, epistemology, ethics, political philosophy, and philosophy of religion. The course includes the arguments of several major philosophers. It emphasizes the development of critical thinking — i.e., “doing philosophy” — in addition to studying philosophical issues. Prerequisite: EN103 strongly recommended. *Hours of class per week: 3. General Education: H.*

HU 258 Ethics SP 3 s.h.

An introduction to the basic ethical theories and their applications to human behavior and choices. Students study and compare non-normative theories such as subjectivism and relativism, and normative theories such as utilitarianism, deontology, virtue theories, natural law, natural rights, and Platonism. Prerequisite: EN103 strongly recommended. *Hours of class per week: 3. General Education: H.*

HU 271 Comparative Religions 3 s.h.

A survey of world religions, major and minor, past and present, from both Eastern and Western cultures. The course traces the historical development of religion through the mythologies of Egypt, Greece, etc., as well as the historical progression of the Semitic religions: Judaism - Christianity - Islam. The course emphasizes similarities and differences among the various religions but also deals with the influence of religion on science, art, politics, etc., and their influence on religion. *Hours of class per week: 3. General Education: H.*

HU 290 Special Topics in the Humanities 3 s.h.

An interdisciplinary course that examines a subject not covered extensively in other Humanities courses. Topics vary with each offering but generally involve multicultural perspectives. Specific topics are announced before pre-registration. The course may be repeated for credit, but prior topics may not be repeated for additional credit. Prerequisite: EN 104. *Hours of class per week: 3.*

**Honors Program
(Course listing)****ID 291 Honors Seminar SP 3 s.h.**

An interdisciplinary seminar involving extensive review of the literature and in-depth examination of the global,

national, and local relevance of the issues under consideration. Emphasis is on the general background reading, preparation, and discussions of the topic in philosophical, historical, social, technological, or scientific terms. By this approach, students gain insight into the multi-disciplinary nature of the topic. This format allows close communication and interaction between a small group of students and an experienced group of faculty. Prerequisites: *sophomore status in the Honors Program OR Completion of at least 30 s.h., point average of 3.2, approval from the Dean of Arts and Sciences. Hours of class per week: 3.*

**Internships
(Course listings)****IN 291-294 Internship 1-4 s.h.**

This course serves as a structure for the awarding of credit for prearranged academically applicable work experiences. Students who have satisfactorily completed relevant courses may be placed with an approved agency on a part-time basis. Participation requires the approval of a College instructor and the appropriate Dean. Evaluation of the student's performance is the responsibility of the instructor. A maximum of eight (8) semester hours of credit may be earned by any one student. Prerequisite: Previous relevant course work. *Hours of class per week: to be arranged.*

**Independent Study
(Course listings)
(See also Directed Study)****IS 291-294 Independent Study 1-4 s.h.**

The course affords students the opportunity to investigate in-depth areas not available in existing courses. Provided they obtain the sponsorship of a faculty member and the permission of the Dean, students may submit proposals contracting to undertake from one to four semester hours of independent study in approved areas. Students accepted for independent study are expected to confer regularly with their mentors and to demonstrate satisfactory proficiency in the particular area of study they have proposed to investigate. *Hours: To Be Arranged.*



Mathematics (Course listings)

MA 099 Basic Mathematics 4 I.C.*

A developmental course in arithmetic skills. The course prepares students for college-level mathematics. Topics include whole numbers and the place value system; verbal problems; exponents; square roots; primes; factoring; L.C.M.; fractions; decimals; metric system; discount, profit and interest; mensuration, perimeter and circumference; area and volume. This course does not satisfy graduation requirements. *Hours of class per week: 4. *4 institutional (non-degree) credits.*

MA 142 Technical Mathematics 4 s.h.

A first course for most students in Automotive, Construction, Natural Resources, and Visual Communications Technologies. Topics include review of signed numbers and operations, exponents, algebraic fractions, calculator usage, the metric system, perimeter/area/volume, triangle trigonometry, law of sines and cosines, surveying applications, and dimensional analysis. Not credited toward the A.S. or A.A. degree mathematics requirements. *Hours of class per week: 4.*

MA 147 Algebra 4 s.h.

A modern approach to introductory algebra. This course is designed for students who have a limited mathematics background. Topics include sets and number systems; operations; exponents; polynomials and rational expressions; first-degree equations; graphs; verbal problems. Not credited toward the Associate Degree mathematics requirements. In certain academic programs completion of this course, based on the student's academic background, may be necessary preparation for enrollment in courses required for graduation. *Hours of class per week: 4.*

MA 150 Survey of Mathematics 3 s.h.

An overview of mathematics for the non-science student. Topics may include elementary symbolic logic, introductory set theory, numeration systems, number bases, modular arithmetic, topics in algebra, topics in geometry, probability, and voting methods. Not open to students who have credit for Intermediate Algebra, MA 151, Math 11 or Course III. Not credited toward the A.S. degree in Math/Science or Engineering Science but may be used for elective credit. *Hours of class per week: 3. General Education: M.*

MA 151 Intermediate Algebra for College Students 4 s.h.

A course designed for students who have had only a minimum of high school mathematics and who wish to enroll later in any of the following courses: MA 154, MA 160. Topics include properties of real numbers; polynomials and rational expressions; equations, exponents and radicals; functions and graphs; and simultaneous systems. *Prerequisite: MA 147 or one year of high-school algebra. Not open to students who have credit for Math 11 or Course III. Hours of class per week: 4. General Education: M.*

MA 154 Pre-Calculus Mathematics 4 s.h.

Background material for the study of the calculus. Topics include relations, functions, and graphs; inequalities and absolute value; exponential and logarithmic functions; circular functions and topics from trigonometry; complex numbers; synthetic division and solution of polynomial equations. *Prerequisite: Intermediate Algebra, MA 151, Math 11, Course 3, or permission of instructor. Hours of class per week: 4. General Education: M.*

MA 156 Survey of Calculus 4 s.h.

A streamlined approach to differentiation and integration of algebraic and transcendental functions. This condensed version of a traditional calculus course is to make formulas and theorems reasonable and clear, using arguments that can be made rigorous, if desired. *Prerequisite: Precalculus or satisfactory performance on the placement exam. Hours of class per week: 4. General Education: M.*

MA 157 Analytic Geometry & Calculus I 4 s.h.

First course in a sequence of four courses covering topics from the calculus, analytic geometry, differential equations and advanced areas. Primarily for mathematics or science majors, although qualified students from other fields are encouraged to elect the course. Topics include functions; limits; continuity; asymptotes; differentiation of rational, polynomial and trigonometric functions; curve sketching; antidifferentiation; Riemann sums; the Fundamental Theorem; integration by substitution; applications. *Prerequisite: MA 154 or 3 years of high-school mathematics and permission of instructor. Hours of class per week: 4. General Education: M.*

**MA 158 Analytic Geometry & Calculus II****4 s.h.**

A continuation of MA 157. Topics include the differentiation and integration of logarithmic, exponential, inverse trigonometric, and hyperbolic functions; areas; volumes; integration techniques; approximations; improper integrals; infinite series; Taylor polynomials; tests for convergence/divergence; applications. *Prerequisite: MA 157. Hours of class per week: 4. General Education: M.*

MA 160 Statistics**3 s.h.**

A course designed to give a foundation in statistics for students in Business, Social Science, Education, Humanities, or Computer Information Systems who are planning to transfer to a four-year program. Topics include descriptive statistics; counting principles and probability; binomial, and normal distributions; hypothesis testing using the normal curve; linear regression and correlation; and chi-square tests. *Prerequisites: Intermediate Algebra, MA 151, Math 11, Course 3, or permission of instructor. Hours of class per week: 3. General Education: M.*

MA 257 Analytic Geometry & Calculus III**FA 4 s.h.**

A continuation of MA 158. Topics include conic section; parametric equations; polar equations; arc length; vector differentiation and integration; tangent and normal vectors; multivariate differentiation and integration in several coordinate systems; line integrals; applications including lines, planes, areas, volumes, mass, and moments. *Prerequisite: MA 158. Hours of class per week: 4.*

MA 258 Differential Equations**SP 4 s.h.**

Topics include definitions and properties of differential equations; differential equations of first degree and order; applications, Bernoulli's equation, linear independence; general solutions to homogeneous and non-homogeneous equations; differential operators; auxiliary equations; the LaPlace transformation and its inverse; series solutions about ordinary and singular points. *Prerequisite: MA 257. Hours of class per week: 4.*

MA 259 Linear Algebra**SP 3 s.h.**

A course designed for second-year mathematics or science students. Topics include systems of linear equations, vector spaces, linear dependence, bases, dimension, linear transformations, matrices, determinants, eigenvectors. *Prerequisite: MA 158. Hours of class per week: 3.*

**Mechanical Drawing/Drafting
(Course listings)****MD 171 Introduction to****Architectural Drafting****FA 3 s.h.**

The course covers drafting work in lettering, use of drawing instruments including the drafting machine and parallel straight edge, geometrics, orthographic projection, cross sections, axonometric projection, intersections and sketching. *Hours of class per week: 2. Hours of lab per week: 2.*

**MD 174 Computer Aided Drafting:
Auto CAD****3 s.h.**

This course teaches the basics of computer aided drafting, using the AutoCAD software package, as applied to engineering type drawings. Topics include geometric construction basics, object properties, polar and delta positioning, orthographic views, dimensioning, auxiliary and sectional views. Three dimensional drawing and solid modeling will be introduced using the AutoDesk Inventor software. *Hours of class per week: 2. Hours of lab per week: 2.*

**MD 180 Intermediate Architectural
Drawing****SP 3 s.h.**

Architectural drawing as related to functional planning of residence buildings, working drawings, including plans, elevations, section, details, notes and specifications. *Prerequisite: MD 171. Hours of class per week: 2. Hours of lab per week: 2.*

**Medical Office Assistant
(Course listings)****ME 284 Medical Insurance SP 3 s.h.**

This course presents standardized basic concepts and brings all reimbursement systems down to a common denominator that simplifies and clarifies medical insurance. The procedures necessary to successfully file medical claims for reimbursement are covered. This course benefits students in medical-related programs as well as practicing medical assistants. *Prerequisite: OT 283 or 285. Hours of class per week: 3.*

**Multimedia
(Course listings)****MM 101 Multimedia Technology 3 s.h.**

This course examines both software and hardware found in the multimedia developer's toolbox by surveying current multimedia applications and underlying technologies. The creation of digital images, sounds, video, animation, and web-based content are all explored. There is a special focus on the Internet and web-based technologies as well as delivery of multimedia content on CD-Rom. Topics: computer use in multimedia, sound, video, graphic picture formats, Internet web usage, basic HTML, 2D drawing, 2D animation, applications of multimedia, and current information on the multimedia industry. *Hours of class per week: 2. Hours of lab per week: 2.*

MM 102 Digital Design 3 s.h.

This course focuses on content design in a digital world. The creation of 3D worlds and 3D animations teach the student the importance of lighting, color and texture in a digital world. This course also explores digital video and sound editing technologies to provide the student with production experience as a means of showcasing his or her work. Students learn the fundamentals of a digital portfolio and multimedia authoring. *Prerequisite: MM 101 or permission of Instructor. Prerequisite for non-majors: GA 101 or AR 150, or permission of Instructor. Hours of class per week: 2. Hours of lab per week: 2.*

MM 201 Multimedia Development 3 s.h.

This course provides the student with an in-depth look at current multimedia authoring software and interactive media design. Students will create interactive illustrations and multimedia titles for distribution on both CD-Rom and Internet. Students are expected to have an intermediate level understanding of graphic design principles and applications. Game design and theory, beginner level programming methods and packaging of multimedia titles are all covered in this course. *Prerequisite: MM 102. Hours of class per week: 2. Hours of lab per week: 2.*

MM 202 Multimedia Portfolio 3 s.h.

This course provides the student with a capstone opportunity to use multimedia software to develop complex multimedia projects. Student work results in the production of an interactive multimedia titles and cumulative portfolio. *Prerequisite: MM 201. Hours of class per week: 2. Hours of lab per week: 2.*

**Music
(Course listings)****MU 102 Musical Theatre Practicum SP 3 s.h.**

An in-depth study of the musical score, lyrics, and book of a particular musical, resulting in its production. These activities involve sixty hours of class and rehearsal time and culminate with the performance of the show. This course may be repeated once for credit. *Prerequisite: Admission by audition only. Hours of class per week: 4.*

MU 111 College Chorus 1 s.h.

Study and performance of a variety of choral literature. The emphasis is on developing the student's ability to sing with a group. Special attention is paid to choral phrasing and interpretation. Each semester's work culminates in a campus performance by the Chorus. May be taken for credit for four semesters. No prior experience with choral singing is required. *Hours of class per week: 2.*



Nursing (Course listings)

The professional component of the Nursing major assists students in gaining the knowledge, attitudes, and skills essential to nursing practice in a variety of settings.

NU 105 Nursing Science I 7 s.h.

This course introduces concepts, skills, and procedures common to nursing care of all patients, regardless of age or disability. Emphasis is placed upon acquiring a body of knowledge that permits individualization of nursing care based upon a sound, scientific rationale. The nursing process, the role of the nurse, communication theory, provision for meeting basic physical needs, nutrition, pharmacology, and the special needs of the aged are included. Practice in basic skills is provided in the College laboratory and through selected patient care assignments at long-term care facilities. *Prerequisite: Completion of or concurrent registration in BI181 and SS291. Hours of class per week: 5. Hours of lab per week: 6.*

NU 106 Nursing Science II 7 s.h.

The course focuses on the commonalities of acute care, including the care of patients undergoing diagnostic and surgical treatment. Other topics of study include: care of patients with fluid, electrolyte, and acid-base imbalances; care of patients with mobility problems; care of patients with malignancies; and care of patients with communicable diseases and care of Pediatric patients. Patient care assignments and observational experiences are provided through affiliations with multiple health care agencies. *Prerequisites: NU 105, completion of/ concurrent registration in BI 182, SS 297. Hours of class per week: 4. Hours of lab per week: 10.*

NU 205 Nursing Science III 9 s.h.

This course is divided into three major units. Each instructor assumes complete responsibility for classroom and clinical instruction in a specialty area. Specialty units include Mental Health, Medical-Surgical with emphasis on patients with cardiovascular and respiratory

dysfunction, and Maternal-Child Health. *Prerequisites: NU106, completion of or concurrent registration in, BI 282. Hours of class per week: 5. Hours of lab per week: 12.*

NU 206 Nursing Science IV 10 s.h.

This course stresses complex health needs of adults. Principles, concepts, and skills introduced in previous courses are further developed and expanded. Professional issues and topics are also discussed. Clinical experiences include advanced Medical-Surgical interventions, medication administration, application of principles of leadership and group management, and a three week preceptorship. *Prerequisite: NU205. Hours of class per week: 6. Hours of lab per week: 11. In addition, a 3-week preceptorship is required.*

NU 207 Pharmacology 3 s.h.

This three-credit course is designed to expand on basic knowledge of pharmacology. Emphasis is placed on current drug therapy and the specific nursing responsibilities for the safe administration of drugs, assessing drug effects, intervening to make the drug regimen, and monitoring the overall patient care plan to prevent medication errors. Emphasis will be placed on basic concepts of pharmacology, groups of therapeutic drugs, commonly prescribed individual drugs, human responses to drug therapy, applying nursing process in relation to prescribed drug therapy regimens and principles of therapy in various circumstances and populations. *Prerequisite: 2 semesters of NU courses, or permission of instructor. Hours of class per week: 3.*

Nursing Process Course

This is a required 15-clock hour non-credit course for Licensed Practical Nurses accepted into the Nursing Program with advanced placement credit or students readmitted to the Program. The course introduces nursing concepts with emphasis on the use of the nursing process in meeting the basic needs of individuals. Selected nursing content from the core curriculum is discussed. The course and a clinical skills review session must be completed prior to entrance into NU 106, Nursing Science II.

**Office Technology
(Course listings)****OT 133 Introductory Keyboarding 3 s.h.**

This course is taught using PCs in the Office Technology Lab by a self-paced, individualized method of instruction combining basic word processing functions with keyboarding skills. There is emphasis on the use of the touch system in building speed and accuracy, sound ergonomic practices, numeric input skill, and the composition skills necessary for effective computer keyboarding. The creation of basic documents including e-mail is introduced. *Hours of class per week: 3. Additional hours are required in the Office Technology Lab. A pretest is optional for advanced placement in the course.*

OT 134 Intermediate Keyboarding 3 s.h.

This course is taught using PCs in the Office Technology Lab by a self-paced, individualized method of instruction combining basic word processing functions with keyboarding skills. Speed and accuracy continue to be stressed. Students learn to create business documents using keyboarding skills and basic word processing functions. Documents include e-mail, memos, letters, and reports. Proofreading and composing at the computer are included. *Prerequisite: OT 133 or equivalent. Hours of class per week: 3. Additional hours are required in the Office Technology Lab. Advanced placement pretest in course is optional, however, a five-minute timed writing pretest is required.*

OT 135 Voice Recognition Technology SP 3 s.h.

This course introduces the use of voice recognition software as a tool for writing, data input, and record keeping. Voice formatting and communication will be stressed. Topics include installation and set up, software features, voice writing and formatting, accuracy development, error training, and using voice recognition in other software programs. Legal, medical, government, and business applications will be used. *Prerequisites: CS105 or equivalent. Hours of class per week: 3.*

OT 139 Introduction to Office Systems & Technology 3 s.h.

This is an orientation course designed to introduce the skills and knowledge of office information systems in the modern on-line, interactive office. Topics include an office information software overview, including Windows, its use in supporting mission-critical functions, and the information cycle. Emphasis is on how teamwork is facilitated by procedures and technology, including personal information management software (Outlook) and the Internet utilized in office systems. System concepts are presented. Laboratory exercises are completed on PCs using the Windows environment with e-mail and internet access. Co-requisite: OT 133 or OT 134 & CS 105 or permission of instructor. *Hours of class per week: 3. Additional hours in the Office Technology Lab.*

OT 230 Machine Transcription 3 s.h.

This course is taught in the Office Technology Lab. This is a comprehensive course designed to provide the student with the necessary skills to prepare documents from a recorded voice. Material to be transcribed consists of various forms of business correspondence used in fifteen different employment areas such as governmental, legal, medical, manufacturing, banking, retailing, etc. In addition, strong emphasis is placed on building language and vocabulary skills such as spelling, grammar, word division, abbreviations, punctuation, pronunciation, and word definition to prepare the student to edit when necessary. Use of reference manual is emphasized. Cassette transcribers are used. *Prerequisites: EN 103 or BU 137, OT 134, or permission of instructor. Hours of class per week: 3. Additional hours in the Office Technology Lab.*

OT 235 Administrative Support Procedures I FA 3 s.h.

An overview of office services and responsibilities of office employees is provided. Topics covered include career planning, employment opportunities, work organization and time management, computer information systems, financial assistance, telecommunications, communication processes, office teamwork and ethics. The students are introduced to integrated software using PCs in the Windows environment. *Hours of class per week: 3.*



OT 236 Administrative Support

Procedures II

SP 3 s.h.

An overview of office procedures and responsibilities of office employees is provided. Topics covered include receptionist and telephone techniques, mail procedures, document creation, records management, mailing and shipping services, meeting and conference planning, and travel arrangements. Selected exercises are performed on PCs in the Windows environment using integrated software applications. *Hours of class per week: 3.*

OT 241 Word Processing

Applications (Basic)

3 s.h.

Basic output applications are taught on PCs using MS Word software. Students learn specialist-level concepts and skills. Topics include creating, editing, and printing; formatting characters, paragraphs, documents and sections, multi-page documents, tables, outlines, and columns; styles; templates and wizards, and autotext; manipulating tabs and text within and between documents; writing and help tools; borders, images, and drawing; creating Web pages and hyperlinks; and sharing documents using comments, tracking changes, and comparing and merging documents. Students are required to apply these concepts and skills in the production of common office communications including letters, memos, reports, newsletters, labels and envelopes, and Web pages. *Co-requisite: OT 134 and OT 139. Hours of class per week: 3. Additional hours in the Office Technology Lab may be required.*

OT 244 Word Processing

Applications (Advanced)

3 s.h.

Advanced office output applications are taught on PCs using Microsoft Word software. Students learn expert-level concepts and skills. Topics include footnotes and endnotes; merging; sorting and selecting; hyphenation, finding and replacing special characters, auto summarizing, and line numbering; objects and images, watermarks and dropped caps, and WordArt; styles; macros; custom dictionaries; master documents and subdocuments; index, table of figures, and table of authorities; forms; shared documents, including creating multiple versions, protecting documents, and customizing document properties; sharing data between documents; and XML. Students are required to apply these concepts

and skills in the production of office documents and communications such as long reports, merged letters, flyers and Web pages. *Prerequisites: OT 241. Hours of class per week: 3. Additional hours in the Office Technology Lab may be required.*

OT 248 Integrated Software

Applications

SP 3 s.h.

This course provides experience using an integrated software suite. Microsoft Office is used to complete advanced word processing functions, to prepare documents that integrate files from various suite applications, the internet, and other new technologies. Topics include productivity, web page and Internet integration; desktop publishing, presentation graphics, worksheet, and data base documents as well as emerging software technologies will be introduced. Using language skills, making decisions, and working without direct supervision will be included. *Prerequisites: CS105, OT139 and OT241. Hours of class per week: 3.*

OT 249 Office Technology &

Administration Practicum

SP 3 s.h.

Using PCs in the Windows environment and other technology, Office Technology & Administration students receive actual on-the-job work experience in a model office support center. The duties performed are primarily correspondence-related, but may also be administrative in nature. Although the primary workstation for this course is the College's Model Office, other arrangements, if available, can be made. Work logs are a major responsibility of the student requiring a minimum of ten hours per week. *Prerequisites: OT 230, 239 and permission of instructor. Hours of class per week: 10-15.*

**OT 255 Administrative Office Management****FA 3 s.h.**

This course provides a foundation in the theory and practice of management in the administrative office. Emphasis is on basic concepts, problem solving, and communications. E-mail, the Internet and Presentation Graphics (Power Point) will be utilized. In addition, issues related to staffing, productivity, job analysis, and integrating automated services is studied. Some assignments simulate on-the-job experience or be completed through study of administrative offices in the community. *Prerequisite: CS 105, equivalent experience, or permission of instructor. Hours of class per week: 3.*

OT 257 Records Management**FA 3 s.h.**

This course provides a study of the concepts, principles, procedures, and issues necessary for optimizing the value of records and information on an organization-wide basis. The focus is on systems, tools, and guidelines for effective records management. Topics include an overview of records management, the management of active and inactive records, electronic and automated systems, image technology, and other related records management functions. Problem-solving activities, projects, and case problems are included. *Prerequisite: CS105 or equivalent experience. Hours of class per week: 3.*

OT 283 Medical Terminology**3 s.h.**

Emphasis is on understanding medical terms. The logic behind the formation of medical terms, analysis of words, and interpretive and deductive skills are used. Terms associated with all anatomical systems are covered. Slides and tapes may be used. *Hours of class per week: 3.*

OT 285 Medical Administrative Support**Procedures****FA 3 s.h.**

Emphasis is on topics covered by the American Association of Medical Assistants' Study Outline for Certification Review Administrative Division: patient relations, legal and ethical issues, communications, financial records, billing and collection, and insurance. *Prerequisite: OT 133 or equivalent. Hours of class per week: 3.*

OT 287 Medical Transcription I**SP 3 s.h.**

This course begins with an introduction to medical transcription and use of medical references. Medical document transcription is emphasized. Terminology, language skills, and transcription skills are systematically reinforced. Assignments include a variety of medical documents and dictator accents. The office technology lab is used. *Prerequisite: OT 134, 283, or permission of instructor. Hours of class per week: 3. Additional hours required in the Office Technology lab.*

OT 288 Medical Transcription II**SU 3 s.h.**

This course continues to build on the material learned in Medical Transcription I. Specialty areas such as: cardiology, psychiatry, neurology, ob/gyn, and respiratory/pulmonary are included. Terminology, language skills, and transcription skills continue to be systematically reinforced. Emphasis is on accurate transcription of realistic dictation. Assignments include a wide variety of medical documents and dictator accents. Computers and software are utilized. The office technology lab is used. *Prerequisite: OT 287 (OT 134 & OT 283). Hours of class per week: 3. Additional hours are required in the Office Technology Lab.*

**Physical Education
(Course listings)****PE 031 Intramural Activities****1 s.h.**

Students are required to participate satisfactorily in supervised sport activities to complete course requirements. The schedule of activities is available from the Physical Education faculty. This course may not be used to satisfy Physical Education activity course requirements but may be repeated for additional elective credit. *Hours of class per week: 1.*

PE 110 Introduction to Fitness**1 s.h.**

A course designed as a survey in physical fitness. It has both lecture and lab components. Laboratory sessions present a variety of fitness activities. Course lectures cover the physiological and emotional effects of exercise, dietary concerns, and a variety of wellness issues. *Hours of class per week: 2.*



PE 111 Jogging **1 s.h.**
A course designed to instruct individuals in developing cardio-vascular fitness through jogging. Emphasis on monitoring fitness indicators such as heart rates and active use of a variety of aerobic and anaerobic running activities. *Hours of class per week: 2.*

PE 114 Canoeing **1 s.h.**
A course designed to instruct beginning-level techniques of canoeing. Students must be able to demonstrate swimming proficiency. Emphasis on paddle strokes, selection and use of equipment, safety, and survival techniques. Course meets at sites other than main campus. Students make their own transportation arrangements. *Hours of class per week: 2.*

PE 115 Hiking **1 s.h.**
A course designed to instruct individuals in developing strength and cardiovascular fitness through hiking. This course will include five day-long hikes. Course will meet at sites other than the main campus. Transportation will be provided. *Hours of class per week: 2.*

PE 116 Body Shaping **1 s.h.**
This course is designed to instruct individuals to improve cardiorespiratory function, muscle tone, strength, and flexibility through basic movement exercises. *Hours of class per week: 2.*

PE 118 Weight Training & Conditioning **2 s.h.**
This course includes instruction in technique and safe use of a variety of strength training equipment. Individual programs are designed to improve fitness levels. Emphasis on familiarizing students with various systems of training and the benefits of each. *Hours of class per week: 3.*

PE 123 Bowling **1 s.h.**
Instruction in fundamental bowling skills rules etiquette and selection of equipment. Course meets at sites other than main campus. Students make their own transportation arrangements and pay an additional fee at off-campus site. *Hours of class per week: 2.*

PE 124 Golf **1 s.h.**
Beginning-level instruction in fundamental golf skills, rules etiquette, and selection and care of equipment.

Course meets at sites other than main campus. Students make their own transportation arrangements and pay an additional fee at off-campus site. *Hours of class per week: 2.*

PE 127 Cross-Country Skiing **1 s.h.**
A beginning-level course designed to instruct the individual in traditional techniques of cross-country skiing. Emphasis on selection of equipment, technique, safety and fundamentals of travel on a variety of terrain. Planning and safety on trips are discussed and implemented on trails within the Adirondack Park. Course meets at sites other than main campus. Students make their own transportation arrangements and pay an additional fee at off-campus site. *Hours of class per week: 2.*

PE 128 Aerobic Dance **1 s.h.**
A fitness course designed to improve cardio-respiratory function, muscle tone, strength and flexibility. It emphasizes low-impact activities. *Hours of class per week: 2.*

PE 130 Step Aerobics **1 s.h.**
A high-intensity activity course to promote cardio-respiratory fitness using low-impact steps techniques. *Hours of class per week: 2.*

PE 131 Volleyball **1 s.h.**
An introduction to the skills, rules and strategies involved in the game of volleyball. A progression begins with basic drills and continues through intermediate play. Special emphasis on volleyball as a recreational activity. *Hours of class per week: 2.*

PE 133 Soccer **1 s.h.**
An introduction to the skills, rules and strategies of soccer. A progression begins with basic drills and continues through intermediate play. Play includes both full field and the indoor game. The course is designed for all levels of ability. *Hours of class per week: 2.*

PE 136 Basketball **1 s.h.**
An introduction to the skills, rules and strategies of basketball. Both individual and team skills are emphasized through a variety of drills and game situations. *Hours of class per week: 2.*



PE 141 Beginning Swimming 1 s.h.
Open to non-swimmers or those with marginal skills. The course focuses on buoyancy, breath control, the introduction of swimming strokes, water games and activities. *Hours of class per week: 2.*

PE 142 Intermediate Swimming 1 s.h.
Open to all students who possess moderate swimming skills. The course focuses on stroke refinement, beginning diving, forms of rescue, water games and activities. *Hours of class per week: 2.*

PE 146 Lifeguarding 2 s.h.
Open to all students with advanced swimming skills. The course focuses on the duties and responsibilities of a lifeguard, rescue techniques, emergency care and management skills. *Hours of class per week: 3.*

PE 147 Water Aerobics 1 s.h.
A course to help develop the various components of fitness (cardiovascular endurance, strength and flexibility) in a comfortable setting and provide a relatively safe environment for injury-free exercise participation. Available to swimmers and non-swimmers. *Hours of class per week: 3.*

PE 151 Racquet Activities 1 s.h.
An introduction to basic skills, rules and strategies in racquetball, tennis and badminton. Emphasis on improving skill level and progression to game play. *Hours of class per week: 2.*

PE 171 Ice Fishing WI 3 s.h.
The course takes advantage of the College's location near Adirondack lakes. Some time spent in classroom discussing development and theory of ice fishing and use of equipment. Talks by local conservation officials. Visit to local hatchery. Much time spent ice fishing on Sacandaga and other lakes of the region. Course meets at sites other than main campus. Students make their own transportation arrangements. NYS Fishing License required. *Hours of class per week: 3.*

PE 201 Introduction to Health, Physical Education, & Recreation FA 3 s.h.
The course provides an historical background and understanding of health, physical education, and recreation. Experiences in classroom observations, athletics, supervised teaching and administration is interspersed with lectures. Individual objectives and qualifications are reviewed, as are opportunities in the profession. Course meets at sites other than main campus. Students make their own transportation arrangements. *Hours of class per week: 3.*

PE 236 Introduction to Care & Prevention of Athletic Injuries SP 3 s.h.
The course emphasizes the scientific and clinical foundations of athletic training and sports medicine. It focuses on athletic injury prevention, recognition and initial care, along with laboratory time for practice of taping and wrapping techniques. Not credited toward Physical Education activity course requirement. *Prerequisite: HE 136. Hours of class per week: 3.*

PE 252 Lifetime Sports: Aquatics 2 s.h.
Philosophy and instructional techniques in Aquatics for Physical Education Majors. *Hours of class per week: 2. Hours of lab per week: 1.*

PE 254 Lifetime Sports: Soccer 2 s.h.
Philosophy and instructional techniques in Soccer for Physical Education Majors. *Hours of class per week: 2. Hours of lab per week: 1.*

PE 256 Lifetime Sports: Basketball 2 s.h.
Philosophy and instructional techniques in Basketball for Physical Education Majors. *Hours of class per week: 2. Hours of lab per week: 1.*

PE 257 Lifetime Sports: Racquet Activities 2 s.h.
Philosophy and instructional techniques for Physical Education majors in one of the lifetime sports areas: Racquet Activities (Tennis & Racquetball). *Hours of class per week: 2. Hours of lab per week: 1.*



**Physics
(Course listings)**

(See also SC 131, 161, 162)

PH 171 Physics I FA 4 s.h.

PH 172 Physics II SP 4 s.h.

A comprehensive course stressing the basic concepts, principles, and laws of physics, designed for engineering, mathematics and science majors. Areas covered are fundamentals of mechanics, heat and thermodynamics, electricity and magnetism, oscillations and waves. It also covers briefly atomic and nuclear physics. It uses fundamental forces and conservation of energy, linear momentum, and angular momentum as unifying themes for the different branches of physics. The course places major emphasis on developing the analytical ability and problem solving skills of the student. *Prerequisite: Concurrent registration in MA 157 or permission of instructor. Hours of class per week: 3. Hours of lab per week: 3. General Education: N.*

PH 271 Physics III FA 4 s.h.

A course designed for engineering and physics majors. Topics covered are Maxwell's equations and electromagnetic waves; special theory of relativity; photoelectric effect, Compton effect, pair production and annihilation, X-Rays, electron diffraction, deBroglie waves; particle in a box; uncertainty principles, Bohr model of the atom; Schrodinger equation; Pauli exclusion principle and the periodic table; nuclear structure; radioactivity; nuclear fission and fusion reactions; Maxwell-Boltzman distribution, quantum statistics, laser, band theory of solids and semiconductors. *Prerequisites: PH 171-172, MA 157-158. Hours of class per week: 3. Hours of lab per week: 3.*

**Peer Tutoring
(Course listings)**

PT 199 Training for Peer Tutoring 1 s.h.

The course provides practice in effective techniques of peer tutoring. *Prerequisites: Completion of at least 15 credit hours with a minimum G.P.A. of 3.0 and recommendation of area instructor. Hours of class per week: To Be Arranged.*

**Radiologic Technology
(Course listings)**

RT 101 Introduction to Radiologic Technology 3 s.h.

This course provides the students with a basic understanding of the science of radiology. The role of a health care provider and the radiographer responsibilities will be discussed. Ethical behavior and ethical issues in a clinical setting will be discussed. The introduction of radiology medical terminology will be discussed. The role terminology plays in the understanding of orders directly pertaining to patient care in radiology and other related medical care. The role of the radiographer students in direct patient care and patient education will be discussed. *Hours of class per week: 3*

RT 102 Patient Care in Medical Imaging 1 s.h.

This course offers students a clinical overview of medical imaging as it pertains to patient care. Understanding Medical Imaging Procedures, equipment, biological effects of radiation, patient education and communication are the major topics. Infection control, patient care and assessment, examination preparation are just a few of the many clinical aspects of radiology in relationship to the healthcare environment. *Hours of class per week: 1.*

RT 110 Radiographic Procedures I 3 s.h.

Students learn to perform the principles of radiographic positioning of the chest, abdomen, extremities, hips and pelvis. Practice on positioning skills will be provided in a lab setting and through designated area hospital's radiology departments. Emphasis will be placed upon the quality of the diagnostic radiograph, the principles of safety and radiation protection to the patient, technologists and other ancillary staff. *Hours of class per week: 2. Hours of lab per week: 2*

RT 111 Radiographic Procedures II 3 s.h.

Students learn to perform the principles of radiographic positioning of the digestive and urinary tract, spine, ribs, and skull. Practice on positioning skills will be provided in a lab setting and through designated area hospitals radiology departments. Emphasis will be placed upon the quality of the diagnostic radiograph, the principles of safety and radiation protection to the patient, technologists, and other ancillary staff. *Hours of class per week: 2. Hours of lab per week: 2*

**RT 120 Clinical Experience I 4 s.h.**

Performance of radiographic procedures in area hospital's radiology departments under the guidance of clinical coordinator or LRT (Licensed Radiologic Technologist). Perform radiology procedures as covered in Radiographic Procedures I. Students observe technologists positioning patients for various radiologic examinations. Students will perform radiologic procedures under direct supervision of an LRT. Students will be evaluated on patient care, principles of safety and radiation protection to the patient, technologists and other ancillary staff. Students must adhere to all hospital policies and regulations concerning patient's rights. *Hours of lab per week: 16.*

RT 121 Clinical Experience II 4 s.h.

Performance of radiographic procedures in area hospital's radiology departments under the guidance of clinical coordinator or LRT (Licensed Radiologic Technologist). Perform radiology procedures as covered in Radiographic Procedures I & II. Students observe technologists positioning patients for various radiologic examinations. Students will perform radiologic procedures under direct supervision of an LRT. Students will be evaluated on patient care, principles of safety and radiation protection to the patient, technologists and other ancillary staff. Students must adhere to all hospital policies and regulations concerning patient's rights. *Hours of lab per week: 16.*

RT 122 Clinical Experience III 7 s.h.

Performance of radiographic procedures in area hospital's radiology departments under the guidance of clinical coordinator or LRT (Licensed Radiologic Technologist). Perform radiology procedures as covered in Radiographic Procedures I & II. Students observe technologists positioning patients for various radiologic examinations. Students will perform radiologic procedures (deemed competent in) under direct supervision of an LRT. Students will be evaluated on patient care, principles of safety and radiation protection to the patient, technologists and other ancillary staff. Students must adhere to all hospital policies and regulations concerning patient's rights. Forty hours a week for the summer session. *Hours of lab per week: 40.*

RT 130 Radiographic Physics I 3 s.h.

This course gives the students a basic knowledge of atomic structure that will lead directly into the properties of x-rays. The students will learn the nature of radiation and the study of x-ray production. Emphasis will be on the radiographic image including radiation exposure and radiographic technique. The basics of radiation protection will be covered in this course. *Hours of class per week: 3.*

RT 131 Radiographic Physics II 3 s.h.

This course is a continuation of RT 130, Radiographic Physics I. Fluoroscopic and tomographic equipment requirements and operation will be covered. The study of special x-ray imaging such as: mammography, computed tomography, digital imaging will be discussed. Special emphasis will be on quality control and laboratory focus will be on quality control testing. *Hours of class per week: 2. Hours of lab per week: 2.*

RT 210 Advanced Radiographic Procedures I 3 s.h.

The students will learn the central nervous system, circulatory system, and cardiac catheterization. This course will provide the students with a basic knowledge of sectional anatomy, as it relates to various computer generated modalities. Specific emphasis will be focused on angiography, interventional radiology, mobile radiography, surgical radiography, tomography, and computed tomography. The students learn to perform positioning on pediatric and geriatric patients. They will learn the principles of pediatric and geriatric imaging and special patient care that these patients must be provided with to achieve quality diagnostic radiographs. *Hours of class per week: 2. Hours of lab per week: 2.*

RT 211 Advanced Radiographic Procedures II 2 s.h.

This course gives the students an introduction of other types of imaging that are available in radiography, that may be of interest in pursuing their careers. The students learn the principles of these imaging modalities, which include digital angiography and digital spot imaging, magnetic resonance imaging, diagnostic ultrasound, nuclear medicine, bone densitometry, positron emission testing, and radiation oncology. The fundamentals of quality assurance in a diagnostic radiology department will be presented. *Hours of class per week: 2.*

**RT 212 Sectional Anatomy 1 s.h.**

A study of Human Anatomy as viewed in the cross-sectional planes of the body, Sagittal, Coronal, Transverse, and Longitudinal. Sectional Anatomy's main focus is to ascertain the physical relevance of anatomic structures in CT and MRI imaging. *Hours of class per week: 1.*

RT 220 Clinical Experience IV 6 s.h.

This course, a continuation of RT 122, will provide the students with an orientation to a new affiliate hospital. Emphasis will be on the performance of radiographic procedures in area hospital radiology departments, under the guidance of a clinical coordinator or LRT (Licensed Radiologic Technologist). Students will perform radiology procedures as covered in RT 110, Radiographic Procedures I, RT 111, Radiographic Procedures II, and RT 210 Advanced Radiographic Procedures I. Students observe technologists positioning patients for various radiologic examinations. Students will perform radiologic procedures under direct supervision of an LRT. Students will be evaluated on patient care, principles of safety and radiation protection to the patient, technologists and other ancillary staff. Students must adhere to all hospital policies and regulations concerning patient's rights. *Hours of lab per week: 24.*

RT 221 Clinical Experience V 6 s.h.

Emphasis will be on the performance of radiographic procedures in area hospital radiology departments, under the guidance of a clinical coordinator or LRT (Licensed Radiologic Technologist). Students will perform radiology procedures as covered in RT 110, Radiographic Procedures I, RT 111, Radiographic Procedures II, RT 210, Advanced Radiographic Procedures I, and RT 211 Advanced Radiographic Procedures II. Students observe technologists positioning patients for various radiologic examinations, including other medical imaging modalities. Students will perform radiologic procedures under direct supervision of an LRT. Students will be evaluated on patient care, principles of safety and radiation protection to the patient, technologists and other ancillary staff. Students must adhere to all hospital policies and regulations concerning patient's rights. *Hours of lab per week: 24.*

RT 222 Clinical Experience VI 3 s.h.

Performance of radiographic procedures in area hospital radiology departments, under the guidance of a clinical coordinator or LRT (Licensed Radiologic Technologist). Emphasis is on student's ability to improve and master their professional capabilities. This course is designed for students who need more clinical experience and/or to successfully complete the graduation requirements for clinical education. *Hours of lab per week: 40.*

RT 230 Radiographic Health 3 s.h.

The content of this course is to provide the principles of ionizing radiation and its effects on the human body. Chronic and acute effects of radiation effecting biological response will be presented. The principles of radiation protection to the radiographer, the patient, other personnel and the general public will be discussed. Focus will be on radiographic protection procedures, radiographic features in equipment, and the requirements of regulatory agencies on radiation health and safety. *Hours of class per week: 3.*

RT 231 Quality Management 1 s.h.

Quality management includes the relevance of quality assurance and quality control that is associated with today's medical imaging departments. The standards that each department must adhere to for the safe operation of the radiographic equipment. The course details quality management for darkrooms, processing films, diagnostic equipment, fluoroscopy equipment, and advanced imaging equipment. *Hours of class per week: 1.*

**Science
(Course listings)
(See also Biology, Chemistry,
Engineering, Physics)**

SC 129 Nutrition 3 s.h.

The biological roles of energy, protein, vitamins, and minerals; digestion, absorption, and storage of nutrients, the chemical nature of foods and food processing; assessment of nutritional status; interactions of nutrients and disease; food supplementation and community nutrition. Does not satisfy the FMCC lab science graduation requirement. *Hours of class per week: 3.*

**SC 131 Environmental Physics 3 s.h.**

A course centered around the contemporary problems—energy, pollution, and depletion of natural resources—of our physical environment. It analyzes different forms of energy, energy conservation principles, our energy resources, methods of energy conversions and their by-products, first and second laws of thermodynamics, and efficiency of current energy usage—thermal pollution, air pollution, solid waste, noise pollution, nuclear radiation pollution, and their effects on man and the environment. It explores the potential for more efficient use of our natural resources. The course studies energy sources of the future-breeder reactor, fusion reactor, solar energy, geothermal energy, magnetohydrodynamics, fuel cells and energy from wastes. *Hours of class per week: 2. Hours of lab per week: 2. General Education: N.*

SC 135 Introductory Biology: Molecules & Cells 3 s.h.

This course is designed for people with no or minimal background in biology. It prepares students to take upper-level biology courses such as BI 171, 172, 173, and 282. The course introduces students to the characteristics of life, cellular anatomy and physiology, Mendelian and molecular genetics, and evolution. Laboratory investigations apply concepts presented in lecture. The course integrates observation, interpretation, and library research by means of written laboratory reports and investigation into scientific literature. *Hours of class per week: 2. Hours of lab per week: 3. General Education: N.*

SC 137 Human Biology FA 3 s.h.

This course in Human Biology focuses on how the systems of the human body operate and how various illnesses interfere with that operation. Lectures cover organ systems from a functional aspect, then diseases from a malfunctional perspective, with special attention given to the connection between malfunctions and symptoms. The course also covers how treatment for disease is related (or not) to system malfunction. Laboratories cover simple internal anatomy, disease-causing organisms, simple diagnostics, and such topics as medical ethics and epidemiology. Laboratory approaches vary from hands-on dissection to group discussion. *Hours of class per week: 2. Hours of lab per week: 3. General Education: N.*

SC 139 Introductory Biology: Animals & Plants SP 3 s.h.

A phylogenetic approach to plant and animal groups, both living and extinct, using representative fossils and live specimens when available. An understanding of the inter-relationships between and among plant and animal species is complemented by topics from comparative anatomy and physiology. The course integrates observation, interpretation and library research by means of written laboratory reports and investigation into scientific literature. Included are dissections and micro-anatomy of representative invertebrates, vertebrates, and plants, field collection, identification, and study of plants and animals of biologic interest. *Hours of class per week: 2. Hours of lab per week: 3. General Education: N.*

SC 143 Earth Systems 3 s.h.

A perspective on the Earth that emphasizes the structure, dynamics, and resources of the planet, and examines man's use and misuse of finite resources. Major topics include rocks, minerals, and mining soils from a geologic perspective; surface and underground waters—their movement, origins, use and abuse; the atmosphere and its pollution; natural geological hazards such as landslides, earthquakes and faults; geothermal, tidal and other sources of energy; landforms and land use; wastes and their treatment; environmental action and the future. Labs include practical identification of minerals and rocks; topographic maps. *Hours of class per week: 2. Hours of lab per week: 2. General Education: N.*

SC 144 The Ancient Earth 3 s.h.

A look at the earth's history, ancient environments, and the fossil record. The dimension of time is a unifying theme that links the history and present state of the oceans; the fossil fuels—earth's savings bank; landscapes and their "evolution," fossilization and the "endangered species" of the past; the evolution and fossil record of invertebrates and fishes; the dinosaurs—when giants walked the earth; mammals, man and glaciers; the geological history of New York State and the Northeast. Labs include detailed study of the fossil record and nearby sedimentary rock sequences. *Hours of class per week: 2. Hours of lab per week: 2. General Education: N.*

**SC 145 Environmental Geology 3 s.h.**

The course will explore the underlying processes behind all major geologic hazards such as volcanoes, landslides, earthquakes, floods, and hurricanes and their impact on humanity. In depth coverage will be given to tsunamis, meteorite impacts and subsidence. The distribution and human consumption of our natural resources will be discussed. *Hours of class per week: 2. Hours of lab per week: 2. General Education: N.*

SC 149 Geology of the Mohawk Valley 3 s.h.

Geology of the Mohawk Valley will teach the basic principles of geology using local examples to illustrate. Topics of the course will include rocks and minerals, structures, sedimentation, erosion, glaciation and glacial geomorphology. Fossils of the Paleozoic and Cenozoic eras will be looked at. The course will make extensive use of field trips to teach both basic principles and unique geologic attractions. *Hours of class per week: 2. Hours of lab per week: 2.*

SC 151 Physical Anthropology 3 s.h.

An introductory course in physical anthropology. The course will begin with a study of evolutionary process and genetics. Such issues, as the definition of race, and culture will be discussed. The course will examine the fossil record in regard to human evolution. Labs will focus on genetics, human osteology, and paleoanthropology. *Hours of class per week: 2. Hours of lab per week: 2. General Education: N.*

SC 161 Introduction to Physics I FA 3 s.h.**SC 162 Introduction to Physics II SP 3 s.h.**

A two-part first course in physics intended for technology students and other non-science majors. The course uses lectures supported by laboratory investigation to achieve a hands-on, practical approach to understanding important physical laws of nature. Topics covered include quantitative methods for describing motion; the relationships between forces and motion; work, power, and energy; momentum methods for analysis of collisions and explosions; torque and rotational motion; vibrations and waves; sound; basic electricity and magnetism; electromagnetic waves; atoms and spectra; atomic nuclei and nuclear energy; geometric and wave

optics; heat and thermodynamics; and fluid mechanics. Prerequisites: High school algebra, MA 147 or equivalent, or permission of instructor. (SC 161 recommended, but not required to be taken before SC 162). *Hours of class per week: 2. Hours of lab per week: 3. General Education: N.*

SC 170 Introductory Chemistry I 3 s.h.

A course designed for students having little or no chemistry background that seek entrance into allied health careers. The course will center on topics from organic and biochemistry and the role of chemistry in human health. Course lectures will be augmented by laboratory experimentation and technical report writing. *Prerequisites: High School Algebra, MA 147 or permission of instructor. Hours of class per week: 2. Hours of lab per week: 3. General Education: N.*

SC 171 Introductory Chemistry II 3 s.h.

A course designed for students having little or no chemistry background that seek entrance into health related programs. Emphasis is placed on practical aspects of inorganic chemistry, a brief introduction to organic and biochemistry. Course lectures will be augmented by laboratory experimentation and technical report writing. *Prerequisites: High School Algebra, MA 147 or permission of instructor. Hours of class per week: 2. Hours of lab per week: 3. General Education: N.*

SC 181 Introduction to Environmental Science 3 s.h.

A broad-based approach to environmental relationships and issues emphasizing critical thinking and research techniques. The course focuses on four major areas: (1) what ecosystems are and how they work; (2) balancing needs and resources; (3) pollution of the soil, water, and air; (4) seeking solutions to environmental problems. *Prerequisites: None. (High-school Biology, Chemistry, Math recommended). Hours of class per week: 2. Hours of lab per week: 3. General Education: N.*

**SC 290 Special Topics in the Sciences 1-3 s.h.**

Discussion and analysis of a subject of current interest in the sciences not covered extensively in other science courses. Topics vary with each offering. Specific topics and credit hours are announced before pre-registration. The course may be repeated for credit, but prior topics may not be repeated for additional credit. *Prerequisite:* Any SC, BI, CH, NR, or PH course; permission of the instructor. *Hours of class per week:* 1-3.

**Social Sciences
(History, Political Science,
Psychology, Sociology)
History
(Course listings)**

SS 131 World Civilizations I 3 s.h.

This course is a survey of the major developments in political, cultural, intellectual, and scientific/technological history in Africa, the Americas, Asia, Europe, and the world from the dawn of time to 1650. *Hours of class per week:* 3. *General Education:* O.

SS 132 World Civilizations II 3 s.h.

This course is a survey of the major developments in political, cultural, intellectual, and scientific/technological history in Africa, the Americas, Asia, Europe, and the world from 1650 to the present. *Hours of class per week:* 3. *General Education:* O.

SS 183 Western Civilization I 3 s.h.

This course is a survey of western civilization from ancient times until the 17th century. The emphasis is on the major ideas and events that shaped the values and ideas of early Europe. Topics examined include the rise and fall of the classical civilization of Greece and Rome, the growth of Christianity, the Renaissance and the Protestant Reformation. *Hours of class per week:* 3. *General Education:* W.

SS 184 Western Civilization II 3 s.h.

This course is a survey of western civilization from the 17th century until the present. The emphasis is on the development of the nation-state and the rise of modern political, social, economic and intellectual concepts. Topics examined include the religious wars, the French Revolution, the Industrial Revolution, the rise of a middle class and the two world wars and their ramifications. *Hours of class per week:* 3. *General Education:* W.

SS 220 New York State History 3 s.h.

This course is a survey of the history of New York from pre-colonial times to the present. Topics include the transition of New York from a Dutch to an English colony, the American Revolution, the part of New York played in the coming about of the Civil War, the effect the Erie Canal had in state development, immigration and migration, and the mergence of New York State in the modern world.

SS 239 The American Revolution 3 s.h.

This course examines the political, constitutional, social, economic and intellectual origins of the American Revolution. It looks also at the events of the revolution proper from varying perspectives, including military, social and intellectual. Finally, the course explores the consequences and ramifications of the Revolution including social and economic changes, as well as the development of federalism. *Hours of class per week:* 3.

SS 241 The Civil War FA 3 s.h.

This course will investigate the causes, events and consequences of the American Civil War. It will focus on the various theories of the origins of that war, examine in depth the people and events made prominent in the war, and lastly look at the lasting effects of the war. The course will utilize several perspectives including social, military, economic and constitutional. *Hours of class per week:* 3.

SS 283 Survey of American History I 3 s.h.

This course examines the history of the United States from its origins until reconstruction with emphasis on the development of a constitutional system. Topics studied include the colonial period, the American Revolution, the ratification of the Constitution, Jacksonian Democracy and the various disputes that led to the Civil War. *Hours of class per week:* 3. *General Education:* U.

**SS 284 Survey of American History II 3 s.h.**

This course examines United States history from 1865 until the present. The emphasis is on the social, political and economic development of the country. Attention is also given to the relationship between the United States and the rest of the world. Topics studied include reconstruction, westward expansion, the industrial revolution, immigration, the great depression and the ramifications of the cold war. *Hours of class per week: 3. General Education: U.*

SS 287 America Since 1945 FA 3 s.h.

An interdisciplinary study of the U.S. since 1945 using sociology, history, and political science data to examine major changes and trends. The course focuses on four major aspects of this period: 1) cultural—changes in norms, values, and personal behavior; 2) social—changes in the nature and functions of social institutions; 3) political—trends and changes as reflected in the presidential elections; 4) international—patterns in American social relations. *Hours of class per week: 3.*

SS 293 Diplomatic History of the United States Before 1900 3 s.h.

This course examines the relations of the United States with foreign nations from the American Revolution until the Spanish-American War. *Hours of class per week: 3. General Education: U.*

SS 295 Diplomatic History of the United States Since 1900 3 s.h.

A continuation of SS 293, studying American foreign relations from the turn of the century to the present. *Hours of class per week: 3. General Education: U.*

SS 296 Israel: Biblical Period to 1948 3 s.h.

Major historical, political, social, and military developments from the time of Abraham to the emergence of the Modern State of Israel in 1948. Areas of concentration include the Biblical Period; Resistance against Greece and Rome; Life in the Diaspora; Rise of Jewish Nationalism; Growth of the Yishuv; Balfour Declaration and the British Mandate; Arab-Jewish Confrontation; Holocaust; Palestine in WW II; War of Independence; Mass Immigration. *Hours of class per week: 3. General Education: U.*

**Political Science
(Course listings)****SS 104 Constitutional Law 3 s.h.**

Comprehensive analysis of the rules of evidence and criminal procedural law; judicial notice, presumption, real and circumstantial evidence, burden of proof, provide of court and jury, documentary evidence, hearsay, confessions and admissions; laws of arrest; search and seizure. *Hours of class per week: 3.*

SS 211 Public Administration 3 s.h.

A study of the theory and basic principles of public administration in the United States, including discussions related to the development, organization, functions, and problems of national, state, and local administration. *Hours of class per week: 3.*

SS 278 International Politics 3 s.h.

This course examines the new patterns of relations that have developed among nation-states, intergovernmental organizations (IGOs) and non-governmental organizations (NGOs) in the post-Cold War period. The focus will be on the increasing regionalization and globalization of governmental and non-governmental organizations and movements and their effects on world stability and on the lives of average citizens. Using the new and competing models of world politics, students will focus on: the roles of the state and individuals in developing foreign policies; the increasing role of NGOs (from human rights groups to international terrorist groups) in shaping the actions of states; wars and conflict management; and the global economy and the divide between “North and South.” Students will also examine specific global issues such as: AIDS, pollution, human rights, workers rights, and terrorism. *Hours of class per week: 3. General Education: S.*

**SS 280 Public Policy****SP 3 s.h.**

This course examines what governments do and don't do to deal with the perceived social problems of the nation. The study progresses in the following fashion: 1) an analysis of what "policy" is; 2) a comparison of the way liberals, conservatives, and radicals identify and define social issues and the role they believe the government should play in solving the problems; 3) an examination of the policy-making process; and 4) a discussion of the existing and possible alternative policies designed to deal with the issues related to crime, welfare, education, health, economic growth, and affirmative action. *Hours of class per week: 3.*

SS 282 American Political System**3 s.h.**

The purpose of this study is to examine the various political and governmental structures that make up the American political system: political culture, constitutional arrangements, public opinion, pressure groups, political parties, elections, Congress, president, courts, and bureaucracy. The major theme of this study is the understanding that since the American political system was intentionally designed to make it difficult for any one individual or group to govern effectively, public policies are usually the results of compromises; hence, the final outcome is less than any one wishes. Hoping to make the student a realistic observer of the process, the course explores, then, how the "system" affects the relationship between the promises and the performances of elected officials. *Hours of class per week: 3. General Education: S.*

**Psychology
(Course listings)****SS 210 Forensic Psychology****3 s.h.**

The science of psychology as applied to the legal domain. The course examines the relationship between psychology, criminality, and the legal context in which forensic psychology is practiced. The course is concerned with the prevention, detection, and reduction of crime. *Prerequisite: SS291 (292 recommended). Hours of class per week: 3.*

SS 291 General Psychology**3 s.h.**

This course is intended to acquaint students with the discipline of psychology, the scientific study of behavior and mental processes. Given the complex nature of its subject matter, the topics addressed by psychologists

are wide-ranging. They may include any of the following: the history and systems of psychology, the scientific method, the brain and nervous system, sensation and perception, states of consciousness, motivation and emotion, learning, problem-solving, life-span development, personality, social psychology, cultural diversity, adjustment, health psychology, mental illness, counseling and psychotherapy. *Hours of class per week: 3. General Education: S.*

SS 292 Abnormal Psychology**3 s.h.**

A biological, psychosocial and sociocultural approach structured around the Diagnostic and Statistical Manual of Mental Disorders (Fourth Edition), (DSM-IV). The course stresses the nature, causes, and treatment of these maladaptive behaviors. It investigates historical information, clinical assessment, and biologically-based and psychologically-based therapies. *Prerequisites: SS 291 or permission of instructor. Hours of class per week: 3.*

SS 297 Developmental Psychology**3 s.h.**

A systematic examination of the patterns of development and behavior changes that occur during each of the principal stages of life: childhood, adolescence, adulthood, and old age. Attention is given to cultural and social, as well as genetic forces affecting human development. *Prerequisite: SS 291 or permission of instructor. Hours of class per week: 3.*

SS 298 Child Development**SP 3 s.h.**

A study of the person from conception up to adolescence, including cognitive, physical, emotional, moral, and social phases of development. *Prerequisite: SS 291 or permission of instructor. Hours of class per week: 3.*

SS 299 Adolescent Development**3 s.h.**

Focus on the physical, cognitive, social, and moral developments of adolescents, and on contemporary adolescent problems and issues. *Prerequisite: SS 291 or permission of instructor. Hours of class per week: 3.*

SS 384 Personality Theories**3 s.h.**

A study of personality as a theoretical construct that includes an organized system of structures and processes. Major models and how they are derived are used to pursue basic concepts of personality. *Prerequisites: SS 291, 297 or permission of instructor. Hours of class per week: 3.*



Sociology (Course listings)

SS 208 Juvenile Delinquency SP 3 s.h.

A consideration of the methods and philosophy of the juvenile court system, police programs for the prevention and control of juvenile delinquency, and the role of various social work agencies in the care and treatment of juveniles. Special attention given to police techniques used in handling juveniles, with special emphasis on the use of existing community resources. The course examines prevailing professional philosophy, existing law, public policy, and knowledge of current delinquent behavior theories. *Prerequisite:* SS 281, SS 291. *Hours of class per week:* 3.

SS 209 Criminology FA 3 s.h.

A survey of the nature and scope of prevalent forms of criminology. The course considers the major theories of criminal conduct drawn from psychological, social and cultural modes of explanation. It includes a discussion of various classifications and topologies and the role of crime statistics, as well as the relevance of these factors for understanding, prevention, control and prediction. *Prerequisite:* SS 281, SS 291. *Hours of class per week:* 3.

SS 237 Human Sexuality 3 s.h.

An examination of sexual development, with a view toward patterns that are self-actualizing. Some of the areas of study are human sexuality as one expression of our personality, functions of the anatomy involved in reproduction and sexuality, birth control, family planning, pregnancy and childbirth, STD's, HIV, coercive behavior, courtship, relationship, marriage, parenthood, and sexuality through the life cycle. *Hours of class per week:* 3.

SS 264 Diversity in America SP 3 s.h.

This course examines the sociological concepts and principles that help determine the nature of intergroup relations, especially the outcomes of dominant-subordinate relationships. These concepts and principles are then applied to the American experiences of ethnic, religious and racial minority groups. *Prerequisite:* None. (SS 281 recommended). *Hours of class per week:* 3. *General Education:* S.

SS 281 Introduction to Sociology 3 s.h.

An introductory course designed to acquaint the student with the study of sociology as one of the sciences that deals with the relationship between individuals and the wider society. The methods and objectives of sociological research, the varying patterns of social organization, and the study of society in relation to individual and group behavior are major areas of study. *Hours of class per week:* 3. *General Education:* S.

SS 294 The Sociology of Families FA 3 s.h.

An examination and analysis of marriage and family from an interdisciplinary perspective. The course attempts to communicate information, theories, and ideas about marriage and family as a social institution. Issues may include: cross-cultural variations of marital and family types, gender roles, love, mate selection, parenting, the challenges of combining work and marriage, communication in marriage, family crises such as violence and divorce, and factors behind lasting relationships. Students are encouraged to make connections between the course material and their own experiences. Students are also encouraged to develop their own questions and answers about marriage and family through assignments and class discussions. *Prerequisite:* SS 281 or permission of instructor. *Hours of class per week:* 3.

SS 386 Deviant Behavior and Social Control SP 3 s.h.

The course presents and analyzes a variety of definitions, concepts, and key theoretical perspectives in an effort to increase student knowledge and understanding of the multiple ways that deviant behavior may be defined, explained, and interpreted. Each perspective also offers suggestions for resolving the "problem" of deviant behavior in society. The course reviews such suggestions and weighs their respective advantages and disadvantages. It also analyzes (and applies these perspectives to) different forms of deviant behavior and conditions. Students are encouraged to develop their own questions and answers about deviance through assignments, class discussions, and presentations. *Prerequisite:* SS 281 or permission of the instructor. *Hours of class per week:* 3.

**SS 387 Social Psychology****3 s.h.**

Human social behavior. A scientific attempt to understand and explain how the thought, feeling, and behavior of individuals are influenced by the actual, imagined, or implied presence of others. The study of people-loving, hating, working, helping, trusting, fighting, communicating. *Prerequisite: 3 credit hours of Sociology or Psychology. Hours of class per week: 3.*

**Interdisciplinary
(Course listing)****SS 290 Special Topics in the
Social Sciences****3 s.h.**

An examination, using the methodology of the social sciences, of a subject not covered extensively in other Social Science courses. Topics vary with each offering but frequently involve interdisciplinary and multicultural perspectives. Specific topics are announced before pre-registration. The course may be repeated for credit, but prior topics may not be repeated for additional credit. *Prerequisite: Any two SS courses. Hours of class per week: 3.*

**Surveying
(Course listings)****SU 101 Surveying I****3 s.h.**

Surveying I is an elementary course in surveying. It includes fundamentals of plane surveying and emphasizes the use and care of leveling instruments. Linear measurements and theory and practice of leveling are studied in coordinated lecture and field work. Course often meets at sites other than main campus. Students make their own transportation arrangements. *Prerequisite: MA 142 or permission of instructor. Hours of class per week: 2. Hours of lab per week: 2.*

**Computer Technology
(Course listings)****TC 131 Cisco Networking I****4 s.h.**

This course is the first in a four course series on Cisco networking. Using a combination of instructor led web based, and hands on lab materials students begin to learn how to design, install, and maintain internetworks. Topics include the OSI Model, Internetworking Devices, IP Addressing, LAN Media & Topologies, Structured Cabling, PC hardware & software, patch cables, installation of structured cabling, cable management techniques, and the use of test equipment. In the course students will maintain an engineering journal, work in engineering teams, and learn to manage networking projects. *Prerequisites: Major in Computer Technology, Electrical Technology or concurrent enrollment in EL 125 or EL 127 or EL 232 (See advisor for other options) or permission of instructor. Hours of class per week: 3. Hours of lab per week: 3.*

TC 132 Cisco Networking II**4 s.h.**

This course is the second in a four course series on Cisco networking. Using a combination of instructor led, web based, and hands-on lab materials students continue to learn how to design, install, and maintain internetworks. Topics include the OSI Model Layers 1-7, WANs, routing, using a router, and routing components, router startup and setup, router configurations, IOS, TCP/IP, IP addressing, and routing protocols. Students will continue to maintain an engineering journal, work in engineering teams, and learn to manage networking projects. *Prerequisite(s): TC 131. Hours of class per week: 3. Hours of lab per week: 3.*

TC 133 Cisco Networking III**4 s.h.**

This course is the third in a four course series on Cisco networking. Using a combination of instructor led, web based, and hands on lab materials students continue to learn how to design, install, and maintain internetworks. Topics include a review of past material, LAN switching, VLANs, LAN Design, IGRP, Access Lists, and IPX. Threaded Case Studies (TCSs) are used extensively in this course as students continue working in engineering teams, and learn to design, install and manage networking projects. *Prerequisite(s): TC 132. Hours of class per week: 3. Hours of lab per week: 3.*

**TC 134 Cisco Networking IV 4 s.h.**

This course is the fourth in a four course series on Cisco networking. Using a combination of instructor led, web based, and hands-on lab materials students continue to learn how to design, install, and maintain internetworks. Topics include a review of past material, WANs, WAN Design, PPP, ISDN, Frame Relay and review for the Cisco CCNA Exam. Students continue to use Threaded Case Studies (TCSs) and work in teams designing, installing and managing networking projects. *Prerequisite(s): TC 133. Hours of class per week: 3. Hours of lab per week: 3.*

**Theatre
(Course listings)****TH 101 Theatre History 3 s.h.**

The interactions of cultural, political, economic, and scientific forces with dramatic art and their implications for modern movements in dramatic theory and practice. Students trace the development of the theatre from its beginnings to the present. The course focuses on European and American theatre, with some attention to non-Western traditions. *Hours of class per week: 3.*

TH 102 Stagecraft FA 4 s.h.

The course provides students with theory and practice in the visual, aural, and construction facets of theatre through attention to scenery, sound, and lighting equipment. Workshop is required. *Hours of class per week: 4.*

TH 105 Fundamentals of Acting SP 3 s.h.

The course studies movement and speech as aspects of dramatic art and provides exercises to enrich and discipline the imagination and to develop and control the responses of the body and speech to the imagination. It also entails some preliminary application of the elements of acting to the study of scenes, including analysis of the script for structure, objectives, and style. *Hours of class per week: 3.*

TH 136 Introduction to Theatre 3 s.h.

The course is intended as a survey to introduce students to theatre as a technique apart from, although closely related to, literature. Students study acting techniques, stage devices, set design, costuming, and make-up. The student reads significant plays to consider drama as art, audience reactions and needs, methods of expression, and interpretation. The course requires textbooks and provides laboratory experience. *Hours of class per week: 3. General Education: A.*

TH 201 Theatre Practicum 4 s.h.

The rehearsal and participation in an FMCC production under the direction and instruction of a faculty member. Course registration occurs after casting, and all cast members are required to register. May be repeated for credit. *Hours of class per week: 4.*

TH 202 Theatre Seminar SP 3 s.h.

Application of theatre study to the challenges of theatre practice. The course provides an intensive study of the components of theatre in relation to actual productions; plays are produced and directed by seminar students. *Prerequisite: TH 201 or permission of instructor. Hours of class per week: 3.*

TH 210 Acting II 3 s.h.

A course designed for students who have completed Acting I or those with substantial prior acting experience in productions and/or classes. The course focuses on techniques and theories of acting. Students concentrate on the role of the actor in relation to the play as a whole, as well as fundamentals of stage speech, movement, projection, characterization, and interpretation. *Prerequisite: TH 110 or audition. Hours of class per week: 3.*



TH 220 Principles of Theatrical Design and Production **3 s.h.**

An introduction to the study of the major elements of theatrical production. This is a project-oriented course that introduces an understanding of the relationship between text and visual representation. Students explore the various mediums and methods of artistic presentation used by professional designers. Topics range from scenic, costume and lighting design to production organization, management, and procedures. *Prerequisite: TH102. Hours of class per week: 3.*

TH 230 Directing **3 s.h.**

An introduction to all aspects of translating a play from script to stage. Students experiment with analysis and interpretation, director's concept, visual composition, and the history and theories of directing. The class consists of the rehearsal and presentation of scenes of varying dramatic styles in association with some reading and writing assignments about specific problems in directing. The final project is the public performance of a twenty-minute one-act play. *Prerequisite: TH 220, or permission of instructor; TH 110 recommended. Hours of class per week: 3.*

TH 250 Introduction to Film Studies **3 s.h.**

This course will introduce students to the history and theory of cinema as an art form, examining formative directors, styles of filmmaking, and artistic movements in world cinema. Students will concentrate on close textual analyses of films and, through readings, lectures, class discussion, and written assignments, will learn to recognize and analyze film language (editing, cinematography, sound, special effects, etc.) and be introduced to recent theoretical approaches to cinema. *Prerequisite: EN 104. Hours of class per week: 3.*