COURSES

ACCOUNTING (ACCT)

ACCT 104 Fundamentals of Financial Reporting 4.0 UNITS

This course is an introduction to the fundamental concepts, principles, and techniques of financial accounting and financial reporting issues. The course adopts a user perspective of accounting by illustrating several specific accounting issues in a decision context. Topics include the basic financial statements (income statement, balance sheet, and the cash statement), internal control, ratio analysis, and the financial reporting of accounts receivable, inventory, long-term assets, liabilities, and stockholders' equity. Three lecture and one laboratory hours per week.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.
Pre/Co-requisite: ACCT 108 Computerized Business Applications.

ACCT 105 Principles of Financial Accounting I 4.0 UNITS

This course is an introduction to accounting concepts and principles. Topics cover the accounting cycle, recording transactions, adjustments, the worksheet, financial statement preparation, and closing the accounts. Current assets, including cash, receivables, inventories, and methods of depreciation are covered. The emphasis is on the sole proprietorship form of business organization for both service and merchandising firms. Computer applications are integrated.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.
Pre/Co-requisite: ACCT 108 Computerized Business Applications; or departmental approval.

ACCT 106 Principles of Financial Accounting II 4.0 UNITS

This course further develops an appreciation of the role of principles, concepts, conventions, and ethics in today's accounting environment. Topics include: long-term assets including plant and equipment, natural resources, intangibles, and investments; accounting for liabilities, both current and long-term; partnership and corporate accounting; cash flow statements and the techniques of financial statement analysis; and tax consequences of various business decisions. Relevant computer applications are integrated.
Prerequisites: ACCT 105 Principles of Financial Accounting I and ACCT 108 Computerized Business Applications; or departmental approval.

ACCT 107 Principles of Managerial Accounting 4.0 UNITS

This is an introductory course in the uses of accounting data for management decisions. It is concerned with identifying, measuring, developing, and communicating accounting information to management for the purposes of planning, information processing, controlling, and decision making. Topics include: cost identification, cost behavior, cost-volume-profit relationships, manufacturing costs and systems, budgeting, including master budgets and flexible budgets, responsibility accounting, cost control, time value of money, just-in-time systems, and not-for-profit accounting. Coverage also extends to cash flows and financial statement analysis. Computerized applications are assigned as part of the course requirements, utilizing spreadsheets and other related applications.
Prerequisites: ACCT 104 Fundamentals of Financial Reporting or ACCT 105 Principles of Financial Accounting I, and ACCT 108 Computerized Business Applications; or departmental approval.

ACCT 108 Computerized Business Applications 3.0 UNITS

This course provides a hands-on experience in the use of business computer applications. Students use the Microsoft Windows operating system and the current version of Microsoft Office. Students learn to work with spreadsheet, database management system, word processing, and presentation software and to apply these skills to the functional areas of organizations. Topics include: document formatting, forms and reports design, creating smart interrelated spreadsheets with complex formulas and functions, representing data with meaningful graphs, relational database design, queries, remote collaboration, file sharing, and file and storage management. Case studies will be drawn from accounting, finance, marketing, information systems, operation management, and other areas of business.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval

ACCT 115 Small Business Financial Software 3.0 UNITS

This is an introductory course which focuses on understanding accounting through a mastery of general ledger software applications. Using a variety of general ledger software packages, students set up and maintain a computerized accounting records system by recording the transactions necessary to operate a service and/or a merchandizing business. Topics include processing sales and receipts, recording purchases and payments, reconciling banking transactions, and creating and customizing forms and reports. This course is only offered in the spring semester.
Prerequisites: Placement in College Algebra or higher, or departmental approval

ACCT 201 Intermediate Accounting I 3.0 UNITS

This course provides a review of accounting concepts and principles, the accounting cycle, and financial statement preparation. An in-depth study of assets including cash, temporary investments, receivables, inventories, plant and equipment, and intangibles are covered. Spreadsheet applications are used as a device to enhance the calculations and presentation of financial accounting data.

Prerequisite: ACCT 106 Principles of Financial Accounting II.

ACCT 211 Taxation 3.0 UNITS

This course provides a survey of federal tax structure as it applies to both individuals and corporations. There is a complete detailed exposure to tax responsibilities, tax calculations, tax implications, and tax filing for individuals at the state and federal levels. Current taxation practices are of prime concern, as well as the implications of tax considerations on future individual decisions. When time allows, partnership and special tax entities are discussed.
Prerequisites: Placement in College Algebra or higher, or departmental approval

ACCT 225 Spreadsheet Applications 3.0 UNITS

This course is an in-depth study of spreadsheets used to perform calculations and communicate quantitative information. Topics include the fundamentals of spreadsheet design, coverage of business formulas and functions, linking multiple worksheets and files, validating and auditing workbooks, sorting and filtering data, and creating charts and graphs. The course will provide students with an introduction to automation with macros using the Visual BASIC for Applications (VBA) language and an overview of business intelligence and data analysis tools.
Prerequisites: ACCT 108 Computerized Business Applications or CTIM 103 Beginning Excel, ENGL 092 Preparing for College Reading II, ENGL 099 Introductory Writing, and MATH 001 Preparation for College Math I or MATH 010 Fundamentals of Mathematics; waiver by placement testing results; or departmental approval.

ANTHROPOLOGY (ANTH)

ANTH 101 Introduction to Anthropology 3.0 UNITS

Anthropology is the study of humans. This course provides a basic understanding of the four sub-fields of anthropology: physical anthropology, archaeology, linguistics, and socio-cultural anthropology. The emphasis is on the holistic nature of the discipline.
Pre/Co-requisites: ENGL 101; waiver by placement testing results; or departmental approval.

ARCHITECTURE (ARCH)

ARCH 107 Methods and Materials of Construction 3.0 UNITS

The fundamental aspects of building materials and systems are taught in this course. Student projects are required, demonstrating knowledge of basic building construction systems. Fields trips, labs, and lectures, combined with student use of building product CDs, Sweet's Source, and the Internet are used to retrieve data and technical information. Two lecture and two laboratory hours per week.

ARCH 115 Site Development 3.0 UNITS

This is a basic course to enable a student to utilize a site considering natural amenities, topography, and site codes. Lectures include development of recreational, commercial, and residential sites. Included is the study of topography, site planning and grading, drainage, handicap requirements, and zoning. Environmental and aesthetic considerations are determined with the development of site analysis plans. The analysis of wind, sun, and views is incorporated in the development of site plans and site models. Vegetation for landscaping, shade, and buffering is included in lectures as it affects energy consumption in a building. Recycling of existing buildings is incorporated to site planning, as well as the re-use of existing materials, such as crushed rock in the prevention of soil erosion. Topography contours, parking areas, surface drainage, illumination, signage, and wayfinding are discussed in lectures and implemented in drafting labs where the students develop plans and models that support their development of the site. Lectures and lab work include examples of graphic communication for presentation drawings, illustrating color, shade and shadows, and vegetation to emphasize and enhance the presentation of site plans. Projects are completed by individuals and by teams. Field trips are provided to residential subdivisions and commercial sites to supplement lectures. Two lecture and two laboratory hours per week.
Prerequisite: ARCH 121 Working Drawings I; or permission of instructor.

ARCH 121 Working Drawings I 3.0 UNITS

This course introduces the student to the basics of developing working drawings which include dimensioning, types of lines, symbols, use of architectural and engineering scales, and coordination with related disciplines and engineering. This is reflected in the generation of plans, elevations, and sections with emphasis on sections. Lectures include perspective, isometric, and presentation of work. Lab projects include freehand drawings which consists of plans, elevations, and sections that enable the student to develop the skill of proportion and scale. Lectures and lab work provide hands-on experience for graphic communication to utilize color, texture, and presentation techniques. Introduction to model making uses materials and methods of assembling components which include color, trees, cars, and figures to provide scale. Projects are individual and team presentations. The skills and familiarization of Working Drawings I taken from lectures and labs from ARCH 121 Working Drawings I and ARCH 107 Methods and Materials of Construction are carried into ARCH 122 Working Drawings II where the students combine their skills into producing architectural working drawings. Two lecture and two laboratory hours per week.
Pre/Co-requisite: ENGT 107 Computer-Aided Drafting; or permission of instructor.

ARCH 200 Revit **3.0 UNITS**

This course will lead students through the process of creating a building model using the 3D building information modeling (BIM) software, Revit. The course will cover the use of BIM in the building industry, development of 3D model elements, views, dimensions and annotations, schedules, basic interior components, drawing sheets and printing, and basic 3D rendering. Two lecture and two laboratory hours per week.

ARCH 204 Environmental Systems I **4.0 UNITS**

This course introduces theories and applications of climate response, energy, and material resources as applied to the thermal comfort of buildings. Emphasis on sustainable architectural methods of usage of water and natural and active methods of ventilating, cooling, and heating. A combination of class lectures and outside field trips and professional conferences will be used to present the material. Two lecture and four laboratory hours per week.

ARCH 207 Building Codes and Construction Management **4.0 UNITS**

Contract documents (drawings and specifications) are analyzed for code requirements as they apply to the design and construction of buildings in Massachusetts. Various classifications of construction types are considered for fire safety and other code requirements. Elements of design, project scheduling, and construction supervision are also studied. Three lecture and two laboratory hours per week.
Prerequisite: ARCH 107 Methods and Materials of Construction; or permission of instructor.

ARCH 214 Environmental Systems II **4.0 UNITS**

This course introduces the impact of daylighting and artificial lighting on the design and use of buildings. Acoustic performance and behavior of sound in buildings will be studied. The course highlights daylighting systems and the integration of electrical lighting, strategies for noise management, room acoustics, as well as a continued introduction to alternate and sustainable building energy systems. A combination of class lectures, physical models, and outside fields trips will be use to present the material. Two lecture and four laboratory hours per week.
Pre/Co-requisites: ARCH 230 Introduction to Sustainability or permission of instructor.

ARCH 217 Applied Structural Design **4.0 UNITS**

Properties of wood, steel, and concrete under typical construction conditions are studied. Stresses are analyzed under common loading conditions and allowable stresses compared. Building codes and manufacturer's data in tables and charts are analyzed and applied, using basic engineering formulas, to basic building designs. Demonstrations, laboratory, and team projects are used to introduce professional practice. Three lecture and two laboratory hours per week.
Pre/Co-requisites: PHYS 133 Concepts of Technical Physics II, PHYS 142 Technical Physics II, PHYS 152 College Physics II, or PHYS 162 General Physics II; or permission of instructor.

ARCH 230 Introduction to Sustainability **3.0 UNITS**

An introduction to the theory and principles of innovative sustainable construction. The course takes an integrated design and ecological systems approach to high performance green building. Students learn how to reduce the ecological impact of the built environment using cutting-edge best practices. Topics include climate change, green building principles, rating systems, life cycle assessment, energy efficiency, renewable energy, and innovation technologies. Capstone assignment is a student lecture. Two lecture and two laboratory hours per week.
Pre/Co-requisite: ENGL 101 English Composition I; waiver by placement testing results; or permission of instructor.

ARCH 251 Architectural Detail Drawings **3.0 UNITS**

This course complements ARCH 122 Working Drawings II. The student is taught the basics of detailing and drawing required for the construction of a building. Instruction is given in the use of selecting components to detail an assembly for such details as expansion joints and wall jambs. Technical information is assembled from manufacturer's catalogs, the Internet, and Sweet's Source to provide data for freehand sketches of detailed assemblies. These details are discussed and modified. The final details are done in CAD in a full drawing format. Two lecture and two laboratory hours per week.
Prerequisite: ARCH 122 Working Drawings II.

ARCH 252 Estimating **3.0 UNITS**

This course considers cost per square foot, assemblies, and unit cost methods for estimating construction projects. Sample projects representing commercial and residential construction are used in computer labs for complete estimates. Working drawings and specifications are used for estimating quantities. Reference manuals, CDs, and estimating software complement the specifications and drawings. Two lecture and two laboratory hours per week.
Prerequisites: ARCH 122 Working Drawings II and ARCH 251 Architectural Detail Drawings; or permission of instructor.

ARCH 401 Professional Internship **3.0 UNITS**

This course provides the student with practical hands-on experience in a construction or architectural professional environment. Students will gain an understanding of workplace dynamics and professional expectations. The overall intent of this course is to assist students to refine and clarify individual professional and career goals. Ten to fifteen internship hours per week.
Prerequisite: permission of instructor.

ART (ARTG)

ARTG 100 Art History of the Western World 3.0 UNITS
This course surveys the visual arts proceeding chronologically from the ancient era to modern times. Emphasis is placed on the philosophical and social attitudes that inspired the artist's work. Analysis of each art object focuses on the methods and materials (i.e., composition, line, value, and color) and how the technology of the time influenced the creation of the work.
Prerequisites: Placement in English 101 English Composition I or higher, or permission of instructor.

ARTG 101 History of Art I 3.0 UNITS
This course surveys the visual arts comprehensively from the Paleolithic through the Late Renaissance periods. Emphasis is placed on the philosophical attitudes that inspired the artist's work. Analysis of each art object focuses on the methods and materials (i.e., composition, line, value, and color) and how the technology of the time influenced the creation of the work.

ARTG 102 History of Art II-High Renaissance to Present 3.0 UNITS
This course surveys the history of art from the High Renaissance period to modern times. Emphasis is placed on the philosophical and social attitudes that inspired the artists' work. Analysis of each artwork focuses on the methods and materials used and how the technology of the time influenced the creation of the work.

ARTG 105 Graphic Design I 3.0 UNITS
The course emphasizes the development of graphic design concepts from preliminary phases through comprehensive stages utilizing traditional studio techniques interactively with basic computer applications. Two lecture and two laboratory hours per week.
Prerequisites: ARTG 112 Typography, ARTG 115 Introduction to Graphic Design and Production, and ARTG 281 Computer-Aided Graphic Design; or permission of instructor.

ARTG 106 Graphic Design II 3.0 UNITS
This course is a continuation of ARTG 105 Graphic Design I. The emphasis is on the development of more advanced graphic design concepts as produced in professional comprehensive presentations. Two lecture and two laboratory hours per week.
Prerequisites: ARTG 105 Graphic Design I, ARTG 112 Typography, ARTG 115 Introduction to Graphic Design and Production, and ARTG 281 Computer-Aided Graphic Design; or permission of instructor.

ARTG 107 Drawing I 3.0 UNITS
Through the act of drawing and direct observation, students learn to process visual information. Emphasis is placed on geometric form and the space in which objects exist. The study of perspective systems, cross-contour drawing, value, line, and other elements and principles as they relate to drawing are also examined. Various drawing media and supports are also introduced. Individual and group critiques form an integral part of this course. Two lecture and two laboratory hours per week.

ARTG 108 Drawing II 3.0 UNITS
This course focuses on the human form as the primary source for direct observation. It examines basic human anatomy as a basis for understanding the human form. Students develop their perception through a variety of representational drawing techniques. Assignments include anatomical studies of the entire figure, drawing from the Masters, as well intensive study of the figure from life. Individual and group critiques form an integral part of the course. Two lecture and two laboratory hours per week.
Prerequisite: ARTG 107 Drawing I; or permission of instructor.

ARTG 112 Typography 3.0 UNITS
This course is a study of the design history and use of letterforms. Topics include characteristics of the major typeface families, typographic contrasts, legibility through design, and the nomenclature of type. Computer-assisted assignments are an integral part of this course. Two lecture and two laboratory hours per week.
Prerequisite: ARTG 281 Computer-Aided Graphic Design; or permission of instructor.

ARTG 113 Color and Design I 3.0 UNITS
This course is an introductory course to two-dimensional design theory. Design is the foundation discipline of all forms of visual expression. This course introduces the student to the formal elements of form, shape, line, value, and texture. Exercises in these areas also include the basics of color theory as they relate to these elements. Through a variety of assignments, students use these elements to solve problems of visual organization. Two lecture and two laboratory hours per week.
Pre/Co-requisite: ARTG 107 Drawing I; or permission of instructor.

ARTG 114 Color and Design II 3.0 UNITS
This course is a continuation of ARTG 113 Color and Design I, beginning with an in-depth investigation of color. Color studies and lectures demonstrate specific cultural, spatial, physical, and psychological applications of color. Space, including types of space, linear perspective, and the spatial properties of the elements are examined as well. This course concludes with an investigation

of time and motion. Assignments include the depiction of motion on the two-dimensional surface in singular compositions and as sequential art. Two lecture and two laboratory hours per week.
Prerequisite: ARTG 113 Color and Design I; or permission of instructor.

ARTG 115 Introduction to Graphic Design and Production 3.0 UNITS
This course introduces the student to graphic design elements and principles and their application to page layout. Assignments emphasize the development of advertising graphics from concept and design phases through basic computer production applications. Two lecture and two laboratory hours per week.
Prerequisite: ARTG 281 Computer-Aided Graphic Design; or permission of instructor.

ARTG 121 Introduction to Photography 3.0 UNITS
Students learn how to operate a 35mm camera while exploring the fundamentals of photography. Shutter and aperture controls, light meter calculations, adjustable focus, and depth of field are covered. This course stresses photographic composition as a vehicle for artistic expression. Lectures and demonstrations will be combined with developing and printing black and white film using an enlarger in a traditional darkroom. Students are required to have a fully manual camera and tripod. Students supply film, photo paper, developing tanks, and reels. Two lecture and two laboratory hours per week.

ARTG 205 Three-Dimensional Design 3.0 UNITS
Design elements and principles are explored through student fabrication of a variety of three-dimensional design projects. Assignments include plan drawing, proportional enlargement and reduction of designs, space sketch, and model building. A variety of media are introduced, including construction board, plasticine, aluminum, and plaster. Two lecture and two laboratory hours per week.

ARTG 210 Introduction to Animation 3.0 UNITS
This course uses Adobe animation software to produce multimedia animations for the web. This course includes lessons from animation history, storyboarding, character animation, interactivity, and soundtrack synchronization. Basic drawing skills and Macintosh literacy are required for this course. Two lecture and two laboratory hours per week.

ARTG 211 Illustration I 3.0 UNITS
This course provides an opportunity to explore a variety of methods and materials used in illustration. Students practice a range of techniques, which can be used to enhance the expressive potential of illustration. The course examines different genres in illustration including children's books, editorial, and textbook illustration. Through lectures, students view the contemporary illustration styles and niches and discuss other relevant processes used by illustrators. Two lecture and two laboratory hours per week.
Prerequisite: ARTG 108 Drawing II; or permission of instructor.

ARTG 212 Illustration II 3.0 UNITS
This course is a continuation of the conceptual and technical skills of pictorial communication introduced in ARTG 211 Illustration I. Students articulate ideas visually with particular attention paid to content and visual storytelling. Communicating the essential meaning of stories, articles, and editorial material in a creative and original manner is an emphasis. Students conceptualize, edit, and produce illustrations for children and adults while having the opportunity to develop a personal style and approach. Two lecture and two laboratory hours per week.
Prerequisite: ARTG 211 Illustration I; or permission of instructor.

ARTG 213 Relief Printing: Woodcut and Linocut 3.0 UNITS
Woodcut, the oldest method of creating prints, is a direct and simple process. From strong textural illustrations of the fourteenth century in the Western World to the subtle transparent colors of the traditional Japanese print, woodcut has demonstrated its malleability to the images of artists over the centuries. A variety of relief printmaking techniques using traditional wood blocks, linoleum, and vinyl plates are explored using reduction, key block, and line methods of registration. Two lecture and two laboratory hours per week.

ARTG 216 Dreamweaver on the Mac 3.0 UNITS
This course covers basic website construction and design using Dreamweaver on a Mac platform. Topics include: introduction to concept development, storyboarding, and color theory, as well as technical skills for navigation, file management, file compression, and HTML programming. Emphasis is on the effective use of design principles in the selection and integration of text and image to create a site that is both elegant and functional in design. Two lecture and two laboratory hours per week.

ARTG 219 Typography II 3.0 UNITS
This advanced class is a further exploration of expressive visual communication through various typographic forms and structures. Topics include typographic hierarchy, effective use of grids, contemporary legibility, and readability issues for digital, screen, and print application. Two lecture and two laboratory hours per week.
Prerequisite: ARTG 112 Typography.

ARTG 221 Painting I **3.0 UNITS**

This course presents an introduction to painting media, basic techniques, picture composition, and color systems. Project assignments emphasize the development of technical skills and familiarity with the medium necessary for students to record their visual observations in paint. Individual and group critiques form an integral part of the course. Two lecture and two laboratory hours per week.

ARTG 222 Painting II **3.0 UNITS**

This course presents an intermediate-level easel-painting experience. Projects are assigned with an emphasis on continued development of technical skills through a variety of perceptual approaches (i.e., working from life) as well as conceptual experimentation (i.e., working from imagination). Individual and group critiques form an integral part of this course. Two lecture and two laboratory hours per week.
Prerequisite: ARTG 221 Painting I; or permission of instructor.

ARTG 223 Watercolor **3.0 UNITS**

This course presents an introduction to transparent water-based media. Painting from observation is emphasized. Students are exposed to indirect color mixing methods specific to the media. Students are taught a variety of watercolor techniques including: wet-into-wet, wet-into-dry, flat and graduated washes, as well as experimental approaches. Individual and group critiques form an integral part of the course. Two lecture and two laboratory hours per week.

ARTG 224 Advanced Painting **3.0 UNITS**

In this course, students explore technical and conceptual boundaries that concentrate on each individual student's personal vision and goals. The properties of paint and grounds are examined. The production of specific supports and ground surfaces are explored. Traditional and contemporary methods are studied and used. There is an emphasis on an independent pursuit of individual approaches to the discipline. Two lecture and two laboratory hours per week.
Prerequisite: ARTG 222 Painting II; or permission of instructor.

ARTG 235 Clay Work **3.0 UNITS**

This course teaches basic and advanced wheel-throwing skills for the beginning to advanced student. Hand-building techniques such as slab and coil construction and surface-decorating techniques such as scraffito, incising, paper resist, carving, and glaze formulation are investigated. Advanced students explore more complicated pieces involving altering and combining clay-forming methods. Two lecture and two laboratory hours per week.

ARTG 242 Digital Photography I with Photoshop **3.0 UNITS**

Students explore the fundamentals of "the digital darkroom" using industry-standard image-editing computer applications. Image capture, scanning, storage, image editing, adjustments for color and contrast, photo retouching, monitor calibration, and output options are introduced. Students scan conventional film or prints, use digital cameras, and import images from CDs. Students are not required to own a digital camera. Two lecture and two laboratory hours per week.

ARTG 254 Intaglio Printing: The Art of Etching **3.0 UNITS**

Students learn the basics of preparing the plate surface with hard and soft grounds as well as manipulating the image with resists and varnishes during the etching process. Sugar lift, white ground, and aquatint methods are also explored along with the more direct methods of dry point and engraving techniques. Copper plates are used with the Edinburgh etch, a safer ferric chloride-based mordant. Non-toxic soy-based intaglio inks are used. Emphasis is on discovering the unique transformation of line, value, and form through the art of etching. Two lecture and two laboratory hours per week.

ARTG 255 Monoprint and Monotype Printmaking **3.0 UNITS**

This course investigates the art of the unique print. With monoprint, the most immediate form of printmaking, drawings can be quickly translated in a painterly manner using additive and subtractive methods. Using a plate matrix, students create any number of print variations with monotype. Chine colle, multiple plate, and offset techniques are explored with oil- and water-based inks. Two lecture and two laboratory hours per week.

ARTG 256 Screen Printing **3.0 UNITS**

This course in silkscreen introduces a variety of stencil-making procedures. Beginning with direct drawing, cut paper, and film methods, students learn the basics of multiple color registration. Photo processes are explored using hand-drawn acetate positives and the computer. A range of projects on a variety of supports explore the versatility of this popular commercial and fine art medium. Two lecture and two laboratory hours per week.

ARTG 257 Printmaking Seminar **3.0 UNITS**

This intensive course allows printmaking students to explore in depth a particular theme within a chosen print medium. Series editions, artists' books, and narrative illustrations are explored and discussed as directives for individual projects. Two lecture and two laboratory hours per week.
Prerequisite: ARTG 213 Relief Printing: Woodcut and Linocut, ARTG 225 Drawing into Print, ARTG 254 Intaglio Printing: The Art of Etching, ARTG 255 Monoprint and Monotype Printmaking, or ARTG 256 Screen Printing; or permission of instructor.

ARTG 263 Sculpture I **3.0 UNITS**
This course is an introduction to basic techniques and practices of sculpture. It examines how three-dimensional form is organized and created. Students experiment with the processes of modeling and casting with a variety of materials including plasticine, wax, clay, and plaster. Group critiques and slide lectures complement studio work. Two lecture and two laboratory hours per week.

ARTG 281 Computer-Aided Graphic Design **3.0 UNITS**
Relevant to the contemporary graphic designer, this course emphasizes computer layout, type, and color as they integrate into publication design. Laboratory experience in page design and relevant skill building is emphasized. Students generate original graphics and develop a graphics portfolio component. Two lecture and two laboratory hours per week.

ARTG 282 Basic Design for Desktop Publishing **3.0 UNITS**
This course provides guidelines for creating effective, well-designed desktop publications. Lecture and discussion topics with related assignments are used to develop an understanding of basic typography in relation to the elements and principles of design. Two lecture and two laboratory hours per week.

ARTG 331 Ceramics I **3.0 UNITS**
This course explores basic clay techniques including wheel-throwing and hand-building methods such as slab construction and pinch and coil. Surface decoration and glazing techniques are introduced in conjunction with firing methods. The history of the medium including traditional and contemporary forms is discussed through slide review and demonstrations. Two lecture and two laboratory hours per week.

ARTG 400 Visual Arts Internship **3.0 UNITS**
This internship opportunity exemplifies the principles of cooperation between business and academia. The internship coordinates marketplace art experience with that of the College. Students who are strongly motivated to advance their knowledge of specific job opportunities in the art and graphic design and the fine arts fields are encouraged to seek and complete this 160-hour elective at a worksite approved by the department. After meeting the demands of the professional marketplace, students return to the classroom with a more focused view as they complete their studies.

BIOLOGY (BIOL)

BIOL 101 Science for Life **3.0 UNITS**
This course focuses on the nature of science as a reliable method of learning about the natural world. Students will learn how to apply evidence, concepts, and theories to distinguish science from non-science, bad science, and pseudoscience, by analyzing a variety of claims and case studies. This course is designed to increase science literacy and critical thinking skills for the non-science major.

BIOL 119 Introduction to Evolutionary Biology **3.0 UNITS**
This course is an introduction to biological evolution and the concept of evolution as the unifying theme of biology. It includes such topics as evolutionary theories, fossils, phylogeny, biodiversity, mutations, drift, selection, adaptations, and extinctions. The course also addresses the evolution of sex, family, and behavior. Emphasis is placed on the biology of evolution with emphasis on DNA, mutations, and the process of natural selection. This course is designed for the non-science major.

BIOL 121 Biological Principles I **4.0 UNITS**
This course introduces basic principles of biology. Topics include scientific method, evolution, cellular and subcellular structure, basic cell chemistry, transport across cell membranes, mitosis, meiosis, metabolism, photosynthesis, DNA structure and replication, protein synthesis, and patterns of inheritance. This course is required as a prerequisite for most other four-credit biology courses. Three lecture and two laboratory hours per week.
Prerequisites: one unit of high school science (preferably biology).

BIOL 122 Biological Principles II **4.0 UNITS**
This course is a study of the domains, kingdoms, and major phyla comprising the living world. The evolution of the diverse forms of life on the earth today, from the earliest life forms to the present, serves as a unifying theme throughout the course. Topics include population genetics, aspects of micro- and macroevolution, phylogeny and biodiversity of modern prokaryotes and eukaryotes, species interactions, community structure, and ecosystems ecology. Three lecture and two laboratory hours per week.
Prerequisites: C- or higher in BIOL 121 Biological Principles I or successful performance on departmental challenge exam, or departmental approval.

BIOL 138 Introduction to Human Nutrition **3.0 UNITS**
This course is an introduction to the science of human nutrition and its role in health. It includes such topics as types of nutrients, nutrient digestion, absorption and metabolism, food sources, recommended nutrient intakes, food safety, and food technology. The course may also address other topics related to health and nutrition. Emphasis is placed on application of these concepts to promote health and fitness. This course is designed for the non-science major.

BIOL 141 Introduction to Marine Biology 4.0 UNITS

The course is an introduction to biological aspects of major marine environments. Local habitats are used as examples for a survey of common marine organisms and to study interactions between organisms and their surroundings. Emphasis is placed on human relationships to the ocean environment. Communities investigated are primarily rocky coast, marsh-estuary, and sandy beach. This course also includes a discussion of marine mammals. Three lecture and two laboratory hours per week.

BIOL 143 Introduction to Environmental Science 4.0 UNITS

Students apply the process of science to investigate the relationship between humans and the environment. An interdisciplinary approach is applied to study current and emerging environmental problems and evaluate potential solutions. Students develop an awareness of their individual impact on environmental systems. The course introduces students to the scientific method and fosters scientifically-literate citizens. The concept of sustainability is a core component throughout the course. In the laboratory, students learn to measure, record, interpret, and apply environmental data to solve problems. Some field trips may be required. This course is designed for the non-science major. Three lecture and two laboratory hours per week.

BIOL 160 Human Genetics, Reproduction, and Society 4.0 UNITS

This course addresses biological, ethical, and legal aspects of human reproduction and genetics. It includes such topics as cellular division, anatomy and physiology of the human reproductive systems, prenatal development, reproductive technologies, transmission genetics, DNA and chromosomes, and genetic technologies. Laboratory topics include activities related to human reproductive anatomy, transmission genetics, and molecular biology, with an emphasis on understanding the scientific process. This course is designed for the non-science major. Three lecture and two laboratory hours per week.

BIOL 170 Vertebrate Anatomy and Physiology I 4.0 UNITS

This is the first part of an introductory course sequence in the comparative anatomy and physiology of vertebrates, with a focus on domestic animals. Students will use anatomical models and preserved specimens of a variety of species to study gross and microscopic anatomy of the integumentary, skeletal, muscular, and nervous systems. Emphasis is placed upon the normal anatomy and physiology to provide sufficient knowledge of normal physiologic processes to understand the responses to drugs and disease processes discussed later in the veterinary science curriculum. Note: Dissection is required. This course is restricted to Veterinary Technician students or by departmental approval. BIOL 170 Vertebrate Anatomy and Physiology I must be taken before BIOL 171 Vertebrate Anatomy and Physiology II. Three lecture and two laboratory hours per week.
Prerequisites: College Algebra; waiver by placement testing results; or departmental approval.
Pre/Co-requisite: C or higher in BIOL 121 Biological Principles I or successful performance on departmental challenge exam.

BIOL 171 Vertebrate Anatomy and Physiology II 4.0 UNITS

This is the second part of an introductory course sequence in the comparative anatomy and physiology of vertebrates, with a focus on domestic animals. Students will use anatomical models and preserved specimens of a variety of species, to study gross and microscopic anatomy of the endocrine, cardiovascular, respiratory, digestive, urinary, and reproductive systems. Emphasis is placed upon the normal anatomy and physiology to provide sufficient knowledge of normal physiologic processes to understand the responses to drugs and disease processes discussed later in the veterinary science curriculum. Note: Dissection is required. This course is restricted to Veterinary Technician students or by departmental approval. Three lecture and two laboratory hours per week.
Prerequisites: C or higher in BIOL 121 Biological Principles, C or higher in BIOL 1XX Vertebrate Anatomy and Physiology I, College Algebra; waiver by placement testing results; or departmental approval.

BIOL 201 Anatomy and Physiology I 4.0 UNITS

This is the first part of a two-semester course that presents in a comprehensive manner the structure and function of the human body. Topics include tissues and the integumentary, skeletal, muscular, and nervous systems. A dissection component of the laboratory work is required for successful completion of the course. This course is designed for students in the health programs. BIOL 201 Anatomy and Physiology I must be taken before BIOL 202 Anatomy and Physiology II. Three lecture and two laboratory hours per week.
Prerequisites: C- or higher in BIOL 121 Biological Principles I or successful performance on departmental challenge exam, or departmental approval.

BIOL 202 Anatomy and Physiology II 4.0 UNITS

This is the second part of a two-semester course that presents in a comprehensive manner the structure and function of the human body. Topics include the cardiovascular, respiratory, digestive, urinary, endocrine, and reproductive systems. A dissection component of the laboratory work is required for successful completion of the course. This course is designed for students in the health programs. Three lecture and two laboratory hours per week.
Prerequisites: C- or higher in BIOL 121 Biological Principles I or successful performance on departmental challenge exam, C- or higher in BIOL 201 Anatomy and Physiology I, or departmental approval.

BIOL 215 Ecology 4.0 UNITS

This course explores major ecological concepts and enables students to identify the techniques used by ecologists to study those concepts. Topics include the interrelationships of organisms with physical and biotic factors of the environment, the structure of terrestrial and aquatic communities, population structure and dynamics, species interactions, succession, energy flow,

nutrient cycling, and global ecology. Laboratory allows students to investigate biotic communities and ecosystems in southeastern Massachusetts while emphasizing data collection, analysis, interpretation, and relevance at larger scales. Three hours of lecture and one three-hour laboratory period weekly. Offered fall semester.
Prerequisites: C- or higher in BIOL 121 Biological Principles I, C- or higher in BIOL 122 Biological Principles II, and MATH 203 College Algebra or higher; waiver by placement testing results; or departmental approval. Pre-/Co-requisites: CHEM 151 General Chemistry I and MATH 217 Precalculus; waiver by placement testing results; or departmental approval.

BIOL 231 Microbiology 4.0 UNITS

This is a course in general microbiology with emphasis placed on the practical applications for medical, food, dairy, water, and environmental microbiology. Part of the laboratory experience includes an introduction to techniques in molecular biology and the identification of one or more bacterial "unknowns" to demonstrate adequate knowledge of the proper laboratory technique. Organisms of discussion include bacteria, viruses, fungi, and some of the primitive algae and protozoa. Topics include classification, prokaryotic cell structure, microbial genetics, biotechnology, microbial metabolism, microbial growth, and control of microbial growth. Chemistry is recommended, but not required, before taking this course. Two lecture and four laboratory hours per week.
Prerequisites: C- or higher in BIOL 121 Biological Principles I or successful performance on departmental challenge exam, or departmental approval.

BIOL 234 Cellular Biology 4.0 UNITS

This laboratory-intensive course provides an overview of the cellular and molecular basis for living systems, focusing on eukaryotic cells. Lecture topics include DNA replication, gene expression and regulation, plasma membrane dynamics, signal transduction, cell cycle control, metabolism, intracellular compartments, and protein sorting. In the laboratory, students apply the theory and practice of modern cell biology techniques by designing and executing experiments. Emphasis in the laboratory placed on Good Manufacturing Practices (GMP), Standard Operating Protocols (SOP), aseptic techniques, and trouble shooting. Intended for students intending on transferring into bachelor's programs in biology, chemistry or biochemistry, or those interested in pursuing careers in biotechnology or pharmacy. Two lecture and four laboratory hours per week.
Prerequisites: C- or higher in BIOL 121 Biological Principles I or successful performance on departmental challenge exam, C- or higher in BIOL 122 Biological Principles II, or departmental approval.
Pre/Co-requisite: CHEM 152 General Chemistry II; or departmental approval.

BLACK STUDIES (BLST)

BLST 150 Introduction to Black Studies 3.0 UNITS

This course chronologically explores the Black experience from a number of perspectives. Students study the progression of Black political and social thought, engagement and protest, and the struggle to enact change. Students gain a comprehensive introduction to the social, political, legal, and economic roots of the contemporary challenges faced by Blacks, with applications to the lives of other racial and ethnic groups in the United States and in other societies.
Prerequisites: ENGL 092 Preparing for College Reading II and ENGL 99 Introductory Writing; or waiver by placement testing results, or instructor approval.

BUSINESS (BUSN)

BUSN 110 Introduction to Business 3.0 UNITS

This foundational course provides students with a comprehensive understanding of key business principles and concepts in the context of a global economy. Students explore the functional areas of business, emphasizing human resource management, operations, management, marketing, accounting and finance.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

BUSN 111 Personal Finance 3.0 UNITS

This course provides for the planning and management of personal assets by individuals over both short-term and long-term periods. Topics include household budgeting, savings and financial institutions, consumer credit and other borrowings, insurance investments, pensions and annuities, and the implications of taxes in decisions. An overview of relevant topics for planning, maintenance, and protection of personal estates is also discussed.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

BUSN 112 Principles of Management 3.0 UNITS

This is an initial course in management with emphasis upon the principles and techniques of the managerial process in business. The basic concepts of management planning, organizing, directing, staffing, and controlling are related to the operations of businesses. Recent implications of social theory, communications theory, and group functions are considered. Utilizes case studies as a vehicle to enable students to apply theory to practice.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

BUSN 116 Principles of Real Estate 3.0 UNITS

Principles of Real Estate is an introductory course· in Real Estate. Topics covered will include real ii property rights; Real property taxation; Conveying real property rights; Real estate brokerage and listing contracts; Contracts for sale; Basic forms of ownership; Management of real estate; Government regulation, planning and zoning; Market determinants of value; Introduction to investment property analysis; Market and feasibility analysis; leases; Mortgages and bank lending; Default and foreclosure; and Bankruptcy. This course issuance of the Massachusetts pre-licensure educational certification needed for a student to test for a Massachusetts Real Estate Salesperson licensure if the student is interested in licensure.

BUSN 117 Critical Issues in Community Banking 3.0 UNITS

This course introduces students to the functions of banks in the broader economy, how they generate profit, and the various types of financial institutions currently in operation. It also explores key functional areas of bank operations, as well as essential rules and regulations. Topics include consumer, residential, commercial, and small business lending, lending compliance, fair lending & Community Reinvestment Act (CRA), and community reinvestment and engagement.

BUSN 120 Principles of Marketing 3.0 UNITS

This course introduces the role of marketing in the organization. There is major emphasis on the concept of marketing strategy as a comprehensive, integrated plan designed to meet the needs of the consumer and thus facilitate exchange. Presents techniques and practices commonly utilized by marketers in the areas of research, product planning, pricing, distribution, and promotion. Uses a problem-solving approach utilizing the case study method and lecture.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

BUSN 122 Sales 3.0 UNITS

This course studies the functional aspects of personal selling and career opportunities in the field of sales with focus on the development of the skills necessary for effective selling. There is an emphasis on effective communication, motivation theory and practice, gaining interviews, handling objections, and closing the sale. Topics include the sales framework (retail, wholesale, industrial), sales management, and legal and ethical considerations of sales.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

BUSN 123 Advertising 3.0 UNITS

This course surveys the social and economic role of advertising in our society. Students have an opportunity to study the components which constitute effective advertising and to observe the use of advertising by the various forms of mass media. Topics include the role of advertising, planning, media creation, and management of the advertising campaign.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

BUSN 124 Principles of Retailing 3.0 UNITS

This course acquaints students with the role and responsibilities of the retail manager. There is an emphasis on planning, controlling, and organizing the retail environment from the perspective of the entrepreneur and the corporate manager. Topics include institutions, strategy, consumer behavior, marketing research, location, organization, merchandising, planning, image, promotional strategy, and pricing. Utilizes lecture and case study methods.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

BUSN 125 Small Business Management 3.0 UNITS

This course introduces students to the opportunities and challenges of successfully managing a small business. Using an online simulation, students launch a virtual small business and compete against classmates to make their business a success, confronting along the way the real-world challenges of managing personnel, marketing their product, making operational decisions, and managing finances.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval. Recommended prerequisite: ACCT 104 Fundamentals of Financial Reporting or ACCT 105 Principles of Financial Accounting I.

BUSN 127 Human Resources Management 3.0 UNITS

This course examines the fundamental principles and practices of personnel and human resource management. It provides an in-depth review of areas including job design and analysis, job evaluation procedures, wage and salary administration programs, and progressive discipline procedures. Protection and representation studied through EEO/Affirmative Action and other current legislation affecting employment are also discussed.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

BUSN 170 Business Communication 3.0 UNITS

This course prepares students to be effective workplace communicators. Working individually and in teams, students learn to think strategically and critically about business communication and develop their writing, presentation, and interpersonal communication skills. The course uses a workshop format that relies heavily on discussion and in-class exercises.
Prerequisites: ENGL 101 English Composition I; or departmental approval.

BUSN 201 Business Law I **3.0 UNITS**

This course introduces the origins of the law, its nature, and its classification. It covers the federal and state court systems with emphasis on Massachusetts civil procedures. Students study contract law with emphasis on consumer laws related to deceptive and false advertising and commercial laws related to warranties. The course also examines legal remedies, including the new method of arbitration in the settlement of disputes.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

BUSN 251 Entrepreneurship **3.0 UNITS**

This practical, hands-on course is designed for students interested in starting or running their own business. The course focuses on the steps necessary to launch a new business. Topics include evaluating students' entrepreneurial capabilities, creativity, and innovation; opportunity assessment and feasibility analysis; business plan creation and implementation; sources of financing; and marketing techniques. Throughout the course, students develop a business plan. This course is open to all students regardless of their program of study.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

BUSN 260 Organizational Behavior **3.0 UNITS**

This course studies human behavior in organizations at the individual and group level. Lectures and discussions include the effect of organization structure on behavior. Specific attention given to using concepts for developing and improving interpersonal skills. Concentrates on motivation, communication, influence, power, group decision processes, leadership, conflict, change, cultural systems, and perception. Explores management techniques such as team development in order to improve the management of people.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

CHEMISTRY (CHEM)

CHEM 131 Survey of Chemistry **3.0 UNITS**

This is a survey course for non-science transfer students and involves lectures, demonstrations, and laboratory experiments relating to the basic facts and principles of chemistry. Discussions of atomic theory, bonding, states of matter, chemical equilibrium, and applied chemistry are included. Two lecture and two laboratory hours per week.

CHEM 151 General Chemistry I **4.0 UNITS**

This course is designed for students who plan to continue in a science or related area. The major topics covered include atomic structure, stoichiometry, modern chemical bonding, and the gaseous state of matter. The laboratory is both preparative and analytical using classical and spectroscopic techniques. Three lecture and two laboratory hours per week.
Pre/Co-requisite: ENGL 101 - English Composition I or higher and
Pre/Co-requisite: MATH 203 College Algebra or higher; waiver by placement testing results; or departmental approval.

CHEM 152 General Chemistry II **4.0 UNITS**

This course is a continuation of CHEM 151 General Chemistry I. Major topics covered include thermo-chemistry, thermodynamics, the states of matter, solutions, chemical kinetics, chemical equilibrium, electro-chemistry, and an introduction to organic chemistry. The laboratory includes classical and spectroscopic techniques. Three lecture and two laboratory hours per week.
Prerequisite: C- or higher in CHEM 151 General Chemistry I; or departmental approval.
Pre/Co-requisite: MATH 217, Precalculus; or waiver by placement testing results.

CHEM 201 Organic Chemistry I **5.0 UNITS**

This is a study of the main classes of organic compounds, including an introduction to natural products. The nomenclature, reaction mechanisms, synthesis, and general properties of alkanes, alkenes, alkynes, alcohols, and haloalkanes are discussed. The topics of stereochemistry, nucleophilic substitution, elimination, and radical chain reactions are discussed. The laboratory is both preparative and analytical using classical and instrumental experimental techniques. Three lecture and four laboratory hours per week.
Prerequisite: C or higher in CHEM 152 General Chemistry II; or permission of instructor.

CHEM 202 Organic Chemistry II **5.0 UNITS**

This is a continuation of the study of the main classes of organic compounds, including aldehydes, ketones, carboxylic acids, amines, and aromatics. The nomenclature, reaction mechanisms, synthesis, and general properties of these compounds will be discussed. The techniques of MS, NMR, and IR spectroscopy will be introduced. IR and NMR spectra will be run and interrupted where appropriate in the laboratory. The laboratory is both preparative and analytical using classical and instrumental experimental techniques. Three lecture and four laboratory hours per week.
Prerequisite: C- or higher in CHEM 201 Organic Chemistry I; or permission of instructor.

CRIMINAL JUSTICE (CJUS)

CJUS 101 Introduction to Criminal Justice 3.0 UNITS
This course provides a history, development, and philosophy of criminal justice in a democratic society. It also covers an introduction to agencies in the administration of criminal justice and career introduction.
Prerequisite: Preparing for College Reading I (ENGL091).

CJUS 201 Evidence and Court Procedures 3.0 UNITS
This course covers the rules of evidence, the principles of exclusion, evaluation, and the examination of evidence as proof, competency, and consideration of the witnesses. Additional areas covered in this study are the laws of search and seizure and court procedures.
Prerequisite: CJUS 101 Introduction to Criminal Justice.

CJUS 221 Domestic Violence 3.0 UNITS
This course will deal with the theories of victimology and how domestic violence affects the family structure and society in general. Current trends and statistics will be discussed and law enforcement's role and legal responsibility in domestic abuse cases will be analyzed.
Prerequisite: CJUS 101 Introduction to Criminal Justice.

CJUS 223 Introduction to Investigative and Forensic Services 3.0 UNITS
This course covers crime scene procedures, collection and preservation of evidence, recording of the crime scene, surveillance, and investigative techniques. Also covered are the history of forensic science, crime laboratories' capabilities and limitations, and the examination of physical evidence.
Prerequisite: CJUS 101 Introduction to Criminal Justice; or
Pre/Co-requisite: SECU 101 Introduction to Private Security.

CJUS 231 Juvenile Justice 3.0 UNITS
This course will explore national, state, and local efforts to develop and implement effective juvenile delinquency prevention programs. Studies will focus on the methods of prevention, intervention, treatment, detention, and rehabilitation of the youthful offender. Students will also review model case studies of nationally recognized programs.
Prerequisite: CJUS 101 Introduction to Criminal Justice.

CJUS 302 Corrections 3.0 UNITS
This is a one-semester course surveying the relationship between the courts and the various levels of correctional facilities. Covered in this course are the functions of prisons, jails, halfway houses, and treatment centers as well as the current theory and practice of rehabilitation. The related activities of probation and parole are also covered.
Prerequisite: CJUS 101 Introduction to Criminal Justice.

CJUS 305 Criminal Law 3.0 UNITS
This course offers a study of the powers and duties of the police, the elements of a crime, and what misdemeanor and felony crimes entail. The course also covers the study of common law and statutory law, motor vehicle code, and the powers of arrest of the enforcement officer.
Prerequisite: CJUS 101 Introduction to Criminal Justice.

CJUS 306 Criminal Procedures 3.0 UNITS
This is a study of search and seizure, stop and frisk, threshold inquiry, search warrants, constitutional issues, and recent court decisions.
Prerequisite: CJUS 305 Criminal Law.

CJUS 316 Police, Community, and Society 3.0 UNITS
This course examines the current issues and themes relating to the police and their role in communities and in society. Topics covered will include the organizational structure of police departments, police problems and issues affecting society at large, new theories of the effects of policing on crime, and the effectiveness of community policing.
Prerequisite: CJUS 101 Introduction to Criminal Justice.

CJUS 323 Juvenile Delinquency 3.0 UNITS
This course studies the problems of youth, concentrating on the detection, prevention, control, and processes of rehabilitation of delinquents. The Juvenile Court system, with its substantive rules and procedures, as well as area protective services, are discussed. Also includes the special problem of drug usage by youths.
Prerequisite: SOCI 203 Criminology; or departmental approval.

CJUS 340 Community Corrections 3.0 UNITS
This course focuses on correctional procedures, practices, strategies, and personnel regarding probation, parole, juveniles, diversion, and other innovative correctional approaches applied in a community setting.
Prerequisites: CJUS 101 Introduction to Criminal Justice and CJUS 302 Corrections.

CJUS 403 Criminal Justice Capstone 1.0 UNIT
Culmination of the Criminal Justice student's academic experience. Synthesizes the knowledge gained from each course taken within the Criminal Justice curriculum and better prepares the student for transfer in the discipline or for entry-level career positions in the criminal justice system. Among other requirements, students develop and prepare a research project that will result in an end-of-semester presentation to the class.
Prerequisite: matriculation in the Criminal Justice Transfer program and departmental approval.

COMPUTER SCIENCE (COSC)

COSC 101 Fundamentals of Computer Science 3.0 UNITS
This course presents a broad overview of the main areas of study in computer Science. Topics include computer organization, information processing, algorithms, and programming. The main ideas behind the theory and designs of Operating Systems, Databases, and Computer Networks, along with current views on the theory and practice of Software Engineering, and the basics of Artificial Intelligence are explored.

COSC 123 Introduction to Data Science 3.0 UNITS
This course introduces students to Data Science and Big Data. Topics include: visualizing data, linear algebra, statistics, probability, hypothesis and inference, gradient descent, collecting data, working with data, machine learning, k-nearest neighbors, naive Bayes simple linear regression, multiple regression, logistic regression, decision trees, neural networks, deep learning, clustering, natural language processing, network analysis, recommender systems, databases/SQL, MapReduce, and data ethics.

COSC 129 Data Science Programming I 4.0 UNITS
This course introduces students to the programming language Python and the use of Python in Data Science. Students create programs using sequence, selection, repetition, functions, lists, tuples, dictionaries, sets, arrays, strings, files, and exceptions. Pre/Corequisites: COSC123-Introduction to Data Science and MATH158-Intro Statistics, and MATH217-Precalculus; or departmental approval.

COSC 140 Data Science Programming II 4.0 UNITS
This course is a continuation of COSC 129 Data Science Programming I. Students create programs using classes, recursion, searching, sorting natural language processing, data mining cognitive computing, machine learning, deep learning, and big data.
Prerequisites: COSC 129 Data Science Programming I; with a minimum grade of "C-" and MATH158-Intro Statistics, with a minimum grade of "C-"; or department approval. Pre/Corequisites MATH218-Discrete Math and MATH221-Calculus I; or departmental approval.

COSC 157 Introduction to Java Programming 4.0 UNITS
This course introduces students to the object-oriented, general-purpose programming language Java. Students create programs using sequence, selection, repetition, methods, classes, and arrays. Pre/Corequisites: COSC101-Fundamentals of Computer Science, and MATH217-Precalculus or higher; or departmental approval.

COSC 168 Advanced Java Programming 4.0 UNITS
This course is a continuation of COSC 157 Introduction to Java Programming. Students create programs using arrays, inheritance, interfaces, exception handling, file input, file output, recursion, and dynamic data structures.
Prerequisite: COSC157-Introduction to Java Programming with a minimum grade of "C-". Pre/Corequisites: MATH221- Calculus I and MATH218-Discrete Math; or departmental approval.

COSC 170 C ++ for Engineers 4.0 UNITS
This course introduces programing concepts and tools used to solve engineering problems. Programming fundamentals including branching and loops, functions, file handling, arrays, and data structures will be taught using the C++ programing language. Emphasis is placed on applications within engineering disciplines.
Prerequisite: MATH 203 College Algebra or higher; waiver by placement testing results; or permission of instructor.

COSC 236 Computer Architecture 3.0 UNITS
Description: This course presents the fundamentals of computer architecture through the use of the assembly language, the interface between hardware and software. Students are introduced to binary and hexadecimal number systems, machine language, and machine architecture. Assembly language topics presented include the assembly process, computer arithmetic, logical building blocks, comparison, addressing modes, input/output, branching, repetition, and processor implementation.

Prerequisite: COSC168-Advanced Java Programming with a minimum grade of "C-". Pre/Corequisite MATH222-Calculus II; or departmental approval.

COSC 237 Data Structures and Algorithms 3.0 UNITS

This course introduces students to the development and use of various data structures designed to solve problems with computers. The connection between algorithms and data structures is also considered. Data structures examined include arrays, strings, lists, stacks, queues, trees, graphs, linked lists, and tables as well as sorting, searching, and hashing algorithms. Students are given the opportunity, through laboratory projects, to implement these data structures and algorithms.
Prerequisite: COSC168-Advanced Java Programming with a minimum grade of "C-". Pre/Corequisite MATH222-Calculus II; or departmental approval.

COSC 240 Data Visualization 3.0 UNITS

This course introduces students to data visualization. Topics included in this course include: mapping data onto aesthetics, coordinate systems and axes, color scales, visualizations, visualizing; amounts, distributions, many distributions at once, proportions, nested proportions, associations among two or more quantitative variables, time series and other functions of an independent variable, trends, geospatial data, uncertainty and the principles of feature design; proportional ink, overlapping points, color use pitfalls, redundant coding, multi-panel figures, titles, captions, tables, balancing data and content, larger axis labels, line drawings 3D visualizations.
Prerequisite: COSC 140 Data Science Programming II; OCT24-36 with a minimum grade of "C-" or departmental approval. Pre/Corequisite: MATH222-Calculus II; or departmental approval.

BUSINESS SKILLS-NON CREDIT (CSBU)

CSBU 052 Veterinary Assistant 0.0 UNITS

This course is a 60-hour certificate program. Learn invaluable veterinary hospital and office procedures and the skills needed to succeed as a Veterinary Assistant. From professional conduct, laws and effects on policy and procedures to front office and exam room procedures and administrative duties. In addition you will learn restraint, safety concerns and basic procedures for small animals. Textbook is required at an additional cost. Students must possess a high school diploma or equivalent.

EDUCATION-NON CREDIT (CSED)

CSED 001 Beginner ESOL 1A 0.0 UNITS

This course level is for students with little or no English ability. Course focus includes basic oral communication and introduction to reading and writing of the English language.

CSED 002 Beginner ESOL 1B 0.0 UNITS

This course level is for students with some English ability. Course focus includes oral communication and reading and writing of the English language.

CSED 003 Intermediate ESOL 2A 0.0 UNITS

This course level is for students with fundamental English ability. Course focus includes oral communication, pronunciation, reading and writing of the English language including grammar, vocabulary building, and introduction to writing.

CSED 004 Intermediate ESOL 2B 0.0 UNITS

This course level is for students with fundamental English ability. Course focus includes oral communication, pronunciation, reading and writing of the English language including grammar, vocabulary building, and introduction to writing.

CSED 005 Advanced ESOL 3A 0.0 UNITS

This course level is for students with strong English ability. Course focus includes conversation practice, pronunciation, reading and writing of the English language including grammar, vocabulary building, and composition writing.

CSED 006 Advanced ESOL 3B 0.0 UNITS

This course level is for students with strong English ability. Course focus includes conversation practice, pronunciation, reading and writing of the English language including grammar, vocabulary building, and composition writing.

CSED 014 Transitional Writing Skills Workshop 0.0 UNITS

This course will concentrate on basic writing skills while incorporating analytical reading skills to produce quality essays as well as prepare the students to take the Accuplacer test and subsequent English courses at the college level.

CSED 027 Basic Math Review 0.0 UNITS
This workshop is a review of basic mathematics functions and computations, including percentages, decimals, ratios, and fractions. Basic algebraic equations are also reviewed. Students benefit from a small workshop environment that supports maximum student/teacher interaction.

CSED 048 College Success Seminar-ABE 0.0 UNITS
This course covers a range of topics intended to help first semester students adapt to college life. Students will become familiar with the college's resources, policies, and procedures while exploring their personal values and reasons for seeking a college education. It will provide students the opportunity to learn and adopt methods that promote success in college and life.

CSED 056 Proctored Testing (0-3 Hours) 0.0 UNITS
This course is for anyone who needs to have an exam proctored for up to 3 hours in length. Exams are proctored on the Brockton campus Monday-Friday between 9am-3pm. To register please call x1991.

CSED 057 Proctored Testing (3-5 Hours) 0.0 UNITS
This course is for anyone who needs to have an exam proctored that is 3 to 5 hours in length. Exams are proctored on the Brockton campus Monday-Friday between 9am-3pm. To register please call x1991.

CSED 065 CLEP Testing 0.0 UNITS
This course is for students who have already registered with the College Board to take any of the 33 CLEP exams offered. Please note: the Massasoit test administration fee is non-refundable and must be paid at appointment. Exams are proctored on Wednesdays by appointment only. To schedule appointment or to register, please call x1991.

CSED 084 Environmental Science Research Apprenticeship 0.0 UNITS
This course gives students the opportunity to engage in research as part of the Massasoit STEM pollinator research program. Students will take responsibility for an aspect of the project and work closely with mentors to design, execute and analyze ongoing research. In addition, students attend regular research meetings, participate in weekly journal clubs, and work collaboratively with other researchers and students. Participants will be coached in research methods and proper laboratory and workplace professionalism.

CSED 112 College Success 101 0.0 UNITS
This is course is required for high school elective credit for first-semester students enrolled in the Gateway to College program. The seminar covers a range of topics intended to prepare students for success in the program and on a college campus.

CSED 114 Transition Seminar 0.0 UNITS
This course is required for high school elective credit designed to assist students graduating from the Gateway to College program to develop the tools, knowledge and skills necessary to successfully transition to college or career. Topics covered include, but not limited to, resume and cover letter writing, career and college exploration, as well as college and financial aid applications. This course culminates with students completing and presenting an online portfolio. Graduating students are expected to have met the minimum number of 30 community civic engagement hours.

CSED 121 College Success Seminar 103 0.0 UNITS
This seminar is designed to provide ongoing assistance and support for early college students as they continue as full time students at Massasoit. The focus will be on helping students become familiarized with college resources, policies, and procedures, as well as the academic and behavioral expectations of being a successful college student. Emphasis will also be placed on educating and preparing students for applying to college, financial aid, etc. Students will participate in and be exposed to group discussions/projects, hands-on activities, lectures, and guest speakers.

CSED 124 Transition Seminar II 0.0 UNITS
This seminar is designed to support students in their final semester as Early College Students. The focus will be on following up on financial aid packages, college applications, and scholarships, and assisting students with selecting and transferring to a four-year college or university. Students will participate in group activities and lectures, and will also receive individualized support from the instructor/academic advisor.

CSED 125 0.0 UNITS
This course will provide students the opportunity to practice and strengthen a variety of reading strategies that support comprehension, vocabulary development, and critical thinking. Students will read both narrative and expository texts, learning to identify patterns of organization and evaluate ideas. Since reading ability is closely connected to other language skills, the course will also emphasize writing, speaking, and listening activities that reinforce comprehension and communication. This course incorporates Massasoit's Core Competencies: reading, writing, oral communication, critical thinking, quantitative and computer skills.

CSED 300 Beginner ESOL 1A **0.0 UNITS**
This course is designed for students with little or no English ability. Course focus includes basic oral communication and introduction to reading and writing of the English language. Assessment required prior to registration. Please call x1509 to arrange for your assessment.

CSED 301 Beginner ESOL 1B **0.0 UNITS**
This course level is designed for students with some English ability. Course focus includes oral communication and reading and writing of the English language.
Prerequisite: CSED 300 or CSED 306 Beginner ESOL 1A. If new student, then pre-assessment required. Please call x1509 to arrange for your assessment.

CSED 302 Intermediate ESOL 2A **0.0 UNITS**
This course level is designed for students with fundamental English ability. Course focus includes oral communication, pronunciation, reading and writing of the English language including grammar, vocabulary building, and introduction to writing.
Prerequisite: CSED 301 or CSED 307 Beginner ESOL 1B. If new student, then pre-assessment required. Please call x1509 to arrange for your assessment.

CSED 303 Intermediate ESOL 2B **0.0 UNITS**
This course level is designed for students with fundamental English ability. Course focus includes oral communication, pronunciation, reading and writing of the English language including grammar, vocabulary building, and introduction to writing.
Prerequisite: CSED 302 or CSED 308 Intermediate ESOL 2A. If new student, then pre-assessment required. Please call x1509 to arrange for your assessment.

CSED 304 Advanced ESOL 3A **0.0 UNITS**
This course level is designed for students with strong English ability. Course focus includes conversation practice, pronunciation, reading and writing of the English language including grammar, vocabulary building, and composition writing.
Prerequisite: CSED 303 or CSED 309 Intermediate ESOL 2B. If new student, then pre-assessment required. Please call x1509 to arrange for your assessment.

CSED 305 Advanced ESOL 3B **0.0 UNITS**
This course level is designed for students with strong English ability. Course focus includes conversation practice, pronunciation, reading and writing of the English language including grammar, vocabulary building, and composition writing.
Prerequisite: CSED 304 or CSED 310 Advanced ESOL 3A. If new student, then pre-assessment required. Please call x1509 to arrange for your assessment.

CSED 315 ESOL Conversation Group **0.0 UNITS**
Come practice your English in a fun, relaxed, and informal setting, while learning about American customs and culture. This course is designed for advanced ESOL students. We will work on basic communication skills and what to do and say in a variety of everyday practical and social situations, such as meeting others, working, traveling, and celebrating holidays. Learn to overcome communication difficulties and improve one's speech pattern in society.

CSED 320 **0.0 UNITS**
This course is designed for adult learners who want to build confidence and fluency in everyday English conversation. Whether you're new to speaking English or looking to strengthen your basic skills, this class offers a supportive and engaging environment to practice listening, speaking, and pronunciation. Weekly sessions focus on practical vocabulary, common expressions, and interactive activities that encourage real-life communication.

CSED 321 **0.0 UNITS**
This course is designed for learners who already have a foundation in English and are ready to take their speaking skills to the next level. Through engaging discussions, role-plays, and real-world scenarios, students will expand their vocabulary, improve fluency, and develop confidence in expressing opinions, telling stories, and participating in group conversations.

CSED 508 **0.0 UNITS**
This course is for students with little or no English and limited literacy in any language. The class focuses on essential everyday English, letter and number recognition, personal information, and basic conversation skills. Instruction supports early literacy development and builds readiness for Beginner ESOL 1A.

HEALTH AND FITNESS-NON CREDIT (CSHH)

CSHH 008 Phlebotomy Technician Certificate **0.0 UNITS**
Phlebotomists are specially trained professional members of the healthcare delivery team whose primary responsibility is to collect blood specimens from patients for diagnostic testing. This comprehensive 197-hour program consists of 77 classroom hours and

an unpaid, full-time 120-hour practicum to be completed at a local facility. This program is a one-semester learning experience, designed to prepare students for an entry-level position in phlebotomy and laboratory support services. Students learn through a combination of theory and laboratory practice, including instruction in venipuncture, skin puncture, special blood collections, specimen handling, waived laboratory testing, and all regulations governing safety and infection control practices. The 120-hour clinical field placements will be held as full-time positions following the initial 11 weeks of in-class instruction. The student's actual work schedule will be determined by the assigned clinical site. This training course has selective admissions requirements with specific criteria and deadlines. Students must provide a completed health form including proof of immunizations. Click here to review the Immunization Requirements. You must also attend an intake session to complete a CORI (criminal background check) and other important documents. Acceptance is based upon successful completion of the student intake process.

CSHH 009 **0.0 UNITS**

Receive YMHFA is a skills based training that teaches parents, family members, caregivers, teachers, school staff, peers, neighbors, health and human services workers and any other citizen how to identify, understand and respond to an adolescent (ages 12-18) who may be experiencing a mental health or substance use challenge. In this course content for working with children ages 5 to 11 is provided in the book. Youth Mental Health First Aid is available in English, Spanish, Chinese, Korean and Khmer. Note: Before a student can attend instructor-led training, they must complete their course preparation work – which includes a pre-evaluation, opinions quiz and blended pre-work.

CSHH 022 **0.0 UNITS**

Course Description EKG/Phlebotomy Technician TRAIN grant Master two essential clinical skills – Electrocardiography (EKG) and Phlebotomy Technician. Prepare for a rewarding career providing vital patient care. Become a key member of any clinical team by learning the fundamental skills of EKG and Phlebotomy Technicians in this integrated training program. EKG Technician - This 60-hour course is a combination of classroom and practical sessions in which students will gain the experience as well as meet licensure eligibility requirements. The course objectives will be to learn the required skills of an EKG Technician such as heart anatomy and physiology, proper lead placement, operating and adjusting EKG monitors, diseases of the heart, and medical terminology. Additionally, students will practice with EKG equipment and perform hands-on labs including an introduction to the function and proper use of the EKG machine, the normal anatomy of the chest wall for proper 12 lead placement, and other clinical practices. This 60-hour course is designed to prepare students for the National Healthcare Association (NHA) certification exam A Certificate of completion is awarded upon the successful completion of course. Phlebotomy Technician - Phlebotomists are specially trained professional members of the healthcare delivery team whose primary responsibility is to collect blood specimens from patients for diagnostic testing. This comprehensive 197-hour program consists of 77 classroom hours and a 120-hour practicum to be completed at a local facility. This program is a one-semester learning experience, designed to prepare students for an entry-level position in phlebotomy and laboratory support services. Students learn through a combination of theory and laboratory practice, including instruction in venipuncture, skin puncture, special blood collections, specimen handling, waived laboratory testing, and all regulations governing safety and infection control practices. The 120-hour clinical field placements will be held as an unpaid, full-time position following the initial 11 weeks of in-class instruction. The student's work schedule will be determined by the assigned clinical site. This training course has selective admissions requirements with specific criteria and deadlines. Students must provide a completed health form including proof of immunizations and attend an intake session to complete a CORI (criminal background check) and other important documents. Students are required to take the Accuplacer exam prior to attending student intake. Acceptance is based upon successful completion of the student intake process at least two weeks prior to the course start date. Certificate of completion awarded upon successful completion of the course. Student will be eligible to sit for the national test offered through the National Healthcare Association (NHA).

CSHH 023 **0.0 UNITS**

EKG/Phlebotomy Technician TRAIN grant Master two essential clinical skills – Electrocardiography (EKG) and Phlebotomy Technician. Prepare for a rewarding career providing vital patient care. Become a key member of any clinical team by learning the fundamental skills of EKG and Phlebotomy Technicians in this integrated training program. EKG Technician - This 60-hour course is a combination of classroom and practical sessions in which students will gain the experience as well as meet licensure eligibility requirements. The course objectives will be to learn the required skills of an EKG Technician such as heart anatomy and physiology, proper lead placement, operating and adjusting EKG monitors, diseases of the heart, and medical terminology. Additionally, students will practice with EKG equipment and perform hands-on labs including an introduction to the function and proper use of the EKG machine, the normal anatomy of the chest wall for proper 12 lead placement, and other clinical practices. This 60-hour course is designed to prepare students for the National Healthcare Association (NHA) certification exam A Certificate of completion is awarded upon the successful completion of course. Phlebotomy Technician - Phlebotomists are specially trained professional members of the healthcare delivery team whose primary responsibility is to collect blood specimens from patients for diagnostic testing. This comprehensive 197-hour program consists of 77 classroom hours and a 120-hour practicum to be completed at a local facility. This program is a one-semester learning experience, designed to prepare students for an entry-level position in phlebotomy and laboratory support services. Students learn through a combination of theory and laboratory practice, including instruction in venipuncture, skin puncture, special blood collections, specimen handling, waived laboratory testing, and all regulations governing safety and infection control practices. The 120-hour clinical field placements will be held as an unpaid, full-time position following the initial 11 weeks of in-class instruction. The student's work schedule will be determined by the assigned clinical site. This training course has selective admissions requirements with specific criteria and deadlines. Students must provide a completed health form including proof of immunizations and attend an intake session to complete a CORI (criminal background check) and other important documents. Students are required to take the Accuplacer exam prior to attending student intake. Acceptance is based upon successful completion of the student intake process at least two weeks prior to the course start date. Certificate of completion

awarded upon successful completion of the course. Student will be eligible to sit for the national test offered through the National Healthcare Association (NHA).

CSHH 033 **0.0 UNITS**

This 172-hour MA accredited certificate program is designed to prepare students to function in the field as pre-hospital care providers. The curriculum follows National Standard Curriculum and meets and/or exceeds the Massachusetts Department of Public Health Office of Emergency Medical Services (OEMS) requirements. Through classroom and hands-on training, students learn how to manage emergencies in the pre-hospital environment including but not limited to: medical, traumatic, obstetric, psychiatric, pediatric, geriatric, and environmental emergencies. Successful completion allows the student to sit for State of Massachusetts and National Registry of EMTs Emergency Medical Technician certification exams. This is an entry-level program for those who wish a career in Emergency Medical Services (EMS) up to the Paramedic level. Additional fees for: textbooks, uniforms, Basic Life Support certification, national testing, and MA state certification. Students are required to acquire and/or maintain a certification for Basic Life Support in order to successful complete the program. A Massasoit certificate of completion will be issued to students who successfully complete the Basic EMT program.

CSHH 035 **0.0 UNITS**

This 172-hour MA accredited certificate program is designed to prepare students to function in the field as pre-hospital care providers. The curriculum follows National Standard Curriculum and meets and/or exceeds the Massachusetts Department of Public Health Office of Emergency Medical Services (OEMS) requirements. Through classroom and hands-on training, students learn how to manage emergencies in the pre-hospital environment including but not limited to: medical, traumatic, obstetric, psychiatric, pediatric, geriatric, and environmental emergencies. Successful completion allows the student to sit for State of Massachusetts and National Registry of EMTs Emergency Medical Technician certification exams. This is an entry-level program for those who wish a career in Emergency Medical Services (EMS) up to the Paramedic level. Additional fees for: textbooks, uniforms, Basic Life Support certification, national testing, and MA state certification. Students are required to acquire and/or maintain a certification for Basic Life Support in order to successful complete the program. A Massasoit certificate of completion will be issued to students who successfully complete the Basic EMT program.

CSHH 039 EMT Basic Practical Exam **0.0 UNITS**

This serves as the State of Massachusetts Office of Emergency Medical Services Basic EMT Practical exam. It is the psychomotor component of the exam. Students will demonstrate proficiency in four practical stations. Only students scheduled who have successfully completed the EMT Basic course will be allowed to take the exam.

CSHH 045 EKG Technician **0.0 UNITS**

This 60-hour course is designed to prepare students for the ASPT national certification exam. Through a combination of classroom and practical sessions students will gain the experience as well as meet licensure eligibility requirements. The course objectives will be to learn the required skills of an EKG Technician such as Heart Anatomy and Physiology, proper lead placement, Operating and adjusting EKG monitors, Diseases of the Heart, and medical terminology through a combination of lectures and hands-on practical experience. Certificate awarded upon successful completion of course. Additional fees for textbooks and ASPT certification.

CSHH 048 Pharmacy Technician **0.0 UNITS**

This comprehensive 50 hour program will prepare students to work as a pharmacy technician in a retail or other pharmacy setting and to take the Pharmacy Technician Certification Board's PTCB exam. Course content includes: pharmacy medical terminology, the history of pharmacy, the pharmacy practice in multiple environments, pharmacy calculations and measurements, reading and interpreting prescriptions and defining drugs by generic and brand names. Through classroom lecture students will review dosage calculations, drug classifications, the "top 200 drugs", I.V. flow rates, sterile compounding, dose conversions, aseptic technique, the handling of sterile products, total parenteral nutrition (TPN), dispensing of prescriptions, inventory control and billing and reimbursement. Strong math skills are required for success in this program. To be eligible for the optional 80-hour externship, you must successfully complete the 50-hour classroom program, submit to our instructional partner a thorough background check (CORI), drug screening, proof of immunization, a negative TB test and meet other requirements. National Certification: This program meets the necessary requirements to take the Pharmacy Technician Certified Board (PTCB) – Certified Pharmacy Technician (PTCB) exam. NWCA National Certification: This program meets the necessary requirements to take the National Workforce Career Association (NWCA) Pharmacy Technician (PTAC) Exam. Clinical Externship: As part of this Pharmacy Technician program, you will be eligible to participate in an 80 hour clinical externship.

CSHH 054 Medical Interpreting **0.0 UNITS**

Medical interpreters are in great demand both in person and remotely by video or phone. Interpreters can elect to work for a hospital, school, or state agency, or as contractors with many agencies throughout the country. They can also elect to work remotely from home where they can work independently and make their own hours. Open to all languages, this 60-hour program provides working knowledge of medical interpreting, including standards of practice, ethics, HIPAA regulations, cultural competency, and medical terminology/vocabulary. The course provides intense practice via oral role plays on a variety of medical topics. The student will also be introduced to VRI (Video Remote Interpreting) and OPI (Over the Phone Interpreting). Offered in collaboration with TransFluenci EDU, this course is designed for those preparing for entry-level careers as medical interpreters as well as for working interpreters preparing for the National Board Certificate exam. Students must be fully bilingual and must be fluent in English and one other language. This program meets the National Board for Medical Interpreter Certification training requirement and

prepares you to pass the national certification exam. Upon successful completion of the course, students will receive a certificate of completion from the college and may elect to apply for national certification. Textbook and certification fees are not included. Students must possess a high school diploma or equivalent. Because a language assessment is required, students must register at least two weeks in advance.

CSHH 060 Ophthalmic Assistant 0.0 UNITS

This 42-hour certificate program will prepare you for a career as an Ophthalmic Assistant. This course will provide students with the foundation of knowledge regarding the basics required for all healthcare practices and an in depth understanding of ocular anatomy and physiology, diseases and treatments, as well as pointed histories, pharmacology, and basic skills. Additional hands-on learning combined with more advanced principles needed to perform at an entry level will give you the skills to succeed. Students should possess strong math skills and a High School diploma or equivalent. Note: Some class sessions will be offsite; students must provide transportation for these offsite sessions. Additional fee for textbook.

CSHH 065 0.0 UNITS

This 60-hour online Medical Interpreter Training Program, offered online, is designed to equip bilingual individuals with the skills, knowledge, and ethical foundation needed to become professional medical interpreters. Students will develop a strong understanding of interpreter roles, standards of practice, HIPAA compliance, and consecutive interpreting techniques. The course emphasizes building specialized medical vocabulary in both English and the target language, guided by experienced educators and professional interpreters. Through interactive lectures, role-plays, peer feedback, and real-life scenarios, participants strengthen both linguistic fluency and cultural competence. The training includes a dedicated Anatomy and Physiology component and simulated interpreting practice to reflect real medical encounters. Coursework is structured in phases, beginning with a language assessment and concluding with final oral and written exams. Upon successful completion of the program, graduates will receive a 60-hour Medical Interpreting Certificate of Completion, qualifying them for entry-level opportunities in the medical interpreting field. They will be well-prepared to facilitate clear, accurate communication in healthcare settings and to support equitable access to care for individuals with Limited English Proficiency (LEP). This course also includes a student career workshop. The book is included in the course cost. This course is offered online using learning management system (proprofs) and video conference program (Zoom) as provided by Interpreter Training Programs. The course is held on the scheduled days and times listed above. Internet and webcam required. Note: This 60-hour certificate program includes 42 hours of live online instruction, 3 hours of exams, and 15 hours of self-paced study completed at home.

CSHH 100 Phlebotomy Certificate Program 0.0 UNITS

Phlebotomists are specially trained professional members of the healthcare delivery team whose primary responsibility is to collect blood specimens from patients for diagnostic testing. This program is designed to prepare students for entry-level positions in phlebotomy and laboratory support services. Students learn through a combination of theory and laboratory practice, including instruction in venipuncture, skin puncture, special blood collections, specimen handling, waived laboratory testing, EKG and all regulations governing safety and infection control practices. The importance of professionalism and effective communication is emphasized. Course material will be learned through lecture, hand-on skills, DVDs, and Simtics simulations. Pre-requisites: MEDA 104 Basic Lab I and MEDA 107 Medical Assisting Techniques I.

CSHH 102 0.0 UNITS

Phlebotomists are specially trained professional members of the healthcare delivery team whose primary responsibility is to collect blood specimens from patients for diagnostic testing. This program is designed to prepare students for entry-level positions in phlebotomy and laboratory support services. Students learn through a combination of theory and laboratory practice, including instruction in venipuncture, skin puncture, special blood collections, specimen handling, waived laboratory testing, EKG and all regulations governing safety and infection control practices. The importance of professionalism and effective communication is emphasized. Course material will be learned through lecture, hand-on skills, DVDs, and Simtics simulations.

CSHH 378 BLS for Healthcare Providers - Grant 0.0 UNITS

This course is designed to provide skills required in a healthcare setting.

CSHH 379 Basic Life Support for Healthcare Providers 0.0 UNITS

The BLS for Healthcare Providers course is designed to provide skills required in a healthcare setting. This program is for physicians, nurses, paramedics, emergency medical technicians, respiratory, physical, and occupational therapists, physician's assistants, and other allied health personnel. In addition, BLS training can be appropriate for first responders, such as police officers and firefighters, as well as for laypeople whose work brings them into contact with members of the public. Skills taught are adult and pediatric CPR, two-rescuer scenarios and use of the bag-valve mask, foreign-body airway obstruction (conscious and unconscious), automated external defibrillation (includes child AED update), special resuscitation situations, and other cardiopulmonary emergencies.

PERSONAL ENRICHMENT-NON CREDIT (CSPE)

CSPE 207 Chocolate Bliss **0.0 UNITS**

Come learn the basics of working with chocolate and what different types are available. Together we will learn to make bark, truffles, and clusters. You will take home all your chocolate treasures! All classes take place in a professional college teaching kitchen that uses a wide variety of ingredients. If you have concerns about food allergies, please contact the Chef ahead of time. Please wear comfortable flat shoes and bring along an apron, if you have one. We will all pitch in to help with a quick clean up to tidy up our spaces. Materials Fee: $5.00 payable to instructor at the beginning of class.

CSPE 211 New England Favorites **0.0 UNITS**

Come learn how to make some great treats from our part of the USA, and a bit of local lore with each one. Spiced Hermits, Whoopie Pies, and Nantucket Cranberry Pie (really more cake than pie – but either way it is amazing). All are wonderful with your favorite hot fall beverage. Please contact the Chef if you have any questions or allergy concerns. Please wear low, comfortable shoes, and an apron if you have one. We will all pitch in to help with a quick clean-up to tidy up our spaces. Material Fee: $5.00 payable to the instructor at the beginning of class. Feel free to bring lunch or a snack as we will take a short break about noon.

CSPE 212 **0.0 UNITS**

Create the classic rustic tart with amazing local fruits and also learn how to make a beautiful lattice on another galette styled tart. These pastries are sure to wow with both flavor and texture – and take less time to make than a traditional American pie. Serve with your favorite ice cream, and you'll be making them all the time! Please contact the Chef if you have any questions or allergy concerns. Please wear low, comfortable shoes, and an apron if you have one. We will all pitch in to help with a quick clean up to tidy up our spaces. Material Fee: $5.00 payable to the instructor at the beginning of class. Feel free to bring lunch or a snack as we will take a short break about noon.

CSPE 213 **0.0 UNITS**

There's nothing like a fresh cream puff or éclair – and even better if you made them yourself. Simple, yet elegant – they are sure to impress family and friends. Pate a choux, pastry cream, ganache glaze, and whipped cream are all a part of the baking process to make these favorites. Please contact the Chef if you have any questions or allergy concerns Please wear low, comfortable shoes, and an apron if you have one. Feel free to bring lunch or a snack as we will take a short break about noon. We will all pitch in to help with a quick clean up to tidy up our spaces. Material Fee: $5.00 payable to the instructor at the beginning of class. Feel free to bring lunch or a snack as we will take a short break about noon

CSPE 214 **0.0 UNITS**

Come join us in making a warm fruit cobbler, perfect with vanilla ice cream or hot cocoa! And for those of us missing the sunny weather, we will be taking a nod to Spring with a great lemon bar – a perfect snack any time of year. This class will take place in a professional kitchen that uses a wide variety of ingredients. Please contact the Chef if you have any questions or concerns. Please be sure to wear comfortable, flat shoes, and an apron if you have one. Feel free to bring a drink, snack or lunch, as we will be taking a short break at noon. As always, we will work together to tidy up our workspace as we bundle up your goodies. Material fee of $5.00 payable to the instructor at the beginning of class.

CSPE 215 **0.0 UNITS**

Sunrise bread is a flavorful yeast loaf of spices and dried fruits. I love this bread for toast, bread pudding, or simply smeared with butter. We will also be making a Banana Foster Coffeecake –that is as amazing as it sounds. This class will take place in a professional kitchen that uses a wide variety of ingredients. Please contact the Chef if you have any questions or concerns. Nuts will be used in this class. Please be sure to wear comfortable, flat shoes, and an apron if you have one. Feel free to bring a drink, snack or lunch, as we will be taking a short break at noon. As always, we will work together to tidy up our workspace as we bundle up your goodies. Material fee of $5.00 payable to the instructor at the beginning of class. Please contact the Chef if you have any questions.

CSPE 216 **0.0 UNITS**

Come monkey around with us in the kitchen as we make incredible monkey bread and Spring filled flat breads, stuffed with a variety of cheeses, herbs, and chopped vegetables. This class will take place in a professional kitchen that uses a wide variety of ingredients. Please contact the Chef if you have any questions or concerns. Please be sure to wear comfortable, flat shoes, and an apron if you have one. Feel free to bring a drink, snack or lunch, as we will be taking a short break at noon. As always, we will work together to tidy up our workspace as we bundle up your goodies. Material fee of $5.00 payable to the instructor at the beginning of class.

CSPE 225 Holiday Cookie Extravaganza **0.0 UNITS**

A day to relax and have fun creating these sweet treats we all crave during our holiday celebrations. Beautiful pinwheels piped Danish butter cookies, and a true favorite – Russian tea cakes. Take a box of your treats to share or indulge with loved ones at home. Please contact Chef if you have any questions or allergy concerns. Please wear low, comfortable shoes, and an apron if you have one. Feel free to bring lunch or a snack as we will take a short break about noon. We will all pitch in to help with a quick clean-up to tidy up our spaces. Material Fee: $5.00 payable to the instructor at the beginning of class. Feel free to bring lunch or a snack as we will take a short break about noon.

CSPE 230 Italian Cookies 0.0 UNITS
Cantucci, almond macaroon, and Italian Wedding Cookies (Anginetti) - giving us a wonderful flavor and texture variety. Almonds will be used in class, if you have allergy concerns. If you have concerns about food allergies, please contact the Chef ahead of time. Please wear comfortable flat shoes and bring along an apron, if you have one. We will all pitch in to help with a quick clean up to tidy up our spaces. Materials Fee: $5.00 payable to instructor at the beginning of class.

TECHNICAL TRAINING-NON CREDIT (CSTT)

CSTT 006 Associate Home Inspection Trainee, Part I 0.0 UNITS
This is the first of a two-part Associate Home Inspector Trainee program designed to start a Trainee on the required pathway towards becoming a licensed Massachusetts Home Inspector. Trainees are required to attain 72 hours of classroom training and discussion in topics listed by the Board of Registration of Home Inspectors. Trainees are also required to select 3 additional training hours at a venue of their choice to attain a total of 75 training hours. There is an additional $50 fee payable to the instructor for copies of the PowerPoint presentation, as well as a $75 fee payable to the college for any make-up classes an individual student may need. Recommended textbooks: Mechanical Systems and NHIE Content Material and Structural Systems and Business Manual by Bruce Barker are available at https://nationalhomeinspectorexam.org/books.

CSTT 007 Associate Home Inspection Trainee, Part II 0.0 UNITS
This is the second of a two-part Associate Home Inspector Trainee program designed to start a Trainee on the required pathway towards becoming a licensed Massachusetts Home Inspector. Trainees are required to attain 72 hours of classroom training and discussion in topics listed by the Board of Registration of Home Inspectors. Trainees are also required to select 3 additional training hours at a venue of their choice to attain a total of 75 training hours. There is an additional $50 fee payable to the instructor for copies of the PowerPoint presentation, as well as a $75 fee payable to the college for any make-up classes an individual student may need. Recommended textbooks: Mechanical Systems and NHIE Content Material and Structural Systems and Business Manual by Bruce Barker are available at https://nationalhomeinspectorexam.org/books.

CSTT 008 Home Inspection Trainee - Make Up 0.0 UNITS
This course is designed as a make-up for required classroom hours of the Associate Home Inspection Trainee program that were missed during the normal course schedule.

CSTT 023 266 CMR Regs/Prof. Ethics for Home Inspection 0.0 UNITS
This course will provide licensed home inspectors with a review of the most current 266 CMR regulations including the MA Standards of Practice as well as a review of the standards of professional and ethical conduct set forth by the MA Board of Registration of Home Inspectors. Numerous illustrations will be used to teach each system that a home inspector is required to know, identify and report on. (5 contact hours)

CSTT 027 Plumbing & Gas /Home Inspection 0.0 UNITS
This course is designed to improve the licensed Home Inspector's understanding of basic principles necessary to recognize problems in plumbing and gas systems in residential properties. You will be trained to make observations and judgments regarding acceptable installation and operation of systems, as well as requirements for fixtures, materials, water temperature, pipe sizing, and venting. Basic observations will be made from CMR 248 Fuel Gas and Plumbing Code as it relates to Home Inspection. (3 contact hours).

CSTT 028 Heating Systems Review for Home Inspection 0.0 UNITS
This course is designed to assist licensed Home Inspectors in understanding and recognizig adequatley installed and operating residential heating systems. Discussion will focus on warm air furnances, boilers, and oil distrubution sysstems. An overview of applicable MA State Code will be addressed as it relates to the Home Inspection process. (2 contact hours).

CSTT 029 Electrical System/Home Inspection 0.0 UNITS
This course is designed to assist licensed home inspectors with the fundamental phases and to provide a systematic approach to the electrical inspection process. You will review the MA Code electrical inspection requirements, feeder distribution, and branch circuit layout and obtain resource materials as well as interactive learning techniques. In addition, you will learn situations home inspectors may encounter when inspecting electrical systems - from electrocuted mice, to violations in grounding, knob and-tube wiring, aluminum wiring, circuits boxes, and fuses. (3 contact hours)

CSTT 031 Legal Aspects, Cases & Practices/Home Inspection 0.0 UNITS
This course will provide licensed professionals with an advanced understanding necessary to avoid the legal pitfalls of performing home inspections. Discussion will focus on the legal ramifications of action taken or not taken by the home inspector while performing inspections. (2 contact hours)

CSTT 032 Mold, Mildew, and Moisture for Home Inspection 0.0 UNITS
This course is designed for the licensed Home Inspectors to provide participants with the basic facts about mold, mildew and moisture. Discussion will focus on the assessment and identification of mold and potential health affects and symptoms associated with exposure. We will also review the ways to eliminate and control mold spores in the indoor environment. Participants will take away an understanding of Mold, Mildew and Moisture, and the basic cleanup options that may directly impact the air quality of a residential and commercial structure. (2 contact hours)

CSTT 033 Home Inspection/Utilizing New Technology Home Inspection/Utilizing New Technology 0.0 UNITS
This course is designed for licensed Home Inspectors. There are many home inspection companies in the market offering quality home inspections. In this business, new technologies may allow inspectors to stay one step ahead of the competition while saving time and money. This class will demonstrate how to improve the quality of both the home inspection and the business by using the latest technology available. Participants will learn about the many software options available, as well as new tools and equipment that assists in running a more accurate and efficient inspection business. (2 contact hours)

CSTT 034 Report Writing for Home Inspection 0.0 UNITS
This course is designed for licensed Home Inspectors and will use the 266 CMR Regulations as a guide in assisting home inspectors in the development of their required inspection reports. (2 contact hours).

CSTT 035 Exterior Aspects of Home Inspection 0.0 UNITS
This course provides a discussion of the elements to look for on the exterior of a home when conducting a home inspection. Learn to make an informed assessment of outside features provides valuable insights about the interior, as well as the general condition of the home (3 contact hours).

MASSASPORTS CAMPS-NON CREDIT (CSZM)

CSZM 006 Adult Co-Ed Competitive Volleyball 0.0 UNITS
The league consists of ten weeks of round robin play plus a championship play-off week. Players should have experience beyond recreational volleyball and a solid understanding of the rules. Net violations, carries, double hits, and other infractions will be enforced. Expect consistent, highly competitive bump, set, and spike action with hard hitting.

COMPUTER TECH INFO MGMT (CTIM)

CTIM 100 Computer Keyboarding 3.0 UNITS
In this introductory computer keyboarding course, the student obtains a thorough knowledge of the computer keyboard and the basic principles of touch keyboarding. The course will include the basic features of word processing software and an introduction to letter styles, tables, and manuscripts. The student should progress to a speed of 25-45 words per minute with no more than three errors on three-minute timed writings. The course is adaptable for business and personal use.

CTIM 101 Beginning Windows 1.0 UNIT
This course is designed as a practical, step-by-step introduction to beginning concepts of the Microsoft Windows operating system. Students learn how to use the Windows desktop, manage documents, work with the documents library, and create shortcuts. In addition, students learn file and folder management and Windows accessories programs. Students also learn how to customize their work environment and to use the control panel.

CTIM 102 Beginning Word 1.0 UNIT
Students learn the basic features of Microsoft Word in order to prepare professional business documents incorporating appropriate formatting. Students also learn to insert objects and text into documents, as well as use shortcuts that enable them to become proficient in producing various business documents such as letters, reports and tables.

CTIM 103 Beginning Excel 1.0 UNIT
Students learn the essentials of spreadsheet development, including data entry and editing, formatting, sorting and filtering data, and enhancing worksheets. The creation of formulas and functions receives major emphasis. Other topics include preparing and inserting charts as well as workbooks and worksheets.

CTIM 112 Word Applications 3.0 UNITS
This course introduces students to the more advanced functions of Word to format various types of business documents. Competencies the student develops include using the word processing software to create sophisticated tables and graphics, templates, mail merge, styles, macros, forms, and master documents. Students learn how to customize Word to automate work and create complex documents. Two lecture and two laboratory hours per week.
Prerequisite: CTIM 102 Beginning Word or ACCT 108 Computerized Business Applications or departmental approval.

CTIM 114 Beginning PowerPoint 1.0 UNIT
This course provides basic training in Microsoft PowerPoint for Windows presentation graphics software. Students learn to plan, create, modify, and enhance presentations and to produce slides for an on-screen slide show. Effective presentations are created using graphics, tables, transitions, WordArt, sound, animation, and object linking and embedding.

CTIM 115 Intermediate PowerPoint 1.0 UNIT
This course is designed to familiarize the student with more advanced features of Microsoft PowerPoint for Windows presentation graphics software. Basic skills are reinforced and the following software features are utilized in creating sophisticated electronic slide shows: customizing slide masters, inserting text boxes and shapes, SmartArt, integrated web content and applications, and information graphics and media.

CTIM 117 Beginning Access 1.0 UNIT
This course provides basic training in Microsoft Access for Windows database software. Students learn to create and modify files, add and edit records, and produce reports and labels for a variety of business applications.

CTIM 131 Introduction to Coding 3.0 UNITS
This course introduces students to the broad field of computer science with an emphasis on coding. Students explore what coding is and why it is needed and then examine how it is used in controlling digital technology such as creating computer software, apps, websites, and the interfacing of devices for the Internet of Things (IoT). Topics include an introduction to coding concepts and terminology, exploration of programming languages, logic, syntax, debugging, hardware, documentation, and careers in programming. The chief goal of the course is to develop the student's creative mindset for computational thinking.

CTIM 171 Computer Hardware and Software Configuration 3.0 UNITS
This course is intended to provide the student with real-world exposure to both computer hardware and software installation, maintenance, and repair. Students use system diagnostics to analyze and restore computer system defects through troubleshooting and replacing individual system components. Hand-on experiences with software installation and maintenance, including operating systems and applications, are an integral part of the course. Two lecture and two laboratory hours per week.

CTIM 178 Help Desk Concepts 3.0 UNITS
This course is designed to teach students the importance and benefits of measuring the delivery of customer support; how to create positive interactions with customers; how to identify customer needs; how to meet customer expectations; how to deal effectively with a variety of customer situations in multicultural environments; how to work with unrealistic or angry customers; how to develop better listening skills; and how to use basic tools and technologies used in the customer support industry. Students learn how to de-escalate a situation, lessen stress, and troubleshoot aimed at solving problems.

CTIM 180 Computer and Information Security 3.0 UNITS
Instruction is provided in security for computer hardware, software, and data including physical security, backup procedures, relevant tools, encryption, and protection from viruses and cyberattacks. This course covers the safeguarding of computer systems by demonstrating server support skills and designing and implementing a security system. Students identify security threats and monitor network security implementation and use best practices to configure operating systems to industry security standards.

CTIM 221 Desktop Operating Systems 3.0 UNITS
This course covers the concepts of Microsoft Windows operating systems. Students learn how to install, configure, and troubleshoot computer operating systems and will gain the knowledge and skills necessary to perform administration tasks in a peer-to-peer network or a workstation-based system using Microsoft Windows.

CTIM 225 Introduction to Networking 3.0 UNITS
This course provides an overview of the operational, managerial, and technical aspects of networking technologies and their implementation. Hardware and software, as well as the codes, formats, protocols, use of private and public information utilities, transmission media, topologies, and point-to-point communications are integrated throughout the course.

CTIM 230 Ethics in Information Technology 3.0 UNITS
This course examines various ethical situations that arise in information technology. Issues related to privacy, freedom of expression, intellectual property, software development, human resources, cybercrime, social networking, and the impact of computers on the quality of life are examined. Students are given the opportunity to examine various scenarios relating to these topics in order to develop positive decision-making capabilities when faced with difficult situations in their work life.

CTIM 266 Professional Development for Business 3.0 UNITS
This course presents a study of behavioral psychology as applied to the workplace and is designed to enable students to develop the professional and personal skills necessary to succeed in a global environment in the business world. Topics covered include a survey of the soft skills, focusing on non-verbal communication, appearance, goal setting, confidence and motivation, self-assessment, managing change, leadership, human capabilities and limitations, and diversity issues. Employment, certifications, and industry credentialing are also covered in this course.

CULINARY ARTS (CULA)

CULA 123 Table Service 3.0 UNITS

This course prepares students to set a table according to various styles: American, English, French, and banquet service. Students develop interpersonal skills to interact effectively with customers and co-workers. Emphasis is placed on setting attractive tables, creating centerpieces, various napkin folds, and table applications with a focus on design and comfort. One lecture and four laboratory hours per week. Note: It is recommended that students should have successfully tested out of or completed ENGL 092 Preparing for College Reading II and MATH 001 Preparation for College Math I or MATH 010 Fundamentals of Mathematics before enrolling in this course.

CULA 128 The Art of Bread 3.0 UNITS

In this course, students are taught the fundamentals of bread production. Students learn the proper textures, flavor, and production methods for dough, and the work ethic and terminology for being a baker. A wide variety of breads are explored in the bake shop utilizing cultivated yeast, wild yeast starters, and chemically leavened doughs. Laminated doughs, rich doughs, and artisan breads are included in this foundation class. Students should be prepared for some lifting and physical manipulation of dough as part of their production. Mise en place, organization, and sanitation are an integral part of this course. Two lecture and two laboratory hours per week. Note: It is strongly recommended that students should have successfully tested out of or completed ENGL 092 Preparing for College Reading II and MATH 001 Preparation for College Math I or MATH 010 Fundamentals of Mathematics before enrolling in this course.
Prerequisite: CULA 143 Foundations of Baking.

CULA 135 Garde Manger 3.0 UNITS

Garde manger is the production of food that is not only flavorful but pleasing to the eye. This course familiarizes the students with several aspects of banquet and catering production, including the various design components related to banquets, special occasions, and buffet menus. Students also cover the planning and application of food garnishes, decorations, centerpiece displays, and other culinary art forms. Canapes, hors d'oeuvres, salads, and galantines are produced and served by the students. Two lecture and two laboratory hours per week.
Prerequisite: CULA 140 Culinary Concepts.

CULA 139 Culinary Certification 3.0 UNITS

In this course students experience the in-depth study if the regulations governing sanitation and food safety. Skills and knowledge learned throughout the course via lecture and various tools offered within the ServSafe text prepare students for taking the National Association Educational Foundation (NRAEF) Servafe Certification Exam.

CULA 140 Culinary Concepts 3.0 UNITS

This introductory course focuses on the development of the student's knowledge through product identification, professional cooking techniques, knife skills, measurements, and weekly preparation of a variety of food items using these new skills. Mother sauces are incorporated in the weekly lessons. Two lecture and two laboratory hours per week.
Pre/Co-requisite: CULA 139 Culinary Certification.

CULA 143 Foundations of Baking 3.0 UNITS

Students are introduced to the fundamental concepts, skills, and techniques of basic baking. Special emphasis is placed on the study of ingredients, terminology, analysis of baked goods, and the use of bake shop equipment. Mixing methods of a wide variety of baked goods are learned weekly through lecture, demonstration, and hands-on production. Cookies, pies, and pate a choux are a few examples of pastries students work with. Mise en place, organization, and sanitation are an integral part of this course. Two lecture and two laboratory hours per week. N

CULA 146 American Regional Cuisine 3.0 UNITS

This course is designed to offer students an overview of the regional cuisine throughout the United States. Students incorporate cooking techniques, the art of mise en place, historical and current food trends from the geographic regions, and proper review of recipes and procedures resulting with a finished meal from a specific region. Two lecture and two laboratory hours per week.
Prerequisites: CULA 139 Culinary Certification and CULA 140 Culinary Concepts.

CULA 151 International Cuisine 4.0 UNITS

This course introduces the student to a variety of cultural ingredients and cooking styles used throughout the globe. Different regions are covered in class each week through lectures, handouts, and text. In addition, this course aids in the further development of the student's learned skills and offers a better understanding of the time restraints common to the industry. Students are required to mise en place assigned recipes and prepare and plate completed tasks. Two lecture and four laboratory hours per week.
Prerequisite: CULA 146 American Regional Cuisine.

CULA 152 Classical Cuisine 4.0 UNITS

This course covers classical foods and recipes found throughout France and global cuisines. In addition to principles and techniques recommended by Auguste Escoffier and other European masters, the introduction of trends and techniques used in present day

food establishments are reviewed each week through lectures, handouts, and text. Emphasis on mise en place, preparation, and plating further develops the student's knowledge and skills for entrance into the food industry. Two lecture and four laboratory hours per week.
Prerequisite: CULA 146 American Regional Cuisine.

CULA 156 Nutrition and Food Trends 3.0 UNITS
Designed to acquaint students with basic nutritional concepts and their relationships to promotion of good health, this course focuses on consumer food choices and the appropriate means to ensure pleasurable and healthful dining experiences. The student is involved in the preparation of foods utilizing current nutritional trends and dietary practices. Two lecture and two laboratory hours per week.
Pre/Co-requisite: CULA 140 Culinary Concepts.

CULA 157 Meat Fabrication and Charcuterie 3.0 UNITS
This course introduces the student to the meat structure and composition of beef, veal, lamb, and pork. Proper cutting techniques used to fabricate a variety of protein items are an integral part of this course using hands-on production. In addition, poultry, game, and seafood are also covered through lecture, demonstration, and text. Two lecture and two laboratory hours per week.
Prerequisite: CULA 140 Culinary Concepts.

CULA 159 Cake Decorating 3.0 UNITS
The student is instructed in the fundamentals of cake decorating. Techniques covered include icing and cake preparation, masking cakes, border and inscription styles, and basic floral designs. Introduction to other decorating mediums are explored. Basic cake decorating tools are required for this class. The student should be prepared to practice at home to further develop their piping skills. Two lecture and two laboratory hours per week.
Pre/Co-requisite: CULA 143 Foundations of Baking; or departmental approval.

CULA 160 Chocolate Artistry 3.0 UNITS
This course introduces the student to the sweet world of chocolate. Through lecture, demonstration, and hands-on production, the student learns the art of working with chocolate that is desirable throughout the culinary industry. A technique of tempering and creating chocolates, as well as display pieces, is a primary focus in this class. The student has the opportunity to work with other forms of display media such as sugar, pastillage, and marzipan. Emphasis is placed on the creative process as the student designs, produces, and presents a finished centerpiece. Some basic tools will be required for this course. Two lecture and two laboratory hours per week.

CULA 161 Advanced Pastries 4.0 UNITS
In this course, students are taught the art of preparing a variety of American and international desserts, as well as continuing their development of bread production skills. Building on techniques learned in previous baking classes, emphasis will be on flavor and techniques as well as final presentation. Mise en place, organization, and sanitation are an integral part of this course. Two lecture and four laboratory hours per week.
Prerequisite: CULA 143 Foundations of Baking.

CULA 162 Classical Desserts 4.0 UNITS
The focus of this course is to develop the classic techniques used to produce European pastries such as Gateau St. Honore, Opera Torte, and Dacquoise. Balance of flavors, textures, and visual presentations are a weekly goal. Chocolate and bread production skills are developed within the class structure. Mise en place, organization, and sanitation are an integral part of this course. Two lecture and four laboratory hours per week.
Prerequisite: CULA 143 Foundations of Baking.

CULA 295 Field Work Experience in Culinary Arts 4.0 UNITS
This course enables students to participate in a supervised (paid or unpaid) learning experience of at least 240 hours for the semester. Students are required to work in a food service establishment that will enhance the students' skills and learning objectives established by the faculty coordinator. All field work experience sites must meet departmental guidelines and standards. Any student who finds it to their advantage to do half their field work during the three months prior to the semester of their sophomore year may do so with departmental approval. This process must begin before the seventh week of the spring semester of the freshman year.
Prerequisites: CULA 143 Foundations of Baking and CULA 146 American Regional Cuisine.

DANCE (DANC)

DANC 145 Contemporary Dance 3.0 UNITS
This is a studio-based class including the study of classic, contemporary, and modern forms to help students develop their flexibility, rhythm, strength, and self-awareness. The class is a combination of the study of famous and founding dancers, learning routines/dance phrases, and improvisation. Weekly dance combinations are taught. Students will conclude the course with an appreciation for contemporary dance. All levels are welcome, but some dancing experience is recommended.

DANC 150 Choreography **3.0 UNITS**
This course is designed to provide a creative, expressive, and critical-thinking experience. The classes will introduce basics of choreography, including use of space, time, groupings, movement quality, theme and variation, and improvisation. The course provides a learning environment for critical thinking in the process of artistic decision making.

DENTAL (DENT)

DENT 102 Dental Materials I **3.0 UNITS**
This course includes theory and practical use of dental materials including uses, composition, properties, and proper manipulation. Gypsum products, impression materials, waxes, and cements are covered. Basic restorative materials are introduced. Two lecture and two laboratory hours per week.

DENT 103 Dental Radiography I **3.0 UNITS**
This course provides instruction in the nature of ionizing radiation; the production, properties, dosage, and hazards of radiation; infection control; and appropriate protection techniques for patient and operator. Instruction in the function and correct use of the dental unit and processors for chemical and digital radiography is presented. Two lecture and two laboratory hours per week.
Pre/Co-requisite: DENT 106 Dental Science I.

DENT 105 Dental Office Management **3.0 UNITS**
This course is designed to train the Dental Assistant in business procedures for a dental setting. Emphasis is placed on this role as part of the team concept. Included in this course is a study of communication as it relates to patient/doctor/auxiliary relations, as well as employer/employee situations. The course covers telephone techniques, appointment control, record and filing procedures, banking, billing, third-party payments, inventory control, and supplies. Resume and interviewing techniques are also covered.

DENT 106 Dental Science I **5.0 UNITS**
This course provides instruction in head and neck anatomy and emphasizes oral anatomy as it relates to the growth and development of the teeth and adjacent structures. The course includes the relationship of dental structures to body systems and to health. The course also covers oral history, oral embryology, and microbiology as they apply to oral disease and the prevention and methods of infection control. Oral pathology and identification of common oral conditions and lesions are a component of this course. Nutrition is included as it relates to oral health and dental caries. Home care instruction and plaque control are also emphasized. Four lecture and two laboratory hours per week.

DENT 107 Chairside Assisting **6.0 UNITS**
This course prepares the student for clinical externship utilizing the concepts of four-handed dentistry. Instruction is provided in instrumentation, tray set-ups, and sterilization. Also included is instruction in chairside positioning, preparation of the dental unit, and maintenance of equipment. Basic intra-oral functions such as mirror placement and retraction, use of oral evacuation, and rubber dam technique are also covered. CPR training is included as part of this course. Four lecture and four laboratory hours per week.

DENT 111 Dental Science II **3.0 UNITS**
A continuation of Dental Science I, this course includes dental pharmacology, emphasizing the nature and property of drugs and anesthetics used frequently in dentistry. Also included is an introduction to dental specialties, namely: orthodontics, periodontics, oral surgery, endodontics, pediatric dentistry and prosthodontics. Two lecture and two laboratory hours per week.
Prerequisite: DENT 106 Dental Science I.

DENT 112 Clinical Externship **6.0 UNITS**
This component of the program provides the student with practical experience in four-handed dentistry, general office procedures, and basic laboratory skills. To expose students to a broad spectrum of patients and settings, the students rotate through several types of dental settings, including private practice and a hospital or dental clinic. To integrate experiences, students must maintain a daily log of dental procedures and duties performed and must attend a seminar with the Dental Assistant faculty member. This course involves 300 hours of clinical experience.
Prerequisites: a grade of C+ or higher in: DENT 102 Dental Materials I, DENT 103 Dental Radiography I, and DENT 107 Chairside Assisting.

DENT 113 Dental Materials II **2.0 UNITS**
This course includes restorative materials in more depth than in the first semester. Students also learn to perform laboratory procedures associated with chairside assisting: pouring, trimming, and polishing study models and casts; fabricating custom impression trays from preliminary impressions; cleaning and polishing removable appliances; and fabricating temporary crowns and restorations. Sealants and Coronal Polishing are taught to clinical proficiency. Polishing agents are introduced. Lecture: 1 hour, Laboratory: 2 hours.
Prerequisite: Dental Materials I (DENT 102) with a grade of C+ of better.

DENT 114 Dental Radiography II 3.0 UNITS

This course provides instruction in the exposure and continued evaluation of dental film using the following methods: bisecting angle, paralleling, panoramic, chemical, and digital film techniques. Further instruction in quality assurance and radiology regulations is addressed. Duplication of film technique and rapid processing is also included. Two lecture and two laboratory hours per week.
Prerequisite: DENT 103 Dental Radiography I.

DIESEL (DIES)

DIES 107 Engine Principles I 3.0 UNITS

This course is designed to familiarize the students with the fundamental physical principles and relationships which apply to reciprocating internal combustion engines. Topics include the operational theory of internal combustion engines, combustion and heat, fuel consumption and power, scavenging, and supercharging. The hands-on servicing of complete engines involves disassembly, precision measuring, and reassembly of an engine in the laboratory. Two lecture and two laboratory hours per week.

DIES 108 Electrical Systems 3.0 UNITS

The student develops understanding of electrical knowledge as a foundation for future level advancement. The course gives the student the background and working knowledge of electrical theory required to test and service the electrical system of a diesel-powered piece of equipment. Repair and troubleshooting procedures consisting of removal, disassembly, inspection, repair, and reassembly of electrical components are designed to prepare students for entry into the job market equipped with both the knowledge and skills needed for satisfactory performance on the job. Safety in all areas is constantly stressed as well as the development of correct work habits, attitudes, and interest for each student. Two lecture and two laboratory hours per week.

DIES 122 Fuel Systems 3.0 UNITS

This course is designed to give the student the background and working knowledge of modern diesel fuel injection systems and their components, which are a necessary part of the diesel internal combustion engine. Topics include the operation of instruments, computer diagnostic and calibration programs and special tools required to test current production fuel systems on modern diesel engines. Two lecture and two laboratory hours per week.
Prerequisite: DIES 124 Truck Components II.

DIES 123 Truck Components I 3.0 UNITS

This course introduces the student to a number of specialized areas that a diesel technician will encounter. Through classroom lecture and lab application, the student learns maintenance and repair procedures for heavy-duty truck components. Specialized areas of study include braking, steering, suspension, and basic drivelines. The lab provides practical experience in troubleshooting and maintenance of these components. Two lecture and two laboratory hours per week.

DIES 124 Truck Components II 3.0 UNITS

This course introduces a number of specialized areas that a diesel technician will encounter. The students build on the knowledge which they received in DIES 123 Truck Components I. The more complex components discussed include ABS brakes, on-board computer systems, hydraulics, and transportation refrigeration. The lab provides practical experience in troubleshooting and maintenance of these components. Two lecture and two laboratory hours per week.
Prerequisite: DIES 123 Truck Components I.

DIES 133 Governing and Computer Control Systems 3.0 UNITS

This course is a study in the theory and operating characteristics of various types of governing and computer control systems as applied to the diesel engine. The study of the governing system includes functions of the system and detailed analysis of the mechanical, pneumatic, hydraulic, and electrical governors. The second major focus of this course is on the computer control system and its role in engine governing, emission control, and diagnostics. Through lab application, this course gives students the necessary skills used in solving problems in governing and computer control systems. Two lecture and two laboratory hours per week.
Prerequisite: DIES 222 Electronic Engine Diagnostics.

DIES 134 Multi-Cylinder Overhaul 4.0 UNITS

This course develops the student's understanding of various diesel engines by working with one manufacturer at a time, enabling the student to gain a clear understanding of a diesel engine's construction, operation, maintenance, and repair. Also covered are the troubleshooting and engineering designs that are integrated in the diesel engines of various manufacturers. The course provides a sound procedure in understanding the importance of the serial number of the engine, so the technician can obtain the information needed to correct any deficiency with a diesel engine. Two lecture and four laboratory hours per week.
Prerequisite: DIES 222 Electronic Engine Diagnostics.

DIES 141 Fundamentals of Standby Power Generation 4.0 UNITS

This course covers the fundamental operating principles of stationary and portable electric power generation equipment. Generator construction, operating principles, troubleshooting and proper installation procedures are covered in detail. Students work with

current production automatic transfer switches and GENSETS from 2.8kW to 25kW developing an understanding of generator operation and proper testing procedures. Three lecture and two laboratory hours per week.
Prerequisite: DIES 123 Truck Components I.

DIES 222 Electronic Engine Diagnostics 3.0 UNITS
This course covers the introduction and uses of computer-based diagnostic applications. Students learn basic Windows and then learn engine-specific diagnostic applications that are used in the calibration and repair of today's electronic diesel engines. Students learn to open and create new job orders using engine software applications. Students learn how to diagnose engine faults using diagnostic programs and follow appropriate troubleshooting procedures. Electronic engine control module calibrations and customer-controlled parameters are covered in depth. The primary focus in this class is on the Cummins Insite and the Caterpillar ET diagnostic programs, although others are discussed. Two lecture and two laboratory hours per week.
Prerequisite: DIES 124 Truck Components II.

DIES 223 Natural Gas Engines 3.0 UNITS
This course covers the characteristics of compressed natural gas (CNG) and propane and how they are used as alternative power sources in internal combustion engines. Students learn the characteristics of alternative fuels, evaluate the storage and handling components of the alternative fuel system, and the safety procedures involved in working with these fuels. Students learn the theory behind the operation of gaseous fuel engines and are able to identify, service, and troubleshoot components unique to these engines. Primary focus is centered on the Cummins ISL-G and L10 G engines, although other manufacturers are discussed. Two lecture and two laboratory hours per week.
Prerequisite: DIES 123 Truck Components I.

DIES 226 Hydraulics 3.0 UNITS
This course provides the student with an in-depth study of open and closed hydraulic systems. Topics covered include a study of hydraulic fluids, graphic symbols and schematic Interpretation. An applied systems approach is used to discuss pumps, control valves, actuators, and other components. Two lecture and two laboratory hours per week.
Prerequisite: DIES 123 Truck Components I.

DIES 227 Advanced Hydraulic Systems 3.0 UNITS
This course is designed to build off of the fundamentals learned in the hydraulic systems class, which provides the student with an in-depth study of the various types of hydraulic pump controls, flow and horsepower regulation. Topics covered include; open and closed center hydraulic systems, pressure compensation, load-sensing pressure-compensation, flow sharing/ downstream compensation, positive and negative flow controls, flow summation and hydrostatic drives. Two lecture hours and two laboratory hours each week.
Prerequisites: DIES 226 Hydraulic Systems.

DIES 230 Power Train Systems I 3.0 UNITS
This course provides the student with an in-depth study of heavy equipment power trains and supporting systems. Topics include heavy equipment operation and safety, belt and chain drive systems, manual transmissions, planetary and gearing theory, differentials, final drive units, hydraulic steering, and braking systems. An applied approach is used in comprehension of system functions and diagnostics. Two lecture and two laboratory hours per week.

DIES 231 Power Train Systems II 3.0 UNITS
This course is the continuation of Power Train Systems 1, which provides the student with an in-depth study of heavy equipment power trains and supporting systems. Topics covered include: the operating platform and HVAC, powershift and automatic transmission theory, hydrodynamic drives, undercarriages, track and wheeled steering systems and hybrid electric drives. An applied approach is used in comprehension of system functions and diagnostics. Two lecture hours and two laboratories. hours each week.
Prerequisites: DIES 230 Power Train Systems 1.

DIES 401 Diesel Internship 3.0 UNITS
This course offers students an opportunity for structured, paid, or unpaid work experience, which allows students to apply the theory of classroom experience to practical applications in their technical fields of concentration. In addition, a biweekly seminar gives students the opportunity to discuss their job and their employers' evaluations of their work performance in their weekly academic assignments.
Prerequisite: open to students enrolled in the Diesel Technology program; or departmental approval.

EARLY CHILDHOOD EDUCATION (ECED)

ECED 101 Guiding Children's Behavior 3.0 UNITS
This course provides the student with an introduction to principles involved with positive guidance in the young child (through age eight). Strong relationships, positive interactions between adults and children, along with effective learning environments are

explored. The influence of culture, customs, family, peers, and community and their effect on children's behavior are studied. A grade of C or higher is required for graduation.

ECED 102 Development in Early Childhood 3.0 UNITS

This course introduces the student to a child's developmental growth from pre-natal stages to seven years of age. Developmental landmarks are studied as they relate to an early childhood setting. The importance of recognizing individual as well as cultural differences and various rates and patterns of growth is emphasized. A grade of C or higher is required for graduation.

ECED 105 Introduction to Early Childhood Education 3.0 UNITS

This course gives the beginning student in early education an overview of early childhood education from a philosophical, historical, multicultural, and economic point of view. Students gain understanding of how early childhood education has influenced the profession. 8 hours of observation in 4 different types of early childhood programs are required to complete this course.

ECED 111 Early Childhood Curriculum: A Multi-Cultural Perspective 3.0 UNITS

The course explores the development and implementation of curriculum in an early childhood setting. It facilitates ways of integrating differing languages, customs, and traditions into the curriculum so children develop greater self-esteem and a broader understanding and appreciation of their own ethnic heritage and the ethnic heritage of others. The instructor and students design activities to reflect this multi-cultural perspective. A grade of C or higher is required for graduation.
Prerequisite: ECED 102 Development in Early Childhood completed with a grade of C or higher; or departmental approval. This course meets the requirement for the Guiding Children's Behavior/Inclusive Practices in the ECE Foundational Certificate.

ECED 112 Health, Nutrition, and Safety Needs of the Young Child 3.0 UNITS

The dynamics of health, safety, and nutrition as they relate to the child's development and environment is explored. The student identifies problems that may occur in an early childhood setting: poor nutrition, safety dangers, or child abuse. Advocacy for young children is encouraged. As advocates, students develop methods of assessment, reporting, and referral. The student is introduced to first-aid techniques by the completion of the course. A grade of C or higher is required for graduation.

ECED 150 CDA Program and Practices 3.0 UNITS

This course introduces students to the CDA (Child Development Associate) Competency standards, designated by the Council for Professional Recognition. Students enhance their knowledge of developmentally appropriate practices and curriculum for children birth through age eight. Specific focus includes the six competency goals and 13 functional areas of CDA. Emphasis is placed on preparing the CDA Professional Portfolio, with supporting competency statements. A grade of C or higher is required for graduation.
Prerequisites: ECED 101 Positive Guidance, ECED 102 Development in Early Childhood, and either ECED 111 Early Childhood Curriculum: A Multi-Cultural Perspective or ECED 231 Infant and Toddler Curriculum, all completed with a grade of C or higher; or departmental approval. Co-requisite: Current ECE work verification (minimum of one year) in an Infant, Toddler, Preschool, or Family Child Care setting in MA; or departmental approval.

ECED 201 Administration, Supervision, and Management of Child Care Programs 3.0 UNITS

This course emphasizes the importance of thoughtful planning and administration for the success of early childhood programs. Special attention is given to understanding organizational structure; budgeting; and personnel recruitment, selection, and supervision. Ways to develop and implement philosophical goals and their relationship to the children, families, staff, and the community are discussed. All Massachusetts state standards, guidelines, and licensing regulations are thoroughly covered. A grade of C or higher is required for graduation.
Prerequisite: ECED 102 Development in Early Childhood completed with a grade of C or higher; or ECED 105 Introduction to Early Childhood Education with a grade of C or higher, or PSYC 202 Child Psychology; or departmental approval.

ECED 211 Child Care Policies and Issues 3.0 UNITS

This course is designed to give the participant an overview of the growing field of early childhood. Topics focus on a variety of issues such as administration, child abuse, laws and regulations, and historical and social issues as they relate to early childhood today. A grade of C or higher is required for graduation.
Prerequisite: ECED 102 Development in Early Childhood completed with a grade of C or higher, ECED 105 Introduction to Early Childhood Education with a grade of C or higher, or PSYC 202 Child Psychology; or departmental approval.

ECED 217 The Young Child with Special Needs 3.0 UNITS

This course acquaints teachers with ways of integrating the young child with special needs into the regular early childhood program. It examines ways of assessing and identifying characteristics of the young child with special needs or the child at risk. Topics include planning and program development, modifying classroom environment, and working with parents and community resources. A grade of C or higher is required for graduation.
Prerequisite: ECED 102 Development in Early Childhood completed with a grade of C or higher, ECED 105 Introduction to Early Childhood Education completed with a grade of C or higher, or PSYC 202 Child Psychology; or departmental approval.

ECED 231 Infant/Toddler Curriculum 3.0 UNITS

This course explores how the development stages relating to the first three years should impact the care of infants and toddlers. The student examines physical, psychological, linguistic, and cognitive development from birth to age three. Emphasis is placed on designing developmentally-appropriate activities; understanding the importance of health, nutrition, and feeding practices; equipping space; and nurturing self-esteem in the early childhood setting.
Prerequisite: ECED 102 Development in Early Childhood completed with a grade of C or higher or PSYC 202 Child Psychology; or departmental approval. This course meets the curriculum requirement in the ECE Foundational Certificate.

ECED 280 Practicum I in Early Childhood Education 3.0 UNITS

The student is placed at one early childhood setting, which could include: an early school grade, a child care center, or a Head Start program. The age group for this practicum is one of the following: B-3, 3-5, or 5-8. The student works under the supervision of a lead teacher for 150 hours per semester. The student keeps a journal and completes written observations. Student interns participate in a variety of experiences reflective of the community. Field experiences begin with observation and increase to planning activities for individuals or small groups as well as management of the whole group for a portion of the placement. A grade of B- or higher is required for graduation.
Prerequisite: ECED 102 Development in Early Childhood completed with a grade of C or higher and ECED 111 Early Childhood Curriculum: A Multicultural Perspective with a grade of C or higher. Co-requisite: ECED 285 Seminar I in Early Childhood Education.

ECED 285 Seminar I in Early Childhood Education 2.0 UNITS

Formerly ECED 407. The students meet twice a week to discuss the practicum experience, exchange ideas, and share concerns. Conference sessions are included during the seminar. Members of our diverse cultural community are invited to share their knowledge with students. A grade of B- or higher is required for graduation. Co-requisite: ECED 280 Practicum I in Early Childhood Education or departmental approval.

ECED 290 Practicum II in Early Childhood Education and Administration 3.0 UNITS

Formerly ECED 405. The student is placed in one early education setting that could include: an early school grade, a child care center, or a Head Start program. The age group for this practicum is one of the following: B-3, 3-5, or 5-8. Both the type of program and the age group will differ from the ECED 280 Practicum I experience. A minimum of 12 hours per week, for a total of 150 hours, is required. Management skills such as personnel hiring, supervision, and evaluation, as well as understanding the regulations that govern group care are developed. The student will also understand the importance of addressing multicultural issues, parents and community support, and interaction, and assume the responsibilities for the full range of teaching and care giving. A grade of B- or higher is required for graduation.
Prerequisites: ECED 280 Practicum I in Early Childhood Education (formerly ECED 401) and ECED 285 Seminar I in Early Childhood Education (formerly ECED 407) both completed with a grade of B- or higher; or departmental approval. Pre/ Co-requisite: ECED 201 Administration, Supervision, and Management of Child Care Programs with a grade of C or higher. Co-requisite ECED 295 Seminar II in Early Childhood Education.

ECED 295 Seminar II in Early Childhood Education and Administration 2.0 UNITS

Formerly ECED 408. The students meet twice a week to discuss the practicum experience, exchange ideas, and share concerns. Conference sessions will be included during the seminar. Members of our diverse cultural community are invited to share their knowledge with students. The focus includes administration and management topics. A grade of B- or higher is required for graduation.
Prerequisite: ECED 285 Seminar I in Early Childhood Education (formerly ECED 407) completed with a grade of B- or higher. Co-requisite: ECED 290 (formerly ECED 405) Practicum II in Early Childhood Education and Administration or departmental approval.

ECONOMICS (ECON)

ECON 201 Principles of Economics I (Macroeconomics) 3.0 UNITS

This course is an introduction to the study of the capitalist economy and supply and demand. The major emphasis is devoted to an analysis of the components of the national product. Consideration is also given as to how the economy operates at full employment. Fiscal and monetary policies are examined. Understanding economics as a discipline is stressed throughout the course.
Pre/Co-requisites: ENGL 101; waiver by placement testing results; or departmental approval.

ECON 202 Principles of Economics II (Microeconomics) 3.0 UNITS

This course includes a continuation of market analysis and the choices individuals and firms make when they buy and sell. Emphasis is on the pricing of the factors of production. Some attention is given to allocation by non-market methods. Market structures are also examined. Policy problems include income distribution, competition, and regulation. Trade and comparative economic systems are also studied.
Pre/Co-requisites: ENGL 101; waiver by placement testing results; or departmental approval.

ECON 210 Introduction to Health Economics 3.0 UNITS

This course is an introduction to the application of economic principles used to analyze health care issues. Topics include: an overview of the US health care sector; the determinants of demand for health care services and private insurance; the supply

of health care services and private insurance; the role of government programs such as Medicare and Medicaid; and the overall performance of the health care sector of the economy.
Pre/Co-requisites: ENGL 101; waiver by placement testing results; or departmental approval.

EDUCATION (EDUC)

EDUC 106 Introduction to Special Education 3.0 UNITS
This course introduces special education from theoretical, practical, and legal perspectives. Information regarding characteristics of individuals with exceptionalities and evidence-based instructional strategies are examined. Students begin to learn about the different exceptionalities and explore the legal policies in meeting students' educational needs in grades one through six.
Pre/Co-requisites: ENGL 101 English Composition I and MATH 127 Mathematics for Elementary Teachers I or higher; or waiver by placement testing results.

EDUC 111 Introduction to Elementary Education 3.0 UNITS
This course introduces elementary education from philosophical, theoretical, social, and historical perspectives. Emergent theories and philosophies are examined. Students begin to explore the development of young children and legal issues related to education in grades one through six. Students are required to participate in a 40-hour pre-practicum experience during this course. Students assimilate classroom learning about the educational process with observational experiences in grades one through six classroom settings. One month (or as early as possible) prior to the pre-practicum placement, students must submit to CORI and SORI checks. Inability to fulfill the course requirement of 40 hours of pre-practicum observation due to CORI or SORI restrictions will result in course failure. It will also result in inability to successfully fulfill the program and degree requirements. Note: this course is only offered in the fall semester.
Prerequisites: MATH 127 Mathematics for Elementary Teachers I or MATH 128 Mathematics for Elementary Teachers II and one life science course (BIOL 121 Biological Principles I or BIOL 140 & 142 Introductory Biology and Lab) or one physical science course (CHEM 151 General Chemistry I, ESCI 121 Geology, ESCI 123 Meteorology, ESCI 124 Physical Ocean Environment, PHYS 113 & 112 The Science of Music and Lab, PHYS 151 College Physics I, or PHYS 161 General Physics I); or departmental approval.

EDUC 201 Mass Tests for Educator Licensure (MTEL) Prep for Comm & Literacy Skills Test (CLST) 1.0 UNIT
This course is offered to provide Massasoit pre-service teachers an opportunity to prepare for their first MTEL test in communication and literacy skills. If transferring to a Massachusetts public university or college as part of the MassTransfer program, teacher candidates must successfully complete this test prior to transfer. Course content includes critical reading, vocabulary building, grammar practice, and essay writing. All course content is delivered online in a five-week time frame. Two laboratory hours per week. Recommended prerequisite: ENGL 102 English Composition II.

EDUC 205 Language and Literacy Learning 3.0 UNITS
This course introduces the basic principles and methods of instruction in reading, writing, listening, and oral communication in elementary school settings. Students examine the Common Core Standards and Massachusetts Curriculum for English Language Arts & Literacy. Phonemic awareness, phonics, vocabulary, fluency, and comprehension are explored. Students reflect on sociocultural aspects of language and literacy development with special emphasis on English language learners. Students complete observation hours in an elementary school setting.
Prerequisite: ENGL 102 English Composition II; or departmental approval.

EDUC 210 Critical and Anti-Racist Approaches to Education 3.0 UNITS
This course helps students acquire a critical understanding and an appreciation of processes of diversity (cultural, racial, ethnic, socio-political, ability, and gender). It honors and empowers the diverse experiences, knowledge, and identities that students and their communities bring into schools. The course provides practical educational conceptualizations to foster equitable, inclusive, and multicultural learning for all learners.
Prerequisites: EDUC 111 Intro to Elementary Education and ENGL 102 English Composition II; or departmental approval.

ENGLISH (ENGL)

ENGL 098 Reading and Writing Studio 3.0 UNITS
This course focuses on developing students' reading, writing, and critical thinking skills in preparation for college-level courses. Students use the writing process, integration of multiple texts, and accurate documentation to organize well-developed essays. Students review grammar and learn about audience, voice, and purpose. This course supports students in English Composition I and their other introductory college courses. Co-requisite: ENGL 101 English Composition I.

ENGL 101 English Composition I 3.0 UNITS
This course helps students develop and organize extended pieces of writing. Students focus on the correct and appropriate use of language and the organization and development of paragraphs and essays. Research techniques, documentation of sources, and a short research paper are included. Constant reading and frequent writing is required.
Prerequisites: Placement testing results; or departmental approval.

ENGL 102 English Composition II 3.0 UNITS

This course strengthens students' skills as writers and focuses on analysis and argument. Assignments include critical examination of literature and an essay using research and documentation utilizing the MLA style sheet. Emphasis is on writing as part of the processes of thinking and learning.
Prerequisites: ENGL 101 English Composition I; waiver by placement testing results; or departmental approval.

ENGL 119 Creative Writing 3.0 UNITS

Students write in a minimum of three genres, as determined by the instructor. Genre choices include fiction, poetry, drama, and creative nonfiction. The course includes reading and analyzing literature for the elements of craft in each genre. Students participate in class workshops, revise their work, and develop regular writing habits.
Prerequisite: ENGL 101 English Composition I; waiver by placement testing results; or permission of instructor.

ENGL 121 Children's Literature 3.0 UNITS

This course examines the reading interests of children from pre-school years through the elementary grades with emphasis on the contribution that reading can make toward the process of growth. Topics include the history of literature for children, illustrators, folk tales, myths, modern fanciful tales, fiction, poetry, and books in special fields. This course requires extensive reading and writing. This course fulfills a Liberal Arts or Humanities (LA or HU) elective, it does not fulfill a 200 level literature requirement.

ENGL 131 Myth in Literature 3.0 UNITS

This course examines the way that literary works embody themes and motifs found also in myth and folklore: the cycle of human life from conception and birth through initiation, journey, and quest to death; and the appearance of recurrent figures like the hero, the wise fool, and the outcast. This course requires extensive reading and writing. This course requires extensive reading and writing. This course fulfills a Liberal Arts or Humanities (LA or HU) elective, it does not fulfill a 200 level literature requirement.

ENGL 171 Introduction to Fiction 3.0 UNITS

This course examines the short story and the novel; the emphasis falls on contemporary works, but always in reference to the traditions of prose fiction and the forms and styles that have served as models for contemporary writers. Requires extensive reading and writing. This course fulfills a Liberal Arts or Humanities (LA or HU) elective; it does not fulfill a 200-level literature requirement.

ENGL 201 British Literature I 3.0 UNITS

This course explores the British literary tradition through selected readings in major writers from the Anglo-Saxon period to the 18th century. Since the course is based on time periods and major authors, British Literature I does not have to be taken before British Literature II.
Prerequisite: ENGL 102 English Composition II.

ENGL 202 British Literature II 3.0 UNITS

This course explores the British literary tradition through selected readings in major writers from the beginnings of Romanticism to post modernism. Since the course is based on time periods and major authors, British Literature II does not have to be taken after British Literature I.
Prerequisite: ENGL 102 English Composition II.

ENGL 203 Shakespeare 3.0 UNITS

This course examines plays from Shakespeare's early, middle, and late periods, using representative comedies, tragedies, and histories. It focuses on dramatic development and principal themes. The sonnets are examined briefly. The course is usually offered in alternate years.
Prerequisite: ENGL 102 English Composition II.

ENGL 210 LGBT Themes in Literature 3.0 UNITS

This course examines major literary works that portray the individual lives and collective history of gay, lesbian, bisexual, and transgender people beginning with the era of William Shakespeare and continuing through to the present day. The unique role that literature has played in preserving the history of LGBT people will be examined. Ongoing themes in the literature studied include the effects of social oppression, gender non#conformity, and the inspiration of being in love. The diversity within the LGBT community will be emphasized through studying authors who reflect racial, ethnic, and economic diversity. Constant writing will be required throughout the course in conjunction with the literature being studied, and students will write a capstone research paper.
Prerequisite: ENGL 102 English Composition II.

ENGL 211 Masterpieces of World Literature I 3.0 UNITS

This course presents a study of significant works of world literature up to and including the Middle Ages. Emphasis is on comprehension and appreciation of human values in literature. The curriculum traces literary philosophical influences of writers from around the world as they are revealed in varied literary forms. Emphasis is on comprehension and appreciation of human values in literature. and Since the course is based on time periods and major authors. Since the course is based on time periods and major authors, World Literature I does not have to be taken before World Literature II.
Prerequisite: ENGL 102 English Composition II.

ENGL 212 Masterpieces of World Literature II **3.0 UNITS**

This course presents a study of significant works of world literature from the Renaissance to the 20th century. Emphasis is on comprehension and appreciation of human values in literature. The curriculum traces literary philosophical influences of writers from around the world as they are revealed in varied literary forms. Emphasis is on comprehension and appreciation of human values in literature. and Since the course is based on time periods and major authors. Since the course is based on time periods and major authors, World Literature II does not have to be taken after World Literature I.
Prerequisite: ENGL 102 English Composition II.

ENGL 213 American Literature to 1860 **3.0 UNITS**

This course examines the major contributors to the development of American literature, culture, and ideals from the colonial period to the era of American Romanticism. Since the course is based on time periods and major authors, American Literature I does not have to be taken before American Literature II.
Prerequisite: ENGL 102 English Composition II.

ENGL 214 American Literature since 1860 **3.0 UNITS**

This course examines the major contributors to American literature, culture, and ideals from the Civil War to the present. Since the course is based on time periods and major authors, American Literature II does not have to be taken after American Literature I.
Prerequisite: ENGL 102 English Composition II.

ENGL 215 African-American Literature I **3.0 UNITS**

This course examines the works of African-American writers and performers from the periods of colonization and slavery through the Harlem Renaissance. Emphasis is placed on political, historical, and cultural contexts of the readings, with particular focus on contributions and challenges to Euro-American culture and to simultaneous developments internationally among peoples of African descent. Since the course is based on time periods and major authors, African-American Literature I does not have to be taken before African-American Literature II.
Prerequisite: ENGL 102 English Composition II.

ENGL 216 African-American Literature II **3.0 UNITS**

This course examines the works of African-American writers and performers after the Harlem Renaissance to the present including the periods of Realism, Naturalism, and the development of the Black Arts movements of the 1960s. Emphasis is placed on political, historical, and cultural contexts of the readings, with a particular focus on contributions and challenges to Anglo-American culture and to simultaneous developments internationally among peoples of African descent. Since the course is based on time periods and major authors, African-American Literature II does not have to be taken after African-American Literature I.
Prerequisite: ENGL 102 English Composition II.

ENGL 217 Dramatic Literature I **3.0 UNITS**

This course begins with an overview of theatrical literature and an understanding of the play as a form. Following this, selected plays from the Greek, Roman, Medieval, and Renaissance periods will be read and explicated. Since the course is based on time periods and major authors, Dramatic Literature I does not have to be taken before Dramatic Literature II.
Prerequisite: ENGL 102 English Composition II.

ENGL 218 Dramatic Literature II **3.0 UNITS**

This course begins with an overview of theatrical literature and an understanding of the play as a form. Following this, selected plays from late 17th and 18th century, 19th century, early and mid-20th century, and contemporary periods will be read and explicated. Since the course is based on time periods and major authors, Dramatic Literature II does not have to be taken after Dramatic Literature I.
Prerequisite: ENGL 102 English Composition II.

ENGL 251 Honors Seminar: Ethics **3.0 UNITS**

Also offered as PHIL 251. This course develops the skills of critical thinking in ethical issues of contemporary life. Using a multi-disciplinary base, students learn to think clearly, logically, critically, and effectively. Instructional methods include cross-disciplinary lectures, class discussion, readings, written assignments, and problem-solving activities, such as reaching reasoned judgment through seminar-style learning.
Prerequisite: Honors-level ENGL 102 English Composition II; or permission of Honors Program Coordinator.

ENGINEERING (ENGT)

ENGT 107 Computer-Aided Drafting **3.0 UNITS**

Using a microcomputer-based CAD system, students learn basic drawing tools, modifications, layers, dimensioning, text, blocks, and hatch parameters. Students create drawings and learn how to plot, file, retrieve, and modify them. Projects include drawings from architectural, civil, mechanical, and electronic career fields. The course includes a review of basic drawing concepts, including orthographic, isometric, and line weights. Two lecture and two laboratory hours per week.

ENGT 114 Digital Circuits 4.0 UNITS

This course covers digital circuit design techniques including number theory, Boolean algebra, combinational and sequential logic circuits, state machines, counters, memory, and microprocessor basics. Labs cover hand wired logic-circuit implementation along with schematic and VHDL design using field programable gate arrays.
Prerequisite: MATH 203 College Algebra or waiver by placement testing results, and COSC 170 C++ for Engineers or permission of instructor. Three lecture, and two laboratory hours per week.

ENGT 140 Introduction to Engineering 4.0 UNITS

This course introduces the student to the engineering profession and provides an opportunity for students to understand the content within the chemical, civil, computer, electrical, environmental, and mechanical engineering. This course prepares students for success in an engineering program and working environment through technical problem solving and design analysis, understanding engineering ethics and responsible decision making, teamwork, and communication. Significant emphasis is placed on engineering problem-solving techniques using MATLAB for mathematical analysis and graphical presentation. Three lecture and two laboratory hours per week.
Pre/Co-requisite: MATH 217 Precalculus; waiver by placement testing results; or permission of instructor.

ENGT 204 Microprocessors and Digital Systems 4.0 UNITS

This course focuses on embedded systems design and development. Topics include architecture, assembly language programming, timers, interrupt handling, and communication with analog and digital components. C programing is introduced for higher level programming. Hands on design projects are programed and de-bugged on development boards. PREREQUISITE: ENGT 114 Digital Circuits. Three lecture and two laboratory hours per week.

ENGT 270 Engineering Circuit Theory I 4.0 UNITS

This is the first electrical engineering course covering basic electrical theory and circuit analysis. The goals of this course include developing the ability to solve engineering problems and to design, implement, and test circuits to meet design specifications. Topics include network theorems, nodal and mesh circuit analysis, dependent sources, Thevenin's and Norton's equivalent circuits, and solution of first- and second-order networks to switched DC inputs. The course also covers AC circuit steady-state response analysis, review of complex numbers, phasors, coupled inductors and ideal transformers, RMS voltage and current, the maximum power transfer theorem, balanced three-phase systems, and power and energy computations. Individual assignments are completed using circuit analysis techniques and MATLAB. Lab activities include the construction of circuits and using the necessary lab equipment to measure their performance and Multisim. Written report of project results is required. Three lecture and two laboratory hours per week.
Pre/Co-requisite: MATH 221 Calculus I; or waiver by placement testing results.

ENGT 271 Engineering Circuit Theory II 4.0 UNITS

This is the second engineering course in basic circuit theory and design. Analysis techniques in this course include application of Laplace transforms and differential equations with initial conditions to provide solutions to switched and steady state multi-ordered circuits. This course covers frequency analysis and the study of passive and active filter circuits. Circuit stability, the understanding of poles/zeros, and the use of Fourier transforms are also covered to introduce the student to circuit frequency response and Bode plot analysis and specification. Students are also introduced to graphical convolution and Fourier series as it applies to circuit analysis. Assignments and lab project activities require the design, implementation, and measurement of filters and other circuits to meet design specifications. Class instruction includes using Metlab and Multisim, in addition to hands-on circuit design and analysis. Three lecture and two laboratory hours per week.
Prerequisites: ENGT 270 Engineering Circuit Theory I and MATH 222 Calculus II; or waiver by placement testing results.

ENGT 272 Engineering Materials 4.0 UNITS

This course covers the basic principles that govern the properties and behavior of engineering materials: atomic structures, interatomic forces, amorphous and crystalline structures, and phase transformations. The course also covers the study of the capabilities and limitations of different materials such as metals, polymers, ceramics, and corrosion. Three lecture and two laboratory hours per week.
Prerequisites: MATH 221 Calculus I and PHYS 161 General Physics I; or waiver by placement testing results.

ENGT 273 Statics 3.0 UNITS

This course is a study of loads (force, torque) on physical systems in static equilibrium. It covers the analysis of force and moment vectors and their resultants, using free-body diagrams. Applications analyzed in this course include simple trusses, frames, and machines; distribution of loads; and internal forces in beams. Properties of areas, second moments, and the laws of friction are also covered. MATLAB is used to support computational analysis. Two lecture and two laboratory hours per week.
Prerequisites: MATH 222 Calculus II and PHYS 161 General Physics I; or waiver by placement testing results.

ENGT 274 Dynamics 3.0 UNITS

This course covers the basic principles that govern forces and torques and their effects on the motion of particles and rigid bodies. This course also covers force, energy, and momentum analysis methods, as well as the study of unidirectional vibrations. MATLAB is used for computational analysis. Two lecture and two laboratory hours per week.
Prerequisites: ENGT 273 Statics and MATH 222 Calculus II; or waiver by placement testing results.

ENGT 275 Strength of Materials 4.0 UNITS
This course provides engineering students with an understanding of various responses exhibited by solid engineering materials when subjected to mechanical and thermal loadings. It provides an introduction to the physical mechanisms associated with the design-limiting behavior of engineering materials, especially stiffness, strength, touchness, and durability. It also explores the basic mechanical properties of engineering materials, testing procedures used to quantify these properties, and ways in which these properties characterize material response. The student acquires quantitative skills to deal with materials-limiting problems in engineering design and a basis for materials selection in mechanical design. Three lecture and two laboratory hours per week.
Prerequisite: ENGT 273 Statics.

ENGT 276 Engineering Thermodynamics 3.0 UNITS
This course introduces fundamental thermodynamic concepts relevant to various engineering applications. Concepts such as work, temperature, and heat are introduced, and students are taught the zeroth, first, and second laws of thermodynamics and their application. An introduction to thermodynamic properties of idealized and real fluids is also provided. Students also learn theories related to the thermodynamic cycles, such as refrigeration, gas power, and steam, which govern the operation of various practical devices such as internal combustion engines, jet engines, power generators, refrigerators, and air conditioners. MATLAB is used for computational analysis. Two lecture and two laboratory hours per week.
Prerequisite: ENGT 273 Statics; or departmental approval.

ENGT 277 Introduction to Mechanical Engineering Graphics and Design with SOLIDWORKS 3.0 UNITS
This course introduces students to SOLIDWORKS for 3D design and parametric modeling of mechanical engineering designs. Students in this course learn problem identification, how to work with product specifications, designing for manufacturing, and product ergonomics considerations. In addition, this course provides students with the necessary tools to produce complete engineering drawing packages and produce 3D samples of their products. Two lecture and two laboratory hours per week.
Pre/Co-requisite: MATH 217 Precalculus; waiver by placement testing results; or permission of instructor.

ENGLISH AS A SECOND LANGUAGE (ENSL)

ENSL 101 College ESL I 3.0 UNITS
This course is designed for non-native English speakers to develop a command of correct English in the four areas of listening, speaking, reading, and writing, with special attention to reading and writing. Emphasis is placed on grammar, sentence structure, idiomatic expression, reading comprehension, and recognizing and developing correct English patterns in sentences and paragraphs.
Prerequisite: Waiver by placement testing results; or departmental approval.

ENSL 102 College ESL II 3.0 UNITS
This course is a continuation of ENSL 101 College ESL I with emphasis placed on developing a facility to read and discuss standard college English work, ability to recognize and produce correct patterns in sentences and paragraphs, and the ability to combine paragraphs into correct and coherent compositions.
Prerequisite: ENSL 101 College ESL I; waiver by placement testing results; or departmental approval.

ENSL 111 Reading for ESL Students 3.0 UNITS
This course is designed for ESL students to gain a facility in reading college texts and various printed materials with which they come in contact. Emphasis is placed on developing reading comprehension, vocabulary (including idiomatic expressions and figurative language), and study skills (including following directions, listening skills, and note taking skills).
Prerequisite: ENSL 112 Conversation and Pronunciation in ESL; waiver by placement testing results; or departmental approval.

ENSL 112 Conversation and Pronunciation in ESL 3.0 UNITS
This course is designed to help the ESL students develop an oral facility in English. Oral presentations are required. The ability to participate in discussion and debate on a variety of subjects is emphasized. The unique sounds and intonation patterns of English are analyzed and practiced. Students may be required to work on pronunciation exercises in a laboratory setting.
Prerequisite: Waiver by placement testing results; or departmental approval.

EARTH SCIENCE (ESCI)

ESCI 121 Geology I 4.0 UNITS
This course is intended to acquaint students with the physical structure of the earth, the nature of the materials constituting it, and the major processes responsible for continual change. Students learn how geologists go about interpreting the earth and deciphering its history. In the laboratory portion of the course, emphasis is placed on becoming familiar with crystal rocks and minerals and the effects of geological processes as interpreted from topographic maps and aerial photographs. Three lecture and two laboratory hours per week.

ESCI 124 Physical Ocean Environment 4.0 UNITS
This course is an introduction to the physical aspects of the marine environment. Topics include the origin of the earth and oceans, physical properties of water, properties of the ocean basins, economic wealth of the oceans, atmospheric/oceanic circulation, waves, tides, shoreline processes, etc. Three lecture and two laboratory hours per week.

FILM (FILM)

FILM 122 Film and Society 3.0 UNITS
This course will examine the human condition through the medium of film. Films from various genres, such as comedy and drama, will be viewed and the general vocabulary and syntax of film will be studied. Through critical analysis and discussion, this course will consider how these films both reflect and impact our culture.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

FILM 200 Film Analysis 3.0 UNITS
Students examine an introduction to the basic issues involved in the serious enjoyment (appreciation) of film. The nature of the medium, its early history and development, the elements of film criticism, and basic issues in film theory are explored. Using concepts developed in the course, students view, study, and analyze selected film masterpieces. Field trips to area movie houses are arranged when possible.

FILM 201 Black Images in Film 3.0 UNITS
This course examines films from history to our present and the changing images of Blacks in film. This course focuses on the evolution and development of African-American characters as they have been represented in theatrical, screen, and television presentations.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

FIRE SCIENCE (FIRE)

FIRE 101 Principles of Emergency Services 3.0 UNITS
This course is an introduction to fire science technology's role in the protection of life and property. Study includes the history and philosophy of fire protection, fire loss analysis, public and private fire protection services, introduction to the chemistry of fire, scientific methods and technology applied to fire protection, equipment usage, and discussion of future fire protection problems.

FIRE 103 Fundamentals of Fire Prevention 3.0 UNITS
This course discusses fire department inspections and the recognition of fire hazards. The development of a systematic and deliberate inspection program stressing public cooperation and image is promoted. Local, state, and national codes pertaining to fire prevention and related technology are surveyed.

FIRE 105 Fire Department Organization and Administration 3.0 UNITS
This course explores the organizational principles and structural components of a fire department. History, types, methods, and principles of fire department organization, both formal and informal, line and staff are studied. Emphasis is placed on supervisory responsibilities and functions.

FIRE 107 Legal Aspects of Emergency Services 3.0 UNITS
This course covers an in-depth study of Chapter 148 of the Massachusetts Laws concerning fire prevention and protection. In addition, the Life Safety Code NFPA 101 (National Fire Protection Association) and Chapter 266 of the Arson Code will be examined. Also covered is the Commonwealth of Massachusetts Regulations (CMRs) on fireworks, oil burner equipment, gasoline service station, LPG appliances, transportation of flammable liquids, use of explosives and flammable decorations in addition to other relevant materials.
Prerequisites: FIRE 101 Principles of Emergency Services and FIRE 103 Fundamentals of Fire Prevention; or departmental approval.

FIRE 111 Fire Investigation I 3.0 UNITS
This course is designed to assist firefighters and fire officers in learning to properly determine the cause and origin of fires. The instructor also discusses and reviews various areas of inquiry associated with the preliminary investigation of a fire incident.

FIRE 205 Fire Service Safety and Survival 3.0 UNITS
This course introduces the basic principles and history related to the national firefighter life safety initiatives. Safety on the fire ground and emergency scenes is stressed with emphasis on prevention of injuries and reducing fatalities. The course addresses cultural and behavior changes in emergency services.

FIRE 206 Fire Protection Systems and Equipment 3.0 UNITS
This course of study concentrates on fire protection systems. Covered in this course are an analysis of water supply and extinguishing agent requirements, various automatic signaling and detection systems, and special extinguishing systems. Demonstrations and field trips are used to supplement the classroom discussion.
Prerequisite: FIRE 101 Principles of Emergency Services; or departmental approval.

FIRE 208 Fire Hydraulics and Water Distribution Systems 3.0 UNITS
This course addresses the mechanics of the flow of fluids through fire hoses, nozzles, appliances, pumps, standpipes, water mains, and other devices. Design, testing, and use of nozzles and appliances, pumps, and water distribution systems are introduced. Measurements of fluid flow and methods of determining quantities of water available from a distribution system are also studied.
Prerequisite: MATH 158 Introduction to Statistics or higher; or waiver by placement testing.

FIRE 211 Hazardous Material Incident Response 3.0 UNITS
This course concerns itself with hazardous materials and hazardous waste incident response. Emphasis is placed on first responder awareness and operational level response as covered in National Fire Protection Association Standard 472, Competence of Responders to Hazardous Materials Incidents, and OSHA 1910.120, Hazardous Waste Operations and Emergency Response. Initial procedures to be taken during fires and spills of hazardous chemicals encountered during their transportation and in fixed facilities are discussed.
Prerequisites: any Chemistry course, FIRE 101 Principles of Emergency Services, and FIRE 103 Fundamentals of Fire Prevention; or departmental approval.

FIRE 213 Building Construction, Blueprint, and Plan Review 3.0 UNITS
This course is an overview of construction designs and methods and materials utilized in building construction and emphasizes fire protection concerns. Included in this course of study is an introduction to structural blueprint reading for the purpose of recognizing conditions that may affect the prevention of fire within the building and/or firefighting efforts should a fire occur.
Prerequisite: FIRE 101 Principles of Emergency Services; or departmental approval.

FIRE 215 Terrorism and Domestic Response 3.0 UNITS
This course concerns itself with terrorism and domestic response. Emphasis is placed on understanding terrorism, the associated risks, and potential outcomes of a terrorist incident. Discussion centers on recognizing and identifying the presence of terrorist criminal activity. Actions to initiate an emergency response sequence by notifying the proper authorities are covered.

FIRE 301 Fire Company Officership - Tactics and Strategy 3.0 UNITS
This course provides the principles of fire ground control through utilization of personnel, equipment, and extinguishing agents.

GEOGRAPHY (GEOG)

GEOG 201 Human Geography 3.0 UNITS
This course provides an investigation of the relationship between human beings and their environment on a global scale. The course will consider how geographic patterns are influenced by distributions of population, ethnicity, economic systems, religious systems, political forms, and landscape development. Note: this course is only offered in the spring semester.
Pre/Co-requisites: ENGL 101; waiver by placement testing results; or departmental approval.

GOVERNMENT (GOVT)

GOVT 105 American National Government 3.0 UNITS
This course examines the government and politics of the United States. Major attention is given to the Constitution of the United States and the Amendments and the historical development of the national government. The powers and the actions of Congress, the President, and the Courts are covered. Consideration is given to federalism, political parties and elections, and the influence of special interest groups and the media on American political culture. This course emphasizes reading, writing, and critical thinking.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

GOVT 200 State and Local Government 3.0 UNITS
This course investigates the structure and politics of American government at the state and local level. Types of legislatures, city councils, governors, mayors, city managers, county government, the development and operation of town meetings, and constitutional, judicial, and financial problems are discussed. This course is intended to follow GOVT 105 American National Government.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

HISTORY (HIST)

HIST 101 History of Western Civilization I 3.0 UNITS
This course is a study of the foundations and development of the history, ideas, and institutions of the Western world from ancient to early modern times. The Greco-Roman and Judeo-Christian heritages and the Renaissance and Reformation receive special attention. This course emphasizes reading, writing, and critical thinking. Please note: HIST 101 and 102 may be taken in either order.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval

HIST 102 History of Western Civilization II 3.0 UNITS
This course deals with the development and problems of the Western world from early modern times. Emphasis is given to the development of nation states; the impact of wars, revolutions, and ideas; industrialization and modern science; and the development of political systems such as democracy and totalitarianism. This course emphasizes reading, writing, and critical thinking. Please note: HIST 101 and 102 may be taken in either order.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval

HIST 103 United States History I 3.0 UNITS
This course traces the political, economic, social, and cultural development of what became the United States from its beginnings to the end of the Civil War. Particular attention is paid to the nature of Puritanism, the complex background to the American Revolution, the creation of the Federal and State Constitutions and their implementation, the growth of sectionalism, westward expansion, the nature of slavery, and the breakdown of the American political system resulting in the Civil War. This course emphasizes reading, writing, and critical thinking. Please note: HIST 103 and 104 may be taken in either order.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

HIST 104 United States History II 3.0 UNITS
This course traces the political, economic, social, and cultural development of the United States since the Civil War. Emphasis is placed on the discord of the Reconstruction Era, the rise of industrialization, urbanization, and immigration, the development of American foreign policy, American reform movements as seen in Populism, Progressivism, and the New Deal, the course of the Cold War, the Civil Rights Movement, the contemporary women's movement, the influence of technology on American life, and recent developments. This course emphasizes reading, writing, and critical thinking. Please note: HIST 103 and 104 may be taken in either order.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

HIST 107 The Origins of Civilization 3.0 UNITS
This course focuses on the study of the origins and development of early civilizations in the Near East, Egypt, Europe, and the Americas. The period from the domestication of plants and animals to the establishment of large states and empires is covered.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval

HIST 108 World History I 3.0 UNITS
This course is a study of the foundations and development of major world civilizations from the origins of human societies through the Post-Classical Era. Emphasis is given to ideas, institutions, political and economic systems, and cultures as they developed within societies and civilizations in the Near and Middle East, Africa, Central and East Asia, the Americas, and the Pacific Islands. There is a special focus on the development of religion and philosophy in early societies; cross-cultural interaction and trade; the emergence of urban life and empires; human and physical geography; and the development and exchange of science and technology.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval

HIST 109 World History II 3.0 UNITS
This course is a study of modern world history from approximately 1450 to the present with a focus on the non-western world before European expansion; the ecological impact of globalization; the development of modern states and nations in Asia, Africa, the Near and Middle East, and the Americas; and economic and cultural contact and exchange between civilizations in the modern era. Special attention is given to the cultural, political, and economic interrelationship of these regions; local, regional, and global conflicts; imperialism and the struggle for independence; and global political systems.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

HIST 131 The United States Since 1945 3.0 UNITS
This course surveys the political, economic, social, and cultural changes experienced by the United States from the end of the Second World War to the present.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

HIST 140 Refugees, Immigrants, and Displaced People 3.0 UNITS
This course aims to provide both a theoretical orientation and the substantive information necessary to understand and analyze a range of immigration policy issues that confront us at the present. Particular attention will be paid to how transnational migration impacts the way we think of society, nation, family, and home. We will begin by examining the current debates surrounding immigration policy in the US. We will next explore why people choose to leave their homes and the history of immigration to better

understand how the policies of immigration have developed over time. To that end, we will draw our case studies from China, Europe, the Middle East, and the Americas from the nineteenth century until the present. We will particularly look at the national security and human rights aspects of migration. The final section of the course will analyze a range of policy issues that confront US politics on immigration.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

HIST 145 African American History I 3.0 UNITS
This course examines African American History from its West African origins to the end of Reconstruction. Special focus is placed on the Transatlantic slave trade, a comparative exploration of American slavery in the North and South, and an examination of such issues as the Black family and community, culture, and slave resistance. Other issues of note include the importance of Black participation in the American Revolution, the increased growth of slavery in the South after the war, free Blacks in urban cities who were impoverished and denied equal rights but influenced the culture, politics, and economics of the nation, the rise of abolitionism in the north, and how slavery's expansion to the west became the pivotal issue just before the Civil War. The course concludes with an examination of the Reconstruction period that shaped the freedom experiences of the newly freed. Please note: HIST 145 and 146 may be taken in either order.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

HIST 251 American Labor History 3.0 UNITS
This course traces the changes in the nature of work and the experiences of workers in America from the colonial era to the present. This course reviews all types of American work and labor but concentrates on labor organizations. Extensive coverage is given to the following topics: work in pre-industrial society, conditions of labor in early industries, growth of labor associations and organizations in the 19th and 20th centuries, labor-management relations, and recent changes in the post-industrial economy. This course emphasizes reading, writing, and critical thinking.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

HOSPITALITY (HOSP)

HOSP 101 Food and Beverage Service Management 3.0 UNITS
This course introduces students to food and beverage service. Students learn about storeroom procedures and the preservation of foods, wines, and liquors. This course includes instruction for the proper service of food and beverages to customers. Guest lecturers may be invited, and students may take field trips. Special emphasis is placed on techniques of cost comparisons, ingredient costing, and cost reduction. An exam-based certification in Hospitality and Restaurant Management and Controlling Foodservice Costs through NRAEF is a component of this course.
Prerequisite: HOSP 103 Introduction to Hospitality Management.

HOSP 103 Introduction to Hospitality Management 3.0 UNITS
This course introduces students to the complex field of hospitality management. Fundamentals of hotel and restaurant management are discussed: techniques of personnel management, methods of operation, and problems encountered in the industry. Uses case studies and problem-solving exercises to illustrate problems encountered in the field of hospitality.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

HOSP 106 Conference and Event Planning 3.0 UNITS
This course introduces students to a comprehensive overview of the conference and event planning profession, with a focus on marketing and promotional strategies for conventions and special events.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

HOSP 107 Hospitality Law 3.0 UNITS
A study of the legal principles governing hospitality operations, including: common law; contracts; laws of tort and negligence; hotel-guest relationship; laws regarding food, food service, and alcoholic beverages; and employment laws. This course also covers legal issues in travel and tourism, including those associated with transportation, travel agents, tour operators, and gaming.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

HOSP 131 Hotel Operations 3.0 UNITS
This course covers the two basic phases of hotel management. The "Back of the House" phase covers such problems as licensing, real estate considerations, engineering, sanitation, and housekeeping. The "Front of the House" phase covers such problems as dealing with the needs of the guest, managing the front desk, and understanding the reservations procedures. Exposes students to both phases and may utilize field trips and guest lecturers to enhance knowledge.
Prerequisite: HOSP 103 Introduction to Hospitality Management.

HOSP 134 Hospitality Marketing 3.0 UNITS
This course introduces the student to the role of marketing within a hospitality organization. There is major emphasis on the concept of restaurant marketing strategy as a comprehensive, integrated plan designed to meet the needs of the consumer and thus facilitate exchange. Techniques and practices commonly utilized by hospitality marketers in the areas of product, menu layout

and design, pricing, place, promotion, strategy, and tactics are discussed. This course also includes a problem-solving approach, utilizing the case study method and lecture. An exam-based certification in Hospitality Marketing through NRAEF is a component of this course.

HOSP 135 Hospitality Human Resources 3.0 UNITS
In this course, students examine fundamental principles and practices within the hospitality industry of personnel and human resource management. It provides an in-depth examination of areas including work environment, job description, recruitment, screening, hiring, supervision, training, terminations, employee benefits, and a lawful workplace. An exam-based certification in Hospitality Human Resource Management and Supervision through NRAEF is a component of this course.

HOSP 136 ServSafe Certification 1.0 UNIT
Reviews regulations governing sanitation and methods for eliminating food and health hazards within the food service industry. Testing for the NRAEF Sanitation Certificate is required.

HUMAN SERVICES (HSRV)

HSRV 101 Introduction to Social Work/Human Services 3.0 UNITS
This course provides an overview of the US Social Welfare system by examining its history, systems, laws, programs, policies, services, worker roles, and client populations and their problems. Student learning focuses on two key areas: professional development and career planning and the acquisition of knowledge of the US Social Welfare system. Students will work in groups to develop a case plan and presentation. This course emphasizes reading, writing, communication, and critical thinking skills.

HSRV 102 Counseling Techniques 3.0 UNITS
This course provides an introduction to the principles and techniques of the helping interview. Topics include self as professional, appropriate attitudes, values and ethics, client needs, intake interviewing, observation, listening and responding skills, verbal and non-verbal communication, and recording/reporting skills. Classroom simulations, demonstrations, and practice sessions are extensively used. Emphasis is placed on the core competencies of reading, writing, speaking, and critical thinking.

HSRV 103 Group Dynamics 3.0 UNITS
This course provides a structured environment within which students can increase awareness of own and others' attitudes, emotions, and behaviors and how these support or detract from meeting individual and group needs. Students begin to build knowledge and skills which facilitate effective group process. Topics include group formation, types of groups, effective communication, problem solving and decision making, guiding discussions, managing conflict, leadership, and teamwork. Student learning focuses on four key areas: self-assessment, personal development, professional development and career planning, and skill development for effective group process.

HSRV 105 Human/Social Services Practice 3.0 UNITS
This course provides a theoretical and practical overview of entry-level generalist human service practice with all client systems. Special emphasis is given to the continued development of helping skills including relationship building, assessment, goal setting, problem solving, decision making, and evaluation. Particular attention is placed on working effectively with clients from diverse social backgrounds and classes and within a variety of provider systems. Core competencies of reading, writing, speaking, and critical thinking are emphasized in this course.
Prerequisite: HSRV 102 Counseling Techniques; or departmental approval.

HSRV 107 Fostering Equality and Diversity 3.0 UNITS
This course utilizes the concepts of diversity and oppression to build the knowledge, skills, and attitudes necessary to human-service workers serving women, minority, and low-income clients. Examples of how social welfare laws, programs, benefits, and services have promoted, limited, or denied social equity to diverse client groups are explored. Topics include systems of privilege and disadvantage, power, cultural systems for managing diversity, social identity, and social justice. Discrimination based on race, gender, age, ethnicity, national origins, sexual variance or orientation, ability/disability, and other factors are examined. Professional and personal ethics and values which foster equality are promoted. The core competencies of reading, writing, speaking, and critical thinking are emphasized.

HSRV 121 Death and Dying 3.0 UNITS
This course introduces students to various theoretical models for understanding the dying/grieving/loss process. An in-depth exploration of the grieving process helps students begin to develop the knowledge, skills, and attitudes needed to work effectively with dying persons, their families, and others who are experiencing significant losses. Students survey the types of agencies, services, programs, benefits, and worker roles that relate to serving dying and grieving clients and their significant others. Particular emphasis is placed on information related to persons with AIDS or cancer-related diagnoses.

HSRV 124 Introduction to Mental Health 3.0 UNITS
This course offers a historical perspective on the treatment of the mentally ill, an overview of current clinical diagnoses and treatment methodologies, and an introduction to crisis intervention and behavior management in residential and rehabilitative

settings. Students develop knowledge of the behavioral model and of the use of drugs as a behavioral management tool and acquire skill in writing behavioral objectives and developing task analysis. Avoidance of labeling is emphasized.

HSRV 221 Special Topics in Human Services 3.0 UNITS
This course offers specialized knowledge and skills in various contemporary topics of importance in the human services field. A small group seminar format and individualized projects are used. Limited to two courses on different topics per student.
Prerequisite: permission of instructor.

HSRV 222 Developmental Disabilities 3.0 UNITS
This course covers the physiological, sociological, and psychological development of the individual with developmental disabilities from birth through senescence and death. The three main causes of developmental disabilities (genetics, prenatal, and postnatal) are examined. An overview of syndromes such as Downs, spectrum disorders such as autism, physical disorders such as spina bifida and head injury, etc. are explored. Emphasis is placed on how the disabled person copes with changes and challenges across varied life stages such as during maturation, puberty, adolescence, and adulthood. The role of family and other social support systems is examined. Students are exposed to methods for promoting effective communication with clients, families, colleagues, and other caregivers. Legal and ethical issues such as the Individuals with Disabilities Education Act (IDEA) and the American with Disabilities Act (ADA), court decisions, litigation, ethics, and guardianship issues are examined and discussed.

HSRV 231 Addiction Treatment 3.0 UNITS
This course provides an overview of the knowledge and skills needed by workers in the field of addiction treatment. Students develop an understanding of the treatment process. They explore varied counseling skills such as evaluation, screening, assessment, treatment planning, documentation, and interviewing. Students gain a basic level of competency in documentation, assessment, and interviewing skills.

HSRV 235 Supervision and Leadership in Human Services 3.0 UNITS
This course is designed for current and potential supervisors who work in human services. Students gain a deeper understanding of self, strengthen time management and conflict management skills, and assess different forms of leadership and supervision. In addition, they develop a stronger knowledge base of how each supervisor fits into an organization, supervise within a team to better meet agency responsibilities, and understand the team process as an integral part of organizational dynamics. Guest speakers bring current practice issues to the class. This class is intended to provide the foundation, characteristics, and effective strategies to support adults living and working in the community. This course is an introductory course. Observations are included in the coursework.

HSRV 405 Seminar and Field Experience in Human Services I 4.0 UNITS
This course provides students with an in-depth, supervised learning experience (of at least 135 hours per semester) in area social service agencies. Students also attend a weekly one-hour, on-campus seminar in which they share knowledge concerning the practices, policies, procedures, and client populations of their field experience settings, consider key social service practice issues, and relate classroom learning to the field experience.
Prerequisites: A grade of C- or higher in HSRV 101 Introduction to Social Work/Human Services, HSRV 102 Counseling Techniques, and HSRV 103 Group Dynamics; or departmental approval.

HSRV 406 Seminar and Field Experience in Human Services II 4.0 UNITS
This course provides students with an in-depth, supervised learning experience (of at least 135 hours per semester) in area social service agencies. Students also attend a weekly one-hour, on-campus seminar in which they share knowledge concerning the practices, policies, procedures, and client populations of their field experience settings, consider key social service practice issues, and relate classroom learning to the field experience.
Prerequisites: a grade of C- or higher in HSRV 101 Introduction to Social Work/Human Services, HSRV 102 Counseling Techniques, and HSRV 103 Group Dynamics; or departmental approval.

HEATING VENTILATION & AIR COND (HVAC)

HVAC 111 Basic Electricity and Control Theory 4.0 UNITS
This course is the first in a series of electrical courses for the HVAC student. It provides students with a general knowledge of electricity and how it is applied to control circuits found in the HVAC industry. After an introduction to electron theory, students explore magnetism, electric meters, direct and alternating current power generation, distribution, and utilization. Once they gain the knowledge of what electricity is, they then proceed to schematic symbols, wiring diagrams, electric code, and motor control fundamentals. In the laboratory, students explore these principles and components through test and analysis. Three lecture and two laboratory hours per week.

HVAC 113 Introduction to HVAC/R 3.0 UNITS
This course is an introductory course to the HVAC/Refrigeration field. The course covers the basic components of the compression refrigeration system, terminology, materials, and the cost estimating of component used to create a HVAC/R system. The course

introduces the career fields and paths their career may take. Students are introduced to OSHA safety standards, the tools of the trade, and proper tool usage. Two lecture and two laboratory hours per week.

INTERDISCIPLINARY (INTR)

INTR 110 Introduction to Global Learning 3.0 UNITS
This course examines processes of globalization and their consequences. Coursework introduces students to global perspectives, global social justice movements, culture, politics, economics, and research methods used across disciplines to analyze globalization. Students make connections between the personal/local and the global, and develop critical thinking, communication, and problem-solving skills necessary to adapt to a rapidly changing world in which cultural, economic, and political boundaries connect and overlap.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval.

INTR 202 Global Studies Seminar 3.0 UNITS
This is an interdisciplinary course taught by a team of professors. The course explores contemporary issues related to science, literature, language, history, and culture in a global context with a focus on a specific geographic region.
Prerequisites: ENGL 101 English Composition I and permission of instructor.

INFORMATION SECURITY (ISEC)

ISEC 129 IT Essentials 4.0 UNITS
This course introduces students to the fundamentals of computer hardware and software, mobile devices, security and networking concepts, and the responsibilities of an IT professional. Topics include mobile devices, Linux, and client-side virtualization, as well as expanded information about Microsoft Windows operating systems, security, networking, and troubleshooting. This course prepares students to take the CompTIA A+ certification exams. Three lecture and two laboratory hours per week.

ISEC 130 Introduction to Networks 4.0 UNITS
This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple local area networks (LAN), perform basic configurations for routers and switches, and implement IP addressing schemes. Three lecture and two laboratory hours per week. Co-requisite: ISEC 129 IT Essentials; or departmental approval.

ISEC 131 Switching, Routing, and Wireless Essentials 4.0 UNITS
This course focuses on switching technologies and router operations that support small-to-medium business networks, including wireless local area networks (WLAN) and security concepts. Students perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, and configure and secure a basic WLAN. Three lecture and two laboratory hours per week.
Prerequisite: ISEC 130 Introduction to Networks.

ISEC 132 Enterprise Networking, Security, and Automation 4.0 UNITS
This course describes the architecture, components, operations, and security to scale for large, complex networks, including wide area network (WAN) technologies. The course emphasizes network security concepts and introduces network virtualization and automation. Students learn how to configure, troubleshoot, and secure enterprise network devices and understand how application programming interfaces (API) and configuration management tools enable network automation. Three lecture and two laboratory hours per week.
Prerequisite: ISEC 131 Switching, Routing, and Wireless Essentials.

JOURNALISM (JOUR)

JOUR 120 Journalism Basics for the Digital Age 3.0 UNITS
This course is designed to give students instruction and practice in conceiving, gathering, writing, editing, and evaluating the news. Students will learn the conventions of hard-news and news-feature writing, focus on writing and editing factual news stories, and study the basis for news judgments and editorial decisions in the Digital Age of multi-media publishing. Note: some typing required.
Prerequisite: C- or higher in ENGL 101 English Composition I; or permission of instructor.

MATHEMATICS (MATH)

MATH 061 Integrated Support for Non-Algebra Pathway 3.0 UNITS
This course is designed to be paired with a college-level non-algebra sequence mathematics course to support underprepared students. Students review the skills necessary for success in the associated college-level course in an ongoing as-needed just-in-time fashion. Topics include: numeracy, basic data analysis, proportional reasoning, an introduction to algebraic expressions and

algebraic reasoning, and linear functions. Note: credits earned in this course cannot be applied toward graduation. Corequisite: MATH154S Topics in Mathematics With Integrated Support or MATH158S Introduction to Statistics With Integrated Support

MATH 065 Integrated Support for College Algebra 3.0 UNITS
This course is designed to be paired with College Algebra to support underprepared students. Students review the skills necessary for success in College Algebra in an ongoing as-needed just-in-time fashion. Topics may include: operations on natural numbers, integers, rational numbers, and real numbers, ratio, proportions, and percentages, perimeter, area, and volume of geometric figures, solving linear equations, graphing linear equations, polynomial arithmetic, factoring polynomials, radical expressions and equations, rational expressions and equations, and solving quadratic equations. Note: credits earned in this course cannot be applied toward graduation. Corequisite: College Algebra with Integrated Support (MATH203S).

MATH 115 Contemporary Mathematics 3.0 UNITS
In this course, students develop problem-solving skills while covering topics which include number sense and estimation, proportions, unit conversions, metric system, statistics and probability, percent's, the mathematics of finance, and mathematical modeling of contemporary problems. Additional topics are tailored to meet the needs of students in specific programs.
Prerequisite: Waiver by placement testing results; or departmental approval.

MATH 127 Mathematics for Elementary Teachers I 3.0 UNITS
This course provides a conceptually based, comprehensive study of the mathematical content of numbers and their operations at the deep level required for successful elementary school teaching. Topics are examined in ways that are meaningful to pre-service elementary teachers. Topics include: place value and arithmetic models, mental math, algorithms, pre-algebra factors and prime numbers, fractions and decimals, ratio, percentage and rates, integers, and elementary number theory.
Prerequisite: Waiver by placement testing results; or departmental approval.

MATH 128 Mathematics for Elementary Teachers II 3.0 UNITS
This course provides a conceptually based, comprehensive study of the mathematical content of geometry, measurement, probability, and statistics at the deep level required for successful elementary school teaching. Topics are examined in ways that are meaningful to pre-service elementary teachers. Topics include: two- and three-dimensional Geometry, measurement, data analysis, single variable statistics, probability.
Prerequisite: MATH127 Mathematics for Elementary Teachers I

MATH 154 Topics in Mathematics 3.0 UNITS
This course is provided for students who wish to know what mathematics is all about but who do not wish to be mathematicians. Possible topics are: elementary logic, set theory, number systems, mathematical systems, number theory, voting coalitions, geometry, mathematics of finance, topology, linear programming, game theory, and cryptography. A selection of three or more such topics are offered each semester.
Prerequisite: waiver by placement testing results; or departmental approval.

MATH 154S Topics in Mathematics with Integrated Support 3.0 UNITS
This course is provided for students who wish to know what mathematics is all about but who do not wish to be mathematicians. Possible topics are: elementary logic, set theory, number systems, mathematical systems, number theory, voting coalitions, geometry, mathematics of finance, topology, linear programming, game theory, and cryptography. A selection of three or more such topics are offered each semester. Corequisite: MATH061 Integrated Support for Non-Algebra Pathway

MATH 158 Introduction to Statistics 3.0 UNITS
This course provides a basic introduction to statistics. It is recommended for students in business, social science, human resources, allied health, and criminal justice and provides an excellent preparation for any career. Topics include descriptive statistics, probability, probability distributions, the normal distribution, hypothesis testing, estimates and sample sizes, the chi square distribution, correlation, and regression.
Prerequisites: Waiver by placement testing results; or department approval.

MATH 158S Introduction to Statistics with Integrated Support 3.0 UNITS
This course provides a basic introduction to statistics. It is recommended fo r students in business, social science, human resources, allied health, and criminal justice and provides an excellent preparation for any career. Topics include descriptive statistics, probability, probability distributions, the normal distribution, hypothesis testing, estimates and sample sizes, the chi square distribution, correlation, and regression. Corequisite: MATH061 Integrated Support for Non-Algebra Pathway.

MATH 203 College Algebra 3.0 UNITS
This course covers the algebra necessary for successful completion of the Precalculus/Calculus sequence while introducing functions, graphing, and graphing utilities. Topics include the operation and use of graphing utilities, polynomial operations and functions, absolute value equations and functions, radical and rational exponent functions, piecewise functions, composite functions, and complex numbers.
Prerequisite: Waiver by placement testing results; or department approval.

MATH 203S College Algebra with Integrated Support **3.0 UNITS**

This course covers the algebra necessary for successful completion of the Precalculus/Calculus sequence while introducing functions, graphing, and graphing utilities. Topics include the operation and use of graphing utilities, polynomial operations and functions, absolute value equations and functions, radical and rational exponent functions, piecewise functions, composite functions, and complex numbers. Corequisite: MATH065 Integrated Support for College Algebra.

MATH 217 Precalculus **4.0 UNITS**

This course continues the mathematics preparation for successful completion of Calculus. Topics include the operation and use of graphing utilities, the properties and graphs of rational functions, one-to-one and inverse functions, exponential and logarithmic functions, and trigonometric functions.
Prerequisite: C- or higher in MATH 203 College Algebra or MATH 203S College Algebra with Integrated Support; waiver by placement testing results; or departmental approval.

MATH 218 Discrete Mathematics **3.0 UNITS**

This course is designed to give necessary mathematical background to students in computer science programs. Topics include logic, sets, basic number theory, induction and recursion, counting, relations, and graphs.
Prerequisite: C- or higher in MATH 217 Precalculus; waiver by placement testing results; or departmental approval.

MATH 221 Calculus I **4.0 UNITS**

This standard Calculus I course is the first course in the sequence of calculus of one variable intended for undergraduate mathematics, science, technology, or engineering majors. Topics include limits, continuity, techniques and applications of differentiation, indefinite and definite integrals, and the Fundamental Theorem of Calculus.
Prerequisite: C- or higher in MATH 217 Precalculus; waiver by placement testing results; or departmental approval.

MATH 222 Calculus II **4.0 UNITS**

This course is a continuation of MATH 221 Calculus I. This is the second course in the sequence of calculus of one variable intended for undergraduate mathematics, science, technology or engineering majors. Topics include techniques and applications of integration, indeterminate forms, improper integrals, and infinite series.
Prerequisite: C- or higher in MATH 221 Calculus I; waiver by placement testing results; or departmental approval.

MATH 223 Calculus III **4.0 UNITS**

This is the third course in the calculus sequence intended for undergraduate mathematics, science, technology, or engineering majors. Topics include conic sections, parametric equations, polar coordinates, vectors and applications, functions of several variables, partial derivatives and applications, double and triples integrals in rectangular and other coordinate systems and applications, vector fields, line integrals and applications, parametric surfaces, surface integrals and applications, Green's Theorem, the Divergence Theorem, and Stoke's Theorem.
Prerequisite: C- or higher in MATH 222 Calculus II; waiver by placement testing results; or departmental approval.

MATH 229 Linear Algebra **4.0 UNITS**

This course is designed to introduce students to the theory of systems of linear equations and to mathematical proof. Topics include solving systems of linear equations, linear independence, linear transformations, matrix operations, determinants, vector spaces, eigenvalues and eigenvectors, and applications.
Prerequisite: C- or higher in MATH 222 Calculus II; waiver by placement testing results; or departmental approval.

MATH 230 Differential Equations **4.0 UNITS**

This course is an introductory study of ordinary differential equations of the first and higher orders. Topics include linear differential equations with constant coefficients, power series solutions, Fourier Series solutions, Laplace transforms, higher-order forced linear equations with constant coefficients, and applications with numerical methods.
Prerequisite: C- or higher in MATH 222 Calculus II; waiver by placement testing results; or departmental approval.

MEDIA (MDIA)

MDIA 108 Radio Broadcasting **3.0 UNITS**

This course is designed to instruct the student in the operation of a radio station, as well as on-air and off-air broadcasting techniques. Broadcast management, sales, promotion, announcing, and copywriting are considered as they relate to specific assignments and duties at a radio station. Decisions involved with programming formats are considered. Students apply knowledge to individual and collective work projects.

MDIA 110 Broadcast Writing and Presentation **3.0 UNITS**

This course introduces students to writing for broadcast media and the skills needed to present copy over varied media forms. Students will create and record copy for radio, podcast, television, and new media. Students will practice writing news, interview segments, and feature stories for audio and video. Topics include audience analysis; script, feature, news, sports, and commercial

copywriting; as well as questions of news standards, practices, and ethics. Students master writing on deadline; fact-checking; and delivering copy in written, verbal, and recorded formats.

MDIA 111 Introduction to Mass Communication 3.0 UNITS
This course surveys the history and growth of newspapers, radio, television, film, and the telecommunications industries. The course offers the student an awareness of how mass media influence social and personal environment. Contemporary media issues, policies, and ethics are discussed.

MDIA 112 Television Studio Production 3.0 UNITS
This course provides an introduction to television production theory and practice. The course combines hands-on experience with background lectures. The student's experiences include television terminology, camera operation, switching, audio, floor plans, shot planning, picture composition, studio broadcasting procedures, floor direction, graphics, scenery, videotape, and master control.

MDIA 113 Radio Production and Podcasting 3.0 UNITS
This hands-on course covers the planning, producing, and performance of radio programs and podcasts. The student produces music, community, and sports/talk-based programming for broadcast, internet radio, and podcast. Students learn audience analysis, delivery style, and production technique.

MDIA 114 Advanced Television Production 3.0 UNITS
This course concerns producing, directing, writing, and performing for television. This course emphasizes the creative nature of the final program product, operation of the television facilities, studio and control room production, script writing, and directing various television formats. The student is required to develop all phases of an independent television program.
Prerequisite: MDIA 112 Television Studio Production; or departmental approval.

MDIA 116 Digital Video Editing 3.0 UNITS
Students taking this course learn about digital technology, use the skills and techniques of video production, and practice them in a wholly-digital environment. Using programs like Avid Liquid and Apple Final Cut Pro, students complete projects by building and editing timelines that will then be rendered and output to digital videotape (DV), digital video disk (DVD), and digital web files.

MDIA 123 Digital Music Production 3.0 UNITS
This is a course for musicians who wish to learn how to digitally produce their music. The course covers music theory, orchestration, arranging, digital audio production techniques, including MIDI, sequencing, multi-track recording, and wave form synthesis.

MDIA 213 Advanced Radio Production and Podcasting 3.0 UNITS
This course is designed to build upon the skills learned in MDIA 113 Radio Production and Podcasting. This course is an advanced examination of creating, writing, and producing audio materials for radio programming, podcast, and multimedia. It includes an in-depth analysis of the medium, including audience analysis, pre-production, interview techniques, software for podcast and broadcast, social media promotion, distribution, and marketing. The overall purpose of this course is to improve the student's communication skills and develop their understanding of professional techniques of announcing, delivery, and audio production. Two lecture and two laboratory hours per week.
Prerequisite: MDIA 113 Radio Production and Podcasting; or permission of instructor.

MDIA 401 Practicum in Television or Radio 3.0 UNITS
Offers a work/learning experience in television or radio. The student performs tasks commensurate with actual production entities. The student is closely supervised by a college instructor, will attend one group meeting per week, and will work closely with television or radio professionals. One lecture and four laboratory hours per week.
Prerequisite: MDIA 112 Television Studio Production or MDIA 113 Radio Production: Theory and Practice, and departmental approval.

MEDICAL ASSISTANT (MEDA)

MEDA 104 Basic Laboratory Procedures I 3.0 UNITS
This course is designed to provide medical assistant students with the basic clinical laboratory principles and skills used in a physician's office. Topics include specimen identification and collection, laboratory safety, microscopy, routine urinalysis, fecal analysis, clinical bacteriology, and blood grouping procedures. Two lecture and two laboratory hours per week.

MEDA 107 Medical Assisting Techniques I 2.0 UNITS
This course is designed to teach students the fundamental clinical procedures medical assistants are allowed to perform with a minimum of supervision. Lecture and laboratory topics include taking medical histories, vital signs, and administration of treatments. Assistance at minor surgical procedures and maintenance of an aseptic environment are also stressed. Four laboratory hours per week.

MEDA 108 Anatomy, Physiology, and Terminology I 3.0 UNITS
Medical terms are taught in a systematic manner in tandem with the anatomy and physiology. This enables students to comprehend terminology used in health care facilities. Anatomy and physiology begins with the cell and progresses to the body cavities, planes, and systems through the digestive system. This is designed to strengthen the students' understanding of the clinical sciences and to increase the technical skills they need in administering patient care.

MEDA 109 Pharmacology 3.0 UNITS
This course is an introduction to medical office pharmacology. Types and forms of drugs, their effects on body systems, and legal aspects of medication are emphasized. Abbreviations, systems of measurement, and dosage preparations are also included.

MEDA 116 Clinical Externship in Medical Assisting 6.0 UNITS
Students participate in a clinical affiliation at a selected health care facility for the final eight weeks of the spring semester. Students gain more practice in both clinical and administrative aspects of medical assisting and learn new techniques which are performed at their individual facilities. Clinical facilities include physicians' offices, hospitals, and health maintenance organizations. Each student is evaluated by the supervisor at the facility and the program instructor.
Prerequisite: C or higher in all Medical Assistant courses.

MEDA 119 Anatomy, Physiology, and Terminology II 2.0 UNITS
This is a continuation of MEDA 108 Anatomy, Physiology, and Terminology I. Additional body systems and their functions are covered. New medical terms are added at appropriate intervals throughout the course.
Prerequisite: MEDA 108 Anatomy, Physiology and Terminology I.

MEDA 120 Medical Assisting Techniques II 2.0 UNITS
Students perform more complicated clinical procedures and utilize skills learned in MEDA 107 Medical Assisting Techniques I. Topics include electrocardiography, cardiopulmonary resuscitation, and administration of medications. Clinical skills are increased, and students gain comprehension of the disease process and its relationship to clinical situations.
Prerequisite: MEDA 107 Medical Assisting Techniques I.

MEDA 121 Basic Laboratory Procedures II 2.0 UNITS
The basic principles and skills of hematology are covered. Lecture and laboratory topics include blood collection, hematocrit, hemoglobin, white blood cell counts, and differential evaluations. A brief introduction to blood chemistry may also be included. One lecture and two laboratory hours per week.
Prerequisite: MEDA 104 Basic Laboratory Procedures I.

MEDA 229 Medical Office Management I 5.0 UNITS
The course introduces medical assisting students to medical office skills that are required for employment in a health care facility. The skills necessary for the medical assisting student include understanding the operations of the medical facility, telephone techniques, understanding confidentiality (HIPAA regulations), documenting medical records, filing, billing, and medical correspondence. The students are instructed to complete tasks for an electronic medical environment including patient registration, appointment scheduling, and posting patient accounts utilizing computer software.

MEDA 230 Medical Office Management II 2.0 UNITS
This is a continuation of MEDA 224 Medical Office Management I. Managing medical finances (patient accounts/receivables, banking activities, posting charges, encounter forms, posting payments and/or adjustments, recording patient visits on a day sheet, balancing the day sheet, online payments, and patient aging accounts) utilizing medical software is a primary focus of this course. Medical coding is introduced (CPT, ICD, HCPCS). Health insurance (history, obtaining, paying, Medicare, Medicaid, Workers' Compensation); billing (types, credit agreements, collection agencies); and professionalism (externship, certification, professional organization, resume writing, successful job hunting) are covered.
Prerequisite: MEDA 229 Medical Office Management I.

MODERN LANGUAGE-ARABIC (MLAR)

MLAR 101 Beginning Arabic I 3.0 UNITS
This course initiates the development of the ability to speak, understand, read, and write Arabic. Students learn the fundamentals of grammar, basic vocabulary, and correct pronunciation. Various aspects of Arab cultures are discussed. This is a beginning-level course designed for students with no previous experience or with no more than one year of study of Arabic at the high school level.

MLAR 102 Beginning Arabic II 3.0 UNITS
This course is a continuation of MLAR 101 Beginning Arabic I. Emphasis is on communication through continued development of reading, writing, speaking, and listening skills in the language. Students continue to acquire grammar, syntax, vocabulary, and correct pronunciation, which will enhance their ability to initiate and sustain conversations, read basic Arabic passages, and write basic Arabic sentences and dialogues. Various aspects of Arab cultures are explored. The Modern Languages Department

recommends this course to students with one to two years of previous study in Arabic at the high school level or one semester at the college level.
Prerequisite: MLAR 101 Beginning Arabic I; or departmental approval.

MODERN LANGUAGE-CAPE VERDEAN (MLCV)

MLCV 101 Beginning Cape Verdean Creole I 3.0 UNITS
This course initiates the development of the ability to speak, understand, read, and write Cape Verdean Creole. Students learn the fundamentals of grammar, basic vocabulary, and correct pronunciation. Various aspects of Cape Verdean cultures are discussed. This is a beginning-level course designed for students with no previous experience or with no more than one year of study in Cape Verdean Creole at the high school level.

MODERN LANGUAGE-FRENCH (MLFR)

MLFR 101 Beginning French I 3.0 UNITS
This course initiates the development of the ability to speak, understand, read, and write French. Students learn the fundamentals of grammar, basic vocabulary, and correct pronunciation. Various aspects of French cultures are discussed. This is a beginning-level course designed for students with no previous experience or with no more than one year of study of French at the high school level.

MLFR 102 Beginning French II 3.0 UNITS
This course is a continuation of MLFR 101 Beginning French I. Emphasis is on communication through the continued development of reading, writing, speaking, and listening skills in the language. Students continue to acquire grammar, syntax, vocabulary, and correct pronunciation, which enhances their ability to initiate and sustain conversations, read basic French passages, and write basic French sentences and dialogues. Various aspects of French cultures are explored. The Modern Languages Department recommends this course to students with one to two years of previous study in French at the high school level or one semester at the college level.
Prerequisite: MLFR 101 Beginning French I; or departmental approval.

MODERN LANGUAGE-PORTUGUESE (MLPO)

MLPO 101 Beginning Portuguese I 3.0 UNITS
This course initiates the development of the ability to speak, understand, read, and write Portuguese. Students learn the fundamentals of grammar, basic vocabulary, and correct pronunciation. Various aspects of Portuguese cultures are discussed. This is a beginning-level course designed for students with no previous experience or with no more than one year of study of Portuguese at the high school level.

MLPO 102 Beginning Portuguese II 3.0 UNITS
This course is a continuation of MLPO 101 Beginning Portuguese I. Emphasis is on communication through continued development of reading, writing, speaking, and listening skills in the language. Students continue to acquire grammar, syntax, vocabulary, and correct pronunciation, which will enhance their ability to initiate and sustain conversations, read basic Portuguese passages, and write basic Portuguese sentences and dialogues. Various aspects of Portuguese cultures are explored. The Modern Languages Department recommends this course to students with one to two years of previous study in Portuguese at the high school level or one semester at the college level.
Prerequisite: MLPO 101 Beginning Portuguese I; or departmental approval.

MODERN LANGUAGE-SIGN LANGUAGE (MLSL)

MLSL 101 Beginning American Sign Language I 3.0 UNITS
This course initiates the development of the ability to sign and understand American Sign Language. Students learn the fundamentals of grammar, basic vocabulary, and correct signing. Cultural aspects of the Deaf community are discussed. This is a beginning-level course designed for students with no previous experience or with no more than one year of study in American Sign Language at the high school level.

MLSL 102 Beginning American Sign Language II 3.0 UNITS
This course is a continuation of MLSL 101 Beginning American Sign Language I. Emphasis is on the continued development of communication skills and face and body expressions. Students continue to acquire grammar, syntax, and vocabulary, which enhances their ability to initiate and sustain conversations using American Sign Language. Cultural aspects of the Deaf community are explored. The Modern Languages Department recommends this course to students with one to two years of previous study of American Sign Language at the high school level or one semester at the college level.
Prerequisite: MLSL 101 Beginning American Sign Language I; or departmental approval.

MODERN LANGUAGE-SPANISH (MLSP)

MLSP 101 Beginning Spanish I 3.0 UNITS
This course initiates the development of the ability to speak, understand, read, and write Spanish. Students learn the fundamentals of grammar, basic vocabulary, and correct pronunciation. Various aspects of Spanish cultures are discussed. This is a beginning-level course designed for students with no previous experience or with no more than one year of study of Spanish at the high school level.

MLSP 102 Beginning Spanish II 3.0 UNITS
This course is a continuation of MLSP 101 Beginning Spanish I. Emphasis is on communication through continued development of reading, writing, speaking, and listening skills in the language. Students continue to acquire grammar, syntax, vocabulary, and correct pronunciation, which enhances their ability to initiate and sustain conversations, read basic Spanish passages, and write basic Spanish sentences and dialogues. Various aspects of Spanish cultures are explored. The Modern Languages Department recommends this course to students with one to two years of previous study in Spanish at the high school level or one semester at the college level.
Prerequisite: MLSP 101 Beginning Spanish I; or departmental approval.

MLSP 201 Intermediate Spanish I 3.0 UNITS
Grammar and syntax are reviewed and expanded upon with greater emphasis on oral work. Students engage in class discussion and conversation as well as reading assignments and compositions. The Modern Languages Department recommends this course to students with two to three years of previous study of Spanish at the high school level or two semesters at the college level.
Prerequisite: MLSP 102 Beginning Spanish II; or departmental approval.

MUSIC (MUSC)

MUSC 207 Elementary Guitar 3.0 UNITS
This course introduces elementary principles of guitar playing. The student learns simple tunes and melodic patterns. The student also strums basic chord patterns and explores music reading and musical notation. Students must furnish their own instruments.

NURSING (NURS)

NURS 101 Nursing I 8.0 UNITS
This course is designed to provide the foundation for nursing practice. The focus is on the nursing process, patients, and their families as community members, and the adaptations in their patterns of daily living necessary during illness. Emphasis is placed on health and hygienic practices for the nurse and patient. Content includes interpersonal relations, observations, communications, nutrition, basic pharmacology, and therapeutic measures with an introduction to critical thinking, evidence-based practice, and patient teaching. This course has a lecture, lab, and clinical component. A minimum passing grade of C+ is required.
Pre/Co-requisites: BIOL 201 Anatomy and Physiology I and PSYC 101 General Psychology.

NURS 203 Nursing II 4.0 UNITS
This course is designed to introduce the student to the role of the nurse in the comprehensive health care of mothers and newborn infants during the childbearing phase of the life-cycle. A family centered approach applying the nursing process is the framework for health care delivery to families from diverse populations. The student is guided to integrate previously learned knowledge and skills. Content includes social and biological sciences, nutrition, pharmacology, growth and development, patient/family teaching, critical thinking, and evidence-based practice. Emphasis is placed on the study of relationships and responsibilities as the family expands. This course has a lecture, lab, and clinical component. A minimum passing grade of C+ is required.
Prerequisites: BIOL 201 Anatomy and Physiology I, NURS 101 Nursing I, and PSYC 101 General Psychology.
Pre/Co-requisite: BIOL 202 Anatomy and Physiology II.

NURS 204 Nursing III 4.0 UNITS
This course is designed to build upon the content of Nursing 101 and focuses on basic human needs when altered by common health problems. The content includes pathophysiology, pharmacology, nutrition, social sciences, nursing theory, patient teaching, and evidence-based practice. The student continues to apply the nursing process in the care of patients with medical and surgical problems. The student is guided to integrate previous learning. This course has a lecture, lab, and clinical component. A minimum passing grade of C+ is required.
Prerequisites: BIOL 201 Anatomy and Physiology I, NURS 101 Nursing I, and PSYC 101 General Psychology.
Pre/Co-requisite: BIOL 202 Anatomy and Physiology II.

NURS 301 Nursing IV 9.0 UNITS
This course is designed to present the principles of comprehensive nursing care related to the major mental and physical health problems across the life span. The content includes pathophysiology, pharmacology, nutrition, social sciences, and nursing theory. Emphasis on patient teaching, evidence-based practice, and critical thinking continues. The nursing process is further implemented

as the student learns to recognize and meet more complex nursing problems. Clinical experiences are planned in medical surgical, psychiatric, and/or pediatric community settings. The student is expected to integrate previous learned knowledge and skills. This course has a lecture, lab, and clinical component. A minimum grade of C+ is required.
Prerequisites: BIOL 202 Anatomy and Physiology II, NURS 203 Nursing II, and NURS 204 Nursing III.
Pre/Co-requisites: BIOL 231 Microbiology and PSYC 205 Human Growth and Development.

NURS 302 Nursing V **9.0 UNITS**

This course is designed to continue to present the principles of comprehensive nursing care related to major complex mental and physical health problems across the life span. The content includes pathophysiology, pharmacology, nutrition, social sciences, and nursing theory. The nursing process is further implemented as the student learns to recognize and meet more complicated health problems. Emphasis on patient teaching, evidence-based practice, and critical thinking continues. Community resources are included as a focus for continuity of care. Clinical experiences are planned in medical surgical, psychiatric, and/or pediatric community settings. The student is expected to integrate previous learned knowledge and skills. This course has a lecture, lab, and clinical component. A minimum passing grade of C+ is required.
Prerequisite: NURS 301 Nursing IV.

NURS 303 Nursing Seminar **1.0 UNIT**

This course is designed to present the evolution of nursing practice as it interfaces with contemporary nursing issues and problems that influence health care delivery. Contemporary issues relating to leadership and management, health care costs, nursing theory, legal and ethical concerns, cultural disparity of disease, emergency preparedness, world health problems, and health care policy are discussed. Lectures and discussion integrating previous knowledge and skills are utilized. A minimum passing grade of C+ is required.
Prerequisite: NURS 301 Nursing IV. Co-requisite: NURS 302 Nursing V.

NURS 304 Nursing A **6.0 UNITS**

This course is designed to present the role of the nurse utilizing the nursing process in providing comprehensive nursing care. Major mental and physical health problems across the life span are presented. The content includes nursing theory, pathophysiology, pharmacology, nutrition, and the social sciences. Critical thinking, evidence-based practice, and teaching/learning are stressed. Clinical experiences are planned in medical-surgical, psychiatric, and/or pediatric settings. This course has a lecture, lab, and clinical component. A minimum passing grade of C+ is required.
Prerequisites: BIOL 202 Anatomy and Physiology II; NURS 213 Nursing II-E and NURS 214 Nursing III-E are required for part-time generic students. Advanced placement students must have a current license to practice Practical Nursing in the Commonwealth of Massachusetts.
Pre/Co-requisite: PSYC 205 Human Growth and Development.

NURS 305 Nursing B **6.0 UNITS**

This course is designed to present the principles of comprehensive nursing care related to major mental and physical health problems across the life span. Students are expected to integrate previously learned knowledge and skills. The nursing process is further implemented as the student intervenes therapeutically. The course content includes nursing theory, pathophysiology, pharmacology, nutrition, and the social sciences. Emphasis on critical thinking, evidence-based practice, and teaching/learning continues. Clinical experiences are planned in medical surgical, psychiatric, and/or pediatric settings. This course has a lecture, lab, and clinical component. A minimum passing grade of C+ is required.
Prerequisite: NURS 304 Nursing A.

NURS 306 Nursing C **6.0 UNITS**

This course is designed to build on the knowledge and skills of the previous nursing curriculum. The nursing process is further implemented to provide a framework for comprehensive nursing care for diverse populations across their life span. The content includes nursing theory, pathophysiology, pharmacology, nutrition, and the social sciences. Critical thinking, evidence-based practice, and teaching/learning continue to be stressed. Clinical experiences are planned in medical surgical, psychiatric, and/or pediatric settings. This course has a lecture, lab, and clinical component. A minimum passing grade of C+ is required.
Prerequisite: NURS 305 Nursing B.
Pre/Co-requisite: BIOL 231 Microbiology.

NURS 307 Nursing Trends **1.0 UNIT**

This course is designed to provide a survey of the challenges, issues, and problems influencing contemporary health care delivery. Nursing history and the growth of leadership and management in nursing practice are reviewed. Legal and ethical responsibilities, cultural disparity of disease, emergency preparedness, and global health problems are discussed. Lectures and discussion enhance the integration and application of previous nursing knowledge. A minimum passing grade of C+ is required. Co-requisite: NURS 306 Nursing C.

PROFESSIONAL DEVELOPMNT CENTER (PDCC)

PDCC 361 Personal protection/Bloodborne Pathogens 0.0 UNITS

Personal Protective and Lifesaving Equipment, 1910 Subpart I: Personal Protective Equipment - Employers must protect employees from workplace hazards such as machines, hazardous substances, and dangerous work procedures that can cause injury. Employers must: Use all feasible engineering and work practice controls to eliminate and reduce hazards, then use appropriate personal protective equipment (PPE) if these controls do not eliminate the hazards. OSHA has determined that employees face a significant health risk as a result of occupational exposure to blood an OPIM (Other Potentially Infectious Material). This section will describe requirements of a written Exposure Control Plan, information, recordkeeping, and training requirements, identify engineering and work practice controls, and personal protective equipment.

PDCC 366 OSHA Construction Safety Training 0.0 UNITS

Students will learn employer responsibilities, electrical safety requirements, fall protection, requirement for walking and working surfaces, personal protection and life saving equipment, ways to prevent worker injuries when using hand and power tools, scaffold construction and inspection, material handling, storage and disposal, purpose of OSHA's hazard communication standard, fire protection and prevention and means of egress.

PDCC 454 Heartsaver Pediatric First Aid CPR AED 0.0 UNITS

This course is designed for anyone involved in child care who has a duty to respond to children's health emergencies, who want more specialized instruction in pediatric emergencies, or who requires first aid CPR AED credential for work or other requirements. Upon successful completion of the course, including a first aid skills demonstration and a CPR and AED skills test, participants receive a Heartsaver Pediatric First Aid CPR AED course completion card that is valid for two years.

PDCC 615 Lean Thinking and Processes for Operations 0.0 UNITS

Lean Thinking and Processes for Operations is a training aimed at helping employees become more efficient to meet increased workload at a lower cost. The training objectives are to reduce time wastage, increase efficiency, and maintain/increase quality so that more work can be accomplished.

PDCC 616 0.0 UNITS

This 4-hour course is designed to provide an overview on Hazardous Materials including regulations and use. Topics include: Key regulations governing hazardous materials, classification of hazardous materials, training requirements for working with hazardous materials, and basic clean-up process for a hazmat release.

PDCC 617 0.0 UNITS

This comprehensive course is designed to equip manufacturing professionals with the skills and knowledge to apply data analysis techniques in the context of lean manufacturing principles

PDCC 620 Old Colony YMCA ESOL Program 0.0 UNITS

The goal of this course is to develop English language skills, reading comprehension and grammar skill. Grammar will be taught with the primary goal of recognition and understanding of structure of sentences. Focus will be on the ability to write sentences and short paragraphs. Workplace materials will be incorporated in training.

PDCC 622 0.0 UNITS

Pre-level 1A and level 1A This course is for students with little or no English and limited literacy in any language. The class focuses on essential everyday English, letter and number recognition, personal information, and basic conversation skills. Instruction supports early literacy development. This course also focuses on basic oral communication and an introduction to reading and writing.

PDCC 800 College Success 101 0.0 UNITS

This course covers a range of topics intended to prepare students for success as early college high school students. Through a variety of teambuilding exercises and activities with classmates, staff will assist students with developing the personal, academic, and social adjustments needed for college success. Students will learn strategies for success including identification of learning styles and strengths, stress management, test taking techniques, goal setting, managing time, communication skills, and the integration of school, work, and family. Planning for future educational and career goals and the creation of a professional e-portfolio will also be integrated into the overall theme and outcome for the course.

PHILOSOPHY (PHIL)

PHIL 101 Introduction to Philosophy 3.0 UNITS

An introductory examination of the problems and scope of philosophical inquiry, this course introduces the student to major issues in philosophy, including theories of being, theories of knowledge, and theories of value, with attention to the historical development of philosophical thought. Pre/Co--requisites: ENGL 101 English Composition I; waiver by placement testing results; or permission of instructor.

PHIL 102 Introduction to Logic 3.0 UNITS
This course is designed to introduce students to the principles of clear thinking. Its objectives are to develop students' abilities to reason from available evidence to a correct conclusion, to promote an awareness of the precise use of language, and to enable students to analyze fallacious as well as sound arguments.

PHIL 111 Medical Law and Ethics 2.0 UNITS
This course provides an analysis and understanding of laws as they relate to the medical profession and the responsibilities and ethical considerations that must be considered and applied while executing these laws. Topics covered include codes of medical ethics, techniques and methods used in making ethical decisions, structure of the law as it relates to medical health, and the various laws as they pertain to specific situations. Case studies are utilized as much as possible.

PHIL 201 Ethical Dilemmas 3.0 UNITS
What is right and wrong? Is war or violence ever justified? Ethical dilemmas such as abortion, capital punishment, animal rights, welfare, and social justice pose problems that are not easily solved. This course is a critical analysis of classic and contemporary ethical theories. Through critical engagement, writing, and discussion of case studies and contemporary sources, students learn how to apply critical reasoning to moral issues, develop their own ethical philosophy, and apply these philosophies to present-day issues.
Prerequisites: ENGL 101 English Composition I; waiver by placement testing results; or permission of instructor.

PHYSICS (PHYS)

PHYS 112 Science of Music Laboratory 1.0 UNIT
This course will include activities related to vibrations, sound waves and other waves, musical instruments, and room acoustics. This course fulfills a four-credit lab science requirement when taken with the corresponding three-credit course, PHYS 113 The Science of Music. Two laboratory hours per week.
Pre/Co-requisite: PHYS 113 The Science of Music.

PHYS 113 The Science of Music 3.0 UNITS
This course explains aspects of music in terms of physical laws and principles. It begins with an introduction to musical terminology and an overview of basic physics, including vibrations, resonance, and wave motion. It continues with a description of sound waves, and uses standing waves to analyze string, wind, and percussion instruments. The timbre of complex sounds, harmony, and temperaments are also discussed, as well as the ear and musical perception, and concert hall acoustics. Electronic music and sound recording are optional topics. No background in science or music is necessary. This course fulfills a four-credit lab science requirement when taken with the corresponding one-credit course, PHYS 112 Science of Music Laboratory.

PHYS 120 Science of Fire Behavior and Combustion 3.0 UNITS
Designed for fire-science students, this course explores the theories and fundamentals of how and why fires start, spread, and are controlled using the basic principles of physics and chemistry.
Prerequisites: CHEM 131 Survey of Chemistry or higher.

PHYS 132 Concepts of Technical Physics I 3.0 UNITS
This is the first semester of a one-year introduction to the principles and applications of technical physics. This course is specifically designed to satisfy the minimum physics requirement for the Architectural Technology, Diesel Technology, and HVAC programs. Emphasis is placed on understanding through problem solving and applications. Topics include vectors, force systems, kinematics, dynamics and Newton's laws, work, conservation of energy and momentum, and rotational motion. Note: This course can be substituted for PHYS 131 Survey of Physics in the Architectural Technology, Diesel Technology, and HVAC programs and options. Two lecture and two laboratory hours per week.
Pre/Co-requisite: MATH 203 College Algebra or higher; waiver by placement testing results; or departmental approval.

PHYS 133 Concepts of Technical Physics II 3.0 UNITS
This course is a continuation of PHYS 132 Concepts of Technical Physics I. Topics include properties of solids and fluids, heat and thermodynamics, wave motion, sound, electrostatics, electric current, electromagnetism, light, and optics. Note: This course can be substituted for Concepts of Technical Physics in the Architectural Technology, Diesel Technology, and HVAC programs and options. Two lecture and two laboratory hours per week.
Prerequisite: PHYS 132 Concepts of Technical Physics I; or departmental approval.

PHYS 151 College Physics I 4.0 UNITS
This is the first semester of a one-year introduction to the principles and applications of physics. Emphasis is placed on understanding through problem solving. Topics are vectors, force systems, kinematics, dynamics and Newton's Laws, work, conservation of energy and momentum, and rotational kinematics and dynamics. Three lecture and two laboratory hours per week.
Pre/Co-requisite: MATH 203 College Algebra or higher; waiver by placement testing results; or departmental approval.

PHYS 152 College Physics II 4.0 UNITS
This is a continuation of PHYS 151 College Physics I. Problem solving ability is further developed. Topics include properties of solids and fluids, heat and thermodynamics, wave motion, sound, electrostatics, electric current, electromagnetism, light, and optics. Three lecture and two laboratory hours per week.
Prerequisite: PHYS 151 College Physics I; or departmental approval.

PHYS 161 General Physics I 4.0 UNITS
This course is an introduction to classical physics using calculus. Topics are vectors and scalars, kinematics and dynamics, work, energy, momentum, the conservation laws, and rotational kinematics and dynamics. The basic concepts of calculus are introduced within the context of the course material. This course is usually offered in the fall. Three lecture and two laboratory hours per week.
Pre/Co-requisite: MATH 221 Calculus I; waiver by placement testing results; or departmental approval.

PHYS 162 General Physics II 4.0 UNITS
A continuation of PHYS 161 General Physics I, topics in this course include heat and thermodynamics, oscillatory and wave motion electrostatics, electric current, electromagnetism, Maxwell's Equations, light, and optics. This course is usually offered in the spring. Three lecture and two laboratory hours per week.
Prerequisite: PHYS 161 General Physics I; or departmental approval.

PSYCHOLOGY (PSYC)

PSYC 101 General Psychology 3.0 UNITS
This course is an introduction to psychology as the science of human behavior. Major topics include scientific method, history of psychology, learning, motivation, emotion, social psychology, and perception.
Prerequisites: Placement in English 101 English Composition I or higher, or departmental approval

PSYC 201 Abnormal Psychology 3.0 UNITS
This course will provide a systematic study of the causes, symptoms, prognosis, and treatment of various psychological disorders. Attention is given to the methods used to diagnose disorders and the standard classification system that is used. Emphasis is on how disorders deviate from what characterizes normal behavioral development. A multipath perspective that considers biological/genetic, psychological, social, and multicultural factors is used to analyze the causes, course, and treatment of psychological disorders.
Prerequisite: PSYC 101 General Psychology or departmental approval.

PSYC 202 Child Psychology 3.0 UNITS
An introduction to the field of child psychology with emphasis on the influence of society and culture in normal development will be given. This course stresses the role of family, heredity, environment, and development of cognitive functioning. Salient research will be summarized and presented.
Prerequisite: PSYC 101 General Psychology or departmental approval.

PSYC 203 Adolescent Psychology 3.0 UNITS
A critical and educational review of research and theories pertaining to the emotional, intellectual, physical, and social development of adolescents is given in this course. Emphasis is placed on the role of peers, family, and experiences in the formation of personalities and the intelligence and emotional behavior of the adolescent. The course is recommended for Secondary Education majors.
Prerequisite: PSYC 101 General Psychology or departmental approval.

PSYC 205 Developmental Psychology 3.0 UNITS
This course includes an exploration of the physiological and psychological development of the human organism throughout the life span, including childhood, adolescence, adulthood, old age, and death. Emphasis is placed on identifying factors that are most influential in changes that occur during each of our life stages as well as some of the problems associated with such changes.
Prerequisite: PSYC 101 General Psychology or departmental approval.

PSYC 206 Psychology of Learning 3.0 UNITS
This course is designed to teach students about the psychology of learning. It covers Pavlovian conditioning, operant conditioning, learning in humans and nonhuman animals, and other techniques in learning and their applications in various research and real-world settings. Computer applications are integrated into the design of this course, and software designed to teach different methods of learning are employed.
Prerequisite: PSYC 101 General Psychology or departmental approval.

PSYC 207 Biopsychology 3.0 UNITS
This course is an introduction to biopsychology, which is the study of the function of the brain. Major topics include structures of the brain, neuronal structure and function, sensory systems and their impact on the brain, and how emotion, thought, learning, memory, and sleep and alertness cycles occur in the brain.
Prerequisite: PSYC 101 General Psychology or departmental approval.

PSYC 208 Psychology of Personality 3.0 UNITS
This course includes an exploration of the major theoretical, application, research, and assessment issues in the study of personality. Emphasis is placed on identifying those aspects of personality and the different ways these theories explain them. This course also explores the most commonly used personality assessment tools and cultural influences.
Prerequisite: PSYC 101 General Psychology or departmental approval.

PSYC 209 Social Psychology 3.0 UNITS
This course studies the analysis of the individual's behavior in social contexts. Topics include the historical background of social psychology, methods of social psychology, acquiring motives and attitudes, social factors in perception, human personality, groups, leadership, and social movements.
Prerequisite: PSYC 101 General Psychology or departmental approval.

PSYC 220 Statistics for Psychology and Social Sciences 4.0 UNITS
This course is an introduction to univariate statistics used in psychology and the social sciences. Topics include: the description and visual representation of data, concepts in elementary probability, applications of descriptive statistics (e.g., frequency distributions and measures of central tendency and dispersion) and inferential statistics (including hypothesis testing, type I and II errors, t-statistic, chi-square, analysis of variance, correlation and linear regression) using the Statistical Package for Social Sciences (SPSS) for data analyses and interpretation. Emphasis is primarily in the context of psychological and social sciences research. Three lecture and one laboratory hours per week. Note: This course does not meet the general education requirements in mathematics.
Prerequisites: MATH 061 Integrated Support for Non-Algebra Pathway and PSYC 101 General Psychology; waiver by placement testing results; or departmental approval.

RADIOLOGIC TECHNOLOGY (RADT)

RADT 101 Introduction to Clinical Practice 3.0 UNITS
This course is designed to introduce students to the field of Radiologic Technology. Topics covered include basic radiation protection, orientation to allied health professions, medical ethics and legalities, patient care, medical terminology, and image production. Successful course completion will be determined as a grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component. Co-requisite: RADT 111 Radiographic Anatomy and Positioning Laboratory I.

RADT 102 Image Production and Evaluation 3.0 UNITS
This course will develop an understanding of the production and processing of medical images. This introductory course examines these essentials: film, video, laser, manual, and automatic processing; intensifying screens; primary exposure factors; and mathematical principles that apply to image quality. These topics include grids, beam-restricting devices, density contrast, detail, geometric and other types of distortion, and ways to reduce dose to the patient. Successful course completion will be determined as a grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component.
Prerequisite: RADT 101 Introduction to Clinical Practice. Co-requisite: RADT 120 Principles of Digital Imaging.

RADT 105 Medical Imaging 2.0 UNITS
This course will continue to explore the methods of medical image production, including the study of radiographic equipment and techniques. Successful course completion will be determined as a grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component.
Prerequisite: RADT 102 Image Production and Evaluation. Co-requisite: RADT 131 Radiation Science I.

RADT 106 Seminar/Quality Control 2.0 UNITS
This course is a continuation of RADT 105 Medical Imaging. It will focus on the procedures followed in a quality control program and will examine the benefits of such a program to the radiology department. Also, a review of the entire curriculum of the program, including film critique, will be provided. Successful course completion will be determined as a grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component.
Prerequisite: RADT 105 Medical Imaging. Co-requisite: RADT 132 Radiation Science II and Protection.

RADT 111 RADT Anatomy and Positioning Lab I 1.0 UNIT
This is the first in a series of related courses that provide students with the skills necessary to begin positioning patients for radiographic examinations. Positioning and related anatomy and pathology of the chest, abdomen, upper and lower extremities are stressed. This course is coordinated with RADT 141 Clinical Experience I. Two laboratory hours per week. Successful course completion will be determined as a grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component.

Prerequisite: acceptance into the Radiologic Technology program. Co-requisite: RADT 133 Radiographic Anatomy and Positioning Lecture I.

RADT 112 RADT Anatomy and Positioning Lab II 1.0 UNIT

This course continues the on-going study of radiographic positioning, procedures, and related anatomy. Content includes the pelvic and shoulder girdles, axial skeleton, and abdominal organ systems. Two laboratory hours per week. Successful course completion will be determined as a grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component.
Prerequisite: RADT 111 RADT Anatomy and Positioning Lab I. Co-requisite: RADT 134 RADT Anatomy and Positioning Lecture II.

RADT 113 RADT Anatomy and Positioning Lab III 1.0 UNIT

This course includes advanced positioning and procedures of areas previously studied as well as specialized procedures used to demonstrate specific anatomical and physiological conditions. Two laboratory hours per week. Successful course completion will be determined as a grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component.
Prerequisite: RADT 112 RADT Anatomy and Positioning Laboratory II. Co-requisite: RADT 137 RADT Anatomy and Positioning Lecture III.

RADT 120 RADT Principles of Digital Imaging 2.0 UNITS

This course is an introduction to the development of computer-assisted diagnosis methods for radiology and includes the principles of computers and their uses, as well as a description of important functional components. Radiologic applications of digital imaging in radiology are reviewed and include digital imaging operations, archiving, management networks (PACS, IMACS), and radiology information systems (RIS). Successful course completion will be determined as a grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component.
Prerequisite: RADT 101 Introduction to Clinical Practice. Co-requisite: RADT 112 RADT Anatomy and Positioning Lab II.

RADT 131 Radiation Science I 3.0 UNITS

This course addresses the physics of X-ray production, interactions with matter, and the X-ray circuit. Successful course completion will be determined as a grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component.
Prerequisite: RADT 102 Image Production and Evaluation. Co-requisite: RADT 113 RADT Anatomy and Positioning Laboratory III.

RADT 132 Radiation Science II and Protection 3.0 UNITS

This course is a continuation of RADT 131 Radiation Science I. Significant emphasis is given to radiation protection and the effects of ionizing radiation on living matter. Successful course completion will be determined as a grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component.
Prerequisite: RADT 131 Radiation Science I. Co-requisite: RADT 140 Advanced Imaging Procedures.

RADT 133 RADT Anatomy and Positioning Lecture I 2.0 UNITS

This is the first in a series of lecture courses that provides the Radiologic Technology student with the skills necessary to begin positioning patients for radiographic examinations. Specific topics include terminology of positioning, positioning and regional anatomy of the chest, abdomen and the upper and lower extremities. This course correlates with RADT 141 RADT Clinical Experience I and RADT 111 RADT Anatomy and Positioning Lab I. Successful course completion will be determined as a grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component.
Prerequisite: acceptance into the Radiology Technology program. Co-requisite: RADT 141 RADT Clinical Experience I.

RADT 134 RADT Anatomy and Positioning Lecture II 2.0 UNITS

This is the second in a series of lecture courses that provides the Radiologic Technology student with the skills necessary to position patients for radiographic examinations. Specific topics include anatomy and positioning of the spine, skull, thoracic cage, gastrointestinal system and genitourinary system. Successful course completion will be determined as a grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component.
Prerequisite: RADT 133 RADT Anatomy and Positioning Lecture I. Co-requisite: RADT 142 RADT Clinical Experience II A.

RADT 137 RADT Anatomy and Positioning Lecture III 1.0 UNIT

This is the third in a series of lecture courses that provides the Radiologic Technology student with the skills that are necessary to position patients for radiographic examinations. The student studies the anatomy and advance positioning examinations of the appendicular and axial skeletal systems. Successful course completion will be determined as a grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component.
Prerequisite: RADT 134 RADT Anatomy and Positioning Lecture II. Co-requisite: RADT 144 RADT Clinical Experience III.

RADT 138 RADT Pathology and Sectional Anatomy 3.0 UNITS

This course uses a systems approach to introduce the radiology student to the common pathological findings on radiographic examinations and the fundamental concepts of body structure in cross-section imaging. Successful course completion will be determined as a grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component.
Prerequisite: RADT 137 RADT Anatomy and Positioning Lecture III. Co-requisite: RADT 145 RADT Clinical Experience IV.

RADT 140 Advanced Imaging Procedures 2.0 UNITS

This course introduces students to specialized examinations in diagnostic radiology, which include pediatric, geriatric, advance imaging studies, mobile and trauma radiography, and their modified imaging procedures. The students are introduced to the various imaging modalities: Computerized Tomography, Ultrasonography, Magnetic Resonance Imaging, Nuclear Medicine, Positron Emission Tomography, Radiation Therapy, Angiography, Single Photon Emission Computerized Tomography, Interventional Radiography, and Bone Densitometry. The study of venipuncture will also be demonstrated. Successful course completion will be determined as a grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component.
Prerequisite: RADT 105 Radiologic Technology III. Co-requisite: RADT 138 RADT Pathology and Sectional Anatomy.

RADT 141 RADT Clinical Experience I 3.0 UNITS

This course provides first-year Radiologic Technology students with the opportunity to apply skills in a clinical setting. Clinical experience is gained at affiliated hospitals approximately two days per week. Students are introduced to the operation of the hospital and radiology department and begin positioning patients for radiographic examinations of the chest, abdomen, and extremities. Competency evaluations are given in these areas. Clinical over the fall semester consists of seven hours per day, two days per week, over a 16-week period for a total of 224 hours. A grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component is needed for successful completion. Co-requisite: RADT 101 Introduction to Clinical Practice.

RADT 142 RADT Clinical Experience II A 3.0 UNITS

This course provides a continuation of practical skills application from RADT 141 Clinical Experience I. Emphasis is given to positioning of pelvic and shoulder girdles and axial skeleton, genitourinary and digestive systems. Competency is determined by evaluation in these areas. Clinical over the spring semester consists of seven hours per day, two days per week for a total of 224 hours. A grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component is needed for successful completion.
Prerequisite: RADT 141 Clinical Experience I. Co-requisite: RADT 102 Image Production and Evaluation.

RADT 143 RADT Clinical Experience II B 5.0 UNITS

This course consists of a 10-week summer clinical experience. This experience provides an opportunity for the student to integrate the didactic and practical aspect of the program and to fully implement all the skills learned in preparation for the second year of the program. Clinical over the summer semester consists of seven hours per day, five days per week over a ten-week period for a total of 350 hours. Successful course completion will be determined as a grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component.
Prerequisite: RADT 142 Clinical Experience II A.

RADT 144 RADT Clinical Experience III 4.0 UNITS

Third in a series of clinical courses, this segment includes advanced application of skills in positioning and performance of fluoroscopic and radiographic examinations of the digestive, urinary, and biliary systems and the axial and appendicular skeleton. Clinical over the second year fall semester consists of seven hours per day, three days per week over a 16-week period for a total of 294 hours. Successful course completion will be determined as a grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component.
Prerequisite: RADT 142 Clinical Experience II A and RADT 143 Clinical Experience II B. Co-requisite: RADT 105 Medical Imaging.

RADT 145 RADT Clinical Experience IV 4.0 UNITS

This is the last in the series of clinical courses. Students complete clinical competency evaluations and are able to function in all entry-level aspects with indirect supervision. Special rotations may be arranged with permission of the program director. Students are also introduced to specialized modalities. Clinical over the spring semester consists of seven hours per day, three days per week over a 14-week period for a total of 294 hours. A grade of 78% or higher in the didactic component and a grade of "pass" in the clinical component is needed for successful completion.
Prerequisite: RADT 144 Clinical Experience III. Co-requisite: RADT 106 Radiologic Technology IV.

RELIGION (RELG)

RELG 101 Introduction to World Religions 3.0 UNITS

This course is an introduction to the principal beliefs and practices of the world's major religious traditions. Emphasis will be on their historical development, sacred literature, and impact on human thought and action. The course does not investigate the existence of a supernatural reality but does develop an objective view of humanity's struggle with this question. Instruction will include guest lectures, readings, media presentations, and discussions.
Pre/Co-requisites: ENGL 101; waiver by placement testing results; or departmental approval.

RESPIRATORY CARE (RESP)

RESP 101 Fundamentals of Respiratory Care I 7.0 UNITS

This course consists of an examination of the basic concepts and evidence of medical care and the role of the respiratory care practitioner as a member of the medical team. Emphasis is placed on career identity, evidence-based practice, professional

responsibilities, and qualifications of a respiratory care practitioner. Students study the metric system, gas laws, anatomy and physiology of the respiratory system, medical gases, oxygenation, aerosol and oxygen therapy, hand resuscitators, lung volumes, chronic and acute lung disease management, and equipment sterilization. The laboratory and the clinical components permit developmental study and the facilitation of pertinent nursing skills and reinforce that what is learned in class. Four lecture and one laboratory hours per week. Clinical: 12 hours. A grade of 75 (C) or higher is required for graduation. Students must attain a theory grade of 75 or higher and pass in clinical in order to continue in the program.

RESP 102 Fundamentals of Respiratory Care II 7.0 UNITS

This course introduces topics that include assessment and therapeutic procedures focused on oxygenation, hypoxia, shunting, the dead-space unit, V/Q, airway management, methods of hyperinflation therapies, chest physical therapy, patient assessment, complete pulmonary function technology, electrolytes, and arterial blood gas interpretation. Emergency responses to events will also be studied. The laboratory and the clinical components offer the practical training to the topic areas. Four lecture and one laboratory hours per week. Clinical: 12 hours.
Prerequisite: RESP 101 Fundamentals of Respiratory Care I completed with a grade of 75 (C) or higher in the lecture component and a grade of pass in the clinical component.

RESP 103 Fundamentals of Respiratory Care III 7.0 UNITS

This course focuses on the respiratory care practitioner as critical care team member and team leader. Students learn to assess degrees of respiratory failure, mechanical ventilatory care, PEEP, CPAP, and weaning from the ventilator. Attempts are made to put the complications and benefits of ventilator therapy into proper perspective. Analysis of ventilators and graphics is studied. The students acquire an understanding of basic electrocardiogram interpretation and of non-invasive and invasive hemodynamic monitoring. Both acute and chronic illnesses are used as case bases. The laboratory and the clinical components offer practical application of the topic areas in the hospital intensive care units. Four lecture and one laboratory hours per week. Clinical: 12 hours.
Prerequisite: RESP 102 Fundamentals of Respiratory Care II completed with a grade of 75 (C) or higher in the lecture component and a grade of pass in the clinical component.

RESP 104 Fundamentals of Respiratory Care IV 7.0 UNITS

This course includes topics on neonatology, pediatrics, pulmonary rehabilitation, and home care, diagnostics, and therapeutic procedures. Quality assurance, health promotion and healthcare reimbursement are examined. Protocols in Respiratory Care are studied and practiced. Students also become familiar with the NBRC exam format by preparing for and taking self-assessment exams prepared and scored by the NBRC and by successfully completing five software Clinical Stimulation exams. Clinical experiences are provided to enhance the learning of these topics. Four lecture and one laboratory hours per week. Clinical: 12 hours.
Prerequisite: RESP 103 Fundamentals of Respiratory Care III completed with a grade of 75 (C) or higher in the lecture component and a grade of pass in the clinical component.

RESP 111 Introduction to Pathology 2.0 UNITS

Lectures and discussions focus on the basic principles of disease processes and their effect on the normal form and functions of the body. Acute and chronic disease management will be studied as well. This course is intended for respiratory therapy students.
Prerequisite: RESP 102 Fundamentals of Respiratory Care II. Co-requisite: RESP 103 Fundamentals of Respiratory Care III.

RESP 112 Introduction to Pharmacology 2.0 UNITS

Lectures and discussions focus on the study of drugs, especially those relating to respiratory therapy. Indication, contraindication, side effects, and dosages of drugs are studied. This course is intended for respiratory therapy students.
Prerequisite: RESP 101 Fundamentals of Respiratory Care I. Co-requisite: RESP 102 Fundamentals of Respiratory Care II.

RESP 113 Respiratory Care Seminar I 2.0 UNITS

This seminar course provides the student with the ability to select, review, obtain, and interpret data relevant to respiratory care cases. The student reviews existing clinical data and collect and recommend therapy. The student develops a respiratory care plan that is appropriate for the data collected.
Prerequisite: permission of instructor.

RESP 115 Respiratory Care Equipment 2.0 UNITS

This course explores the theoretical and practical application of respiratory care equipment. The student develops an understanding of the various pieces of equipment used in respiratory care. The equipment discussed is limited to oxygen equipment, aerosol equipment, pulmonary function equipment, and emergency resuscitating equipment.
Prerequisite: permission of instructor.

RESP 116 Respiratory Care Seminar II 3.0 UNITS

Focuses on the initiation and modification of respiratory care in the emergency setting. Specific topics include: Basic Life Support (BLS), Advanced Cardiac Life Support (ACLS), Pediatric Advanced Life Support (PALS), and Neonatal Resuscitation (NR). Protocols, algorithms, and evidenced-based practice guidelines will be used as the basis for study and practice.
Prerequisite: RESP 103 Fundamentals of Respiratory Care III.

RESP 117 Cardiopulmonary Diagnostics and Evaluation 1.0 UNIT
This course, which is intended for students in the Respiratory Care program, focuses on diagnostic testing with emphasis on critical care medicine. The integration of this assessment data into medical decision making is evaluated through the use of clinical simulations in a laboratory setting. One half-hour lecture and one laboratory hour per week.
Prerequisite: RESP 103 Fundamentals of Respiratory Care III.

RESP 121 Respiratory Care Clinical Cardio Anatomy and Physiology 3.0 UNITS
This course examines the cardiopulmonary system of the human body and its relationship to other organ systems. Topics of study include basic anatomy and physiology of the heart-lung systems, hemodynamic monitoring, and application of cardiopulmonary diagnostic indicators. An integrated approach will facilitate the examination of other body systems in order to promote the clinical application of respiratory care assessments and interventions. Models of study will span the human developmental cycle to include newborn, pediatric, and adult applications.
Prerequisite: RESP 102 Fundamentals of Respiratory Care II.

SECURITY (SECU)

SECU 101 Introduction to Private Security 3.0 UNITS
This course acquaints the student with the administrative and physical aspects of private security in such areas as retail, industrial, banking, transportation, medical, and government enterprises. Emphasis is placed on such special problems as private security, education, and training. Other areas covered are the investigation of white-collar crimes, thefts, document control, subversion and sabotage, labor problems, civil disturbances, and disaster preparedness.
Prerequisites:
Prerequisites: ENGL 092 Preparing for College Reading I and ENGL 099 Introductory Writing; or waiver by placement testing results.

SOCIOLOGY (SOCI)

SOCI 104 Principles of Sociology 3.0 UNITS
Sociology is the systematic study of human society and social interaction. This course will employ the major theoretical perspectives to examine culture; the process of socialization; social structure; the problems of stratification, particularly in the areas of social class, race and ethnicity, and gender; social institutions, such as the family and religion; and social change.
Pre/Co-requisites: ENGL 101; waiver by placement testing results; or departmental approval.

SOCI 203 Criminology 3.0 UNITS
Topics include the historical, political and social forces involved in the development of crime theory, and critique of the most prominent crime theories referenced in criminal justice and related fields. Attention will be given to major categories of criminal behavior, and current theoretical and research developments in regards to explaining various criminal behaviors in our society.
Prerequisites: SOCI 104 Principles of Sociology or departmental approval.

SOCI 204 Sociology of Deviance 3.0 UNITS
This course will provide an analysis of deviant behaviors, attitudes, and characteristics through examination of theories and current research in the field. Attention will be given to the role that society plays in defining and responding to deviance. While a variety of topics will be discussed, emphasis will be placed on drug and alcohol abuse, sexual deviance, mental disorders, organizational deviance, and unconventional beliefs.
Prerequisites: SOCI 104 Principles of Sociology or departmental approval.

SOCI 208 Family and Community 3.0 UNITS
This course includes a presentation of the structural principles necessary in all kinship systems with brief treatment of the most important ranges of variations and a survey of marriage and the family in various societies. The main emphasis will be on courtship, marriage, and the family in the United States and their structural characteristics, trends of change, and practical problems insofar as sociology can illuminate them.
Pre/Co-requisites: ENGL 101; waiver by placement testing results; or departmental approval.

SOCI 215 Urban Sociology 3.0 UNITS
This course offers an introduction to the sociological study of urban life and urban development. Students will develop an understanding of how structural forces and social interactions shape both cities and the experiences of people and groups within them. Topics include urban social theory, residential segregation, gentrification, suburbanization and urban sprawl, inequality, and contemporary urban social issues.
Prerequisites: SOCI 104 Principles of Sociology; or departmental approval.

SOCI 232 Sociology of Race and Ethnicity 3.0 UNITS
This course utilizes a sociological perspective to explore the experiences of racial and ethnic groups in the United States. Drawing on sociological concepts and theoretical perspectives regarding minority-majority relations among racial ethnic groups, this course

focuses on the role of power, privilege, and access to resources in the social construction of race and ethnicity. The course will explore the dynamics of institutionalized racism and address a variety of contemporary policy debates in order to better understand the roles that race and ethnicity play in shaping American society and culture.
Prerequisites: SOCI 104 Principles of Sociology; or departmental approval.

SPEECH (SPCH)

SPCH 105 Speech Communication 3.0 UNITS
This course covers critical thinking, information literacy, active listening, public speaking apprehension, technology skills, and verbal and nonverbal communication. Students analyze informative and persuasive techniques and research, organize, and deliver a minimum of three formal speeches: two of which must be an informative and a persuasive speech.

SPCH 107 Oral Interpretation 3.0 UNITS
This course provides an introduction to the art of oral interpretation of literature, including the techniques of literary and communicative analysis for public performance. Goals of the course include development of methods in handling speech fright, building confidence, and audience adaptation. The course is especially recommended for future teachers.
Pre/Co-requisite: ENGL 092 Preparing for College Reading II.

SPCH 108 Interpersonal Communication 3.0 UNITS
This course is designed to improve human relationships through an understanding of the principles of effective interpersonal communication. Students participate actively in listening, perceiving, interpreting words and meanings, conflict resolution, assertiveness, nonverbal awareness, developing trusting relationships, and considering the role of the self-concept.

SPCH 121 Argumentation and Debate 3.0 UNITS
This class provides an overview of the study of argumentation. Students learn argumentation theories and approaches while gaining skills in critical thinking and public speaking. By the end of the semester, students understand how to research and build an argument to be presented in a debate; how to anticipate, construct, and refute arguments; and how to evaluate the political, moral, and cultural contexts of argumentation.
Prerequisite: ENGL 101 English Composition I.

THEATRE (THET)

THET 101 Introduction to the Theatre 3.0 UNITS
This course covers an introduction to the history, art, craft, and socio-psychological dimensions of the theatre. The course combines assigned play readings with the study of the elements and techniques used in theatre, as well as viewing live theatre performances. The elements of acting, directing, stage settings, and costuming are incorporated. The relationship between theatre and society is explored.

THET 102 Voice Improvement 3.0 UNITS
This course concentrates on developing and improving the student's voice and speech to meet stage, television, and broadcasting needs and the needs of business and personal communication. Exercises improve the student's relaxation, breathing, resonance, articulation, diction, pronunciation, and connection of voice to thoughts and emotions.

THET 110 Stagecraft 3.0 UNITS
This course emphasizes the creative process used in developing the physical elements of a theatrical production. Students explore the technical elements of stagecraft in an experiential setting. Emphasis is placed on hands-on experience in the study of the processes of scenery, lighting, sound design, costuming, properties, and stage management. Students aid in the construction and technical work required for Massasoit theatre productions.

THET 204 Movement for Acting 3.0 UNITS
This course is structured to give students an overall understanding of how the actor's body works and to develop their bodies to meet the needs of acting for the stage and screen. Students participate in group and individual physical exercises that will enable them to develop expressive bodies that are connected to their thoughts and emotions. Students are also required to attend live theatrical productions so that they can evaluate how actors use their bodies to express themselves.

THET 205 Acting I 3.0 UNITS
This course offers hands-on experience in the fundamentals of the craft of acting. Students have the opportunity to explore text and develop confidence in their performance skills through voice and movement exercises, improvisation, and group exercises designed to free emotional spontaneity and creativity. This course is useful to those with an interest in the profession and those looking to improve verbal and communication skills.

THET 206 Acting II **3.0 UNITS**

Students learn and practice the separate parts of the composite art of acting, which entails the effective communication of the ideas and emotions of a dramatic character to an audience. Students are required to rehearse, memorize, and perform several short scenes and monologues in order to develop skills.
Prerequisite: THET 205 Acting I; or permission of instructor.

THET 230 Design for the Theatre **3.0 UNITS**

Introduces the basic techniques involved in play production for the stage, stressing the function of technical, artistic, and administrative work. The student studies all areas of play production and participates in at least two of these areas. Students research and discuss their areas with the instructor, classmates, and professionals in the field. The class also requires that the student acquire hands-on experience working closely with theatre technicians, artists, or administrators. Two lecture and two laboratory hours per week.
Pre/Co-requisites: ENGL 092 Preparing for College Reading II and ENGL 099 Introductory Writing; or waiver by placement testing results.

THET 400 Special Study in Theatre **1.0 UNIT**

This course involves independent work on a selected topic under the direction of members of the Theatre Department. Limited to two courses per student.
Prerequisite: approval of the Department Chair and Division Dean.

VETERINARY TECHNOLOGY (VTSC)

VTSC 101 Introduction to Veterinary Technology **3.0 UNITS**

This course is an introduction to the field and occupation of veterinary technology. Topics include the roles of the veterinary technician and veterinary health care team, veterinary medical terminology, species and breed identification, an overview of animal husbandry, physical exams, and medical record documentation. This course also includes discussion on shelter, wildlife and specialty medicine, the human-animal bond, and euthanasia. This course meets for three lecture hours each week, plus additional animal behavior/socialization/basic training work outside of class.
Pre/Co-requisites: C or higher in the following courses: ENGL 101 English Composition I and MATH 158 Introduction to Statistics or higher.

VTSC 201 Veterinary Management **2.0 UNITS**

This course covers all aspects of veterinary office management. The course exposes the student to the laws and regulations governing veterinary medicine, workplace hazards and safety, client communication and education, veterinary management systems, inventory control, and maintaining proper facility records.
Prerequisites: C or higher in the following courses: ENGL 101 English Composition I, ENGL 102 English Composition II, and VTSC 101 Introduction to Veterinary Technology.

VTSC 211 Veterinary Clinical Methods I **4.0 UNITS**

This course is an introduction to veterinary clinical skills. Hospital safety including kennel management and sanitation are discussed. Students practice safe handling and restraint of various species of animals with an overview of basic physical examination techniques. Preventative health care and immunity, small animal nutrition, grooming, reproductive cycles, sex determination, and behavior and training are also discussed. Three lecture and three laboratory hours per week plus additional animal behavior/socialization/basic training work outside of class.
Prerequisites: C or higher in the following courses: BIOL 205 Vertebrate Anatomy and Physiology I, VTSC 101 Introduction to Veterinary Technology, and VTSC 232 Veterinary Microbiology.
Pre/Co-requisite: C or higher in VTSC 226 Veterinary Pharmacology.

VTSC 212 Veterinary Clinical Methods II **4.0 UNITS**

This course is a continuation of VTSC 211 Veterinary Clinical Methods I. The course studies the presentation of common diseases of canines and felines during physical examination. Emphasis is placed on the technician's role in diagnostic procedures, treatments, emergency, and critical care. Technical skills including venipuncture, catheterization, routine laboratory procedures, wound care, bandaging, and nursing care are also emphasized. Three lecture and three laboratory hours per week plus additional animal behavior/socialization/basic training work outside of class.
Prerequisites: C or higher in the following courses: BIOL 205 Vertebrate Anatomy and Physiology I, BIOL 206 Vertebrate Anatomy and Physiology II, ENGL 101 English Composition I, ENGL 102 English Composition II, and VTSC 211 Veterinary Clinical Methods I.

VTSC 221 Veterinary Internship I **2.0 UNITS**

This course is an off-campus practical veterinary experience that expands student knowledge and builds proficiency in skills. Program coordinator approval required.
Prerequisite: successful completion of all Veterinary Technology courses through semester three of the program with minimum grades of C or higher.
Pre/Co-requisites: C or higher in the following courses: VTSC 201 Veterinary Management and VTSC 238 Veterinary Pathology.

VTSC 222 Veterinary Internship II 2.0 UNITS
This course is an off-campus practical veterinary experience that expands student knowledge and builds proficiency in skills. Program coordinator approval is required.
Prerequisite: successful completion of all Veterinary Technology courses through semester three of the program with minimum grades of C or higher.
Pre/Co-requisites: C or higher in the following courses: VTSC 201 Veterinary Management and VTSC 238 Veterinary Pathology.

VTSC 224 Veterinary Imaging 3.0 UNITS
This course introduces the student to principles of veterinary imaging including radiography and ultrasonography. Topics include radiation safety, patient positioning, special studies, and a review of other diagnostic imaging methods including endoscopy, CT, and MRI. Two lecture and two laboratory hours per week.
Prerequisite: C or higher in BIOL 205 Vertebrate Anatomy and Physiology I.
Pre/Co-requisites: C or higher in the following courses: BIOL 206 Vertebrate Anatomy and Physiology II and VTSC 211 Veterinary Clinical Methods I.

VTSC 226 Veterinary Pharmacology 3.0 UNITS
This course teaches basic pharmacological principles, including drug classifications, administration, pharmacokinetics and pharmacodynamics; drug packaging, labeling, record keeping, and medical calculations; legal and ethical considerations; and client communication. Three lecture and one laboratory hours per week.
Prerequisites: C or higher in the following courses: BIOL 121 Biological Principles I, BIOL 205 Vertebrate Anatomy and Physiology I, CHEM 151 General Chemistry I, and MATH 158 Introduction to Statistics or higher.
Pre/Co-requisites: C or higher in the following courses: BIOL 206 Vertebrate Anatomy and Physiology II and VTSC 211 Veterinary Clinical Methods I.

VTSC 232 Veterinary Microbiology 4.0 UNITS
This is a course in microbiology as it related to veterinary medicine with emphasis placed on the practical applications for medical, food, dairy, water, and environmental microbiology. Part of the laboratory experience includes an introduction to techniques in molecular biology and the identification of one or more bacterial unknowns to demonstrate adequate knowledge of the proper laboratory technique. Organisms of discussion include bacteria, viruses, fungi, and some of the primitive algae and protozoa. Two lecture and four laboratory hours per week.
Pre/Co-requisite: C or higher in BIOL 121 Biological Principles I and a C or higher in BIOL 170 Vertebrate Anatomy and Physiology I.

VTSC 233 Veterinary Parasitology 3.0 UNITS
This course examines internal and external parasites important to veterinary medicine. Topics include parasite life cycles, pathogenesis, zoonoses, treatment, and prevention. Diagnostic evaluation and identification is also performed. Two lecture and two laboratory hours per week.
Prerequisite: C or higher in BIOL 121 Biological Principles I.
Pre/Co-requisites: C or higher in the following courses: BIOL 205 Vertebrate Anatomy and Physiology I and VTSC 232 Veterinary Microbiology.

VTSC 235 Large Animal Medicine and Management 3.0 UNITS
This course provides an overview of domestic large animals including horses, cattle, and sheep. Topics covered include anatomy and physiology, breed identification, safe handling and restraint, nutrition, common diseases, sample collection, medication administration, and nursing care. Laboratory sessions are conducted off campus. Two lecture and two laboratory hours per week.
Prerequisites: C or higher in the following courses: BIOL 205 Vertebrate Anatomy and Physiology I, BIOL 206 Vertebrate Anatomy and Physiology II, and VTSC 211 Veterinary Clinical Methods I.
Pre/Co-requisite: C or higher in VTSC 212 Veterinary Clinical Methods II.

VTSC 236 Laboratory Animals and Exotics 4.0 UNITS
This course focuses on animals commonly used in a laboratory setting, as well as exotic pet animals. Emphasis is placed on biology, diseases, and care of various rodents, rabbits, avian, reptiles, and amphibians. Topics include husbandry, restraint, handling, pain and distress, biology and disease, and environmental enrichment. Laws governing the care and ethical use of laboratory animals are also covered, as well as veterinary nursing skills as it applies to laboratory animals and exotics. Laboratory sessions are conducted off campus. Three lecture and two laboratory hours per week.
Prerequisites: C or higher in the following courses: BIOL 205 Vertebrate Anatomy and Physiology I, BIOL 206 Vertebrate Anatomy and Physiology II, and VTSC 211 Veterinary Clinical Methods I.
Pre/Co-requisite: C or higher in VTSC 212 Veterinary Clinical Methods II.

VTSC 238 Veterinary Pathology 3.0 UNITS
This course examines the nature of disease as it applies to the veterinary medicine. Topics include cell injury and necrosis, inflammation and healing, diseases of body systems, and neoplasia.
Prerequisites: C or higher in the following courses: BIOL 121 Biological Principles I, BIOL 205 Vertebrate Anatomy and Physiology I, BIOL 206 Vertebrate Anatomy and Physiology II, VTSC 211 Veterinary Clinical Methods I, and VTSC 212 Veterinary Clinical Methods II.

VTSC 240 Veterinary Anesthesia & Surgery 4.0 UNITS

This course focuses on aseptic preparation of both patient and surgical suite, management of surgical and anesthesia equipment and instruments, injectable and inhalant anesthetics, analgesia, anesthesia induction, maintenance and recovery, common surgical procedures, and anesthetic and surgical complications. Three lecture and three laboratory hours per week.
Prerequisites: C or higher in the following courses: VTSC 211 Clinical Methods I, VTSC 212 Clinical Methods II, and VTSC 226 Veterinary Pharmacology.