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ACCT (ACCOUNTING)

ACCT 1010 - Financial Accounting (4 Credits)

This course presents the objectives and basic procedures of accounting for a business organized as a corporation. Topics covered include the accounting cycle for service and merchandising firms, accounting for short-term liquid assets, inventories, long-term assets and current liabilities. *Lecture: 4 hours, Lab: 1 hour*

ACCT 1020 - Managerial Accounting (4 Credits)

This course covers the use of accounting data by an organization's management. Topics include the statement of cash flows, financial statement analysis, an introduction to manufacturing accounting concepts, cost-volume-profit analysis, budgeting, capital expenditure decisions, just-in-time and activity-based costing concepts. *(Prerequisite: ACCT 1010) Lecture: 4 hours, Lab: 1 hour*

ACCT 1030 - Computerized Accounting (3 Credits)

The course integrates the processing of accounting information with the use of a commercial general ledger software package. An initial presentation of the software is included to develop a specific understanding of menus and navigation techniques. Discussion focuses on setup, maintenance, information entry and report generation. Specific topics of the accounting cycle are presented including journal transactions, accounts receivable, accounts payable, inventory, payroll, financial statements and special projects. *Note: May be taken concurrently with ACCT 1020. (Prerequisite: ACCT 1010) Lecture: 3 hours*

ACCT 1500 - Personal Income Taxes (3 Credits)

This course provides an overview of the tax problems confronting individuals on the federal level. Tax situations involving incomes, exemptions, deductions and capital gains and losses are undertaken and the pertinent tax forms are discussed. *Lecture: 3 hours*

ACCT 2010 - Intermediate Accounting I (4 Credits)

This course involves advanced work on concepts and principles of accounting. Topics include financial statements, cash, temporary investments, receivables and inventories. *(Prerequisite: ACCT 1020) Lecture: 4 hours, Lab: 1 hour*

ACCT 2020 - Intermediate Accounting II (4 Credits)

A continuation of ACCT 2010, this course covers the study of the more advanced phases of analysis of financial statements, investments and fixed assets; depreciation and depletion; intangible assets; current and long-term liabilities and stockholders' equity. *(Prerequisite: ACCT 2010) Lecture: 4 hours, Lab: 1 hour*

ADAS (ADMINISTRATIVE OFFICE TECHNOLOGY)

ADAS 2510 - Microsoft Office Applications II (3 Credits)

This course will provide students with further training on Microsoft Office applications that include advanced Word and PowerPoint using a hands-on approach. In addition, students will continue to develop their keyboarding skills and accuracy. A keyboarding speed range of 30 to 55 words per minute is required for this course. *(Prerequisite: OFTD 1220 or permission of instructor) Lecture: 3 hours, Lab: 1 hour*

ADAS 2520 - Office Transcription II (2 Credits)

This course continues to develop proficiency in transcribing to mailable copy. It is designed to further refine and integrate office skills and applications. Emphasis is on the advanced application of language skills in the production of written communications. *(Prerequisite: OFTD 1170 and 1280 or permission of instructor) Lecture: 2 hours, Lab: 1 hour*

ADAS 2530 - Office Technology and Procedures II (3 Credits)

This capstone course enables students to integrate the skills previously learned in the program via a career-related office simulation. Students continue to learn Outlook as well as gain knowledge of planning meetings and conferences. In addition, students research business data and learn about parliamentary procedures. Emphasis is placed on the development and exercise of decision-making ability and human relations skills. *(Prerequisite: OFTD 1140) Lecture: 3 hours*

ADAS 2570 - Administrative Office Management (3 Credits)

This course deals with the strategies and issues related to effective supervision of employees who work in an office environment. The relationship between office productivity and management activities such as planning, scheduling, organizing, implementing, evaluating and controlling is examined. *Lecture: 3 hours*

ADAS 2580 - Administrative Office Technology Cooperative Education I (3 Credits) (for Administrative Assistant, Legal Administrative Assistant, Travel/Hospitality and Culinary Arts Assistant)

This is a planned and supervised cooperative work experience that provides students with an opportunity to observe and participate

in a work environment related to their academic interests. Students attend class on campus during weeks one through five then work approximately 13 hours a week in an approved cooperative work experience placement during weeks six through 15. *(Prerequisites: Enrollment in Office Administration program and completion of 24 credits in that program, and 2.0 GPA or permission of instructor) Lecture: 25 hours total, CO-OP: 130 hours total*

ADAS 2590 - Office Administration Cooperative Education II (4 Credits) (for Administrative Assistant and Legal Administrative Assistant)

This course is an extension of ADAS 2580 Cooperative Education I that helps students develop in-depth knowledge of specific content areas and demonstrate increased levels of expertise in these areas. Students work approximately 15-20 hours a week in an approved cooperative work experience site. Students participate in a one-hour and 40-minute weekly seminar on campus. *(Prerequisite: Same as Administration Office Technology Cooperative Education I, but also requires the successful completion of ADAS 2580 or permission of instructor) Lecture: 25 hours total, CO-OP: 195 hours total*

ADAS 2610 - Microsoft Office Applications III (3 Credits)

This course continues to develop Microsoft Office skills in the areas of Access, Excel and PowerPoint. Students will continue to develop their keyboarding speed and accuracy. A keyboarding range of 35 to 60 words per minute is required for this course. *(Prerequisite: OFTD 1220) Lecture: 3 hours, Lab: 1 hour*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

ADNU (NURSING)

See also HEAL and NURS courses.

ADNU 2010 - Transition to Baccalaureate Nursing Education (2 Credits)

The purpose of this course is to facilitate the transition of associate degree and diploma nursing students into baccalaureate nursing education. The course is the last course offered at the associate degree and diploma levels. It is being offered to encourage students to pursue baccalaureate education as they complete their associate or diploma education. (*Prerequisites: NURS 1010 and 1020 with a grade of C or better*) *Lecture: 2 hours*

ARAB (ARABIC)

ARAB 1000 - Basic Spoken Arabic (3 Credits)

This is an introductory elective course for beginners emphasizing correct pronunciation and basic vocabulary for practical use in everyday conversational situations and travel dialogues. Students with no previous study of the language are prepared to use and understand it within a limited context and basic structure. *Lecture: 3 hours*

ARTS (ART)

This listing of Art courses includes new course numbers and descriptions. Students should review course listings carefully and consult with academic advisers or Art Department faculty to ensure proper course sequence and avoid duplication of course credits.

Art course numbers:

ARTS 1001 through ARTS 1009 are introductory level courses and are open to all students. These courses offer fine arts elective credit for non-art students and liberal arts elective credit for Art majors.

ARTS 1010 through ARTS 1599 are basic foundation level courses and are open to all students. These courses are either required or recommended for Art majors and are strongly recommended for Liberal Arts or General Studies program majors.

ARTS 1600 through ARTS 1999 are open to all students and provide basic study in a variety of art disciplines. Previous study in a foundation level course may be recommended but not required. Other prerequisites may apply.

Courses numbered ARTS 2000 and above are designed for continued work after basic studies have been completed. More than one prerequisite may be required.

ARTS 1001 - Introduction to Visual Arts (3 Credits)

This course is an introduction to the basic principles of analyzing and understanding the visual arts. Vocabulary, techniques and a brief history of art are covered with slide lectures, readings and discussions, studio art/design assignments and gallery visits. (*Note: Visual Arts elective credit for non-art majors and liberal arts elective credit for Art majors*) *Lecture/Studio: 4 hours*

ARTS 1010 - Drawing I (3 Credits)

This course is an introduction to basic drawing concepts and processes relevant to artists working in all areas of fine arts and design. Students develop fundamental skills in the observation and depiction of form, light, space, and surface through a variety of approaches including short exercises and longer compositional studies of diverse subject matter. Emphasis is on drawing from observation, using a variety of media, in order to understand drawing as both an analytical and inventive means of expression. *Studio: 6 hours*

ARTS 1020 - Color (3 Credits)

This course provides an introduction to basic color theory and aesthetic concepts in both two- and three-dimensional art and design. Lectures, discussions, studio assignments and critiques focus on contemporary and historical aspects of color. (*Prerequisite: None, although ARTS 1010 or ARTS 1310 is recommended*) *Studio: 6 hours*

ARTS 1040 - Relief Printmaking and the Graphic Illustration (3 credits)

This course introduces students to relief printing processes as used by a range of artists including printmakers, designers, illustrators and book artists. The course covers woodcut, linocut and photo-sensitive plates, using hand-drawn and digitally-produced transparencies. Students learn to use hand tools, printmaking presses and exposure equipment to create, ink and print their images. Through examples, demonstrations and studio-based assignments, students are introduced to the history and vocabulary of relief printmaking. We will experiment with relief printmaking as a method of visual communication, including visual storytelling and narrative, addressing

a broad range of ideas, issues and aesthetics to create a portfolio of printed work. No prior printing experience is necessary.

ARTS 1030 - Introduction to Printmaking (3 Credits)

This is a studio course in basic printmaking skills with equal focus on concept and technique. Students experiment with a variety of printmaking processes including collagraph, intaglio, litho, transfer and monotype, providing the opportunity to work with a range of printmaking methods and materials. This course examines the language of printmaking as a unique art form and establishes a basis for further work in the medium. Using a variety of approaches, in both black and white and color, students explore ways they may develop their individual vision through the creation of original prints. (*Prerequisite: ARTS 1010 or 1310*) *Studio: 6 hours*

ARTS 1050 - Drawing II - Life Drawing (3 Credits)

This course offers an introduction to the study of the human figure and its relationship to the environment. Students draw from both nude models and skeletons. (*Prerequisite: ARTS 1010*) *Studio: 6 hours*

ARTS 1310 - Two-Dimensional Design (3 Credits)

This course examines the basic elements of design including line, shape, value, color, texture, movement and direction; and principles of design, such as balance, unity, emphasis, variety and similarity. Primary focus is on studying the potential for visual communication when composing an image or design using the two-dimensional or flat, format. Classes include lectures, demonstrations, studio assignments and critiques. *Studio/Lecture: 6 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

ARTS 1410 - Three-Dimensional Design (3 Credits)

This studio course introduces students to the elements, principles and construction methods used in making art and design in three-dimensions. Using simple materials such as wire, cardboard, foam core and plaster, students learn to organize forms in space. The elements of three-dimensional design, including line, plane, volume and mass; and the principles of three-dimensional design, including repetition, variety, rhythm, balance, emphasis and economy, will be studied and used in making studio projects. Classes include lectures, demonstrations, studio assignments and critiques. *Studio/Lecture: 6 hours*

ARTS 1420 - Four-Dimensional Animation and Design (3 Credits)

This course examines the basic elements of art and design in space and time. Students are introduced to artists working with 4D and new media arts to explore their own ideas, spaces and time-based techniques while developing critical thinking in relation to subject, medium, form and content, and how all of these can create or effect meaning in 4D art. Students will create works of art using time-based techniques such as time lapse, basic cell animation, stop motion, go motion, basic green screen and sound. *Studio/Lecture: 6 hours*

ARTS 1500 - Fine Art Seminar (3 Credits)

Fine Art Seminar is the capstone for A.F.A. students to learn setting and pursuing professional goals including transferring to four-year art programs; exploring careers in art and design; identifying visual arts grants and awards; and developing a portfolio demonstrating their skills, excellence and

originality. Students learn to produce high-quality photographs of their artwork and assemble a digital portfolio. The seminar presents a variety of guest speakers, which can include admissions representatives from four-year art schools and professional artists and designers. At the end of the semester, students collaborate to design and install a professional group exhibition. This course is designed for Art majors or for students considering a major in Art. (*Prerequisites: At least two studio courses and one art history course or permission of the instructor. Students should be concurrently enrolled in studio and/or art history courses. Recommended: Class should be taken during the third semester of student's program of study.*) *Lecture: 3 hours*

ARTS 1510 - Art History: Ancient to Medieval (3 Credits)

This course is a survey of visual art from prehistory through Gothic Europe. Emphasis is placed on how art, architecture and functional objects provide evidence of the religious beliefs and cultural structures of early civilizations. Regions covered include Egypt, the Near East and Europe. (*Prerequisite: ENGL 1005 or 1010 with grade of C or better*) *Lecture: 3 hours*

ARTS 1520 - Art History: Renaissance to Modern (3 Credits)

This course is a survey of visual art and architecture from the Renaissance through the 20th century, focused primarily upon European and American study. The manner in which art both reflects and shapes history is a central means of exploration, leading to the complexities of art in the Post-Modern period. (*Recommended: ARTS 1510; Prerequisite: ENGL 1005 or 1010 with grade of C or better*) *Lecture: 3 hours*

ARTS 1530 - Art History: Africa, Asia, Oceania and the Americas (3 Credits)

This course introduces and analyzes the creative expressions of Africa, Asia, Oceania and the Americas through focused studies of selected artistic traditions. Through weekly readings, writing exercises, lectures, discussions, films, online research and visits to museums and galleries, this class builds a vision of the world as seen through diverse cultural traditions. (*Prerequisite: ENGL 1005 or 1010 with grade of C or better*) *Lecture: 3 hours*

ARTS 1550 - Art History: Modern through Contemporary (3 Credits)

This course identifies and analyzes art created after 1945 in the U.S. and prominent art centers internationally. Emphasis is placed on artist philosophy, art media and processes, and the role of art in society, politics and culture. Major movements in Modernism, Post-Modernism and Contemporary are addressed. Topics are presented through reading, lecture, discussion, writing, video and museum/gallery visits. (Prerequisite: ENGL 1010; Corequisite: ENGL 1005) Lecture: 3 hours, Lab: 1 hour

ARTS 1610 - Textile Design: Dye and Print (3 Credits)

This studio course is designed to introduce students to a variety of dyeing and surface design techniques on fabric, with an emphasis on learning the elements and principles of two-dimensional design. Techniques may include shibori tie-dye, batik wax-resist, paste-resist, blockprinting and photo transfer. Traditional and contemporary examples of these processes are presented and good craftsmanship is emphasized. This course is recommended for all Art majors and can serve as an introductory art course for all students. (*Recommended: ARTS 1010 or 1020 or 1310*) *Studio: 6 hours*

ARTS 1630 - Introduction to Sculpture and Form (3 Credits)

Concept development and structural problem-solving are emphasized in this advanced study of three-dimensional design. Examples of form in nature, sculpture and architecture as well as current approaches to sculpture using basic materials and techniques are practiced and discussed. Classes include demonstrations, studio assignments, critiques and lectures. (*Note: Cannot be taken in same semester as ARTS 1410.*) *Studio: 6 hours*

ARTS 1650 - Ceramics I: Handbuilding (3 Credits)

This course acts as an introduction to fine art ceramics. Coil, slab and other basic hand-building methods as well as glazing and various kiln firing methods are covered. Kiln and basic glazes are provided; clay and tools must be purchased. (*Recommended: ARTS 1410*) *Studio: 6 hours*

ARTS 1660 - Ceramics II: Throwing (3 Credits)

This is a continuation of fine arts ceramics using advanced hand-building techniques. Wheel throwing, glaze formulation, kiln management and alternative firing methods are introduced. Kiln and basic glazes are provided; clay and tools must be purchased. (*Prerequisite: ARTS 1650 or permission of instructor*) *Studio: 6 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

ARTS 1710 - Graphic Design I (3 Credits)

This course provides an introduction to the basic principles of graphic design and visual communication. Graphic representation and typographic fundamentals are explored with electronic and traditional media, tools, skills and methodology. A history of graphic communication is presented through example and slide presentation. *(Prerequisite: None, although ARTS 1310 is recommended.) Studio: 6 hours*

ARTS 1720 - Graphic Design II (3 Credits)

This course continues coverage of concepts introduced in Graphic Design I. Focus is on creative image making and typographic development in a variety of visual formats. Projects provide experience with elements of print and/or digital publication design, logo design, poster design and the design of visual systems. *(Prerequisite: ARTS 1710 or permission of instructor) Studio: 6 hours*

ARTS 1810 - Darkroom Photography I (3 Credits)

This course emphasizes the creative and expressive aspects of traditional black and white photography form and content using light sensitive materials. Course covers principles of exposure using cameras, film and paper to make photographic images. Darkroom printing, alternative cameras and processes will also be included. Students provide or borrow a 35mm SLR film camera with manual exposure controls.

ARTS 1820 - Darkroom Photography II (3 Credits)

Students will practice and refine basic black and white photographic techniques, with an introduction to advanced material. The history, styles and critical theory of photography are presented. Students create visually and conceptually unified portfolios focusing on presentation, sequencing and multiple images. *(Prerequisite: ARTS 1810 or permission of instructor)*

ARTS 1840 - Digital Art I (3 Credits)

This course explores creative and technical issues related to computer-based image making as an effective means of artistic expression. While students apply the fundamentals using the latest industry-standard digital photo editing software, they also acquire both the manual and conceptual skills associated with creativity in the digital realm. Projects provide experience with image manipulation, montage, color corrections, retouching, and layout and design of individual artist's projects. *Studio: 6 hours*

ARTS 1845 - Video Art (3 Credits)

This course is an introduction to the use of video as a form of artistic expression and visual communication. Students learn about structure, form, rhythm and pace. Emphasis is placed on image and sound manipulation, editing and theory as they relate to capturing and editing video and audio and finalizing content for DVD or Web. Complete and short form projects are produced that explore the relationship of subject, form and content in the creation of meaning. Works by video artists are viewed and discussed. *Note: Students will need to purchase a camcorder under \$150, following the first week of classes. Studio/Lecture: 6 hours*

ARTS 1850 - Digital Photography I (3 Credits)

This course is an introduction to digital photography technique, artistic expression and visual communication. Students learn principles of image creation using digital cameras; image correction and manipulation with industry standard software; and inkjet printers to make photographic prints. Students provide or borrow a digital camera, which must have manual, program, aperture and shutter priority exposure modes.

ARTS 2010 - Painting I (3 Credits)

This course offers an introduction to the painting process through an investigation of theories; materials and techniques. Historical and contemporary aesthetic issues are explored through studio assignments, slide lectures, discussions, critiques and museum and gallery visits. *(Prerequisite: ARTS 1010 or 1020) Studio: 6 hours*

ARTS 2020 - Painting II (3 Credits)

A continuation of Painting I, this course encourages further development of personal artistic expression with emphasis on aesthetic and critical theory. Lectures, discussions, studio assignments, critiques, and museum and gallery visits are included. *(Prerequisite: ARTS 2010 or permission of instructor) Studio: 6 hours*

ARTS 2030 - Watercolor (3 Credits)

Basic watercolor materials and techniques are studied in this course. Color relationships and pictorial composition are emphasized. *(Prerequisite: ARTS 1010 and 1020 or permission of instructor) Studio: 6 hours*

ARTS 2050 - Drawing III - Life Drawing (3 Credits)

A continuation of Drawing II, this course emphasizes excellence in drawing, design and color in exploring relationships between the human figure and the environment. *(Prerequisite: ARTS 1050 or permission of instructor) Studio: 6 hours*

Studio Seminar (1 to 3 Credits)

ARTS 2120, 2130, 2140, 2150

This seminar course is for any student who wants to do advanced work in any studio area. The most advanced course offered by the Art Department in that particular studio area must have been successfully completed or be taken concurrently. Seminar work involves independent projects and research done under the guidance of an Art Department faculty adviser. Before signing up for this seminar, students must choose a faculty adviser and submit to him or her a proposed program of study for approval. Studio Seminar may be elected for one to three credits. *Studio/Lecture: 6 hours*

ARTS 2360 - Printmaking II (3 Credits)

A continuation of the material covered in Introduction to Printmaking, this course allows students to further their skills in printmaking media. Students will learn to use color processes, the registration of unique and multiple impressions, and the integration of digital or photo-sensitive plates. This course will encourage students to explore both traditional and alternate approaches to creating printed images that reflect their individual interests. *(Prerequisite: ARTS 1030 or permission of instructor) Studio: 6 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

ARTS 2660 - Ceramics III (3 Credits)

Students are required to develop a proposal for a project they will develop and create by the conclusion of the semester. Exploration of alternate construction methods other than those covered in Ceramics I and II are encouraged as well as an investigation into a personal artistic voice in clay. Kiln and basic glazes are provided; clay and tools must be purchased. *(Prerequisite: ARTS 1660 or permission of instructor) Studio: 6 hours*

ARTS 2820 - Photography Portfolio (3 Credits)

The student is required to develop a portfolio of cohesive exhibition quality work reflecting the student's vision. Through research on photographic history, artists and styles, the student identifies influences and acquires historical perspective. *(Prerequisite: ARTS 1820 or 2850) Studio: 6 hours*

ARTS 2840 - Visual Web Design (3 Credits)

The focus of this course is design of a visual experience for the World Wide Web and the making of Net Art. Students will develop interactive Web publications and original Web art experiences using the latest industry-standard imaging and graphical interface-based software. Students will learn to successfully address multiple design issues related to Web development such as organizational concepts, navigation design, image manipulation and typographic application. The course focuses on developing a sequence of coded art with increasingly sophisticated Web pages using creative links, text, images and multimedia segments. *(Prerequisite: ARTS 1710 or 1840 or 1850 or permission of instructor) Studio: 6 hours*

ARTS 2850 - Digital Photography II (3 Credits)

This course continues skill development in digital camera operation and image editing with the introduction of advanced techniques, including crafting inkjet prints. Students are encouraged to develop a personal, expressive style in addition to mastering a range of photographic techniques while they create a visually and conceptually cohesive, exhibition quality portfolio. DSLR or equivalent camera required.

ASTR (ASTRONOMY)**ASTR 1000 - Highlights of Astronomy (2 Credits)**

This course provides a survey of the major topics in astronomy. Topics include telescopes, the planets, eclipses, comets, constellations, stellar types and groups, galaxies and unusual celestial objects. Each class is divided into an illustrated lecture and observation at the CCRl Observatory on the Knight Campus (Warwick), clear skies permitting or a cloudy night astronomical exercise. *Note: This elective does not fulfill the science requirement. Lecture: 3 hours*

ASTR 1010 - The Solar System (4 Credits)

Major topics covered in this course are the historical development of astronomical understanding, concepts of the celestial sphere, the technology of astronomical observations, modern planetary science derived from the space program, small bodies of the solar system and the origin and evolution of the solar system. Evening observing sessions are included as an optional part of the course *(clear skies permitting)*. *Note: This course fulfills one lab science requirement for the A.A. degree. Lecture: 3 hours, Lab: 2 hours*

ASTR 1020 - The Stellar System (4 Credits)

This course includes the study of the science of analyzing radiation that reaches Earth from extraterrestrial objects; the sun; stellar properties; the life cycles of stars; systems containing more than one star including clusters and galaxies; extraordinary objects such as neutron stars, pulsars, black holes and quasars; and the origin and evolution of the universe. Evening observation sessions are included as an optional part of the course *(clear skies permitting)*. *Note: This course fulfills one lab science requirement for the A.A. degree. Lecture: 3 hours, Lab: 2 hours*

ASTR 2010 - Practical Astronomy I (4 Credits)

This course presents topics in celestial mechanics. Emphasis is on the use of astronomical tables and instruments in practical problems. Practical experience with a telescope at an observatory is included. *Note: This course fulfills one lab science requirement for the A.A. degree. (Prerequisites: ASTR 1010 and 1020 and MATH 1210, that may be taken concurrently) Lecture: 3 hours, Lab: 2 hours*

ASTR 2020 - Practical Astronomy II (4 Credits)

This course presents topics in celestial photography, photometry and astrophysics. Emphasis is on the use of attachments for special purposes, such as astrographic camera and solar photography. Practical experience with astronomical instruments at an observatory is included. *(Prerequisite: ASTR 2010) Lecture: 3 hours, Lab: 2 hours*

BIOL (BIOLOGY)**BIOL 0600 - Essentials of Anatomy and Physiology (1 Credit)**

This five-week, modular, online course prepares students for success in BIOL 1010 - Human Anatomy and BIOL 1020 - Human Physiology. The focus of this course is development of basic skills required for success in higher education: study skills, time management, basic math and language skills. Students learn the essential science background necessary to be successful in life science courses: basic concepts in biology *(biological terminology, cellular structure)* and basic concepts in chemistry *(ions, chemical bonding, terminology and chemical notation)*. *Lecture: 3 hours*

BIOL 1000 - Cell Biology for Technology (4 Credits)

This biology course is designed to introduce basic biological principles while specifically examining life processes at the cellular level. Topics include cell chemistry, the relationship between cell structure and function, metabolism, molecular genetics and cellular communication. Contemporary cell-related technology, as well as its impact and significance, is emphasized. Course transfers as an equivalent to BIOL 1002. *(Prerequisites: ENGL 0890 with grade of B or better or ACCUPLACER exemption from reading. Students also must demonstrate competency in mathematics through required math placement testing: a math ACCUPLACER score equivalent to the successful completion of pre-algebra or successful completion of any of the following courses or their equivalent: MATH 0600, 1200, 1420, 1700, 1900, 1910, 1920, 2910 or 2990) Lecture: 3 hours, Lab: 3 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

BIOL 1001 - Introductory Biology: Organismal (4 Credits)

This course is one part of a two-semester introduction to the fundamentals of biology intended for Science majors. However, BIOL 1001 may be taken independently of BIOL 1002. The course investigates biology at the organismal level through the presentation and discussion of biological processes and systems, including genetics, evolution and ecology. Additionally, the diversity in form and function of multi-cellular organisms (plants, fungi and animals) is explored. (Prerequisites: ENGL 0890 with grade of B or better or ACCUPLACER exemption from reading and MATH 0500 with grade of C or appropriate placement test score) Lecture: 3 hours, Lab: 2 hours

BIOL 1002 - Introductory Biology: Cellular (4 Credits)

This course is one part of a two-semester introduction to the fundamentals of biology intended for Science majors. It may be taken independently of BIOL 1001. Using the theme of evolution as a framework, the course investigates biology at the cellular level through the presentation of such topics as structure, function, metabolism, genetics, reproduction and differentiation. Additionally, the diversity in form and function of unicellular organisms (*bacteria, archae and protists*) is explored. (Prerequisites: ENGL 0890 with grade of B or better or ACCUPLACER exemption from reading and MATH 0500 with grade of C or appropriate placement test score) Lecture: 3 hours, Lab: 2 hours

BIOL 1005 - Biology in the Modern World (4 Credits)

This course investigates the basic biological principals needed to understand and make informed decisions regarding vital biological issues in today's world; for example, global warming, obesity, biodiversity, cancer, race,

genetic engineering and human population growth. *Note: This course is designed for non-Science majors; not open to Science majors. This class fulfills four credits of math/science general education requirements. (Prerequisites: ENGL 0700 and MATH 0500 with grade of C or appropriate placement test score) Lecture: 3 hours, Lab: 2 hours*

BIOL 1007 - Explorations in Biology (4 Credits)

Targeted towards nonscience majors, the course introduces students to core biological concepts and themes including: microorganisms, anatomy and physiology, cellular organization, evolution and ecology. Using a broad, topical approach, students will gain a greater appreciation of the diversity in form and function of organisms. Linking lectures will tie major concepts together and enable students to apply this knowledge in a practical manner in regard to their health and the environment. Critical thinking in learning and application of principles acquired will be an integral part of this course. (Prerequisites: ENGL 0890 with grade of C or better or ACCUPLACER exemption from reading and MATH 0500 with grade of C or better or appropriate placement test score) Lecture: 3 hours, Lab: 2 hours

BIOL 1010 - Human Anatomy (4 Credits)

This course is a study of the human organism with respect to the gross and microscopic anatomy of the organ systems. Laboratory work includes dissection of the cat and appropriate isolated organs. (Prerequisites: ENGL 0890 with grade of B or better or ACCUPLACER exemption from reading and MATH 0500 with grade of C or appropriate test score. Recommended: Take BIOL 1002 before taking BIOL 1010.) Lecture: 3 hours, Lab: 3 hours

BIOL 1020 - Human Physiology (4 Credits)

This course presents a study of the human organism, including basic chemical composition and function of the cell. The course stresses homeostatic control systems and coordinated body functions. (Prerequisite: BIOL 1010 with a grade of C or better) Lecture: 3 hours, Lab: 3 hours

BIOL 1050 - Humans and the Environment (3 Credits)

A study of man's relation to the ecosystem, this course focuses on environmental issues such as energy supplies, energy alternatives, forms of pollution, food production, population growth and resources management. (Prerequisite: ENGL 0700 with grade of C or appropriate placement test score) Lecture: 3 hours

BIOL 1060 - Introduction to Evolution

No previous courses in biology are required for this basic introduction to biological evolution. Topics include Darwin, the scientific evidence for evolution, natural selection and other forces driving evolutionary change, how new species arise, the fossil record, the geologic time scale and human evolution. The problems society faces from the evolution of drug-resistant pathogens will also be explored. (Prerequisites: ENGL 0700 and MATH 0500 with a grade of C or appropriate test placement test score) Lecture: 3 hours

BIOL 1070 - Human Anatomy and Physiology (3 Credits)

This course introduces students to the basic principles of anatomy and physiology necessary for a general understanding of the human body. The relationship between structure and function is emphasized. (Prerequisite: ENGL 0700 and MATH 0500 with grade of C or appropriate placement test score) Lecture: 3 hours

BIOL 1080 - Introduction to Clinical Procedures (3 Credits)

Lectures provide an understanding of the theoretical basis and physiological implications of clinical procedures in the medical office and prepare students for further professional training. Laboratory experiences in vital signs, asepsis, sterilization, blood studies and urine studies supplement the lecture material. (Prerequisites: BIOL 1070 and ENGL 0700 with grade of C or appropriate placement test score and enrollment in the Medical Secretary/Assistant program) Lecture: 2 hours, Lab: 2 hours

BIOL 1110 - Introduction to Pharmacology (1 Credit)

This course provides an introduction to basic pharmacology, terminology and mechanism of drug action. Use, adverse response, special cautions and interactions of drugs commonly used in dental and medical practices are emphasized. (Prerequisites: BIOL 1020 or 1070 and ENGL 0700 with grade of C or appropriate placement test score and enrollment in Dental Assisting program, Medical Transcription or Medical Secretary/Assistant program) Lecture: 1 hour

BIOL 1200 - The Human in Health and Disease (3 Credits)

This course is designed to teach people more about themselves. Topics include cancers, birth defects, birth control, organ transplants, cloning, infectious diseases, heart disease and diets. (Prerequisites: ENGL 0700 and MATH 0500 with grade of C or appropriate placement test score) Lecture: 3 hours

BIOL 1300 - Orientation to Biotechnology (1 Credit)

This course provides an overview of the history and fundamental principles necessary to understand the role of biotechnology in our society. Specific topics are selected to provide examples of applications, ethical considerations and career paths in the

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

field of biotechnology. Students also are introduced to the pathway leading from research and development to production of a biopharmaceutical product, including the regulatory considerations that are involved. (Prerequisites: ENGL 0890 with grade of B or better or ACCUPLACER exemption from reading and MATH 0500 with grade of C or appropriate placement test score) Lecture: 1 hour

BIOL 1310 - Introductory Biotechnology Laboratory Skills (3 Credits)

This course provides an opportunity for students to learn laboratory skills that are fundamental to successful, efficient and safe practices in a biotechnology research, quality control or production laboratory setting. Students are introduced to methods of measurement, data collection and analysis, solution and media preparation, safe laboratory practices and the practical application of mathematics to these processes. In addition, students are introduced to good laboratory practices (GLP), good manufacturing practices (GMP) and related topics that emphasize the significance of maintaining quality in a biological research or production setting. (Prerequisites: MATH 0600 and CHEM 1030 or CHMT 1120, or 1121 or concurrent enrollment in CHMT 1121 or equivalent or permission of instructor. Completion of ENGL 0890 with grade of B or better or ACCUPLACER exemption from reading) Lecture: 2 hours, Lab: 2 hours

BIOL 2040 - Human Sexuality (3 Credits)

This course offers an exploration of the physiological, psychological and cultural aspects of human sexuality. Topics include reproductive health, forms and evolution of sexual expression, psychosexual development and the role of sex in the individual's life as well as in society. (Prerequisite: ENGL 0700 with grade of C or appropriate placement test score) Lecture: 3 hours

BIOL 2070 - Evolution: A History of Life on Earth (3 Credits)

This course covers the scientific evidence for evolution, the sources of variation, the role of natural selection, the formation of species and the basis for human evolution. Current scientific research is stressed. (Prerequisite: MATH 1200 or 1700 and ENGL 0890 with grade of B or better or ACCUPLACER exemption from reading) Lecture: 3 hours

BIOL 2090 - Genetics (3 Credits)

This course covers basic concepts of inheritance, variation and evolution in plants and animals, including a survey of Mendelian, molecular, cellular and population genetics. (Prerequisite: MATH 1200 or 1700 and ENGL 0890 with grade of B or better or ACCUPLACER exemption from reading) Lecture: 3 hours

BIOL 2100 and 2110 - Biology Seminar (1 Credit)

This course involves the research, writing and presentation of papers dealing with selected topics in biology. (Prerequisites: One year of biology or permission of instructor and ENGL 0700 with grade of C or appropriate placement test score) Lecture: 1 hour

BIOL 2150 - Laboratory in Genetics (2 Credits)

Selected aspects of genetics are demonstrated using bacteria, fungi, fruit flies and other organisms. Each student must design, carry out and present the result of a project. (Prerequisites: One year of biology and concurrent registration in BIOL 2090 and appropriate math placement test score and ENGL 0700 with grade of C or appropriate placement test score) Lab: 4 hours

BIOL 2210 - Introductory Microbiology (4 Credits)

This course involves a descriptive approach to the anatomy, growth, reproduction and genetics of selected microorganisms. Topics include pathogenic mechanisms, immunology, microbial control and applied microbiology. (Prerequisites: BIOL 1010 and 1020) Lecture: 3 hours, Lab: 3 hours

BIOL 2220 - Introduction to Pathophysiology

The course begins by examining the disease process in general, from the etiology of disease at the cellular level to the physiologic changes that occur as the disease moves from incipient stage to full expression. The second half of the course examines the pathogenesis of specific diseases, system by system. (Prerequisites: BIOL 1010 and 1020) Lecture: 3 hours

BIOL 2480 - General Microbiology (4 Credits)

This course offers a look at microbes and particularly bacteria from a biochemical and molecular perspective. Emphasis is placed on microbial physiology and genetics with applications to biotechnology. (Prerequisites: One semester of chemistry and one semester of biology and ENGL 0700 and MATH 0600 with a grade of C or appropriate placement test score.) Biotechnology certificate program students can fulfill the prerequisites with CHMT 1121 or concurrent enrollment in BIOL 1000. Lecture: 2 hours, Lab: 4 hours

BIOL 2500 - Applications in Science and Math (1 Credit)

This capstone course is intended for students in their final semester of the Science program. It allows students an opportunity to demonstrate an integration of knowledge and abilities acquired in previous science and mathematics courses with the added intent

of developing new insights. Students read selected articles, such as those that come from scientific journals, in a variety of fields and then have the opportunity to collaborate with their peers and hone writing, synthesis and presentational skills in a seminar setting. (Prerequisite: Successful completion of a minimum of 21 general education credits and a minimum of 18 Science credits or permission of instructor) Seminar: 2 hours

BUSN (BUSINESS ADMINISTRATION)

BUSN 1000 - Workplace Relationship Skills (3 Credits)

Critical to success in the workplace is the ability to develop and maintain effective-working relationships with coworkers, supervisors, subordinates and both internal and external customers. This course guides students in developing interpersonal skills and strategies to manage their work lives. Lecture: 3 hours

BUSN 1010 - Introduction to Business (3 Credits)

This course emphasizes both small and publicly traded businesses along with strategies for competing in modern economic conditions. Topics include: cultivating a business in a diverse global environment, developing and implementing customer-driven strategies, motivating and empowering employees to satisfy customers and financing a small business. Lecture: 3 hours (This course serves as a prerequisite for several courses in the Business curriculum. However, this prerequisite may be waived and credit received by examination. Contact the department for details.)

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

BUSN 1020 - Marketing Communications (3 Credits)

This course provides an introduction to the basic promotional tools available to the person interested in marketing a business or service. Topics to be covered include: source credibility, message development, media selection and understanding audiences. Communication with audiences through advertising, public relations and printed materials are explored. *Lecture: 3 hours*

BUSN 1040 - Personal Finance (3 Credits)

This course helps individuals manage their money and property. Financial planning, budgeting, consumer protection, consumer credit, investing, housing and insurance are discussed. *Lecture: 3 hours*

BUSN 1050 - Small Business Administration (3 Credits)

This course covers the practical considerations involved in starting and operating a small business. Topics include what business to enter, success factors, financing, location, franchising, managing, record-keeping and small business computers. *Lecture: 3 hours*

BUSN 1060 - Leadership Development (3 Credits)

This course provides emerging and existing leaders the opportunity to explore the concept of leadership and to develop and improve their leadership skills. The course integrates readings from the humanities, experiential exercises, films and contemporary readings on leadership. *Lecture: 3 hours*

BUSN 1110 - Sales (3 Credits)

This course introduces the fundamental skills required for work in a sales position. Topics include: the role and importance of selling,

sales processes, personal qualities necessary for salesmanship and basic procedures for seeking a sales position. *Lecture: 3 hours*

BUSN 1130 - Advertising Principles (3 Credits)

This survey course deals with the planning, creation and role of advertising in our society. Topics include: advertising strategy development, media planning and the function of ad agencies. All major media are covered. *Lecture: 3 hours*

BUSN 1150 - Introduction to International Business (3 Credits)

This course introduces students to the importance and role of international business. Predominant themes include culture and business opportunities. Topics include international trade, balance of payments and multinational companies. Factors and entities that influence trade are considered. (*Recommended: BUSN 1010*) *Lecture: 3 hours*

BUSN 1220 - QuickBooks, Computer Application (1 Credit)

QuickBooks is a widely used computerized accounting package for small businesses. Topics covered include writing checks and paying bills, creating reports, managing accounts receivable and accounts payable, invoicing, and managing inventory. Concepts are presented through hands-on exercises using a case study approach. *Lecture: 2 hours, Lab: 2 hours*

BUSN 2050 - Principles of Management (3 Credits)

This course introduces students to the basic role of the manager in modern business. Among the topics discussed are: paradigm shifts; environmental factors affecting decision-making; ethics/social responsibility; and planning, organizing, motivating and controlling organizational

resources. (*Prerequisite: BUSN 1010. May be waived. See course description for BUSN 1010.*) *Lecture: 3 hours*

BUSN 2060 - Principles of Marketing (3 Credits)

This course offers an introduction to the basic concepts and operations involved in the marketing process. Among the topics covered are the basic marketing functions, identification and selection of target markets (including international), marketing research and technologies, pricing, products, promotion and channels of distribution. (*Prerequisite: BUSN 1010. May be waived. See course description for BUSN 1010.*) *Lecture: 3 hours*

BUSN 2070 - Management Strategy (3 Credits)

This course is the capstone for the Management concentration and the Management certificate programs. Integration of key aspects covered in other management, business and communications courses are utilized. Emphasis is on the formulation, application and justification of managerial strategies through the use of cases and simulation. (*Prerequisites: ACCT 1010; BUSN 2050 and 2060. Note: ACCT 1020 strongly recommended.*) *Lecture: 3 hours*

BUSN 2100 - Entrepreneurship Capstone (3 Credits)

This course is the capstone for the certificate in Entrepreneurship. Students work with a member of the business faculty and a mentor from the business community in developing a business plan. The completed plan is reviewed by a committee of volunteer advisers from the business community and judged on a pass/fail basis. Students also are required to keep a daily business journal of their activities. All work is done independently without the benefit of classroom

instruction. (*Prerequisites: ACCT 1010; BUSN 1010 and 1050. Prerequisite for BUSN 1010 may be waived. See course description for BUSN 1010.*) *Lecture: 3 hours*

BUSN 2110 - Money and Banking (3 Credits)

This course is an analysis and description of the monetary and banking aspects of our present economic system. Introductory material on money, credit and monetary standards precedes a more intensive study of the nature and functions of commercial banking and the Federal Reserve System. *Lecture: 3 hours*

BUSN 2120 - Investments (3 Credits)

This course studies the scope and nature of investment from the viewpoint of the individual investor. The course includes discussions of investment objectives, types of securities, mechanics of investing, security market procedures, sources of information, security analysis and forecasting techniques. *Lecture: 3 hours*

BUSN 2160 - Management and Labor Relations (3 Credits)

This course is the study of the evolution of the labor relations concept in the public and private sectors. Emphasis is placed on techniques that have resulted in sound management-labor relations policies. *Lecture: 3 hours*

BUSN 2350 - Human Resources Management (3 Credits)

This course introduces the functions and management of human resources in the development of an effective workforce. Topics include job descriptions, recruitment and hiring procedures, training, performance

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

evaluation methods, motivation, incentive compensation, the grievance procedure, application of affirmative-action legislation and implementation of health and safety programs. (Prerequisite: BUSN 1010. May be waived. See course description for BUSN 1010.) Lecture: 3 hours

CHEM (CHEMISTRY)

See also CHMT (Chemical Technology).

CHEM 1000 - Chemistry of Our Environment (4 Credits)

This course is an introductory, entry-level course in chemistry for non-science majors, with emphasis on everyday, practical applications. The course covers basic chemistry principles, which are then applied to contemporary issues. Use of mathematics is minimized as much as possible. The laboratory assignments demonstrate topics discussed in class. *Note: This course is a prerequisite for CHEM 1060 and is recommended as a Science elective in the Liberal Arts or General Studies program.* (Prerequisite: MATH 0600 or higher with grade of C or better or ACCUPLACER testing out of MATH 0600) Lecture: 3 hours, Lab: 3 hours

CHEM 1010 - Survey of Biomedical Chemistry (5 Credits)

This is an introductory study of chemistry principles that form the foundation for understanding biomedical and dental sciences. Content includes atomic theory, chemical bonding, the nature and properties of matter and solutions, the colloidal state, crystallization and the chemical functioning of basic biological compounds. Laboratory exercises demonstrate concepts presented in lectures. (Prerequisite: MATH 0600 or higher with grade of C or better or ACCUPLACER

testing out of MATH 0600 and Chemistry placement exam or CHEM 1020 with grade of C or better.) Lecture: 3 hours, Lab: 3 hours, Recitation: 1 hour

CHEM 1020 - Basic Skills for Chemistry (3 Credits)

This course is for students who are inadequately prepared to enter General Chemistry, Health Science Chemistry or Survey of Biomedical Chemistry. Topics stressed are physical measurements, problem-solving and chemical language. Students are given first-hand experience in data gathering, evaluation and presentation. *Note: Not open to students who have already completed CHEM 1010, 1030 or 1180 without permission of department chairperson.* (Prerequisite: MATH 0600 or higher with grade of C or better or ACCUPLACER testing out of MATH 0600 and Chemistry placement exam) Lab/Recitation: 4 hours

CHEM 1030 - General Chemistry I (5 Credits)

Principles of chemistry dealing with the structure of matter, periodic system, chemical bonding, formulas and equations are studied in this course. Laboratory work provides an opportunity to see the applications of these chemical principles. *Note: This course is for students who plan to pursue further studies in science, pharmacy or engineering.* (Prerequisite: MATH 0600 or higher with grade of C or better or ACCUPLACER testing out of MATH 0600 and Chemistry placement exam or CHEM 1020 with grade of C or better) Lecture: 3 hours, Lab: 3 hours, Recitation: 1 hour

CHEM 1060 - Chemistry of Hazardous Materials (3 Credits)

This course provides an insight into hazardous liquids, solids and gases. Students are exposed to basic chemistry, storage,

handling laws, standards and fire fighting practices pertaining to hazardous liquids, solids and gases. (Prerequisite: CHEM 1000) Lecture: 3 hours

CHEM 1100 - General Chemistry II (5 Credits)

This course, together with CHEM 1030, satisfies the requirement for one year of science. Lectures are concerned with rates of reactions, equilibria, thermodynamics, electrochemistry, nuclear chemistry and complexation reactions. Laboratory involves further application of chemical principles and the separation and identification of inorganic ions. (Prerequisite: CHEM 1030) Lecture: 3 hours, Lab: 3 hours, Recitation: 1 hour

CHEM 1180 - Health Science Chemistry I (5 Credits)

This course in the fundamentals of chemistry is for those interested in the biological and health science areas who need less extensive coverage of chemistry than is provided by CHEM 1030. Subjects covered include atomic theory, chemical bonding, properties of matter, properties of solutions, the colloidal state and theory applications of radioactivity. The laboratory utilizes the principles and techniques discussed in lecture. (Prerequisite: MATH 0600 or higher with grade of C or better or ACCUPLACER testing out of MATH 0600 and Chemistry placement exam or CHEM 1020 with grade of C or better) Lecture: 3 hours, Lab: 3 hours, Recitation: 1 hour

CHEM 2250 – Organic Chemistry I Lecture (3 credits)

This course deals with the chemical principles involved in organic reactions. Emphasis is placed on compounds in the aliphatic series. (Prerequisite: Enrollment in ENGN/ENBC or ENGN/ENCH programs and CHEM 1100 with a grade of C or better) Lecture: 3 hours

CHEM 2260 – Organic Chemistry II Lecture (3 credits)

A continuation of CHEM 2250, this course emphasizes the aromatic series of organic compounds and synthetic organic chemistry. (Prerequisite: Enrollment in ENGN/ENCH programs and CHEM 2250 with a grade of C or better) Lecture: 3 hours

CHEM 2270 - Organic Chemistry I (5 Credits)

This course deals with the chemical principles involved in organic reactions. Emphasis is placed on compounds in the aliphatic series. The laboratory enhances lecture material by illustrating methods of preparation, purification and characterization of organic compounds using accepted techniques. (Prerequisite: CHEM 1100 with a grade of C or better) Lecture: 3 hours, Lab: 3 hours, Recitation: 1 hour

CHEM 2280 - Organic Chemistry II (5 Credits)

A continuation of CHEM 2270, this course emphasizes the aromatic series of organic compounds and synthetic organic chemistry. The laboratory enhances the lecture material by illustrating methods of preparation, purification and characterization of organic compounds using accepted techniques. (Prerequisite: CHEM 2270 with a grade of C or better) Lecture: 3 hours, Lab: 3 hours, Recitation: 1 hour

CHEM 2500 - Applications in Science and Math (1 Credit)

This capstone course is intended for students in their final semester of the Science program. It allows students an opportunity to demonstrate an integration of knowledge and abilities acquired in previous science and mathematics courses with the added intent of developing new insights. Students

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

read selected articles, such as those from scientific journals, in a variety of fields, and then have the opportunity to collaborate with their peers and hone writing, synthesis and presentational skills in a seminar setting. *(Prerequisite: Successful completion of a minimum of 21 general education credits and a minimum of 18 Science credits or permission of instructor. See Department Chairperson for Permission Override)* Lecture: 2 hours

CHIN (CHINESE)

CHIN 1000 - Basic Spoken Chinese I (3 Credits)

This is an introductory elective course for beginners emphasizing correct pronunciation and basic vocabulary for practical use in everyday conversational situations and travel dialogues. Students with no previous study of the language are prepared to use and understand it within a limited context and basic structure. Lecture: 3 hours

CHIN 1100 - Basic Spoken Chinese II (3 Credits)

This is a continuation of Basic Spoken Chinese (CHIN 1000). *(Prerequisite: CHIN 1000 or its equivalent)* Lecture: 3 hours

CHMT (CHEMICAL TECHNOLOGY)

CHMT 1120 - Chemical Technology I (6 Credits)

This course is an introduction to basic concepts in chemistry. The course covers chemical properties; identification and separation of substances, atomic and molecular structure, elements and compounds, liquids and solutions; the periodic table and the naming of inorganic substances. Students will use a variety of instruments including the

gas chromatograph, manometers, analytical balances and visible spectrophotometers. Lecture: 2 hours, Lab: 8 hours

CHMT 1121 - Chemistry for Biotechnology (3 Credits)

This course provides an introduction to basic concepts in chemistry and instruction in the use of instruments, including gas and liquid chromatographs, electronic balance, visible spectrophotometers and pH meters. Topics covered include chemical properties, identification and separation of substances, atomic structure, elements and compounds, gases and solutions, acids and bases, and amino acids and proteins. Lecture: 2 hours, Lab: 3 hours

CHMT 1220 - Chemical Technology II (6 Credits)

This course is a continuation of Chemical Technology I and covers acid-base chemistry, equilibrium, and qualitative and quantitative analysis. *(Prerequisite: CHMT 1120 or its equivalent)* Lecture: 2 hours, Lab: 8 hours

CHMT 2320 - Chemical Technology III (10 Credits)

This course is a continuation of Chemical Technology II and covers an introduction to organic chemistry via study of organic functional groups, classification of organic compounds using wet and instrumental methods and organic reactions. It also will focus on infrared spectrophotometry separation methods, including gas chromatography and high pressure liquid chromatography. *(Prerequisite: CHMT 1220 or its equivalent)* Lecture: 4 hours, Lab: 12 hours

CHMT 2420 - Chemical Technology IV (8 Credits)

This course is a continuation of Chemical Technology III and covers the nature of reversible processes, equilibrium constants, solute and solvent systems and the kinetics of chemical reactions. Instrumental methods used include atomic absorption, emission spectroscopy, ultraviolet and NMR spectroscopy. The course concludes with a variety of special methods and student projects. *(Prerequisite: CHMT 2320 or its equivalent)* Lecture: 4 hours, Lab: 8 hours

CNVT (COMPUTER NETWORKING VISUALIZATION TECHNOLOGY)

CNVT 1000 - Computer Repair A+ Hardware (formerly ETEK 1000) (3 Credits)

This course covers the installation, configuration and troubleshooting of hardware components. The material is presented to prepare the student for the A+ Core Hardware examination. This course may not be used as an elective in the electronics or instrumentation programs. *(Recommended: COMI 1415)* Lecture: 2 hours, Lab: 2 hours

CNVT 1010 - Computer Repair A+ Software (formerly ETEK 2350) (3 Credits)

This course covers installation, configuration and troubleshooting of software/operating system components. The material is presented to prepare the student for the A+ OS Technologies examination. Lecture: 2 hours, Lab: 2 hours

CNVT 1200 - Introduction to Wireless Networks (formerly ETEK 1500) (3 Credits)

This course introduces wireless networking over a range of applications, from cell phones to wireless local area networks (WLAN), to broadband wide area network links and satellites. Topics covered include an overview of wireless communication technology, protocol layers, local area network (LAN) hardware, IP addressing, 802.11 standards, MA (Media Access Control) standards, WLAN components, basic security, basic RF theory, antennas and troubleshooting. The student will have hands-on experience with various LAN and WLAN networking components, applications, tools and projects. *(Prerequisite: CNVT 1000)* Lecture: 2 hours, Lab: 2 hours

CNVT 1810 - Networking Technology (formerly CSCO 1850) (3 Credits)

This course provides students with a thorough understanding of how basic networking components work in a practical hands-on environment utilizing state-of-the-art telecommunications equipment. Lecture: 2 hours, Lab: 2 hours

CNVT 1820 - Intermediate Networking (formerly CSCO 1860) (3 Credits)

This course focuses on networking terminology and protocols, networking standards, LAN, WAN, OSI modules, Ethernet, token ring, FDDI, TCP/IP addressing protocol, dynamic routing and the network administrator's role and function. Lecture: 2 hours, *(Prerequisite or Corequisite: CNVT 1810)* Lab: 2 hours

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

CNVT 1830 - Local Area Networking (LAN) Design and Management (formerly CSCO 1870) (3 Credits)

This course focuses on advanced networking concepts that enable students to design and implement local area networks and virtual local area networks. (Prerequisite: CNVT 1820) Lecture: 2 hours, Lab: 2 hours

CNVT 1840 - Wide Area Networking (WAN) Design and Configuration (formerly CSCO 1880) (3 Credits)

This course focuses on advanced networking concepts that enable students to design and implement wide area networks. (Prerequisite or Corequisite: CNVT 1830) Lecture: 2 hours, Lab: 2 hours

CNVT 2010 - Cisco CCNP ROUTE (formerly CSCO 2010) (5 Credits)

Cisco ROUTE covers specialized routing concepts including advanced IP addressing techniques, CIDR, NAT, DHCP, IP helper addresses, dynamic routing, static routing, default routing, single area OSPF, multi-area OSPF, point-to-multipoint OSPF, multi-area OSPF, EIGRP route summarization, route redistribution, route filters, route maps, policy routing, BGP, IPv6 and network security. (Recommended: Successful completion of CCNA exam and Cisco Certified Academy attendance or demonstrated proficiency using laboratory equipment.) Spring only. Lecture: 3 hours, Lab: 5 hours

CNVT 2030 - Cisco CCNP SWITCH (formerly CSCO 2030) (5 Credits)

Cisco SWITCH concentrates on advanced concepts of multi-layer switching in a network environment. Topics include switching technologies, LAN Media, Gigabit Ethernet, switch configuration, VLANs, VLAN Trunking Protocol (VTP), Spanning Tree Protocol, multi-layer

switching, redundant routing protocols, multicasting, and restricting network access. (Recommended: Successful completion of CCNA exam and Cisco Certified Academy attendance or demonstrated proficiency using laboratory equipment.) Fall only. Lecture: 3 hours, Lab: 5 hours

CNVT 2060 - CCNP TSHOOT: Maintaining and Troubleshooting Cisco IP Networks (formerly CSCO 2060) (5 Credits)

This course concentrates on advanced concepts of internetwork troubleshooting. Topics include network maintenance and methodologies, troubleshooting processes, troubleshooting tools, maintaining switched and routed solutions, addressing services, performance issues, and network security implementations. (Prerequisites: CNVT 2010, 2030 or equivalent. Recommended: Successful completion of CCNA exam and Cisco Certified Academy attendance or demonstrated proficiency using laboratory equipment.) Lecture: 3 hours, Lab: 5 hours

CNVT 2100 - Basic Voice Over Internet Protocol (VoIP) (formerly CSCO 2050) (3 Credits)

This course concentrates on the transmission of voice over the Internet using Internet Protocol (VoIP). Focus is on the transmission of voice over high speed network connections and quality of service issues and solutions associated with this transmission. VoIP technology, signaling standards, network configuration and queuing are addressed. (Prerequisite: CNVT 1830) Lecture: 2 hours, Lab: 2 hours

CNVT 2200 - Network Security Hardware (formerly CSCO 1990) (4 Credits)

This course concentrates on network security procedures and practices as they apply to routed networks. Security threats

and their management; intrusion detection; securing networks through hardware devices; Authentication, Authorization and Accounting (AAA); firewall technologies; cryptographic systems and virtual private networks (VPNs) are included. (Recommended: Successful completion of CCNA exam and Cisco Certified Academy attendance or demonstrated proficiency using laboratory equipment.) Lecture: 3 hours, Lab: 3 hours

CNVT 2300 - Desktop Technician – Consumer (formerly ETEK 2100) (3 Credits)

In this course, students learn how to install and support users running the Microsoft Windows operating system. Topics include installing operating systems and service packs, managing access to files and folders, configuring hardware devices and drivers, setting up network protocols, configuring security options and troubleshooting associated problems. Lecture: 2 hours, Lab: 2 hours

CNVT 2310 - Desktop Technician – Business (formerly ETEK 2110) (3 Credits)

In this course, students learn how to install and support desktop applications running under the Microsoft Windows operating system. Applications include the complete Office Suite, Outlook and Internet Explorer. Students learn how to set up standard and custom configurations for these applications. They also learn how to manage security issues and respond to breaches. Troubleshooting problems associated with these applications, including connectivity issues, also are explored. (Prerequisite: COMI 1100) Lecture: 2 hours, Lab: 2 hours

COMI (COMPUTER STUDIES AND INFORMATION PROCESSING)

Programming language courses:

COMI 1215, 1225, 1241, 1260, 1510, 1520, 1530, 1750, 1751, 1755, 2010, 2012, 2040, 2510

COMI 1000 - Computer Basics (1 Credit)

This is a basic course in using computers for students with no familiarity with computers. It covers topics such as working with Windows and the Windows desktop, file handling, email and the Internet (browsing and searching). Lab: 4 hours

COMI 1100 - Introduction to Computers (3 Credits)

This computer literacy course provides a comprehensive introduction to the principles of computers and information processing. Students are introduced to the operation and terminology of computer systems as well as certain selected application software packages such as word processing, spreadsheets and presentation software. Note: Lecture and lab hours vary by instructor but total four hours per week.

COMI 1105 - Expanding Your Computer Skills (3 Credits)

Skills will be developed to facilitate taking the next steps in computing including topics such as IM, talk bots, messenger systems, RSS feeds, blogs, podcasting and social networking systems. Students will learn how to recognize, prevent and remedy problems caused by spyware, adware and other “malware.” Students will be introduced to wireless home networking technologies, open source software and the next level of

Module: A segment of a three-credit course that may be taken independently.

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

software applications and operating systems. The course will survey software available for communicating through a broadband Internet connection as well as software products that can be handled by a thumb drive. *Lecture: 3 hours*

COMI 1140 - Introduction to Computer Software (1 Credit)

This module of the computer literacy course provides an introduction to the development, types, uses and terminology of the software in computer systems. *Lecture: 3 hours, Lab: 1 hour*

COMI 1145 - Introduction to Learning Online (1 Credit)

This course will give students the necessary skills to succeed in an online learning environment. Topics covered include the technology used in distance education, online and library research skills, and online communications skills, as well as the time management and organization skills necessary to succeed when learning online. *Lab: 4 hours*

COMI 1150 - Programming Concepts (3 Credits)

This course introduces important concepts and skills necessary to write common business programs. Emphasis is on structured programming techniques and top-down design. *Lecture: 3 hours, Lab: 1 hour*

COMI 1215 - Programming in C++ (3 Credits)

This is a comprehensive course in programming in C++. Topics include types, operators, expressions, control flow, functions, arrays and file handling. *(Recommended: COMI 1150) Lecture: 3 hours, Lab: 1 hour*

COMI 1225 - Programming in C# (3 Credits)

This course covers the fundamentals of software development using Microsoft's Visual Studio C# object-orientated programming language. Data Structures, Methods, Classes, Decision Making, Iteration and Arrays are covered. *(Recommended prerequisite: COMI 1150) Lecture: 2 hours, Lab: 2 hours*

COMI 1240 - Object-Oriented Programming (3 Credits)

This course introduces students to the fundamentals of designing and coding object-oriented programs. Basic topics such as objects, classes and class inheritance are discussed. Students write programs using one of the object-oriented languages. *(Recommended: COMI 1150) Lecture: 3 hours, Lab: 1 hour*

COMI 1241 - Introduction to Object-Oriented Programming (1 Credit)

This module surveys the topic of object-oriented programming. Students write simple programs using an object-oriented language. *(Recommended: COMI 1150) Lecture: 3 hours, Lab: 1 hour*

COMI 1260 - Programming in Fourth Generation Languages (3 Credits)

This course offers a foundation in the fundamentals of fourth generation language programming. Particular attention is devoted to the use of ANSI-Standard SQL to construct and manipulate database objects. Students create database tables and generate SQL scripts to extract and manipulate data from the database. *(Recommended: COMI 1150) Lecture: 3 hours, Lab: 1 hour*

COMI 1410 - Personal Computer Software (3 Credits)

This course introduces operational procedures for several standard data management software packages that utilize computer systems. Students construct and manipulate data files to produce clear, concise reports. *Lecture: 2 hours, Lab: 2 hours*

COMI 1415 - Personal Computer Operating System (1 Credit)

This module familiarizes students with operating system commands for the personal computer. Students are exposed to statements to enhance their computer operation abilities. *Lecture: 2 hours, Lab: 2 hours*

COMI 1420 - Introduction to Spreadsheets (1 Credit)

The purpose of this module is to introduce the operational procedures for a spreadsheet software package. Students construct and manipulate data files to produce clear and concise reports. *Lecture: 2 hours, Lab: 2 hours*

COMI 1422 - Intermediate Spreadsheets (1 Credit)

This module presents topics and functions, advanced database techniques and additional add-in topics. It focuses on conceptual features beyond the scope of beginning spreadsheet uses. Topics include utilizing additional spreadsheet features and macro planning and development. *(Recommended: COMI 1420) Lecture: 2 hours, Lab: 2 hours*

COMI 1425 - Advanced Spreadsheets (1 Credit)

This module covers advanced topics using integrated spreadsheet software including macros, application design and menu building. *(Recommended: COMI 1422) Lecture: 2 hours, Lab: 2 hours*

COMI 1428 - Use of Database Software (3 Credits)

This course introduces students to different methods of organizing and accessing computer files as well as covering database design and management, macros, events, procedures, reports, queries and forms. Additional topics include data file and record structure definitions, their construction and their use in other applications. *Lecture: 2 hours, Lab: 2 hours*

COMI 1430 - Introduction to Database Software (1 Credit)

This module introduces students to different methods of organizing and accessing computer files. Fundamentals of database design and management are covered. *Lecture: 2 hours, Lab: 2 hours*

COMI 1432 - Intermediate Database Software (1 Credit)

This module focuses on the creation and manipulation of data files to produce meaningful output using database software. Emphasis is on the presentation of queries, forms and reports. *(Recommended: COMI 1430) Lecture: 2 hours, Lab: 2 hours*

COMI 1434 - Advanced Database Software (1 Credit)

This module introduces students to the basics of SQL, a database programming language. Emphasis is on the introduction of SQL commands and syntax of SQL statements. *(Recommended: COMI 1150, 1432) Lecture: 2 hours, Lab: 2 hours*

Module: A segment of a three-credit course that may be taken independently.

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

COMI 1440 - Presentation Software (1 Credit)

This module focuses on the use of computer software that incorporates presentation as well as analytical graphics. Students create informative report documents and visual presentations using charts, graphs and/or pictures. *Lecture: 2 hours, Lab: 2 hours*

COMI 1450 - Windows Operating System (3 Credits)

This course familiarizes students with the Windows operating system. Basic and advanced features of Windows are demonstrated. Students explore topics in system diagnostics and troubleshooting, networking, configuration, customization, and commonly used software tools as well as learning about new developments in Windows. *Lecture: 3 hours, Lab: 1 hour*

COMI 1451 - Introduction to Windows (1 Credit)

This module familiarizes students with the graphical-user operating environment. Basic functions of Windows are demonstrated. Students do laboratory assignments to utilize the basic operating functions of Windows such as file handling, fonts, graphics, icons and screen control. *Lecture: 3 hours, Lab: 1 hour*

COMI 1460 - UNIX Operating System (3 Credits)

This course covers basic command structures and syntax of the UNIX operating system and includes file and directory manipulation and shell scripts. Essential system administration topics and system administration shell scripts also are discussed as well as system start up/shut down, account management and system backup of the UNIX operating system. This class covers advanced system administration topics including networking, security, printing systems and graphical-user interface of the UNIX operating system. *Lecture: 3 hours, Lab: 1 hour*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

COMI 1461 - Introduction to UNIX (1 Credit)

This module exposes students to the basic command structures and syntax of the UNIX operating system. Content includes file and directory manipulation as well as use of shell scripts. *Lecture: 3 hours, Lab: 1 hour*

COMI 1462 - Intermediate UNIX (1 Credit)

This module provides an understanding of essential system administration topics and system administration shell scripts. It covers system start up/shut down, account management and system backup of the UNIX operating system. *(Recommended: COMI 1461) Lecture: 3 hours, Lab: 1 hour*

COMI 1463 - Advanced UNIX (1 Credit)

This module covers advanced system administration topics including networking, security, printing systems and graphical-user interface of the UNIX operating system. *(Recommended: COMI 1462) Lecture: 3 hours, Lab: 1 hour*

COMI 1470 - Windows Programming Using C++ (3 Credits)

This course focuses on using C++ to design programs that run under the Windows operating system. It includes an overview of object-oriented concepts, creating Windows applications, capturing the mouse and keyboard, creating menus, dialog boxes and toolbars and single and multiple document interfaces. *(Recommended: COMI 1150 or 1215) Lecture: 3 hours, Lab: 1 hour*

COMI 1475 - Introduction to Visio (1 Credit)

This module introduces basic Visio tools. Students create and manipulate drawings and shapes, including flow charts, diagrams and organizational charts. *Lecture: 3 hours, Lab: 1 hour*

COMI 1510 - Java Programming (3 Credits)

Java is a programming language with flexibility to be used either on a network or stand-alone system. This course explores features that set it apart from traditional programming languages: its graphics and user-interface features along with its implementation of object-oriented program design. *(Recommended: COMI 1150 and one other programming language course) Lecture: 3 hours, Lab: 1 hour*

COMI 1520 - Visual Basic Programming (3 Credits)

The course familiarizes students with an object-oriented, event-driven language using Visual Basic in a Windows environment. Topics include the creation and use of buttons, list boxes, scroll bars and icons in the Windows application. *(Recommended prerequisite: COMI 1150) Lecture: 3 hours, Lab: 1 hour*

COMI 1530 - Advanced Visual Basic Programming (3 Credits)

This course covers the advanced concepts of the object-oriented programming language using Visual Basic programming in the Windows environment. Topics include Windows common controls, database applications, classes, API and Active X. *(Recommended: COMI 1150, 1520) Lecture: 3 hours, Lab: 1 hour*

COMI 1640 - Introduction to Word Processing (1 Credit)

This module introduces introductory word processing features such as creating, printing and editing a document. This course covers formatting documents including text and paragraphs. Students use spelling, grammar and auto-correct features and are introduced to headers, footers and tables in basic word processing documents. *Lecture: 3 hours, Lab: 1 hour*

COMI 1645 - Intermediate Word Processing (1 Credit)

This module covers intermediate word processing features. Topics include tables and data management, envelopes, labels and mail merge, formatting large documents, tables of content and indexes, as well as creating online forms and working with outlines. *(Recommended: COMI 1640) Lecture: 3 hours, Lab: 1 hour*

COMI 1650 - Advanced Word Processing (1 Credit)

This module covers more advanced word processing features. Topics include incorporating graphic elements into documents, working with columns, using desktop publishing features and incorporating the use of macros into word processing documents. The use of the drawing tools as well as the creation of Web pages using a word processor also will be discussed. *(Recommended: COMI 1645) Lecture: 3 hours, Lab: 1 hour*

COMI 1750 - HTML (3 Credits)

This course provides an in-depth introduction to HTML 5 and CSS 3 emphasizing conformance to W3C specifications. Students begin by creating simple web pages and progress to include images, hyperlinks, tables, web forms, animations and transitions. A portfolio website will be created, including examples of attempts at cloning existing websites. *Lecture: 3 hours, Lab: 1 hour*

COMI 1751 - Introduction to HTML (1 Credit)

This module introduces students to the use of the HTML language and the basic features of HTML scripting. *Lecture: 3 hours, Lab: 1 hour*

COMI 1755 - XML Fundamentals (eXtensible Markup Language) (3 Credits)

The newest language technique developing on the Web is the eXtensible Markup Language. This course introduces fundamentals of XML languages to define and validate data, use schemas, transformations, linking, VML, SMIL and CSS. XML files are used with different editing software. Assignments are used to demonstrate XML activity at students' websites. *Lecture: 3 hours, Lab: 1 hour*

COMI 1761 - Introduction to the Use of the Internet (1 Credit)

This module is an introduction to the Internet and its associated tools. *Lecture: 3 hours, Lab: 1 hour*

COMI 1770 - Fundamentals of Website Development (3 Credits)

This course provides an in-depth introduction to a variety of technologies used in modern web development. Building on a base of HTML 5 and CSS 3, students will explore JavaScript, JQuery and related technologies for building dynamic web sites. Students will also be introduced to server-side scripting and best practices for web hosting. *Lecture: 3 hours, Lab: 1 hour*

COMI 1771 - Introduction to Website Development (1 Credit)

This module familiarizes students with a one-level World Wide website. Students design and create a one-level Web page set containing a frame page, link table, form fields, graphic slide pages or downloadable page. *Lecture: 3 hours, Lab: 1 hour*

COMI 1775 - Media on the Web (1 Credit)

Many media techniques are being used on the Web today. This course presents coding techniques to implement different forms of media files as Web content. Coding techniques to implement different forms of graphic, audio and video media files as Web content are presented. Assignments are used to demonstrate media content at students' websites. *Lecture: 2 hours, Lab: 2 hours*

COMI 1776 - E-commerce Software (1 Credit)

Electronic commerce on the Web is becoming an important part of business and organizational success. This module introduces website software that enables electronic commerce activity within the website and on websites offering electronic store capability. Current e-commerce software techniques to add an e-commerce capability to the website are introduced. Student websites and online store sites are used to display coursework. *Lecture: 3 hours, Lab: 1 hour*

COMI 1782 - Security of Your Computer (1 Credit)

This module introduces computer hardware and software security. Topics such as physical security of hardware, password systems, email security, file backup/restore, data file encrypting, cookies, virus software, personal firewall and proxy software are covered. *Lecture: 3 hours, Lab: 1 hour*

COMI 1800 - Computer Networking Software (3 Credits)

This course presents the administration of a LINUX network. Topics include installing, using, administering and maintaining a LINUX network. *Lecture: 3 hours, Lab: 1 hour*

COMI 1840 - Microsoft Windows Server (3 Credits)

This course presents the terminology and operating principles of Microsoft Windows server software. Students learn how to use, install and maintain Microsoft Windows networking software. *Lecture: 3 hours, Lab: 1 hour*

COMI 1905 - Desktop Publishing Software (3 Credits)

This course focuses on basic page design, layout and formatting of publications for production of a complete camera-ready newsletter or newspaper. *Lecture: 3 hours, Lab: 1 hour*

COMI 1971- Introduction to Animation Software (1 Credit)

This module introduces students to the fundamental concepts and skills of animation software. Students learn how to draw basic shapes and work with type and the pen tool to create objects. Students learn to animate positions, edit key frames and animate object properties to create a basic animation. *Lecture: 3 hours, Lab: 1 hour*

COMI 1973 - Advanced Animation Software (1 Credit)

This module expands students' knowledge of skills of animation software. Students learn to create basic rollovers, animated and remote rollovers and animated masks. Students also learn to create basic behaviors, animate time-independent groups and add sounds to compositions. Creating advanced behaviors, combining animations with Quick-Time movies in Web development software and exporting work also are explored. *(Recommend: COMI 1971) Lecture: 3 hours, Lab: 1 hour*

COMI 2010 - Client-Side Scripting Languages (3 Credits)

This course will introduce scripting languages and their use in programming for the World Wide Web with a focus on client-side scripting. It will include fundamental programming topics such as memory concepts, control structures and writing functions. It also will include an introduction to both client-side and server-side scripts. *(Recommended prerequisites: COMI 1150 and 1770) Lecture: 3 hours, Lab: 1 hour*

COMI 2012 - Server-Side Scripting Languages (3 Credits)

This course introduces server-side scripting using current technologies. It includes fundamental programming topics such as control structures, data representation, object-oriented development techniques as well as more advanced topics such as server capabilities and interfacing with databases to support e-commerce and customizable user experiences on the Web. *Lecture: 3 hours, Lab: 1 hour*

COMI 2015 - Introduction to Microsoft Project (1 Credit)

This module introduces students to project management software, an essential tool used by most information technology environments. Upon completion of this course, students are able to create and analyze projects using Microsoft Project Manager. *Lecture: 3 hours, Lab: 1 hour*

COMI 2020 - Network Security Software Fundamentals (3 Credits)

This course introduces students to networking security, a critical knowledge point for technology professionals. This course provides students with introductory concepts

Module: A segment of a three-credit course that may be taken independently.

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

and technical skills needed to create and maintain a secure network environment. *Lecture: 3 hours, Lab: 1 hour*

COMI 2031 - Computer Support: Concepts (3 Credits)

Because of high demand for specialists, this course introduces students to basic technical concepts, functions and support systems. *Lecture: 2 hours, Lab: 2 hours*

COMI 2032 - Computer Support: End User (3 Credits)

As the user-base of technology continues to grow, this course teaches students about the different tools available for internal vs. external users, reviews the recommended set of “soft skills” and identifies the many different skill levels of the computer user. *(Prerequisite: COMI 2031) Lecture: 2 hours, Lab: 2 hours*

COMI 2033 - Computer Support: Tools and Techniques (3 Credits)

This course focuses on software support tools and how to determine which tools are best suited for particular environments as well as methods to assess the success and effectiveness of these tools. *(Prerequisite: COMI 2031) Lecture: 2 hours, Lab: 2 hours*

COMI 2035 - Introduction to Computer Forensics (3 Credits)

This course starts with the basics of computer technology to build a foundation for understanding where evidence can be found. It introduces students to the technology and procedures of acquiring and analyzing digital evidence taken from computers. This course also exposes students to the software being used in the industry. *Lecture: 2 hours, Lab: 2 hours*

COMI 2036 - Introduction to Computer Ethics (3 Credits)

This course explores the ethical impact of computer technology on the world, as well as the rules and regulations that ensure the proper use of technology. Internet crime, privacy protection and first amendment rights that protect our freedoms in cyberspace are closely examined. *(Recommended: Take in final semester.) Lecture: 3 hours, Lab: 1 hour*

COMI 2037 - Introduction to Cybersecurity (3 Credits)

Cybersecurity is a primary concern of the U.S. government as well as most major corporations in the country. This course introduces students to the opportunity that exists in the cybersecurity field. Topics such as certified ethical hacking, cyber threats and vulnerabilities and cryptography are introduced. *Lecture: 2 hours, Lab: 2 hours*

COMI 2040 - Beginning Game Programming (3 Credits)

This course will introduce the student to game development and the beginning principles of game programming. *(Required: COMI 1150) Lecture: 2 hours, Lab: 2 hours*

COMI 2050 - Social Networking Systems (3 Credits)

This course will introduce the concepts of social networking systems. It will define the advantages and disadvantages of current applications and explore tools, techniques and platforms that support the software from desktop computers to mobile devices. The students will learn the fundamentals

of using social networking applications and become familiar with Web 2.0 technologies such as blogs, podcasts, wikis and forums. The variety of categories of these systems will be discussed and students will be able to apply these basic tools and techniques. *Lecture: 2 hours, Lab: 2 hours*

COMI 2055 - Introduction to Virtual Computing (1 Credit)

This five-week class provides an introduction to computer virtualization concepts which include hands-on activities of installing, configuring and using virtualization products. *Lecture: 2 hours, Lab: 2 hours*

COMI 2225 - Advanced C# Programming (3 Credits)

This course introduces the student to advanced topics in programming and software design using Microsoft’s C# programming language. Topics covered include classes, abstract classes, inheritance, ADO.Net data driven applications using a database, ASP.Net for Web applications, collections and file streams. *(Prerequisites: COMI 1215, 1225, or permission of instructor) Lecture: 3 hours, Lab: 1 hour*

COMI 2510 - Advanced Java Programming (3 Credits)

This course introduces students to advanced topics in programming and software design such as graphical modeling techniques and algorithms and analysis as well as current techniques in interface design and user interaction. Specific topics reflect current technologies and might include inheritance and polymorphism in object-oriented design and graphical user interfaces and the event loop. *(Required: COMI 1510) Lecture: 3 hours, Lab: 1 hour*

COMM (COMMUNICATION)

COMM 1000 - Foundations in Video and Audio Production (4 Credits)

This introductory, hands-on course is designed for students who have little or no experience in video/sound production. They learn the basics of image and sound creation necessary for subsequent courses. Topics include camera and microphone operation, video and audio capture, camera supports, editing, adding foley and sound tracks, titling, effects and color correction. Students also learn how to compress and encode video so that it is optimized for current platforms. *Lecture: 4 hours*

COMM 1050 - Mass Media Foundations (3 Credits)

This introductory course surveys how media influences individuals, cultures and societies. Topics include entertainment media, digital media, the Internet, books, newspapers, magazines, recordings, advertising and other relevant issues. In addition, media ethics and responsibility, government regulation, legal issues, politics and corporate media are examined. *Lecture: 3 hours*

COMM 1100 - Oral Communication I (3 Credits)

This one-semester basic course in speech is designed to develop each student’s ability to communicate effectively in his or her academic, business and social life. The major emphasis is on the preparation and delivery of formal speeches, but many areas of the communication process are explored. *(Prerequisites: Eligible for ENGL 1005 or higher and ENGL 0850 or higher or permission of instructor) Lecture: 3 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

COMM 1110 - Voice and Articulation (3 Credits)

Designed for those people with speech habits resulting in problems of being heard and understood, this course emphasizes voice development and improvement in articulation for clearer and more effective speech. *Lecture: 3 hours*

COMM 1180 - Oral Interpretation (3 Credits)

This course is designed for students with experience in speaking who are planning careers that require them to read aloud, to be dramatic and to tell stories, possibly to children. Students will learn to interpret prose and poetry orally for the entertainment and edification of small or large audiences. Admission is by approval of the instructor. *Lecture: 3 hours*

COMM 1400 - Social Media Communication (3 Credits)

This course explores the history, rise and growth of social media as a 21st century communication practice. Students study the advances that led to the creation of social media and just as importantly examine how the use of social media fed its growth. Students develop social media communication plans and practice digital communication using online tools, such as Facebook, Twitter, LinkedIn, Kickstarter, YouTube, Flickr, Digg and Tumblr. *Lecture: 3 hours*

COMM 2000 - Media Writing (3 Credits)

This course provides instruction in writing for print, broadcast, video and new media. Students practice skills including form and content required for various media. Writing objectively, considering legal and ethical issues, developing ideas and stories, gathering information and interviewing are some

concepts covered by this course. (*Prerequisite: Placement in ENGL 1010 or completion of ENGL 1005 with grade of C or better*) *Lecture: 3 hours*

COMM 2050 - Media and Broadcast History (3 Credits)

Media and Broadcast History is an overview of the institutional, technological and social history of media and broadcasting. Starting with media of early civilization, students will study developments and trends throughout history that will culminate with media of the present. This course will reveal the major models of print, radio, television and the Web that have provided the foundation for communication in industry and society. The historical roles of content producers, broadcasters and government regulators will be explored to provide students with a greater understanding of media today. *Lecture: 3 hours*

COMM 2100 - Studio Production (3 Credits)

This introductory course familiarizes students with video production in a studio environment. They acquire the skills to produce basic video productions for television and the Web. Students learn to communicate effectively by making class presentations, writing production proposals and completing video productions. (*Prerequisite: COMM 1000*) *Lecture: 3 hours, Lab: 1 hour*

COMM 2200 - Field Production (3 Credits)

This course builds on basic video production principles learned in COMM 1000 and COMM 2100 and incorporates field production techniques. Students use both analog and digital technology. Lectures, screenings and hands-on labs provide an in-depth understanding of video production and related business topics. Also included are technical

aspects of scripting, lighting, camera operation, continuity, post-production editing, logistics and preparing a production budget. (*Prerequisite: COMM 1000*) *Lecture: 3 hours, Lab: 1 hour*

COMM 2300 - Video and Media Editing (3 Credits)

This course provides students with an in-depth study of the history, techniques and technology of video and media editing. Students study the principles and practices of editing by analyzing examples from classic and contemporary film and video as they learn how to build and strengthen a story and engage an audience. Using the latest industry nonlinear software tools, students work on advanced editing exercises that provide opportunities to master the editing process. The editing process, techniques, in-depth procedures and skills are reviewed. At the end of the course, students will have learned the skills necessary to prepare for professional certification. (*Prerequisite: COMM 1000 or 2100 or 2200*) *Lecture: 3 hours, Lab: 1 hour*

COMM 2350 - Motion Graphics for Media Communication (3 Credits)

This course teaches students the syntax of motion graphics so that they understand the how and why of incorporating effects in a video sequence. Students become familiar with industry standard tools to make video productions communicate more effectively, much like writers use parts of speech and punctuation to craft their messages. (*Prerequisite: COMM 1000 or 2100 or 2200*) *Lecture: 3 hours, Lab: 1 hour*

COMM 2400 - Media Production and Distribution Fundamentals (3 Credits)

Students in this course gain a practical understanding of the planning and distribution of media productions and film projects. They use digital technology including encoding media for media streaming; DVD

authoring; and podcasting for broadcast, Web, commercial, and social media outlets. Students prepare their own media portfolio for presentation to prospective employers or clients, and college or university admission. (*Prerequisite: COMM 1000*) *Lecture: 3 hours, Lab: 1 hour*

COMP (COMPUTER STUDIES AND INFORMATION PROCESSING)**COMP 1170 - Computer Application Systems (3 Credits)**

This course covers processes followed in designing computer systems, characteristics of key business computer applications and inter-relationships between computer applications. Exercises and case problems are used to provide a thorough understanding of flowcharting techniques and application development. *Lecture: 3 hours*

COMP 1200 - Database Design and Management (3 Credits)

Different methods of organizing and accessing computer files are introduced with an in-depth coverage of database design and management. Teleprocessing concepts are reviewed and Access is used for instructional purposes. *Lecture: 3 hours, Lab: 1 hour*

COMP 1210 - Database Implementation and Administration (3 Credits)

This course focuses on the significant aspects of implementing, utilizing and maintaining a database using a relational DBMS. Students learn the basics of database implementation including installing and configuring a DBMS, creating and populating database tables, managing database tables using constraints and indexes, and extracting data using SQL. (*Recommended: COMP 1200*) *Lecture: 2 hours, Lab: 2 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

COMP 1230 - Systems Analysis and Design (4 Credits)

This course offers an introduction to concepts, methodology and techniques used in business-systems analysis and the design of computerized business systems. A project-team approach is used to solve a case study. (Recommended: Take in final semester or with permission of instructor.)
Lecture: 3 hours, Lab: 2 hours

COMP 2430 - Operating Systems (3 Credits)

This course covers the structure and components of operating systems. Topics include controlling system resources, interface concepts, multiprogramming, networks and command language techniques of current operating systems. Laboratory assignments provide application of these principles.
Lecture: 3 hours, Lab: 1 hour

COMP 2500 Cybersecurity Practicum/Capstone Course (3 Credits)

The Cybersecurity Practicum/Capstone course provides “hands on” experience to promote development of important skills. Weekly meetings with the course instructor will review key program topics. To complete the course, the student is required to spend an average of 10 hours per week of field work under the guidance of industry professionals in order to apply the accumulation of program knowledge in a real world setting. The student will be required to produce a report relating to the work experience and how it is connected to the content of this program. This class also has an on-campus meeting requirement which will be used to develop a portfolio identifying the experiences the student has been exposed to in the field. Students will keep a working journal during the semester to help assess the progress of their experience. (Prerequisite: Final semester standing) Lecture: 1 hour, Clinical: 10 hours per week for 13 weeks

COOP (COOPERATIVE EDUCATION)

See LIBA 1010 and 1020, ADAS 2580 and 2590 and MEDL 2910 for appropriate course sections.

CULN (CULINARY)**CULN 1000 - Food Sanitation (3 Credits)**

This course provides instruction on the extreme importance, reasoning and biological basics of sanitation practices related to the food industry. Students learn practices and procedures for safe food storage, handling, presentation and disposal. Topics include sanitation principles, prevention of illnesses, HACCP, accident prevention and food bacteriology, among others. Lecture: 3 hours

CULN 1010 - Fundamentals of Restaurant Operations (3 Credits)

This course provides an introduction to the world of culinary management and general industry standards. Students learn basic management skills needed in today's food service environment and an overview of various segments of the industry. Topics include basic supervisory skills, decision-making, leadership, problem solving, training and national industry standards. Lecture: 3 hours

CULN 1020 - Fundamentals of Food Production I (3 Credits)

This course introduces the basics of the culinary arts in preparation for a career in the food service industry. Students learn basic food preparation as it relates to composition, structure, appearance and nutrition. Major topics include professionalism, knife skills, tools and equipment, review of sanitation and principles of cooking. Lecture: 1 hour, Lab: 4 hours

CULN 1030 - Fundamentals of Food Production II (3 Credits)

This is a continuation of Food Production I with an emphasis on menus and recipes, production processes and hands-on food preparation in a simulated employment environment. Major topics include recognition, selection and proper use of tools and equipment; organization of a kitchen; and maintenance and cleaning of equipment. (Prerequisite: CULN 1000) Lecture: 1 hour,

CYBR (CYBERSECURITY)**CYBR 1100 - Introductory Cyber Range Tools and Techniques (3 credits)**

This course introduces students to the Cyber Range and the fundamental support skills necessary to recognize, assess and mitigate cyber threats. Students respond to Operational Scenarios including malicious and non-malicious traffic in a safe, secure environment.

DAST (DENTAL ASSISTING)**DAST 1010 - Oral Biology I (2 Credits)**

This is an introductory course in head and neck anatomy and physiology for the dental assistant. Particular attention is devoted to the oral cavity. Topics include the terminology and function of the teeth, occlusion, skull, nerve innervation and blood flow. (Prerequisite: Enrollment in Dental Assisting program) Lecture: 2 hours

DAST 1020 - Preventive Dentistry (2 Credits)

This course offers students an introduction to the prevention and management of oral diseases. (Prerequisite: Enrollment in Dental Assisting program) Lecture: 2 hours

DAST 1030 - Chairside Dental Assisting I (4 Credits)

This course introduces students to procedures and practices involved in assisting the dentist. Content includes the preparation, use and care of dental instruments and equipment; patient management; basic microbiology and infection control procedures. (Prerequisite: Enrollment in Dental Assisting program) Lecture: 3 hours, Lab: 4 hours

DAST 1040 - Oral Biology II (3 Credits)

This course covers patient evaluation with medical histories, medical emergencies and oral conditions. Students are introduced to the fundamental concepts involving the development of oral tissues and the basic science of pharmacology as it relates to these specific conditions. (Prerequisite: DAST 1010) Lecture: 3 hours

DAST 1050 - Chairside Dental Assisting II (5 Credits)

This course is a continuation of DAST 1030. Students develop basic skills for assisting the dentist with dental specialties, such as endodontics and oral and maxillofacial surgery. Students are assigned to dental treatment facilities for supervised practice of clinical skills. Includes a one-week intercession. (Prerequisite: BIOL 1020 or 1070) Lecture: 2 hours, Lab: 4 hours, Clinical: 320 hours over 16 weeks

DAST 1060 - Dental Office Procedures (2 Credits)

This course covers principles and practices of the dental office. Topics include telephone; patient and appointment management; the

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

preparation, use and care of office and treatment records; third-party payment; supply and inventory control; use of computers to perform basic dental office procedures; and the legal and ethical standards required of professional dental personnel. *Lecture: 2 hours*

DAST 1225 - Dental Materials Lecture (1 Credit)

This course introduces students to the materials used in dental practice, including their physical properties and uses and considerations for their selection. *(Prerequisite: Enrollment in Dental Assisting Program) Lecture: 2 hours*

DENT (DENTAL)

DENT 1000 - Introduction to Dental Health Careers (2 Credits)

This course provides an introduction to dental assisting and dental hygiene fields. Students gain an understanding of both professions, how to achieve success in dental assisting and dental hygiene programs, and basic dental terminology. This course is a prerequisite for entering the dental hygiene program and optional for the dental assisting program. *Lecture: 2 hours*

DENT 2010 - Oral Radiography (4 Credits)

This is a foundation course for dental radiographers. Topics include fundamentals of radiation physics, generation and control of the radiation beam, radiation biology and methods of population protection, radiographic projection and radiographic anatomy and pathology. Supervised laboratory practice includes exposure, evaluation and interpretation of intraoral and panoramic radiographs. *Lecture: 3 hours, Lab: 2 hours*

DENT 2220 - Dental Materials Lab for Dental Hygienists (1 Credit)

This hybrid course has an outline component with hands-on experience for the dental hygiene student to learn about and practice with materials and techniques used in dental hygiene practice *(Prerequisite: Acceptance into the Dental Hygiene program) Lab: 4 hours*

DENT 2225 - Dental Materials Lab for Dental Assistants (1 Credit)

This lab provides hands-on experience for dental assisting students to develop skills in the preparation and manipulation of materials commonly used in dental practice. *(Prerequisite: Enrollment in Dental Assisting program) Lab: 4 hours*

DHYG (DENTAL HYGIENE)

DHYG 1010 - Dental and Oral Anatomy (3 Credits)

This course is a study of the structure and function of the mouth, teeth, head and neck. *(Prerequisite: Acceptance into the Dental Hygiene program) Lecture: 3 hours*

DHYG 1020 - Dental Hygiene I (3 Credits)

This course introduces students to the fundamental skills and procedures in dental hygiene practice. *(Prerequisite: Acceptance into the Dental Hygiene program) Lecture: 3 hours*

DHYG 1030 - Clinical Dental Hygiene I (2 Credits)

This course provides an opportunity for students to apply the principles studied in DHYG 1020 in the pre-clinical setting. Students work with mannequins and laboratory partners. *(Prerequisite: Acceptance into the Dental Hygiene program) Lab: 6 hours*

DHYG 1040 - Oral Embryology and Histology (2 Credits)

This course involves the study of the development, microscopic structure and function of oral and facial tissues. *Lecture: 2 hours*

DHYG 1050 - Dental Hygiene II (3 Credits)

A continuation of the principles of DHYG 1020, this course covers the philosophy of prevention, concepts of health and wellness, the dental hygiene treatment plan, oral infection control, sealants and fluorides. Emphasis is on communication skills, patient management, and development and implementation of educational strategies. *(Prerequisites: DHYG 1020 and 1030) Lecture: 3 hours*

DHYG 1060 - Clinical Dental Hygiene II (3 Credits)

This course continues application of the principles and skills learned in DHYG 1020 and DHYG 1030 as well as new material learned in DHYG 1050, including patient education and management. *(Prerequisite: DHYG 1030) Clinical: 8 hours*

DHYG 2010 - Pathology (2 Credits)

This course is an examination of general and oral diseases. Content includes etiologic agents, tissue response to injury, immunopathology, neoplasia, cardiovascular disease, general diseases with oral manifestations and oral pathology. Consideration is given to specific conditions of importance to oral assessment and care. *(Prerequisites: BIOL 1020; DHYG 1040) Lecture: 2 hours*

DHYG 2020- Dental Hygiene III (3 Credits)

This course continues to expand on the principles of dental hygiene practice. Topics include service to patients with special needs and nutrition, including nutritional counseling. *(Prerequisites: DHYG 1050 and 1060) Lecture: 3 hours*

DHYG 2030 - Clinical Dental Hygiene III (4 Credits)

This course involves continued application of the principles and skills practiced in DHYG 1060 and includes the application of principles studied in DHYG 2020: Dental Hygiene III, including local anesthesia. *(Prerequisites: DHYG 1050 and 1060) Clinical: 12 hours*

DHYG 2040 - Community Dental Health I (2 Credits)

This course introduces students to the principles of dental hygiene practice in the community setting. Content includes financing and delivery of care, cultural diversity, education of groups, program planning and evaluation and management of the evidence base for dental hygiene practice. *(Prerequisites: PSYC 2010; DHYG 1060) Lecture: 2 hours*

DHYG 2045 - Community Dental Health II (1 Credit)

This course allows students to apply principles of dental hygiene practice through a supervised externship in a community dental health facility. *(Prerequisites: DHYG 1010, 2020 and 2030) Clinical: 3 hours*

DHYG 2050 - Periodontics (3 Credits)

This course involves an intensive study of the periodontium as it relates to dental hygiene practice. Content includes epidemiology and pathogens of periodontal disease, assessment of periodontal status, current therapeutic intervention and strategies for maintenance of the periodontal patient. *(Prerequisites: BIOL 1020 and 2210) Lecture: 3 hours*

DHYG 2060 - Dental Hygiene IV (2 Credits)

This course continues to expand on principles of dental hygiene practice. Content includes legal and ethical issues, dental specialties and entering the professional workforce. *(Prerequisites: DHYG 2020 and 2030) Lecture: 2 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

DHYG 2070 - Clinical Dental Hygiene IV (5 Credits)

This course allows students to continue to apply the principles and skills practiced in DHYG 2020, 2030 and 2060. Integration of dental hygiene procedures into a complete dental hygiene service is covered. (*Prerequisites: DHYG 2020*) *Clinical: 15 hours*

DHYG 2090 - Pharmacology for the Dental Hygienist (3 Credits)

This course is a study of the principles of pharmacology as they relate to oral health care. Content includes indications and contraindications for use, pharmacological effects, adverse reactions and interactions of drugs. Special consideration is given to drugs commonly used in dentistry, as well as oral implications of drugs. (*Prerequisites: BIOL 1020; DHYG 1020*) *Lecture: 3 hours*

DHYG 2200 - Local Anesthesia for the Registered Dental Hygienist (2 Credits)

This course is designed to enable practicing dental hygienists to gain the knowledge and skill needed to earn a permit to administer local anesthesia in Rhode Island. Topics include oral anatomy, neurophysiology, the pharmacology and pharmacokinetics of local anesthetic agents, legal issues related to local anesthesia and basic injection techniques. Students will serve as patients for each other. (*Prerequisites: Active licensure as a dental hygienist in Rhode Island or another state with substantially similar licensure requirements, current CPR certification at the American Heart Association, Health Care Provider level; Completed Hepatitis B vaccination series*) *Lecture: 2 hours, Lab: 2 hours*

DHYG 2201 - Administration of Nitrous Oxide for the Registered Dental Hygienist (1 Credits)

This course enables licensed dental hygienists to earn a permit to administer nitrous oxide in Rhode Island. Topics will include history of nitrous oxide; review of oral anatomy, the circulatory and respiratory system in pediatrics and adults; review of physiology and psychology of pain and anxiety; pain control modalities; pharmacology of nitrous oxide and drug interactions; patient assessment and monitoring; preventing and managing complications; description and use of inhalation equipment; sedation and general anesthesia techniques; and ethical and legal considerations. Students participating in the class will serve as patients for each other.

DMSD (DIAGNOSTIC MEDICAL SONOGRAPHY)**DMSD 2100 - Patient Care for Sonography (3 Credits)**

This course is designed for students to develop the knowledge and skills necessary to address the needs of the patient in the diagnostic imaging department. The success of the students in the clinical setting requires the ability to conduct themselves in a professional and ethical manner. The safety of the patient requires the student to have knowledge of the patient assessment, basic nursing skills and the ability to react to medical emergencies. *Lecture: 3 hours*

DMSD 2210 - Sonographic Physics and Instrumentation (4 Credits)

This course provides students with theoretical and practical aspects of ultrasound physics and instrumentation. Wave form, propagation, velocity, wave length, acoustic impedance, reflection and rarefaction are discussed. Components of the ultrasound

imager are examined as well as recording devices and basic Doppler principles. (*Prerequisite: MATH 1700 or equivalent*) *Lecture: 3 hours, Lab: 2 hours*

DMSD 2220 - Sonographic Imaging (3 Credits)

This course provides students with general information that has application in all the ultrasonic imaging concentrations. It addresses standard protocols for patient care, as well as the management of data from other imaging modalities, laboratory findings and patient history. Pertinent legal principles also are covered. An overview of the categories in which disease occurs is included. The biological effects of ultrasound are discussed along with quality control procedures and their importance. *Lecture: 3 hours*

DMSD 2230 - Abdominal Ultrasound (4 Credits)

This course provides a foundation of physiology, pathology and pathophysiology as it relates to the human abdomen specific to the performance of abdominal sonography. Students begin to recognize normal and abnormal imaging as it relates to anatomy, pathology and pathophysiology of the abdomen. Bio-effects, ALARA principle, pertinent in-vitro and in-vivo studies, exposure display indices, and maximum safe exposure levels will be incorporated into the didactic and laboratory classes. Laboratory experience will include development of entry-level scanning techniques and protocols on the human abdomen. Students will demonstrate the ability to perform entry-level abdominal sonographic examinations using real-time sonographic equipment, Doppler and color Doppler equipment with various transducers. (*Prerequisite: DMSD 2100*) *Lecture: 3 hours, Lab: 2 hours*

DMSD 2235 - Ultrasound for Small Parts, Gynecology and Male Pelvis (4 Credits)

This course provides a foundation of physiology, pathology and pathophysiology as they relate to the male and female pelvis, thyroid, breast and scrotum. The student will begin to recognize normal and abnormal imaging as they relate to anatomy, pathology and pathophysiology of these structures. Scanning techniques and protocols are discussed in normal and abnormal conditions. Bio-effects, ALARA principle, pertinent in vitro and in vivo studies, exposure display indices and maximum safe exposure levels will be incorporated into the didactic and laboratory classes. Laboratory experience will include further development of entry-to mid-level scanning techniques and protocol on the human male and female pelvis, thyroid, breast and scrotum. Students will demonstrate the ability to perform entry- to mid-level sonographic examinations using real-time sonographic equipment, Doppler and color Doppler equipment with various transducers. (*Prerequisite: DMSD 2230*) *Lecture: 3 hours, Lab: 2 hours*

DMSD 2240 - Obstetrical Ultrasound (3 Credits)

This course will focus on the embryology and fetal development in the first, second and third trimester. Recognition of normal and abnormal anatomy will be addressed in the obstetrical, embryonic and fetal patient. Abnormal patterns of pathology and pathophysiology including genetic malformations are discussed. Scanning techniques, protocols and sonographic findings are discussed in the normal and abnormal conditions. Bio-effects, ALARA principle, pertinent in vitro and in vivo studies, exposure display indices and maximum safe exposure levels will be incorporated into the didactic and laboratory classes. Laboratory experience will

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

included further development of entry- to mid-level scanning techniques and protocol on the human female obstetrical, embryonic and fetal patient. Students will demonstrate the ability to perform entry- to mid-level sonographic examinations using real-time sonographic equipment, Doppler and color Doppler equipment with various transducers. *(Prerequisite: DMSD 2235) Lecture: 3 hours, Lab: 2 hours*

DMSD 2241 - General Ultrasound Practicum I (3 Credits)

Initial clinical scanning experience of the abdomen is covered. This course focuses on clinical application of standard protocols of the abdomen. Normal and abnormal anatomy are emphasized. Students begin to develop the critical thinking skills needed to correlate the examination with clinical history. Students must be competent in aortic and renal examinations at the completion of this class. Clinical education and competency occur under the supervision of a registered sonographer. *(Prerequisite: DMSD 2230) Clinical: 32 hours per week*

DMSD 2242 - General Ultrasound Practicum II (3 Credits)

This practicum involves ongoing assessment of advanced clinical skills of the abdomen incorporating advanced identification of pathology and pathophysiology. Age-specific scanning protocol are covered (infant to adult). Basic scanning protocol on male and female pelvis, thyroid, breast and scrotum is covered. Students must be competent on the complete scan of the abdomen at the completion of this class. Clinical education and student competency are under the supervision of a registered sonographer. *(Prerequisite: DMSD 2241) Clinical: 32 hours per week*

DMSD 2243 - General Ultrasound Practicum III (3 Credits)

This practicum involves ongoing assessment of advanced clinical skills of the male and female pelvis, thyroid, breast and scrotum incorporating advanced identification of pathology and pathophysiology. Basic obstetrical scanning protocol begins with a focus on normal anatomy of the maternal embryo and fetus. Students must demonstrate critical thinking and competency in all areas of abdominal ultrasound of the male and female pelvis and small parts and basic obstetrical examinations at the completion of this class. Clinical education, and student competency and verification, are under the supervision of a registered sonographer. *(Prerequisite: DMSD 2242) Clinical: 32 hours per week*

DMSD 2245 - Sonographic Anatomy (3 Credits)

This course provides comprehensive coverage of the abdomen and superficial structures (small parts) and their sonographic appearance. Pertinent gross anatomy, sectional anatomy, physiology, pathology and pathophysiology are examined. Students relate specific anatomy to scanning plane and preferred scanning protocols. *Lecture: 3 hours*

DMSD 2250 - Vascular Ultrasound I (4 Credits)

This course provides students with the basic information specific to the performance of vascular sonography. Anatomy, pathology and pathophysiology of the vascular system including arterial, cerebrovascular and venous systems are included. Scanning protocols for the upper and lower extremity are addressed. Biological effects, ALARA principle, pertinent in-vitro and in-vivo studies, exposure display indices, and maximum safe exposure levels will be incorporated into the didactic and laboratory classes. Laboratory experience will include the

use of plethysmography and real-time sonography to evaluate and record the hemodynamics of arterial flow. The recognition of normal anatomy, basic pathology and pathophysiology are addressed. Students will demonstrate the use of plethysmography and real-time sonography equipment with vascular transducers, Doppler and color Doppler to perform entry-level vascular sonography examinations. *(Prerequisite: DMSD 2100) Lecture: 3 hours, Lab: 2 hours*

DMSD 2251 - Vascular Ultrasound II (4 Credits)

This course provides an in-depth study of vascular ultrasound including pathophysiology, etiology of disease clinical findings and related symptoms. Age-specific testing is discussed. Related testing for cerebrovascular, upper and lower extremity venous circulation is covered. Scanning techniques and protocols are discussed in normal and abnormal conditions. Bio-effects, ALARA principle, pertinent in vitro studies, exposure display indices and maximum safe exposure levels will be incorporated into the didactic and laboratory classes. Laboratory experience will include further development of entry- to mid-level scanning techniques and protocol on the cerebrovascular, upper and lower extremity venous circulation. Students will demonstrate the ability to perform entry- to mid-level sonographic examinations using real-time sonographic equipment, Doppler and color Doppler equipment with various transducers. *(Prerequisite: DMSD 2250) Lecture: 3 hours, Lab: 2 hours*

DMSD 2252 - Advanced Vascular Ultrasound (3 Credits)

This course focuses on the application of vascular ultrasound relating to abdominal vasculature and other specialty examinations such as aorta, renal transplant, TIPS procedure, transcranial Doppler, pseudoaneurysm,

mapping and the use of ultrasound contrast agents. Interpretation skills on all testing in all disease states will be further developed. Scanning techniques, protocols and sonographic findings are discussed in the normal and abnormal conditions. Bio-effects, ALARA principle, pertinent in vitro studies, exposure display indices and maximum safe exposure levels will be incorporated into the didactic and laboratory classes. Laboratory experience will include advanced scanning techniques and protocol on aorta, renal transplant, TIPS procedure, transcranial Doppler, pseudoaneurysm and fistula. Students will demonstrate the ability to perform advanced-level sonographic examinations using real-time sonographic equipment, Doppler and color Doppler equipment with various transducers. *(Prerequisite: DMSD 2251) Lecture: 3 hours, Lab: 2 hours*

DMSD 2253 - Vascular Practicum I (3 Credits)

This course provides students with initial clinical scanning experience for upper and lower extremity arterial examinations. Clinical application of standard protocols focuses on recognition of normal plethysmographic tracings, normal ultrasound vascular imaging and Doppler patterns. Students begin to develop the critical thinking skills required to correlate clinical history with exam requirements. Clinical education and clinical competency occur under the supervision of a registered vascular sonographer. *(Prerequisite: DMSD 2250) Clinical: 32 hours per week*

DMSD 2254 - Vascular Practicum II (3 Credits)

This course provides students with initial clinical scanning experience for cerebrovascular and venous examinations. Clinical application of standard protocols focuses on normal vascular ultrasound imaging for cerebrovascular and venous examinations.

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

Recognition of normal and abnormal images and Doppler patterns are included. Students use critical thinking skills to integrate clinical history with abnormal findings. Clinical education and clinical competency occur under the supervision of a registered vascular sonographer. *(Prerequisite: DMSD 2251)*
Clinical: 32 hours per week

DMSD 2255 - Vascular Practicum III (3 Credits)

This course provides students with advanced clinical scanning experience for upper and lower extremity arterial, venous and cerebrovascular examinations. Final competency evaluation will occur along with the opportunity to perform abdominal vasculature and rare specialty examinations. Students use critical thinking skills to integrate clinical history with abnormal findings. Clinical education and clinical competency occur under the supervision of a registered vascular sonographer. *(Prerequisite: DMSD 2252)* *Clinical: 32 hours per week*

DMSD 2260 - Echocardiography I (4 Credits)

This course provides students with the basic knowledge of the echocardiographic examination using M-Modes, two-dimensional, Doppler and color Doppler modalities. Basic cardiac anatomy and principles related to echocardiography are discussed along with normal anatomy and measurements. Recognition of scanning windows, imaging planes, scanning techniques, specific protocols and echocardiographic findings in normal and abnormal conditions will be discussed. Students will develop the ability to perform echocardiographic examinations in the classroom using real-time equipment using transthoracic, Doppler and color Doppler display modes. *(Prerequisite: DMSD 2100)* *Lecture: 3 hours, Lab: 2 hours*

DMSD 2261 - Echocardiography II (4 Credits)

This course expands on the material presented in Echocardiography I and continues to provide students with the knowledge necessary to capably perform complete and diagnostic echocardiographic examinations using M-mode, two-dimensional Doppler and color Doppler modalities. More complex anatomy and abnormal pathology will be addressed. Scanning techniques, specific protocols and echocardiographic findings will be discussed in relation to these more complex abnormalities including PLAX, RVIT, RVOT, PSAX views. The development of the ability to perform examinations in these areas will occur with classroom experience using real-time equipment with transthoracic transducers and Doppler and color Doppler display modes. Bio-effects, ALARA principle, pertinent in vitro studies, exposure display indices and maximum safe levels will be incorporated into the didactic and laboratory classes. *(Prerequisite: DMSD 2261)*
Lecture: 3 hours, Lab: 2 hours

DMSD 2262 - Advanced Echocardiography (4 Credits)

This course expands on the material presented in Echocardiography I and II, and continues to provide students with the knowledge necessary to capably perform a complete and diagnostic echocardiographic examination using M-mode, two-dimensional Doppler and color Doppler modalities. More complex anatomy and abnormal pathology will be addressed including equation for aortic stenosis, mitral stenosis, pericardial effusion, hypertrophic cardiomyopathy and ischemic heart disease. Bio-effects, ALARA principle, pertinent in vitro studies, exposure display indices and maximum safe exposure levels will be incorporated into the didactic and laboratory classes. Scanning techniques, specific

protocols and echocardiographic findings will be discussed in relation to these more complex abnormalities. The development of the ability to perform examinations in these areas will occur with classroom experience using real-time equipment with transthoracic transducers and Doppler and color Doppler display modes. *(Prerequisite: DMSD 2261)*
Lecture: 3 hours, Lab: 2 hours

DMSD 2263 - Echocardiography Practicum I (3 Credits)

This practicum involves the observation and initial scanning experience of transthoracic adult cardiac sonographic examinations with emphasis on normal two-dimensional, M-Mode and Doppler pattern recognition. Students are under the supervision of a registered echocardiographer. *(Prerequisite: DMSD 2260)* *Clinical: 32 hours per week*

DMSD 2264 - Echocardiography Practicum II (3 Credits)

This practicum involves the clinical performance of transthoracic adult cardiac sonographic examinations with emphasis on normal two-dimensional, M-Mode and Doppler pattern recognition. Students are under the supervision of a registered echocardiographer. *(Prerequisite: DMSD 2263)* *Clinical: 32 hours per week*

DMSD 2265 - Echocardiography Practicum III (3 Credits)

This practicum involves the clinical performance of transthoracic adult cardiac sonographic examinations with emphasis on normal two-dimensional, M-Mode and Doppler pattern recognition. Focus is on performing complete exams on patients with complex disease states. Students are under the supervision of a registered echocardiographer. *(Prerequisite: DMSD 2264)* *Clinical: 32 hours per week*

DMSD 2500 - Diagnostic Medical Sonography Seminar (3 Credits)

This is an interactive course combining general abdominal students, echocardiography students and vascular students. This provides students with an opportunity to discuss their scanning experience and review skills necessary for professional practice. Students prepare a research project on a topic in their area of specialty. This includes patient history, clinical findings, anatomy, pathology, scanning protocols, image interpretation, differential diagnosis and patient care. Students prepare and deliver an oral presentation to the class based on their research using PowerPoint or other appropriate methods. *(Prerequisite: DMSD 2240 or 2252 or 2262)* *Lecture: 3 hours*

ECON (ECONOMICS)

ECON 2030 - Principles of Microeconomics (3 Credits) (formerly ECON 2020)

This course studies economic principles with emphasis on the price system, resource allocation, industrial organization, international trade and comparative economic systems. *(Prerequisite: MATH at the 0600 level required, MATH 1200 recommended.)* *Lecture: 3 hours*

ECON 2040 - Principles of Macroeconomics (3 Credits) (formerly ECON 2010)

This course studies the fundamental principles, problems and policies of the American economic system. Major emphasis is placed on the institutions of the economy, supply-demand analysis, national income theory, monetary and fiscal policy and growth analysis. *(Prerequisite: MATH at the 0600 level required, MATH 1200 recommended.)* *Lecture: 3 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

EMER (EMERGENCY MANAGEMENT)

EMER 1000 - Fundamentals of Emergency Management (3 Credits)

This course provides information that enables persons entering the profession or expanding their roles to function effectively with a broad array of emergency management issues. The primary purpose is to provide an overview of the characteristics, functions, resources and capabilities of an integrated system and how various emergency management services (EMA, fire, police/security, EMS, health care providers, etc.) work together effectively. Emphasis is placed on how this system is applied to all government levels, across the four phases and all functions of emergency management. It includes the role of national, regional and local services in a variety of disasters. This course is intended for a broad audience including personnel in public safety, emergency management and health care facilities, and others having an interest in gaining a working knowledge of preparedness. *Lecture: 3 hours*

EMER 1010 - Understanding and Responding to Terrorism (3 Credits)

This course provides students with an understanding of defining terrorism. Students learn about its origins and the development of using terror to influence public policy decisions. The history and changing nature of terrorist organizations also are presented. Terrorist groups and structure are discussed. Individual and community awareness of, preparing and responding to terrorist acts are presented. This course is intended for anyone interested in learning more about terrorism. *Lecture: 3 hours*

EMER 1020 - Bioterrorism and Public Health Emergencies (3 Credits)

This course focuses on both naturally occurring disease outbreak and bioterrorist events of the past and the implications of these events for the future. Key elements of emergency disaster planning include surveillance, mass immunization and public information campaigns. This course could be beneficial to any student in the Health Sciences programs. *Lecture: 3 hours*

EMER 1030 - Disaster Response Operations (3 Credits)

This course focuses on the principles that promote effective disaster response operations and management. The nature of disasters, the context of U.S. response operations and the roles and responsibilities of various emergency management related organizations are examined. Myths and realities of human behavior in catastrophic events as well as divergent approaches to disaster response operations (e.g., command and control vs. networking/problem-solving) are reviewed. The importance of providing an effective response for the affected population is discussed. This course also examines specific functions relating to floods, hazardous materials and terrorist incidents. Various problems associated with response operations are identified. Incident command systems and their interaction with emergency operations centers are emphasized. The role of technology and mutual aid agreements are discussed. *(Prerequisite: EMER 1000 or permission of instructor.) Lecture: 3 hours*

EMER 1040 - Managing the Psychological Impact of Terrorism and Disasters (3 Credits)

This course provides a broad overview of the causes, interventions and treatments of psychological trauma in the civilian and

emergency response population. The causes looked at include natural disasters, terrorist attacks and mass casualty or mass fatality incidents. The interventions and treatments are illustrated for the student, for both the short- and long-term recovery of the victims of this trauma, using real life incidents. *(Prerequisite: ENGL 1010 or 2100 or permission of instructor.) Lecture: 3 hours*

EMER 1050 - Disaster Training and Exercise Management (3 Credits)

This course provides students with an understanding of the training and exercise requirements of emergency management. It includes how training and exercising play a critical role in preparing a community or company for a disaster. Students develop an exercise program and test part of that program with an actual exercise. Students then develop an improvement plan from the lessons learned from that exercise. This course is intended for persons who would have an active role in emergency preparedness. *Lecture: 3 hours*

EMER 2010 - Disaster Resource Management (3 Credits)

This course is designed to provide students with an understanding of resource management in the context of emergency management. Coordination of resources before, during and after a disaster is critical to alleviate pain and suffering of the victims of disaster. This course provides students with the skills needed to identify and manage those resources effectively. Students examine the elements comprising incident logistics and how those elements integrate into the overall incident response and recovery process. *(Prerequisite: EMER 1000 or permission of instructor.) Lecture: 3 hours*

EMER 2020 - Emergency Planning (3 Credits)

This course provides students with an understanding of emergency planning in the world of emergency management. The emergency manager is responsible for developing emergency plans for the community or organization he or she represents. These plans may make the difference in saving lives and alleviate pain and suffering from a disaster. This course provides students with the skills needed to develop those plans effectively. This course is intended for a student who may become actively involved in emergency planning or work within a plan in the emergency management setting. *(Prerequisite: EMER 1000) Lecture: 3 hours*

EMER 2030 - Professional Development in Emergency Management/Homeland Security (3 Credits)

This course is designed to allow the student in the Emergency Management/Homeland Security program to take the skills that they have acquired in the program and mesh them with the skills they learn in this course – emergency communication, problem-solving, decision-making and leadership. This course will prepare the student to enter the emergency management field or pursue a higher degree. *(Prerequisites: EMER 1000, 1030, 2010, 2020 or permission of instructor.) Lecture: 3 hours*

EMER 2500 - Practicum in Emergency Management (3 Credits)

The practicum in Emergency Management/Homeland Security provides the student with an opportunity to use the knowledge they have learned in the program and put it into practical use in the field of emergency management or homeland security. By placing the student at an internship site that

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

works in the various types of disaster preparedness and response, the student will be provided with real life experience. (*Prerequisites: EMER 1000, 1030, 2010 and 2020 or permission of the instructor.*) *Seminar: 1-2 hours, Fieldwork: 6-8 hours*

ENGL (ENGLISH)

Courses by subject area:

ESL COURSES: ENGL 0305, 0312, 1070, 1080, 1090, 1120, 1130, 1300

READING: ENGL 0700, 0850, 0890

WRITING: ENGL 0250, 0500, 1005, 1010, 1310, 1400, 1410, 1430, 2010, 2015, 2100

LITERATURE: ENGL 1020, 1030, 1040, 1200, 1210, 1220, 1230, 1240, 1250, 1260, 1270, 1280, 1290, 1360, 1370, 2020, 2030, 2040, 2050, 2200, 2210, 2230, 2250, 2310

ENGL 0250 - Compensatory Writing Skills (3 In-house Credits*)

This writing course is for students who need to learn and/or review paragraph form and basic sentence skills: parts of speech, punctuation, capitalization and sentence formation. By writing paragraphs, students will demonstrate their ability to plan, organize and express ideas effectively and in grammatically correct sentences. (*Prerequisite: English placement exam.*) *Lecture: 3 hours*

ENGL 0305 - Basic ESL Reading (3 In-house Credits*)

This course is for students who need to strengthen foundational reading skills in English. Interacting with various text styles, students develop fluency, vocabulary and comprehension strategies. (*Prerequisite: Appropriate reading score placement.*) *Lecture: 3 hours*

ENGL 0312 - English as a Second Language: Reading I (3 In-house Credits*)

This course is designed to improve the vocabulary knowledge and reading comprehension of students speaking English as a second language. The content includes such college reading skills as developing word knowledge, identifying main ideas, locating important details and applying basic study strategies. (*Prerequisite: Completion of ENGL 0305 or placement test score of 71 or above.*) *Recommended: ESL placement testing.*

ENGL 0500 - Basics of Composition (3 In-house Credits*)

This course provides a comprehensive review of skills required in college-level writing courses including grammar usage, sentence variety, paragraph development, critical reading and thinking, brief essays and research paper elements. (*Prerequisite: ENGL 0250 with grade of C or better, appropriate placement test score or permission of instructor.*) *Lecture: 3 hours*

ENGL 0700 - Essential Reading Skills (3 In-house Credits*)

This course is for students who need to build a foundation for college reading by mastering the skills that underlie successful reading. Instruction focuses on vocabulary development, word analysis, reading rate and accuracy, as well as literal reading comprehension. (*Prerequisite: Appropriate test score or permission of instructor.*) *Lecture: 2 hours, Lab: 1 hour*

ENGL 0850 - Basic College Reading (3 In-house Credits*)

This course teaches the reading skills essential for success in college and everyday life. It focuses on the strategies needed for developing vocabulary, as well as strategies for improving comprehension and retention of college textbook material. In addition,

a novel is required reading. (*Prerequisite: Completion of ENGL 0700 with a 75 C or better, appropriate test score or permission of instructor.*) *Lecture: 2 hours, Lab: 1 hour*

ENGL 0890 - Critical Reading for College Success (3 In-house Credits*)

In this course, the student develops critical reading and thinking skills that are essential for college and workplace success. Focus is on building an enhanced vocabulary, as well as examining author's purpose and point of view, drawing inferences and applying advanced comprehension strategies. In addition, a work of nonfiction is required reading. (*Prerequisite: Completion of ENGL 0850 with a 75 C or better, appropriate test score or permission of instructor.*) *Lecture: 2 hours, Lab: 1 hour*

ENGL 1005 - College Writing (3 Credits)

This course focuses on the writing process: planning, organizing, developing, drafting and revising. Course activities begin with paragraphs and progress to essays and include research documentation assignments. (*Prerequisite: ENGL 0500 with a grade of C or better, appropriate placement test score or permission of instructor.*) *Lecture: 3 hours*

ENGL 1010 - Composition I (3 Credits)

Composition I is recommended for all first-year students and required for many, depending on curriculum.

The purpose of this course is to enable students to write fluent, accurate and effective essays, including research and documentation assignments. (*Prerequisite: ENGL 1005 with a grade of C or better, appropriate placement test score or permission of instructor.*) *Lecture: 3 hours*

ENGL 1020 - 19th Century American Literature (3 Credits)

This survey course examines American literature of the 19th century, including consideration of its cultural and historical contexts. (*Meets literature elective and English concentration requirements.*) *Lecture: 3 hours*

ENGL 1030 - British Literature I (3 Credits)

This survey course in British literature from the early Anglo-Saxon period to the 18th century examines selected works in various genres in light of their historical and cultural contexts. (*Meets literature elective and English concentration requirements.*) *Lecture: 3 hours*

ENGL 1040 - World Literature to 16th Century (3 Credits)

This course examines literature in translation of the Ancient World, Middle Ages and Renaissance as a basis for understanding literature as an art and a reflection of its times, the humanities and the modern world. (*Meets literature elective and English concentration requirements.*) *Lecture: 3 hours*

ENGL 1070 - English as a Second Language I (6 Credits)

This course is the first in the sequence of academic English as a second language offerings at the college. It is designed for students who are pursuing academic studies at the college level. Prior knowledge of the English language is necessary. Grammar and sentence building in English are studied with sequential emphasis placed on listening, speaking, reading and writing. Outcomes of this course include ability to form several complete sentences regarding one topic.

**In-house credits cannot be applied toward graduation requirements.*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

Students who have successfully completed this course will then take ENGL 1080. (*Prerequisite: Recommendation following ESL placement testing.*) Lecture: 6 hours

ENGL 1080 - English as a Second Language II (6 Credits)

This course is a continuation of ENGL 1070 and also is designed for students pursuing academic studies at the college level. Listening and speaking continue to be areas of second language practice, with more emphasis on reading and writing skills. As an outcome, students will be able to form a coherent paragraph of eight to 10 sentences. Students who have successfully completed this course will then take ENGL 1090. (*Prerequisite: Successful completion of ENGL 1070 or recommendation following ESL placement testing.*) Lecture: 6 hours

ENGL 1090 - Paragraph Writing in English as a Second Language (6 Credits)

This course is designed to increase the writing performance of students of English as a second language. It will emphasize the writing process and advanced grammar as students progress from generating acceptable sentences to combining sentences to form paragraphs. In addition, students will be able to form a multiple-paragraph essay as an outcome of the course. Students who have successfully completed this course will then take ENGL 1300. (*Prerequisite: Successful completion of ENGL 1080 or recommendation following ESL placement testing.*) Lecture: 6 hours

ENGL 1120 - Speech and Articulation for Speakers of English as a Second Language (3 Credits)

This course emphasizes correct pronunciation of the English language, particularly through practice of the International Phonetic Alphabet. In addition, course content

includes syllable stress and intonation. Perhaps equally important, ESL students will refine their listening skills in rapid American English speech. (*Prerequisite: Placement into ENGL 1080 or completion of ENGL 1070.*) Lecture: 3 hours

ENGL 1130 - English as a Second Language: College Speaking and Listening (3 Credits)

This English for academic purposes class is designed to begin to prepare students who are not native speakers of English for academic success in U.S. college programs. It focuses specifically on speaking and listening skills for college study. Topics reflect those in typical introductory college courses. (*Prerequisite: ENGL 1080 or placement in ENGL 1090.*) Lecture: 3 hours

ENGL 1200 - Introduction to Literature (3 Credits)

This course examines a variety of literary genres (fiction, nonfiction, poetry and drama) as expressions of the human desire to communicate philosophy, experience and attitudes. Examples found in diverse literary cultures from ancient times to the present are the basis for reading, analyzing and evaluating these forms of verbal expression. (*Meets literature elective and English concentration requirements.*) Lecture: 3 hours

ENGL 1210 - Introduction to Film (3 Credits)

This course provides an introduction to the tools of film analysis by examining how narrative, mise-en-scène, cinematography, editing and sound create meaning in film. Film also is examined for its social, cultural and ideological significance. Introduction to Film provides students with the background for further film studies. *Meets literature and English concentration requirements. (Meets literature and English concentration requirements.*

Prerequisite: None is required, though a general introductory literature course, such as ENGL 1200 - Introduction to Literature, ENGL 1040 - World Literature to the 16th Century or ENGL 2040 - World Literature from the 16th Century is recommended.) Lecture: 3 hours

ENGL 1220 - Introduction to Poetry (3 Credits)

The purpose of this course is to deepen students' engagement with the metaphorical nature of language through understanding and enjoyment of poetry. The selection of poems focuses on what poetry means and does, what needs and desires poetry fulfills in its writers and readers, and the cultural contexts and conditioning that define poetry and place value on its existence. (*Meets literature and English concentration requirements.*) Lecture: 3 hours

ENGL 1230 - Modern Literature (3 Credits)

This one-semester survey course considers significant literature of the world from the turn of the 20th century to the present. It examines many literary movements, including Modernism and Postmodernism, with emphasis on broadness of understanding and ability to interpret and evaluate texts. (*Meets literature elective and English concentration requirements.*) Lecture: 3 hours

ENGL 1240 - Readings in the Novel (3 Credits)

Several novels, significant in the time of their appearance as well as in retrospect, are read to develop a student's understanding of their place in the genre, not only as the diverse expressions of their authors and mirrors of their particular historical contexts, but as social, cultural and political forces. (*Meets literature and English concentration requirements.*) Lecture: 3 hours

ENGL 1250 - Readings in the Short Story (3 Credits)

This course considers the development and themes of the short story. Significant examples from diverse cultures and historical eras are analyzed and discussed. (*Meets literature elective and English concentration requirements.*) Lecture: 3 hours

ENGL 1260 - Readings in Shakespeare (3 Credits)

A number of major plays and sonnets by Shakespeare are analyzed to develop students' understanding of the works' dramatic, cultural and historical content, as well as various critical viewpoints. The plays are selected from the comedies, tragedies and histories. (*Meets literature and English concentration requirements.*) Lecture: 3 hours

ENGL 1270 - Contemporary Drama (3 Credits)

This course includes plays from Ibsen to the present. Emphasis is on changing approaches to theater as well as the social, cultural and philosophical implications in the representative plays. (*Meets literature and English concentration requirements.*) Lecture: 3 hours

ENGL 1280 - Dramatic Literature (3 Credits)

This is a course in which historic and dramatic trends are viewed, including literary forms, the most important playwrights and socio-political effects on the dramatic literature of differing periods. (*Meets literature and English concentration requirements.*) Lecture: 3 hours

ENGL 1290 - Black American Literature (3 Credits)

This course traces the development and impact of black American writers from the era of slavery to the present by examining the unique experiences and challenges

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

presented in their works. Representative poetry, fiction, nonfiction and drama of major writers are studied for their literary, sociological and historical significance. *(Meets literature and English concentration requirements.) Lecture: 3 hours*

ENGL 1300 - Composition I for Speakers of English as a Second Language (6 Credits)

This course has the same purpose as ENGL 1010. Students perfect their academic writing skills through a sequence of essay assignments, including a research project, with emphasis on rhetorical and grammatical issues particular to ESL. Students completing this course may take ENGL 1005 or 1010 as a follow-up course for elective credit as recommended by the instructor. *(Prerequisite: ENGL 1090 or recommendation following ESL placement testing.) Lecture: 1 hour, Lab: 2 hours*

ENGL 1360 - Science Fiction (3 Credits)

This course involves reading and analyzing various science-fiction novels, short stories, and, occasionally, films produced since the late 19th century. Emphasis is placed on understanding the influence science and technology have had on modern life and how that influence has been shown in literature. *(Meets literature and English concentration requirements.) Lecture: 3 hours*

ENGL 1370 - Literature of Imagination and Fantasy (3 Credits)

This course examines fantasy as an enduring and ongoing part of humanity's literary heritage as seen through such examples as myth, fairy tale, gothic horror and magical realism. As a literary form, fantasy not only broadens the reader's understanding of what literature is and what it does, but it explores the

fundamentals of literature to suggest unusual and innovative ways of looking at the world. *(Meets literature and English concentration requirements.) Lecture: 3 hours*

ENGL 1400 - Business Writing for Office Professionals (3 Credits)

Note: This course is for Administrative Office Technology program students ONLY. This one-semester course includes a concentrated review of grammar and punctuation; correspondence (letters and memos); philosophy, psychology and standards in business communication; and brief exposure to informal and formal reports. *Lecture: 3 hours*

ENGL 1410 - Business Writing (3 Credits)

This one-semester course includes philosophy, psychology, and standards in business communication; written and digital correspondence (letters, memos, and emails); and informal and formal report writing. Basic knowledge of Microsoft Word is strongly recommended. Meets general education requirements. *Prerequisite: None, although ENGL 1005 or 1010 is strongly recommended.) Lecture: 3 hours*

ENGL 1430 - Creative Writing (3 Credits)

This course is an introduction to the craft of writing in its various forms including the personal essay, fiction, poetry and drama. Students produce work in these genres and develop critical objectivity through analysis of their creations as well as those of their classmates and published writers. *(Meets English concentration requirements. Prerequisite: ENGL 1010 with grade of C or better. However, ENGL 2010 or 2015, also is recommended.) Lecture: 3 hours*

ENGL 2010 - Composition II (3 Credits)

This course is an extension of ENGL 1010 - Composition I. While in Composition I the emphasis is upon short expository pieces, students of Composition II concentrate on development of the central idea in writing essays and, wherever appropriate, in descriptive and narrative prose. Coursework includes writing at least one paper based on reading and research. Literature of an appropriate type is read and analyzed in terms of rhetorical statement, structure and device. *(Meets English concentration requirements. Prerequisite: ENGL 1010 with grade of C or better or a comparable basic level college course in rhetoric.) Lecture: 3 hours*

ENGL 2015 - Advanced Writing for Liberal Arts (3 Credits)

Continuing Composition I (ENGL 1010) for students of liberal arts, this course is concerned with writing about ideas generated by books and articles. The aim of this course is to produce fully developed essays based on reading and research such as would be assigned in liberal arts courses in any college. A research paper, or a series of short source papers, some on the same subject, is the major requirement of the course. *(Prerequisite: ENGL 1010 with grade of C or better or a comparable basic level college course in rhetoric.) Lecture: 3 hours*

ENGL 2016 - Tutoring Writing (3 Credits)

This course analyzes theories, methods and strategies associated with peer tutoring in a writing center. Participants study current writing process theory, global and local revision strategies, various genres of writing, the MLA and APA documentation systems, different styles of learning and a variety of tutoring methods. Participants then receive

additional training as peer tutors by observing, analyzing and reflecting on tutoring sessions and on the tutoring process. Last, they will enhance their writing, listening, speaking, assessment and collaboration skills by assisting other students in the Writing Center, as well as by writing about and reflecting on their experiences. *(Prerequisite: ENGL 1010 with grade of B or better or comparable basic level college course in rhetoric.) Lecture: 3 hours*

ENGL 2020 - 20th Century American Literature (3 Credits)

This survey course examines American literature of the 20th century, including consideration of its cultural and historical contexts. *(Meets literature elective and English concentration requirements.) Lecture: 3 hours*

ENGL 2030 - British Literature II (3 Credits)

This survey course in British literature from William Blake to the present examines selected works in various genres as representative of their historical and cultural contexts. *(Meets literature elective and English concentration requirements.) Lecture: 3 hours*

ENGL 2040 - World Literature from 16th Century (3 Credits)

This course examines literature of the world in translation from the Enlightenment to the present in order to understand literature as a reflection and expression of its times, the humanities and the modern world. *(Meets literature elective and English concentration requirements.) Lecture: 3 hours*

ENGL 2050 - Introduction to Literary Theory and Criticism (3 Credits)

Although open to all, this course is particularly designed for English concentration students to deepen skills in critical thinking and writing about all genres of literature. Focus is placed on close textual reading,

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

using appropriate literary terminology and applying various methodologies to analyze literature. In addition to class discussion and collaborative activities, students will engage in literary research and MLA style documentation. *(Meets literature and English concentration requirements. Prerequisites: ENGL 1010 and any 1000-level literature course.) Lecture: 3 hours*

ENGL 2100 - Technical Writing (3 Credits)

This course focuses on producing concise, clear, credible and objective reports, letters, memoranda and related workplace writing, including appropriately documented research. The course promotes writing that demonstrates an awareness of the reader. Basic knowledge of Microsoft Word is strongly recommended. *(Prerequisite: ENGL 1010 or completion of ENGL 1005 with grade of C or better.) Lecture: 3 hours*

ENGL 2200 - Children's Literature (3 Credits)

This one-semester course introduces the student to the range of children's literature from early folklore to current selections. Students read widely to develop discrimination in the selection of books for children of pre-kindergarten through eighth grade school levels, as well as develop the ability to interpret criteria and evaluate the different genres of literature suited for children. *(Meets literature and English concentration requirements.) Lecture: 3 hours*

ENGL 2210 - Special Topics in Film (3 Credits)

This course is meant to enable students who have achieved the basic understandings of film study and interpretation in Film as Literature I to continue their examination of the medium. They will pay special attention

to various film genres, to the work of particular directors and to aspects of film theory. *(Prerequisite: ENGL 1210 or permission of instructor.) Lecture: 3 hours*

ENGL 2230 - Contemporary Literature of the Past Decade (3 Credits)

This course examines significant works of the last decade chosen from a rich variety of authors, topics and cultures. Selected genres may include, but are not limited to, poetry, fiction, nonfiction, film and literature of the performing arts. *(Meets literature and English concentration requirements.) Lecture: 3 hours*

ENGL 2250 - Adolescent Literature (3 Credits)

Students read widely from a variety of literary genres and texts that are aimed at an adolescent audience. Focus is on methods for interpreting and evaluating adolescent literature. *(Meets literature and English concentration requirements.) Lecture: 3 hours*

ENGL 2310 - Introduction to Screenwriting (3 Credits)

This course introduces students to techniques that the screenwriter uses to develop characters, construct scenes, structure plot and follow screenplay format. Students will analyze films and screenplays, write original scenes and construct a screenplay. *(Meets English concentration requirements.) Lecture: 3 hours*

ENGR (ENGINEERING)

ENGR 1020 - Introduction to Engineering and Technology (3 Credits)

This course introduces students to various tools and problem-solving skills common to most fields of engineering and technology. It emphasizes developing both individual

critical thinking and collaborative problem-solving skills, essential in today's world of technology. Students learn the basics of the engineering design process of product design, testing and evaluation. In teams, students apply this process to complete a semester-long project that involves practical problem-solving, computer simulation and physical product fabrication. To assist in the project analysis, documentation and presentation, students develop skills with spreadsheets, word processing and presentation software. *(Prerequisite: MATH 0600 or higher or permission of instructor.) Lecture: 2 hours, Lab: 2 hours*

ENGR 1030 - Engineering Graphics (3 Credits)

This course studies the theory of orthographic projection and the principles of descriptive geometry. Students construct exact drawings of three-dimensional objects including auxiliary views, cross-sections, dimensioning, pictorial drawings and free-hand sketching. *Lecture: 2 hours, Lab: 3 hours*

ENGR 2050 - Engineering Mechanics – Statics (3 Credits)

This is a basic course built around solutions and applications of Newton's Laws of Forces in equilibrium. Systems of particles and rigid bodies are studied using standard scalar and vector methods. *(Prerequisite: MATH 1910 or equivalent.) Lecture: 2 hours, Lab: 2 hours*

ENGR 2060 - Engineering Mechanics – Dynamics (3 Credits)

This course covers the application of Newton's Law of Motion, to include kinematic and kinetic studies of the motion of systems of particles and rigid bodies, acted upon by unbalanced forces. *(Prerequisites: ENGR 2050 and MATH 1920) Spring only. Lecture: 2 hours, Lab: 2 hours*

ENGR 2150 - Introduction to Electrical Engineering (Engineering Physics II) (3 Credits)

This basic course in electrical engineering includes a study of static, electric and magnetic fields, Coulomb's laws, capacitance and inductance, GAUSS' Law, Ampere's Law, electrical current and voltage. *(Prerequisites: MATH 1910 and PHYS 1100 with a grade of C or better.) Lecture: 3 hours, Recitation: 1 hour*

ENGR 2151 - Introduction to Electrical Engineering Lab (1 Credit)

Laboratory exercises reinforce the theory learned in the Introduction to Electrical Engineering course. Use of various electronic instruments to make measurements is an important part of the lab. *(Corequisite: ENGR 2150) Lab: 3 hours*

ENGR 2160 - Introduction to Engineering Analysis (2 Credits)

This course introduces students to analytical methods employed in engineering problem-solving using computer software. *(Prerequisite: MATH 1910 with a grade of C or better.) Lecture: 2 hours, Lab: 1 hour*

ENGR 2320 - Digital Electronics (4 Credits)

This course studies logical building blocks and functional building blocks such as OR gates, AND gates, invertors, XOR gates registers, counters, adders, D/A converters, A/D converters, decoders, encoders and binary multiplexers. Number systems and codes, arithmetic processes and memory devices also are covered. Input, output, memory, control and arithmetic functional units are developed using functional building blocks. *Note: Engineering students should consult department academic adviser before enrolling. Lecture: 3 hours, Lab: 3 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

ENGR 2520 - Microprocessor and Microcomputers (4 Credits)

This hands-on course familiarizes students with computer and microprocessor software and hardware. Computer architecture and interfacing with input and output devices are studied. Students develop an understanding of how the computer is used to control electronic and mechanical devices. (*Recommended: Digital electronics background.*) *Lecture: 3 hours, Lab: 3 hours*

ENGR 2540 - Mechanics of Materials for Engineering (3 Credits)

This is a basic study of the theory of stresses and strains in beams, columns and thin-walled cylinders including combined bending and direct stresses. (*Prerequisite: ENGR 2050*) *Lecture: 3 hours*

ENGR 2620 - Linear Electrical Systems and Circuit Theory for Engineers (3 Credits)

This course offers a study of electrical linear circuit theorems, Kirchhoff's Laws, DC resistive networks, dependent sources, natural and forced response of first- and second-order circuits, sinusoidal steady-state response and AC power. (*Recommended: Calculus background; Prerequisite: ENGR 2150; Prerequisite or Corequisite: MATH 2990.*) *Lecture: 3 hours, Recitation: 1 hour*

ENGR 2621 - Linear Circuits Lab (2 Credits)

Topics covered in this lab include: DC measurements, natural and step response of first- and second-order circuits, AC measurements, impulse and frequency response and operational amplifiers. (*Corequisite: ENGR 2620*) *Lecture: 1 hour, Lab: 3 hours*

ENGT (ENGINEERING TECHNOLOGY)**ENGT 1060 - AutoCAD (Basic) (2 Credits)**

The introduction of computer-aided drafting (CAD) has impacted the way many products are designed and produced. In this course, students explore all the necessary commands needed to produce orthographic drawings on microcomputers. Software used for this course is AutoCAD, the most popular CAD software for personal computers. *Lecture: 1 hour, Lab: 2 hours*

ENGT 1090 - Solid Modeling (SolidWorks) (2 Credits)

This course teaches students the fundamentals of SolidWorks and the technique of three-dimensional design. *Lecture: 2 hours, Lab: 1 hour*

ENGT 2090 - Advanced Solid Modeling (3 Credits)

Advanced Solid Modeling enables students to work with advanced designs and assemblies. This includes mold design, sheet metal design, weldments and industry specific design tools. Students learn to use COSMOSWorks to study deflections and load stress on their designs. Other applications would include rendering in PhotoWorks and animation techniques. (*Prerequisite: ENGR 1030*) *Lecture: 2 hours, Lab: 2 hours*

ETCN (ENGINEERING TECHNOLOGY/CNC)**ETCN 1000 – Mechanical Industrial Design (3 credits)**

This course will familiarize students with components used in mechanical systems. Students will learn how to select components based on system requirements and how to implement the component in the system. Attention is given to currently manufactured components and the use of manufacturers' sizing and mounting procedures, and sizing and fitting of these elements based on function, power requirements, life and cost. (*Prerequisite: ENGR 1030; Prerequisite or Corequisite: ETCN 1100.*)

ETCN 1100 - Blueprint Reading and the Machinery's Handbook (3 Credits)

Detailed manufacturing part prints are the graphical representation of what the finished product should look like and the specifications required to make it. The Machinery's Handbook is the encyclopedia used in the manufacturing environment; a storehouse of practical information used to assist not only CNC machinists, but also quality insurance personnel, tool or mold makers, machine designers and mechanical engineers to solve a list of manufacturing problems. This seven-and-a-half week course uses these two resources to teach students how to interpret the language of blueprints and find the required information regarding machining processes such as speeds, feeds, cutting tool specifications and limits. Focus is on problem-solving skills and strategies. *Lecture: 2 hours, Lab: 2 hours*

ETCN 1200 - Precision Measurement and Geometric Dimensioning and Tolerance (3 Credits)

This seven-and-a-half week course is designed to develop the student's ability to interpret Geometric Dimensioning and Tolerancing (GD&T) language and accurately and precisely measure manufactured parts and assemblies using micrometers, digital calipers and dial indicators. Language and systems of measurement and GD&T are studied and discussed. Basic handheld comparison tools, precision gages, scaled and precision measuring tools are used to accurately measure parts for both size and geometric form. Students also learn about sine bar use and setup, gage blocks care, surface plate preparation and part fixturing. The feature control frame of the geometric symbols in the application of the tolerances also are studied. (*Prerequisite or Corequisite: ETCN 1100.*) *Lecture: 2 hours, Lab: 2 hours*

ETCN 1300 - CNC Machining I (3 Credits)

This course introduces students to CNC programming using flow charts and process operations planning. Fundamental word address (G and M code) industrial standards, practices and terms used in industry are covered. Machine tool axis motion, methods of work piece setup, cutting tool selection, cutting tool compensation and canned cycles are reviewed. Students produce manually written part programs for three axis-milling machines and router, and two axis lathes. Review of blueprints, Geometric Dimensioning and Tolerancing (GD&T) terminology, and right angle trigonometry are covered, as well as precision measurement for all produced parts. (*Prerequisite: ENGR 1030; ETME 1020; ETCN 1100*) *Lecture: 1 hour, Lab: 4 hours*

ETCN 2000 - Advanced Machining Skills (3 credits)

This course exposes manufacturing technology certificate and degree students to many different computer-controlled machining processes: machine tool set up, and the methods and machining operations. This course will introduce additional machining processes and enhance the technical skills and theories learned in all the other manufacturing certificate courses. Students will acquire fundamental knowledge and the technical skills needed to become technically proficient. Machining processes include electrical discharge machining, plasma cutting and computer-controlled welding. *Prerequisite: ETME 1020; ETCN 1100, 1200, 1300, 2100, 2200; ENGR 1030.*

ETCN 2100 - Computer-Aided Manufacturing (MasterCam) (3 Credits)

In this seven-and-a-half week course, students study the essentials of a computer-aided manufacturing system (CAM). This course uses MasterCam, which is an industrial software application, used to draw and create a tool path for CNC machining applications such as milling and turning. Students use CAM software in conjunction with computer-aided drawing files (CAD) to create machined features from a piece of stock material. Topics include using MasterCam to select the correct CNC machine tool, draw solid models, organize and optimize machining operations and time. *Lecture: 1 hour, Lab: 4 hours.*

ETCN 2200 - CNC Machining II (3 Credits)

This seven-and-a-half week course is a continuation of the CNC Machining I course. It expands on the use of the word address system using G and M code. Students use

CNC simulation software to write part programs with more machine features and complex shapes. More advanced work holding techniques and programming for multiple fixture offset positions are addressed. Programming techniques such as circular interpolation, canned cycles, programming loops and macros are studied. Students write part programs for a CNC router, lathe and vertical milling machines. *(Prerequisite: ETCN 1300; ETCN 2100) Lecture: 1 hour, Lab: 4 hours.*

ETCN 2250 – Lean Manufacturing (2 credits)

Lean manufacturing is a systematic method for the elimination of waste within a manufacturing system. Lean also takes into account waste created through overburden, waste created through unevenness in workloads and the handling of materials and tools. This course will expose students to the basic concepts as applied to practical manufacturing and quality control. Students will analyze manufacturing material handling, tool positioning and quality control problems. *(Prerequisite: ETME 1020)*

ETCN 2300 - 3D-Modeling and Prototyping (Direct Digital Manufacturing) (3 Credits)

This course studies the types of Additive Fabrication (AS) or Additive Freeform Fabrication. Topics include history of Additive Manufacturing (AM), types of new generation machines used for AM and types of materials, binders and substrates used with this technology. Other topics include the size constraints, design constraints, and advantages and applications of this technology. Students use SolidWorks and

MasterCam as the manufacturing software to design and produce parts in the manufacturing lab using the Dimension SST 1200es CNC machine tool. *(Prerequisites: ENGR 1030; ENGT 2090; ETCN 1300) Spring only. Lecture: 2 hours, Lab: 2 hours*

ETCN 2350 – Automated Machining Technology (3 credits)

Key skills are needed for the growing 21st century advanced manufacturing workplace: wire EDM machining, 4 Axis milling, metal selection and heat treatment, plasma-torch technology, robot integration, emphasizing set-up and safety in the work environment. This course will expand upon skills learned in CNC Machining I (ETCN 1300), Computer-Aided Manufacturing (MasterCam) (ETCN 2100), and Engineering Graphics (ENGR 1030). Students will use blueprint reading skills, machine processes skills and information from Machinery's Handbook to properly set up and operate advanced-level machines with confidence. *(Prerequisite: ENGR 1030; ETME 1020; ETCN 1300.)*

ETCN 2360 – Manufacturing Quality Control (3 credits)

This course will give an elementary approach to the statistical techniques used in the quality control of manufactured parts. Topics covered include introduction to quality concepts and statistical process control (SPC); introduction to variation and statistics; organization of data; introduction to variables control charts; introduction to metrology; introduction to probability and the normal distribution; introduction to attribute (go/no go) charts; control chart interpretation, and gage capability. This course will also include a lab component using software along with actual machined parts to develop the proper control charts and perform other quality control functions.

ETCN 2400 – Industry and OSHA-10 Seminars (1 credit)

Working safely and a safe working environment is the highest priority in a 21st century advanced manufacturing facility. Students will gain an understanding of OSHA and important details concerning a safe workplace, and receive the OSHA 10-hour card. The OSHA 10-hour card shows employers the student has had a good introduction to the safety concerns foremost in today's general industry workplace. This course will also provide networking opportunities with advanced manufacturing companies using the skills learned and developed in the certificate and A.S. degree programs. Industry leaders visit students in the classroom, describing the growing advanced manufacturing market, and how their skills can be integrated.

ETCN 2500 - Computer Numerical Control (CNC) Practicum/Capstone (4 Credits)

This course gives students an opportunity to apply knowledge and skills learned in the CNC certificate program in an industrial setting. Students spend 140 hours in a manufacturing environment setting up and operating CNC machine tools under the guidance of full-time employees. This class also has a two-hour meeting requirement which is used to develop a portfolio outlining the types of working experiences acquired in the practicum. Students keep a working journal during the semester which will be used to assist in building their portfolio to chronicle their experience in order to address any problems or concerns that may arise. The Engineering Department provides assistance

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

in matching students in practicum settings. (Prerequisite: Completion of ETCI - Introduction to CNC Manufacturing Certificate; ETEE 1800 or ETCN 2100 and ETCN 2200; ETCN 2300) Spring only. Lecture: 2 hours, Practicum: 140 hours

ETEE (ENGINEERING TECHNOLOGY – ELECTRICAL)

ETEE 1050 - Introduction to Electromechanical Systems (3 Credits)

The course introduces students to the nature of electricity and magnetism, and applications of practical electrical and electromechanical devices and systems. Students study electrical laws in basic DC and AC circuits, and the behavior of passive and active circuits and components. Students also are introduced to basic electromechanical components such as relays, switches, motors and generators. The course emphasizes a systems approach to utilizing and testing electromagnetic technology. Both hands-on labs and software simulation are used to develop an understanding of combining components to form complex systems and the techniques to evaluate the performance of electromechanical systems. (Prerequisite: MATH 0600 or higher with a grade of C or better) Lecture: 2 hours, Lab: 2 hours

ETEE 1100 - Engineering Applications of Computers (3 Credits)

Students are introduced to microprocessor and microcontroller architectures. Machine, assembly and high-level languages will be examined. A combination of assembly and a high-level language are applied to solving problems using a popular microcontroller development environment and target

hardware system. Data and graphic information types and formats are described and used in programs. Acquiring data from internal and external sources, communicating across networks, and directing output to displays and other external interfaces are also explored. Student lab activities include developing and debugging programs used to control electromechanical devices, measuring operating parameters, collecting data and displaying information. (Prerequisites: MATH 1750; ETEE 1800) Lecture: 2 hours, Lab: 2 hours

ETEE 1120 - Electronic Devices and Circuits (3 Credits)

This course is a study of the basic laws of electronic circuit theory applied to electronic devices with emphasis on solid state devices, including the theory and operation of semi-conductor diodes and transistors. Operational amplifiers, oscillators, active filters and switching circuits are emphasized and analyzed in laboratory experiments. Analysis techniques include the use of Bode plots and computerized experiments using circuit simulation software in addition to bench work wiring up circuits that are analyzed and then tested. (Prerequisite: ETEE 1500) Spring only. Lecture: 2 hours, Lab: 2 hours

ETEE 1500 - Electrical Systems I (3 Credits)

This course covers AC and DC circuits. Analysis techniques are taught and implemented in laboratory experiments using both physical components and instruments, and computer analysis. Impedance and networks and passive filters are studied. Power transformers and single phase/three phase power distribution are introduced. (Prerequisites: ETEE 1050) Spring only. Lecture: 2 hours, Lab: 2 hours

ETEE 1800 - Introduction to Digital Systems (3 Credits)

This course provides the student with a basic understanding of digital systems through the use of programmable logic controllers. The student will explore fundamental properties of digital logic controllers, digital control components and systems. Students also will analyze and develop basic control systems solutions, using logic controller simulation software to configure and test systems. (Prerequisite: MATH 0500 with a grade of C or better) Lecture: 2 hours, Lab: 2 hours

ETEE 2390 - Electrical Power Systems (3 Credits)

This course analyzes three phase delta/wye and single phase power circuits. Measurement with instrument transformers and two/three wattmeters are emphasized and used in laboratory experiments. AC and DC motors and generators, stepper motors and universal motors are studied, with related laboratory experiments. Emphasis is on operation, measurement of characteristics and control. Transformers, circuit breakers, relays and programmable control devices are covered, as are the basics of power transmissions lines. Technology associated with smart-grid systems is introduced. (Prerequisite: ETEE 1500) Spring only. Lecture: 2 hours, Lab: 2 hours

ETEE 2500 - Electrical Systems II (Capstone) (3 Credits)

This course studies switching devices including SCRs, TRIACS, DIACS, UJT and their application in power and motor control circuits. The application of transducers as sensors in industrial control systems also is covered. Use of programmable controllers in industrial control of processes and power circuits is emphasized. Laboratory experiments include SCR and switching devices in

the control of power circuits; application of sensors for measurement of heat, position, stress, light and pressure; operation and programming of programmable controllers; measurements in single phase and three phase-Y power circuits, and the operation of motors. Students apply material learned in this course and in previous courses to a capstone project. (Prerequisite: ETEE 1500) Spring only. Lecture: 2 hours, Lab: 2 hours

ETME (ENGINEERING TECHNOLOGY–MECHANICAL)

ETME 1010 - Robotics and Control (3 Credits)

This course provides an introduction to the field of robotics and automation. Topics include: the different robot classification systems and robot arm configurations; robot end effectors, robot operating systems and kinematics. This course also introduces basic concepts of automation and artificial intelligence. Various concepts of control are introduced such as programmable logic controllers. Equipment justification also is introduced. Students program and operate two types of robots using the robots' programming languages. Fall only. Lecture: 2 hours, Lab: 2 hours

ETME 1020 - Introduction to Manufacturing Processes (3 Credits)

This course provides students with insight and practical experiences in the set-up and operation of basic machines and measuring tools used in manufacturing processes. Significant emphasis is placed on dealing safely with high-power machinery, materials, laboratory clothing and machine maintenance. Turning, milling, grinding, drilling and precision measurements are covered, developing the students' ability to fabricate

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

mechanical components using traditional machining. Students learn the limitations of traditional machining and prepare for understanding advanced manufacturing technology. *Lecture: 1 hour, Lab: 4 hours*

ETME 1500 - Mechanical Systems I (3 Credits)

This course is designed to familiarize students with components used in mechanical systems. Students learn how to select components based on system requirements and how to implement the component into the system. Attention is given to currently manufactured components and the use of the manufacturer's sizing and mounting procedures. More specifically, attention is given to the sizing and fitting of these elements based on function, power requirements, life and cost. (*Prerequisites: MATH 1750; ENGR 1020 and 1030; ETEE 1050*) *Lecture: 2 hours, Lab: 2 hours*

ETME 1510 - Engineering Mechanics Technology (3 Credits)

This course is for students in the Engineering Technology Systems program. Students are introduced to basic concepts in engineering mechanics; statics, dynamics, strength of materials, with a focus on technical application of the fundamentals to mechanical design. Newton's Laws are studied with emphasis on equilibrium and motion. Realistic problems are analyzed through the use of vector mechanics. Kinematic and kinetics are investigated to a level sufficient enough for students to follow and develop basic analysis of mechanisms and machines. Stress levels and strain are covered allowing for determination of acceptable analysis and design of mechanical systems. (*Prerequisites: MATH 1750 and 1760; ENGR 1020 and 1030*) *Spring only. Lecture: 2 hours, Lab: 2 hours*

ETME 2310 - Automation Systems (3 Credits)

This course addresses fundamental issues of automation. Topics covered are the types of automation, designing for automation, automatic assembly transfer systems, automatic feeding and orienting, and automated material handling systems. Quality and cost analysis as they relate to automation, the design and analysis of lean systems, as well as advanced topics in robots, such as vision systems technology, also are discussed. (*Prerequisites: ETME 1010*) *Spring only. Lecture: 2 hours, Lab: 2 hours*

ETME 2500 - Mechanical Systems II (Capstone) (3 Credits)

The purpose of this course is to teach students how mechanical components (studied in prerequisite courses) are combined and integrated into complex working systems. The course stresses building assemblies and harnessing electrical controls to the assemblies. This course is designed to cement together the knowledge learned in previous courses within the program. Students learn to create operational sequences, build systems from standard components, write programs to control them, apply necessary sensors and actuators, and operate and debug their assemblies. (*Prerequisites: MATH 1750 and 1760; ENGR 1020 and 1030; ETEE 1050; ETME 1010 and 1510*) *Lecture: 2 hours, Lab: 2 hours*

ETME 2930 - Industrial Materials (3 Credits)

This course is an introduction to the different material systems in material science. This course includes an introduction to the structure and properties (such as mechanical, chemical, physical) of materials, specifically metals. Equilibrium phase diagrams and isothermal diagrams also are introduced. This course also introduces various techniques of materials testing such as tensile,

creep, bend, hardness, impact and fatigue testing. Also covered are various techniques of heat treatment such as annealing. This course examines the factors which influence the production and modification of materials into useful forms. Students learn about the various manufacturing processes and machinery used to convert raw materials into finished products. The course gives the student hands-on experience with materials and processes used in industry. A lab also is utilized to demonstrate various techniques. (*Prerequisites: MATH 1750 and 1760; ENGR 1020 and 1030; ETEE 1050*) *Lecture: 2 hours, Lab: 2 hours*

ETUT (ENERGY UTILITY TECHNOLOGY)

ETUT 1060 - Energy Industry Safety (3 Credits)

This course provides an introduction to the principles of safety, guidelines for the design and maintenance of energy equipment. Students learn the skills necessary for safe power generation, transmission and distribution. The course covers industry safety practices and human reactions in normal and abnormal conditions. Safe working conditions are compared to industry standards and OSHA 30 regulations. From a safety perspective, the course provides an overview of the electric generation process, power plant systems and functions, typical power industry philosophy, departmental responsibilities and practices, industrial health issues, and environmental safety. (*Prerequisites: MATH 0500 with a grade of C or better*) *Fall only. Lecture: 2 hours, Lab: 2 hours*

ETUT 1160 - Introduction to Energy Utility Industry (3 Credits)

This course provides students with an overview of the energy utility industry and its occupational opportunities. This includes the

history of providing reliable energy service, regulatory influences and electric/gas energy flow. The course also covers basic terminology, typical conditions for employment and career opportunities. Current technology for energy generation, transmission and distribution are discussed and demonstrated. This course integrates an overall understanding of the energy utility industry, its functions, business issues, procedures and practices. (*Prerequisites: MATH 0500 with a grade of C or better*) *Fall only. Lecture: 2 hours, Lab: 2 hours*

ETUT 2500 - Energy Industry Practicum and Capstone (3 Credits)

As part of a practicum, this course introduces students to the practical skills and procedures of a major power generation company (National Grid). The practicum allows students to learn how to splice wires and connect fuses and transformers. Students become familiar with the tools and equipment used in the power industry. The course also functions as a program capstone, providing students an opportunity to integrate all energy utility industry knowledge obtained to date and to complete their program portfolio. The practicum is one eight-hour day per week for eight consecutive weeks at the National Grid Training Center in Millbury, Massachusetts, or an alternate practicum site. (*Prerequisite: ETEE 1500*) *Spring only. Lecture: 2 hours, Lab: 2 hours*

FIRE (FIRE SCIENCE)

FIRE 1010 - Principles of Fire and Emergency Services, Safety and Survival (3 Credits)

This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavioral change throughout the emergency services. *Lecture: 3 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

FIRE 1020 - Fundamentals of Fire Prevention (3 Credits)

This course provides fire service personnel with a basic knowledge of the field of fire prevention. *(Prerequisite: FIRE 1030) Lecture: 3 hours*

FIRE 1030 - Introduction to Fire Science and Officership (3 Credits)

This course provides an introduction to fire science and covers, in detail, the fire officer and his/her relationship with the fire organization. The fire officer's responsibilities and duties, related to firefighting and non-firefighting activities, also are covered in detail. *Lecture: 3 hours*

FIRE 1040 - Fire Fighting Tactics and Strategy (3 Credits)

The essential elements in analyzing the nature of fires and methods of control are discussed in detail in this course. A segment of this course includes field projects with practical experience, building inspection and problems relative to major conflagrations. *(Prerequisite: FIRE 1030) Lecture: 3 hours*

FIRE 1050 - Building Construction and Fire Codes (3 Credits)

The elements of fundamental building construction, design and fire protection features are covered in this course. Attention also is given to special considerations related to national, state and local laws and ordinances directly related to the field of fire prevention. *(Prerequisite: FIRE 1020) Lecture: 3 hours*

FIRE 1060 - Fire Behavior and Combustion (3 Credits)

This course explores the theories and fundamentals of how and why fires start, spread, and how they are controlled. *Lecture: 3 hours*

FIRE 1070 - Fire Protection Systems and Equipment (3 Credits)

This course provides students with technical knowledge in the use of fire protection systems and equipment. Portable fire extinguishing equipment, sprinkler systems, protection systems for special hazards, and fire alarm and detection systems are covered. *(Prerequisite: FIRE 1020) Lecture: 3 hours*

FIRE 1090 - Fire Hydraulics and Equipment (3 Credits)

This course provides a review of basic mathematics and hydraulic laws and formulas as applied to the fire service. Time is allotted for practical application of formulas and mental calculation to hydraulic problems as well as for consideration of the water supply problem and underwriters' requirements for pumps. A segment of this course includes practical field experience. *(Prerequisite: MATH 1420) Lecture: 3 hours*

FIRE 1100 - Municipal Fire Administration (3 Credits)

This course provides an overview of the technical and administrative tasks associated with maintenance, custody and operation of a fire department. *(Prerequisite: FIRE 1030) Lecture: 3 hours*

FIRE 1120 - Investigations, Fire and Explosions (formerly Introduction to Fire Protection) (3 Credits)

This course covers the history, development and philosophy of fire investigation and detection. Topics include inspection techniques, gathering evidence for the development of technical reports, fundamentals of arson investigations, processing of criminal evidence and criminal procedures related to the various state and local statutes. Considerable time is spent on examination of explosive and incendiary devices, methods of search and bomb-threat procedures. *Lecture: 3 hours*

FIRE 1130 - Emergency Medical Technician - Basic (8 Credits)

This course teaches the student and other allied health and safety personnel for emergency care of the sick and injured at the scene and during transport. Classroom experience and practical demonstrations are used to familiarize students with the use of EMS equipment. Students are assigned to 15 hours of clinical experience and the emergency room of affiliated hospitals and/or fire departments. *Lecture: 8 hours, Lab: 2 hours*

FREN (FRENCH)**FREN 1000 - Basic Spoken French I (3 Credits)**

This is an introductory elective course for beginners emphasizing correct pronunciation and basic vocabulary for practical use in everyday conversational situations and travel dialogues. Students with no previous study of the language are prepared to use and understand it within a limited context and basic structure. *Lecture: 3 hours*

FREN 1100 - Basic Spoken French II (3 Credits)

This is a continuation of Basic Spoken French I (FREN 1000). *(Prerequisite: FREN 1000 or its equivalent) Lecture: 3 hours*

FREN 1010 - Elementary French I (3 Credits)

This course is for students with little or no preparation and covers elements of the language including conversation, pronunciation, reading, writing and grammar. Aspects of French-speaking cultures also are included. *Lecture: 5 hours*

FREN 1020 - Elementary French II (3 Credits)

This is a continuation of Elementary French I (FREN 1010). *(Prerequisite: FREN 1010, 1030 or its equivalent) Lecture: 5 hours*

FREN 1030 - Elementary French I (3 Credits)

French 1030 is a faster paced version of French 1010. This course is suitable for students with previous experience (e.g., Basic Spoken French and/or other prior formal study of the language, prior formal study of another foreign language or informal experience with a foreign language). The course covers elements of the language including conversation, pronunciation, reading, writing and grammar. Aspects of French-speaking cultures also are included. *Note: Course content is the same as French 1010 with two fewer hours per week. (Prerequisite: Prior preparation as noted above or permission of instructor) Lecture: 3 hours*

FREN 1040 - Elementary French II (3 Credits)

This course is a continuation of FREN 1030. *Note: Course content is the same as FREN 1020 with two fewer classroom hours per week. (Prerequisite: FREN 1010, 1030 or its equivalent) Lecture: 3 hours*

FREN 1510 - Conversational French I (3 Credits)

This course further develops students' fluency in speaking French. Oral practice includes active use of the language in short dialogues stressing basic communication and correct pronunciation. The reading of easy cultural texts also provides material for conversation and discussion. CDs are available for individual practice. *(Prerequisite: Two years of high school French or one year of college French or the equivalent) Lecture: 3 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

FREN 1520 - Conversational French II (3 Credits)

This course is a continuation of Conversational French I (FREN 1510) and includes conversational practice, cultural readings and discussions. *(Prerequisite: FREN 1510 or the equivalent) Lecture: 3 hours*

FREN 2010 - Intermediate French I (3 Credits)

This course helps students develop skill in reading and discussing French texts related to culture and literature. Coursework is supplemented by further work in grammar, conversation and composition. *(Prerequisite: FREN 1020 or 1040 or its equivalent) Lecture: 3 hours*

FREN 2020 - Intermediate French II (3 Credits)

This course is a continuation of Intermediate French I (FREN 2010). *(Prerequisite: FREN 2010 or its equivalent) Lecture: 3 hours*

FREN 2210 - French Conversation and Composition I

This is an intensive course in conversation and composition. Selected cultural videos, CDs, readings and classroom discussions provide an atmosphere to develop and improve speaking and understanding of French. Oral presentations and written compositions are required. *(Prerequisite: FREN 2020 or permission of instructor) Lecture: 3 hours*

FREN 2220 - French Conversation and Composition II

This course is a continuation of French Conversation and Composition I (FREN 2210). *(Prerequisite: FREN 2210) Lecture: 3 hours*

GEOG (GEOGRAPHY)**GEOG 1010 - Introduction to Geography (3 Credits)**

Physical and cultural elements of geography are considered as they relate to each other in the economic, political, cultural and historical aspects of human civilization. Map study is a major focus of this course as we examine all major regions of the world. *Lecture: 3 hours*

GEOL (GEOLOGY)**GEOL 1010 - General Geology (Physical Geology) (4 Credits)**

This course investigates the planet Earth, explaining the geologic events and features through plate tectonics. Major topics included are the study of minerals and rocks; volcanoes; earthquakes; weathering and erosion; streams and floods; and groundwater. In addition, a field trip within Rhode Island and the vicinity is taken. Course fulfills one lab science requirement for A.A. degree. *Lecture: 3 hours, Lab: 2 hours*

GEOL 1020 - The Earth Through Time (4 Credits)

This course investigates the geologic history of the Earth. Topics include plate tectonics; climate change, such as the Ice Age; and the evolution of life (e.g., dinosaurs). A key goal is to learn how these topics have interacted through time resulting in the present location of our continents, oceans and present day life. A field trip within Rhode Island is taken. Course fulfills one lab science requirement for A.A. degree. *Lecture: 3 hours, Lab: 2 hours*

GEOL 1030 - Natural Disasters (3 Credits)

This course studies the Earth by focusing on natural disasters. The causes and consequences of such events are examined within the framework of earth sciences. Major topics covered include earthquakes, volcanoes, tsunamis, landslides, climate change, hurricanes, floods and meteorite impacts. *Spring only. Lecture: 3 hours*

GEOL 1040 - Introduction to Geographic Information Systems (GIS) (3 Credits)

This course is an introduction to using ArcGIS 9.3 to create and analyze digital maps. Students learn how to use the software to create maps, graphs and reports. Basic cartography, coordinate systems, geodesy, map projections and map design also are covered. Students complete and present a final mapping project on a topic of their choosing. *Fall only. Lecture: 2 hours, Lab: 2 hours*

GEOL 1050 - Urban Geology (4 Credits)

This course explores the relationship of cities to their natural settings. The Earth's surface features, geological processes and internal structure are explored, including plate tectonics, earthquakes, volcanoes, the rock cycle, rivers and mass wasting. These and more are investigated in terms of their effect on urban areas. Topics include building stone, water supply, sanitation, population growth and megacities in the developing world. There will be a field trip to look at stone buildings in Providence or Newport. *Spring only. Lecture: 3 hours, Lab: 2 hours*

GERM (GERMAN)**GERM 1000 - Basic Spoken German I (3 Credits)**

This is an introductory elective course for beginners emphasizing correct pronunciation and basic vocabulary for practical use in everyday conversational situations and travel dialogues. Students with no previous study of the language are prepared to use and understand it within a limited context and basic structure. *Lecture: 3 hours*

GERM 1100 - Basic Spoken German II (3 Credits)

This is a continuation of Basic Spoken German I (GERM 1000). *(Prerequisite: GERM 1000 or its equivalent) Lecture: 3 hours*

GERM 1010 - Elementary German I (3 Credits)

This course is for students with little or no preparation and covers elements of the language including conversation, pronunciation, reading, writing and grammar. Aspects of German culture also are included. *Lecture: 5 hours*

GERM 1020 - Elementary German II (3 Credits)

This is a continuation of Elementary German I (GERM 1010). *(Prerequisite: GERM 1010, 1030 or equivalent) Lecture: 5 hours*

GERM 1030 - Elementary German I (3 Credits)

German 1030 is a faster paced version of German 1010. This course is suitable for students with previous experience (e.g., Basic Spoken German and/or other prior formal study of the language, prior formal study of another foreign language or informal experience with a foreign language). The course covers elements of the language including: conversation, pronunciation,

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

reading, writing and grammar. Aspects of German-speaking cultures also are included. *Note: Course content is the same as German 1010 with two fewer hours per week. (Prerequisite: Prior preparation as noted above or permission of instructor) Lecture: 3 hours*

GERM 1040 - Elementary German II (3 Credits)

This course is a continuation of GERM 1030. *Note: Course content is the same as GERM 1020 with two fewer classroom hours per week. (Prerequisite: GERM 1010, 1030 or its equivalent) Lecture: 3 hours*

GERM 1510 - Conversational German I (3 Credits)

This course further develops students' fluency in speaking German. Oral practice includes active use of the language in short dialogues stressing basic communication and correct pronunciation. The reading of easy cultural texts also provides material for conversation and discussion. CDs are available for individual practice. *(Prerequisite: Two years of high-school German or one year of college German or the equivalent) Lecture: 3 hours*

GERM 1520 - Conversational German II (3 Credits)

This course is a continuation of Conversational German I (GERM 1510). *(Prerequisite: GERM 1510 or the equivalent) Lecture: 3 hours*

GERM 2010 - Intermediate German I (3 Credits)

This course helps students develop skills in reading and discussing German texts related to culture and literature. Coursework is supplemented by further work in grammar, conversation and composition. *(Prerequisite: GERM 1020, 1040 or its equivalent) Lecture: 3 hours*

GERM 2020 - Intermediate German II (3 Credits)

This is a continuation of Intermediate German I (GERM 2010) *(Prerequisite: GERM 2010 or its equivalent) Lecture: 3 hours*

HCIN (HEALTH CARE INDUSTRY NETWORKING CERTIFICATE)

HCIN 1000 - Networking for Health Care I (5 weeks) (3 Credits)

This is the first course in a three-course series designed to prepare an individual to work in the networking area of a health care provider. This course introduces students to computer hardware, operating systems and networking hardware for a small business. Topics include computer hardware, operating systems, ISP, addressing, and basic security. *Lecture: 6 hours, Lab: 6 hours*

HCIN 1001 - Networking for Health Care II (5 weeks) (3 Credits)

This is the second course in a three-course series designed to prepare an individual to work in the networking area of a health care provider. This course will introduce students to uses of the Internet, planning network upgrades, configuring network devices routing, ISP services and ISP responsibilities. *Lecture: 6 hours, Lab: 6 hours*

HCIN 1002 - Networking for Health Care III (5 weeks) (3 Credits)

This is the third course in a three-course series designed to prepare an individual to work in the networking area of a health care provider. This course introduces students to the health care system in the United States, electronic health records, securing the health care information network, and HIPAA regulations regarding patient privacy. *Lecture: 6 hours, Lab: 6 hours*

HEAL (NURSING)

HEAL 0200 - CPR for Health Care Providers (0 Credits)

This course provides training in CPR skills and use of the automated external defibrillator (AED). It is a five-hour, noncredit course in which an American Heart Association course completion card is issued after satisfactory demonstration of CPR skills and a satisfactory score on a multiple-choice test. Course content includes risk factors, signs and symptoms of heart disease and stroke and actions to take when an individual is experiencing symptoms. CPR skills taught and practiced include relief of foreign body airway obstruction, rescue breathing and cardiopulmonary resuscitation for infants, children and adults. *Note: Health care provider card is a requirement for all Health and Rehabilitative Sciences programs. There is a "no refund" policy for this course.*

HEAL 1000 - Introduction to Health Careers (3 Credits)

This course provides an overview of the health field including the characteristics of health care workers, ethical and legal considerations in health care and selected content common to all health programs. *(Prerequisite: ACCUPLACER reading score of 75 or higher, or completion of ENGL 0890 with grade of C or better) Lecture: 3 hours*

HEAL 1015 - Health Issues in Aging (3 Credits)

This course is designed for individuals who work in health care service, education and other professions that deal with an aged population. It seeks to examine the unique issues related to aging and the elderly with a particular emphasis on health aging in our society. An overview of the aging process includes specific aspects such as physiological and psychological changes, socialization

and chronic illness. The management of chronic health problems, disease prevention and health promotion are discussed. Attention to social, political and cultural issues is discussed including family, community and health services resources. Discussions focus on the interdisciplinary approach to elder care emphasizing healthy aging and optimal wellness. *Lecture: 3 hours*

HEAL 1055 - Focus on Nursing Pharmacology (3 Credits)

The student nurse is in a unique position regarding drug therapy. Nursing responsibilities for today's nurse include the administering of drugs, assessing drug side effects and adverse reactions, intervening to make the drug regimen more tolerable, teaching the patient about the drugs, their side effects, adverse reactions, precautions, contraindications, and indications, while monitoring the patient's care plan to prevent medication errors. This course was designed to present pharmacology as an understandable, teachable, and learnable subject through the utilization of the nursing process. The course involves the study of drug classes, pharmacokinetics of these drug classes, pharmacodynamics of these drug classes, pathophysiological changes related to drug classes and application of nursing fundamentals. *Lecture: 3 hours*

HEAL 1060 - Dosage Calculations for Medication Administration (3 Credits)

This course is designed to meet the needs of any current or potential practitioners of nursing whose responsibilities include the safe administration of medications to clients within diverse clinical settings. A working knowledge of dosage calculations is necessary within any given medication administration system today. Information related to systems of measurements and conversions within these systems is presented. This

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

course helps health care professionals calculate dosages accurately, with increased confidence and decreased math anxiety to ensure the safe administration of medications, which is the primary responsibility of nurses. (*Prerequisite: MATH 0500 with grade of B- or better or appropriate placement test score*) *Lecture: 3 hours*

HEAL 1070 - Physical Assessment for Nurses (4 Credits)

This course introduces students to examination and techniques of adult physical assessment. Anatomy and physiology are reviewed to reinforce understanding of bodily processes necessary to understand the physical exam. Focus is on techniques of physical assessment including normal and abnormal findings. Consideration also is given to cultural, ethnical and special populations. (*Prerequisite: BIOL 1010*) *Lecture: 3 hours*

HEAL 1080 - Nursing Documentation (3 Credits)

This WebCT course is designed to help Nursing students or practicing nurses develop documentation skills within a variety of systems and methods. Legal and ethical implications of documentation are described. Strong emphasis is placed on documentation systems utilizing the nursing process framework. Students are encouraged to analyze and apply what they have learned through the use of case studies. (*Prerequisite: Nursing student/practicing nurse*) *Lecture: 3 hours*

HEAL 1085 - Nursing Informatics (3 Credits)

This course is for individuals who work in health care service, education and other professionals that deal with informatics. It examines the theory and application of nursing, computer and information science to enhance decision making in health care settings. An overview of Nursing Informatics

includes computer, networking, databases, research, as well as legal and ethical issues. This course involves theory and application to practice. *Lecture: 3 hours, Lab: 1 hour*

HIST (HISTORY)

HIST 1010 - Survey of Western Civilization I (3 Credits)

This course is a survey of Western cultural development from its inception in the Near East, through Greece and Rome, the Middle Ages, the Renaissance and the Reformation of the 16th century. *Lecture: 3 hours*

HIST 1020 - Survey of Western Civilization II (3 Credits)

This survey course examines the dominant influences in Western culture from the 16th to the 20th century. *Lecture: 3 hours*

HIST 1210 - History of the United States to 1877 (3 Credits)

This is a survey course of American history beginning with European backgrounds and discovery and continuing through the period of reconstruction. *Lecture: 3 hours*

HIST 1220 - History of the United States from 1877 (3 Credits)

This survey course covers American history from the rise of industrialism to the present. *Lecture: 3 hours*

HIST 2010 - Women in American History, 1600–1900 (3 Credits)

This course focuses on the history of American women from pre-contact populations to the turn of the 20th century. Historical development of prescribed gender roles set in social, political and economic contexts are discussed. Analysis of women's paid labor, political activism and changing notions of sexuality are covered. *Lecture: 3 hours*

HIST 2015 - Women in American History, 1900–present (3 Credits)

This course focuses on the history of American women from the turn of the 20th century to the present. Historical development of prescribed gender roles set in social, political and economic contexts are discussed. Analysis of women's paid labor, political activism and changing notions of sexuality also are covered. *Lecture: 3 hours*

HIST 2020 - Civil War and Reconstruction (3 Credits)

This course is a blend of both traditional Civil War history and the latest developments in the field, especially in social history. Political and military matters are analyzed, as well as the lives of slaves, soldiers and women. The topic of slavery will be thoroughly explored, as well as the effort to rehabilitate the lives of former slaves during Reconstruction. *Lecture: 3 hours*

HIST 2035 - American Society and Culture in Cold War, 1945–91 (3 Credits)

This course examines U.S. foreign policy in the Cold War era and its impact domestically and globally. *Lecture: 3 hours*

HIST 2241 - America's Experience in Vietnam (3 Credits)

This course examines, in-depth, America's involvement in Vietnam from World War II to 1975. Military, political, social and cultural reasons for, as well as consequences of, the American commitment are studied. (Recommended: HIST 1220 prior to this course) *Lecture: 3 hours*

HIST 2245 - History of Asian-Americans (3 Credits)

This course surveys Asian-American history from the 1840s to the present. The first half of the course focuses on the experiences of Chinese, Japanese and Filipino immigrants in the U.S. from the Gold Rush (late 1840s) to World War II. The main emphases are on immigration, communities, race relations, exclusion and incarceration. The second half of the course moves on to the great changes within the Asian-American community since the 1960s: new immigration from Korea, South Asia and the refugee communities of Vietnamese-Cambodian-, and Laotian/Hmong-Americans. *Lecture: 3 hours*

HIST 2250 - History of Black America (formerly HIST 1250) (3 Credits)

This course focuses on the history of black Americans from African origins to the present. Consideration is given to slavery, Reconstruction and ethnic relations from Colonial times to the present. (*Recommended: HIST 1210 and/or 1220 prior to this course*) *Lecture: 3 hours*

HIST 2260 - A Survey of East Asian Civilization (3 Credits)

This is a survey of East Asian civilization from ancient times to the modern period. The course also will treat the region as part of world history with discussions and comparisons of East Asia and other world economies and cultures. *Lecture: 3 hours*

HIST 2330 - War and Society (3 Credits)

In this course, we will explore the ways that war and violence were central to the formation, consolidation and expansion of European nation-states from the French Revolution to the collapse of empires in Europe. We will begin by reading works on the nature and origins of violence in modern

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

society. We will then examine the rise of mass politics and the ideologies that produced widespread destruction in the wake of the French and Industrial Revolutions. When we move to the 20th century, we will focus significant attention on the history of the two world wars, but we will be equally concerned with identifying the changing notions of legitimate state and interpersonal violence. Course readings will include primary and secondary sources, but films and music also will be important. *Lecture: 3 hours*

HMLS (HOMELAND SECURITY)

HMLS 1000 - Introduction to Homeland Security (3 Credits)

This course is designed to provide students with an understanding of the definition, origins and development of homeland security in the United States. The terminology of the Department of Homeland Security (DHS) is discussed as well as the presidential directives that created this new department. This course explores state, national and international laws impacting homeland security. The course examines the most critical threats and challenges confronting homeland security. This course also discusses how DHS has changed over the past several years in reaction to different terrorist events and the future of protecting the homeland. *Lecture: 3 hours*

HMLS 1010 - Intelligence Analysis and Risk Management (3 Credits)

This course examines intelligence analysis and its indispensable relationship to the security management of terrorist attacks, man-made disasters and natural disasters. It also explores vulnerabilities of our national defense and private sectors, as well as the threats posed to these institutions by

terrorists, man-made disasters and natural disasters. Students will discuss substantive issues regarding intelligence support of homeland security measures implemented by the United States and explore how the intelligence community operates. (*Prerequisite: HMLS 1000 or permission of instructor*) *Lecture: 3 hours*

HMLS 1020 - Border and Transportation Security (3 Credits)

This course provides an in-depth view of modern border and transportation security. Specific topics include security for seaports, ships, aircraft, trains, trucks, pipelines and buses. Focus is on the technology needed to detect terrorists and their weapons as well as on legal, economic, political and cultural aspects of the problem. (*Prerequisite: HMLS 1000 or permission of instructor*) *Lecture: 3 hours*

HMNS (HUMAN SERVICES)

HMNS 1010 - Introduction to Helping and Human Services (3 Credits)

This is the first in a sequence of required courses for internship placement in all Human Services concentrations. This course provides a working familiarity with theories of human development and will explore values and helping skills that are generic to the fields of teaching and human services. Students examine personal and professional attitudes, values, and beliefs that correlate with high effectiveness and will review current research for an understanding of social and behavioral issues critical to effective teaching and helping. Tools to assist students in self-assessment use of a sequential model for helping and the development of critical reading and reflective writing skills are provided. *Note: A grade of C or better is required for Human Services program students. Lecture: 3 hours*

HMNS 1040 - Drugs and Human Behavior (4 Credits)

This course provides general and specialized knowledge concerning the bio-psycho-social antecedents and consequences of drug-taking behaviors. Additionally, it carefully examines the nature of compulsion as it relates to the activity addictions. The use of medical, behavioral and psychodynamic models promote an understanding of addiction as a process, not an event, and students are exposed to current research documenting the connections between addictive behavior activities and brain chemistry. Students will gain knowledge and skills in the areas of assessment, intervention, treatment, relapse prevention and health promotion for working with individuals, groups and families affected by addictive and compulsive disorders. *Note: A grade of C or better is required for Human Services majors. Lecture: 4 hours*

HMNS 1060 - American Sign Language I (3 Credits)

This is a beginner's course in the sign language of the deaf in the United States. The course equips students with skills that enable communication in American Sign Language, both expressively and receptively. Topics relevant to the use of sign language include: the role of signs in American education of the deaf, the oral versus manual controversy, the philosophy of total communication and standards and ethics of sign language interpreting. Students are expected to attain competency with 600 common signs and to adhere to acceptable standards in utilizing this skill. Elective for Liberal Arts program. *Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours*

HMNS 1070 - American Sign Language II (3 Credits)

This is an intermediate-level course in the sign language of the deaf in the United States. This course concentrates on improving skills acquired in HMNS 1060 and focuses on effective conversational skills, both expressive and receptive. Students are expected to attain competency with 600 signs and a working knowledge of American Sign Language. Elective for Liberal Arts program. (*Prerequisite: HMNS 1060*) *Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours*

HMNS 1075 - Sign Language Interpretation (3 Credits)

This course builds on the student's ability to demonstrate proficiencies in American Sign Language, as established in either HMNS 1060 or 1070. This course begins the student's preparation to translate the spoken word into ASL and vice versa. This course will explore the basic responsibilities in the sign language interpreter field. Students learn the process of interpreting, the role of the interpreter in a variety of settings, the code of ethics, securing assignments, billing, available training and many other aspects of interpreting and the interpreting field. (*Prerequisite: HMNS 1060 or 1070*) *Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours*

HMNS 1080 - Health, Nutrition and the Young Child (3 Credits)

This course provides students with basic concepts of health, nutrition and safety as they apply to the care and education of young children. Students acquire those skills necessary for incorporating critical concepts into programming and curriculum in a wide variety of early childhood settings. Students will be required to spend 4-6 hours over the course of the semester participating in experiences and researching application of

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

course content in a public school, licensed educational setting or licensed child care. *Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours*

HMNS 1090 - Foundations of Gerontology and Elder Care (3 Credits)

Using a competency-based approach, this course provides students with specialized skills needed to plan and implement the professional delivery of direct services to senior adults, nursing home residents, the frail and elderly and the chronic or disabled senior patient. Students become familiar with the construction and interpretation of diagnostic assessments as part of senior activity planning that addresses the physical, social and emotional needs of the nursing home client. *Note: A grade of C or better is required for Human Services program students. Lecture: 3 hours*

HMNS 1130 - Introduction to Interpersonal Violence (3 Credits)

This course is designed to introduce students to current research and theories of interpersonal violence. Students acquire knowledge about developmental approaches as well as psychological and sociological theories as they relate to the effects of interpersonal violence on individuals and society. A systems perspective is used to examine both victim and perpetrator profiles in the areas of child abuse and neglect, attachment abuse, elder abuse, partner abuse, hate crimes and youth violence. *Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours*

HMNS 1140 - Interventions in Interpersonal Violence (3 Credits)

This course is designed as an extension of HMNS 1130 and will explore the continuum of prevention, intervention and treatment

in interpersonal violence. Students will learn about treatment and intervention models as well as current research describing advocacy, psychological, sociological and systems approaches. The specific strategies suggested by each are reviewed to provide students with skills for appropriate interventions. *Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours*

HMNS 1150 - Direct Support Professional Training I (3 Credits)

This is the first course in a competency-based professional development sequence required for human service workers who provide direct care to people with significant, severe and profound developmental disabilities. Knowledge and skills training appropriate to regional, educational, occupational and community care facilities are presented to foster student understanding, practical application and career development. *Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours*

HMNS 1160 - Direct Support Professional Training II (3 Credits)

This is the second course in a competency-based professional development sequence required for direct care providers in the field of developmental disabilities. General content areas identified in HMNS 1150 are expanded in ways that support the development of hands-on skills with populations served by regional, educational, occupational and community care facilities. Skill enhancement toward career advancement is addressed and preparation for the ROC competency exam is included. *Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours*

LEVEL I FIELD and PRACTICUM EXPERIENCES *HMNS 1200, 1201, 1210 and 1220 (3 Credits)*

All field and practicum courses are competency-based internships designed to train students in basic human service skills through a combination of field placement and seminar activities. Field placements range from 50 to 90 hours per semester and require a one- to three-hour campus-based seminar. *(Prerequisite: Grades of C or better in HMNS 1010 and the required Human Services courses for each concentration) Note: Eligibility for field placement at all levels is subject to academic standing and instructor recommendations regarding readiness. Seminar 1-3 hours, Fieldwork: 4-8 hours*

HMNS 1200 - Practicum I: Service Learning (3 Credits)

The purpose of this course is to develop and refine observation, communication, presentation, writing and service skills appropriate for entry-level placement in a social service environment. It is designed to assist students in clarifying their concentration by providing a skill-specific seminar and a 50-hour service learning practicum. Locations are sought for students to develop entry-level helping skills while engaged in activities that support community service, civic commitment and the development of social consciousness. *(Prerequisites: HMNS 1010 and 2200) Note: Placement is subject to instructor assessment of student readiness. Grade of C or better is required for Human Services majors.*

HMNS 1201 - Practicum for Developmental Disabilities (3 Credits)

Practicum for Developmental Disabilities introduces students to the day-to-day activities involved in the care and support of people with developmental disabilities

in home and work settings. Students learn the basics of working as a direct support professional through classroom lectures and discussions of the core requirements of the job of the DSP. In field placement, students observe, assist and finally lead in the direct support of individual clients with the supervision of agency and college faculty mentors. *(Prerequisite: HMNS 1010 and 2070) Note: A grade of C or better is required for Human Services majors.*

HMNS 1210 - Field Experience and Seminar I – Child Development (3 Credits)

This course provides a school or community-based placement (as arranged by the instructor) and seminar to assist students in gaining entry-level skills for working with children from birth to age eight. Students will learn practical and professional skills for establishing positive relationships with young children and how to select age-appropriate materials that promote the cognitive, social-emotional, and physical development of young children. Students begin the development of their professional portfolio in their Field I Seminar. Students are expected to complete 78-90 hours of supervised placement on the designated days and times as noted upon course registration. Students are required to complete a BCI (Bureau of Criminal Identification) background check and should be up to date with immunizations. *(Prerequisites: HMNS 1010 and 2100) Note: A grade of C or better is required for Human Services majors.*

HMNS 1220 - Field Experience and Seminar I – Education/Special Needs (3 Credits)

This course places students in a school or community-based internship that provides hands-on training with typical and/or special needs students. Students gain entry-level skills in instructional work, developing

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

rapport, behavior management, student assessment and materials presentation and utilize their seminar to address issues relating to their field placement. (*Prerequisites: HMNS 1010 and either 2060 or 2070*) *Note: A grade of C or better is required for Human Services majors.*

HMNS 2010 - American Sign Language III (3 Credits)

This is an intermediate-level sign language course that emphasizes further development of expressive and receptive skills appropriate for a broad range of conversational situations. Grammatical functions are stressed along with a more in-depth study of deaf history, deaf culture, linguistics and the use of classifiers. (*Prerequisites: HMNS 1060 and 1070*) *Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours*

HMNS 2020 - American Sign Language IV (3 Credits)

This course provides the second level of intermediate study in American Sign Language. Expressive and receptive skills are expanded and refined to advance students toward interpreter training in fields beyond human service settings. Proficiency in areas calling for in-depth dialogue with individuals and group members from the deaf community is stressed. *Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours*

HMNS 2030 - Emergent Literacy: Reading Readiness in Early Childhood Education (3 Credits)

This course introduces students to the theoretical and practical foundations of emergent literacy. Students will develop teacher competencies in areas of developmental assessment, teaching methodology, curriculum planning and implementation. *Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours*

HMNS 2060 - Foundations of Teaching and Learning (3 Credits)

This course provides a theoretical and practical foundation for understanding the evolution and current state of American schooling. Students will examine critical issues related to classroom environment, learning styles and appropriate instruction, curriculum development, standards and diversity. Students will gain a practical understanding of those ethics and indices of professional development that correlate with effective teaching. This is a required course for teacher associates, Education and Special Education majors. *Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours*

HMNS 2070 - Characteristics and Needs of Special Populations (3 Credits)

This course examines origins, indicators and issues related to children and adults who have significant differences mentally, physically, socially, behaviorally or in the area of communicative skills. Students gain a working knowledge for recognizing and responding appropriately to the needs of children and adults in a variety of educational and caregiving environments. Educational modifications and placement alternatives are discussed. This is a required course for Special Education, Education and Child Development majors. *Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours*

HMNS 2080 - Case Study Development for Special Needs Educators (3 Credits)

This course is an applied learning experience that links and illuminates theoretical and academic information discussed in class with a student currently enrolled in an actual school-based program, in order to promote an understanding of differences in learning

and development. Students will complete a minimum of 30 contact hours in an educational setting that includes children with disabilities. Students will select a child to study, review the student's assessment and IEP for the purpose of presenting it as a formal case study. (*Prerequisite or corequisite: HMNS 2070 or permission of instructor*) *Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours*

HMNS 2100 - Child Growth and Development Skills (3 Credits)

This course is the first in a sequence for Child Development majors and provides the foundation for understanding major theories in the cognitive, social-emotional and physical needs of children. Students will explore various caregiving and teaching styles for observing, assessing and guiding the growth and development of young children. Students will be required to observe children from birth to age eight in a public school, licensed educational or child care setting for a total of 4–6 hours over the course of the semester. *Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours*

HMNS 2110 - Introduction to Social Work and Social Welfare (4 Credits)

This course provides an overview of social work as a profession, including its history, values, practices, methods and settings. Students will gain a working knowledge of the structure and organization of public, private and voluntary social services, welfare programs and their interconnection in the human service delivery network. Students will understand the code of ethics, skills and competencies that guide effective practitioners in the social work profession. *Note: A grade of C or better is required for Human Services majors. Lecture: 4 hours*

HMNS 2120 - Curriculum for Young Children (3 Credits)

This course is designed so students can develop the skills necessary to plan developmentally appropriate curriculum and environments for children from birth to age eight in a variety of early childhood settings. Students will gain an understanding of how children learn and how to assess developmental readiness for creating and implementing developmentally appropriate materials and techniques. Students will be required to spend 3–4 hours over the course of the semester observing environments and implementing learning opportunities in a licensed educational, child-care or public school setting. (*Prerequisite: HMNS 2100 or equivalent experience approved by instructor*) *Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours*

HMNS 2130 - Therapeutic Interventions I: Working with Individuals (3 Credits)

This course provides a comprehensive overview of major therapeutic models including psychoanalytic, Adlerian person-centered reality, Gestalt, transactional, rational-emotive and behavioral. Students will acquire related intervention skills and techniques for meeting the needs of individual clients of all ages served in social work, mental health and substance abuse settings. Emphasis also is placed on ethical standards and the development of skills needed for formulation of bio-psycho-social case/treatment plans. (*Prerequisite: HMNS 2200*) *Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

HMNS 2135 - Therapeutic Interventions II: Group Process and Practice (3 Credits)

This course provides a comprehensive overview of major therapeutic models and related intervention methods for use with families and small groups. Students will learn skills appropriate for constructing and facilitating groups in social service and mental health settings. *(Prerequisites: HMNS 1010 and 2200; HMNS 2130 also recommended)* Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours

HMNS 2140 - Guiding Children's Behavior (3 Credits)

This course provides an overview of residential care and the critical issues faced by child care workers in residential settings. Emphasis is placed on practical solutions to problems common to group living and issues related to staff and community relationships. Students will learn skills for enhancing the effectiveness of the professional child care worker and for improving the mental health and functioning of children in these settings. As part of the course, students are required to spend additional time observing and/or working with children in actual or simulated child care settings. Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours

HMNS 2150 - Parent and Child Relations (3 Credits)

This course explores the parent-child relationship as it develops and evolves within diverse family systems and reviews strategies for working with parents. Special attention is placed upon the various developmental stages that both children and parents pass through, and in turn, how parents influence and challenge each other's development.

Selected topics may include the impact that various parenting and behavioral control styles can have on children, how such issues as culture, social class, children's temperament, divorce, abuse, special needs and parental mental health can impact parenting and child well being. Students develop an understanding of how to assess parent-child relations and review behavioral strategies for working with parents in educational and social service settings. Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours

HMNS 2170 - Learning Disabilities (3 Credits)

This course provides students with an understanding of learning disabilities as they manifest in children and as they impact learning and development. Students are able to recognize the characteristics; impact on self concept; various auditory, visual, perceptual and motor challenges; language delay and hyperactivity and become familiar with diagnostic tests and the appropriate remediation techniques most often prescribed. The Individuals with Disabilities Education Act, along with current changes in research and social policy, frame discussions around eligibility for special services, the referral process and parental rights. *(Strongly recommended: Completion of HMNS 2070)* Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours

HMNS 2180 - Significant Developmental Disabilities (3 Credits)

The course provides a specialized understanding of individuals with significant developmental disabilities that includes a focus on multi-sensory impairment, severe mental retardation and profound multiple disability. Students will learn strategies through hands-on activities for developing appropriate intervention and remedial skills. Use of technology,

supportive equipment and environmental modifications are included. *(Recommended: Completion of HMNS 2070)* Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours

HMNS 2190 - Infant/Toddler Care: Methods and Materials (3 Credits)

This course is designed to assist in the planning of curriculum and caregiving for infants and toddlers in licensed family child-care and center-based early childhood settings. Students develop skills for planning, selecting developmentally appropriate materials and designing the physical and social environments related to the promotion of infant and toddler development. Students will be required to spend 4-6 hours over the course of the semester conducting observations in a licensed infant-toddler educational setting or a licensed family child-care setting. *(Recommended: Completion of HMNS 2100)* Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours

HMNS 2200 - Assessment Interviewing for Treatment Planning (3 Credits)

This course provides an in-depth study of the interviewing process, including methods for creating client safety and rapport and, most importantly, how to obtain and assess client information. Data collection and client assessment are the initial steps in the social services process; therefore, this is the first course in the social work, mental health, gerontology and substance abuse concentrations for teaching appropriate intervention skills. Students are taught how to use the interviewing process to initiate the helping strategies for use in a variety of mental health and social service settings. *This course is a prerequisite for HMNS 1200.* Note: A grade of C or better is required for Human Services program students. Lecture: 3 hours

HMNS 2220 - Social Work Programs and Policy Analysis (3 Credits)

This course critically analyzes the values, theories, history, economics and politics associated with the development, implementation and evaluation of social policies and programs. Special attention is given to policies in the areas of poverty, education, health, race and sex. In addition to understanding the forces and processes that establish or change social policies, emphasis is placed on the systematic analysis of both existing and proposed social policy. Students will review current trends in national social policies and their effect on state/federal programs with particular attention to oppressed populations. This course places heavy emphasis on critical analysis. Students will learn to build on their skills in analyzing and critiquing various social policies. *(Prerequisite: SOCS 1010, HMNS 1010, 1200, 2110, 2200)* Note: Grade of C or better is required for Human Services program students. Lecture: 3 hours

HMNS 2230 - Individuals, Families and Small Groups (3 Credits)

This course examines how biological, psychological, social and cultural influences affect the behavior of individuals and families. Emphasis is placed on how human behavior is affected by social context and the forces of oppression as well as the impact of oppression on women, lesbians and gay men, persons with physical disabilities and the aged. Skills required to work with these populations, using an ecological/generalist person in environment approach, are discussed. *(Recommended prerequisites: HMNS 1010, 1200, 2110; PSYC 2020, 2030 and BIOL 1010)* Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

HMNS 2290 - Driver and Traffic Safety Education (3 Credits)

This course prepares B.A./B.S. certified teachers to deliver the Rhode Island Driver and Traffic Safety Education curriculum in compliance with those requirements set forth by the Rhode Island Department of Motor Vehicles and the Office of Higher Education. Completion carries lifetime certification. *Lecture: 3 hours*

LEVEL II FIELD EXPERIENCES
HMNS 2310, 2320, 2340 and 2360
(3 Credits)

Level II internships are designed to develop intermediate skills in various disciplines. Students are assigned to cooperating agencies and schools for 75 to 90 hours per semester and also are required to attend a one- to two-hour seminar each week. *(Prerequisites: Grade of C or better in Field I and required Human Services courses)*
Seminar: 1–2 hours, Fieldwork: 6–8 hours

HMNS 2310 - Field Experience and Seminar II - Child Development (3 Credits)

This course provides a school or community-based placement (as arranged by the instructor) and seminar to assist students in refining caregiving and teaching skills and developing competencies related to assessing the needs of children from birth to age eight. Students advance their skills for developing appropriate curriculum and activities for young children and continue the development of their professional portfolio. Students are expected to complete 78–90 hours of supervised placement on the designated days and times as noted upon course registration. Students are required to have a current BCI (Bureau of Criminal Identification) background check

and should be up to date with immunizations. *(Prerequisites: HMNS 1010, 1210 and 2100; Corequisite: HMNS 2120) Note: A grade of C or better is required for Human Services majors.*

HMNS 2320 - Field Experience and Seminar II - Education/Special Needs (3 Credits)

This course refines skills of behavior management, assessment, instructional methodology and lesson development in settings for typical and special needs children and adults. Students learn how to work with individuals and small groups while initiating larger group control. *(Prerequisites: HMNS 1010, 1220, 2060 or 2070) Note: A grade of C or better is required for Human Services majors.*

HMNS 2340 - Field Experience and Seminar II - Social Work and Gerontology (3 Credits)

This course involves students in a setting and seminar to refine their intake and communication skills (both written and verbal) and to develop basic tools for client advocacy, assessment and intervention. Students learn intermediate-level strategies for meeting physical, social-emotional and cognitive needs of clients in agency and community settings. Students demonstrate an increasing awareness of ethical issues including confidentiality, dual relationships and countertransference. *(Prerequisites: HMNS 1010, 1200 and 2200)*
Note: A grade of C or better is required for Human Services majors.

HMNS 2360 - Field Experience and Seminar II - Mental Health and Substance Abuse (3 Credits)

This course places students in a mental health or substance abuse setting. Through a combination of field experience and seminar, students refine their intake assessment, prevention and intervention skills in ways that allow them to begin taking a more active role in meeting the needs of clients in

mental health and substance abuse settings. *(Prerequisites: HMNS 1010, 1200 and 2200)*
Note: A grade of C or better is required for Human Services majors.

LEVEL III FIELD EXPERIENCES
HMNS 2410, 2420, 2440 and 2460
(3 Credits)

Level III internships combine field experience and seminar to further develop advanced intervention and implementation skills in all Human Services concentrations. Students are assigned to a cooperating agency or school for 75 to 90 hours per semester and are required to attend a one- to two-hour seminar each week. *(Prerequisites: Grades of “C” or better in Field Experiences I and II and required Human Services courses)*
Seminar: 1–2 hours, Fieldwork: 6–8 hours

HMNS 2410 - Field Experience and Seminar III - Child Development (3 Credits)

This course provides a school or community-based placement (as arranged by the instructor) and seminar to assist students in advanced refinement of caregiving and teaching skills and for the delivery of developmentally appropriate curriculum and assessment that meets the individual and group needs of children from birth to age eight. This competency-based progression culminates in students taking an active role within their placement site as they prepare to enter the workforce. Students complete their professional portfolio. Students are expected to complete 78–90 hours of supervised placement on the designated days and times as noted upon course registration. Students are required to have a current BCI (Bureau

of Criminal Identification) background check and should be up to date with immunizations. *(Prerequisites: HMNS 1010, 1210, 2100, 2120 and 2310) Note: A grade of C or better is required for Human Services majors.*

HMNS 2420 - Field Experience and Seminar III - Education/Special Needs (3 Credits)

This course provides a field setting and seminar to assist students in further developing and refining instructional techniques, behavioral strategies and lesson development and implementation for individual, small and large groups of typical and special needs students of all ages. The construction and presentation of lesson plans that include instructional objectives and learning outcomes are achieved in accordance with the Rhode Island Beginning Teacher Standards. Students should be able to demonstrate a teaching style that promotes the physical, intellectual, language, social and emotional development of students. *(Prerequisites: HMNS 1010, 1220, 2060 or 2070, 2320)*
Note: A grade of C or better is required for Human Services majors.

HMNS 2440 - Field Experience and Seminar III - Social Work and Gerontology (3 Credits)

This course provides a field location and seminar where students are expected to use advanced skills and clinical supervision acquired thus far to demonstrate increased ability to assess, plan and perform independently in response to clients serviced in social work and gerontology settings. *(Prerequisites: HMNS 1010, 1200, 2200 and 2340) Note: A grade of C or better is required for Human Services majors.*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

HMNS 2460 - Field Experience and Seminar III - Mental Health and Substance Abuse (3 Credits)

This course provides a field location where students are expected to demonstrate refined skills and an increased ability to operationalize knowledge gained thus far in their program to meet the physical, emotional, cognitive and clinical needs of clients served by mental health and substance abuse service providers. Students demonstrate an increased ability to assess, plan and perform independently in mental health and substance abuse settings. (Prerequisites: HMNS 1010, 1200, 2200 and 2360) Note: A grade of C or better is required for Human Services majors.

HMNS 2515 – Major Health Issues of the Elderly: Implications for Human Services (3 credits)

This course provides general information regarding health issues impacting the aging and elderly to include Alzheimer's and Dementia related diseases, Parkinson's disease, incontinence, cancer, heart disease, arthritis, vision and eye diseases, diabetes, sleep disorders, depression, hearing loss, osteoporosis and lung disease. Students will explore, discuss, and reflect on the most common health concerns affecting the aging and elderly as it relates to health, safety, wellbeing, independent living, caregiver support, and implications regarding the role of the Human Service Professional as part of a multidisciplinary collaborative approach in preparation for working with this population. (Prerequisites: HMNS 1010 and 1090) Note: A grade of C or better is required for Human Service program students. Lecture: 3 hours

HMNS 2520 – Social and Psychosocial Characteristics of Aging and Elderly (3 credits)

Students gain a competency-based approach to understanding the social and psychological characteristics and effects of aging. Students

will examine theorist perspectives on aging and gain insight into the implications of living longer as myths of aging are dispelled and realities are discussed. Special emphasis is placed on social and political issues, global trends, cross-cultural view of elder's roles, and quality of life experiences. Additional focus is placed on special populations to include grandparents as second time parents, women, and veterans. Students will demonstrate competencies in understanding ethical human services approaches regarding critical and relevant issues such as how aging and older adults are studied, social and psychological challenges with aging, independent living and social interactions, death and dying, and social supports. (Prerequisites: HMNS 1010 and Corequisite HMNS 1090) Note: A grade of C or better is required for Human Service program students. Lecture: 3 Hours

HMNS 2530 – Legal and Financial Literacy: Human Service Resources (3 credits)

This course is designed to introduce students to legal and financial literacy supports that are in place to strengthen advocacy practices. Students will explore common concerns, discuss and dispel myths, while examining best practices for identifying and accessing legal and financial services in support of the elderly client. Relevant discussions surrounding healthcare expenditures for older adults, Medicare, Medicaid, Certified Elder Law Attorney (CELA), durable power of attorney, assets, trusts, guardianship, timing and satisfaction of retirement, the older employed economic status and asset awareness. (Prerequisite: HMNS 1010 and 1090) Note: A grade of C or better is required for Human Service program students. Lecture: 3 Hours

HMNS 2540 – Human Services Advocacy for Aging and Elderly (3 credits)

This course focuses on the role of the human service worker in the coordination and collaboration of multidisciplinary and interdisciplinary approaches to advocating ethical practices for the aging and elderly client. Students will examine case studies to identify, discuss, and reflect on challenges and barriers often experienced by the older adult. (Prerequisites: HMNS 1010, Corequisite HMNS 1090) Note: A grade of C or better is required for Human Service program students Lecture: 3 Hours

HMNS 2560 – Healthy and Successful Aging (3 credits)

This course provides a competency-based learning approach to healthy practices for successful aging. Students will identify and explore current best practices in successful aging to include latest research in nutrition, exercise, safety, and high levels of social connection. Other key factors examined include proactive legal and good economic practices, the coordination of good health, and examples in effective medication-monitoring practices. (Prerequisites: HMNS 1010 and Corequisite HMNS 1090) Note: A grade of C or better is required for Human Service program students. Lecture: 3 Hours

HMNS 2590 – Service Learning Practicum for Gerontology (3 credits)

Students will develop and refine observation, communication, working relations, presentation, writing and service skills appropriate for entry-level placement in a gerontology service agency. Students will complete a minimum of 50 hours of volunteer service 25 hours in direct care, 25 in non-direct care within the gerontology community of agencies. (Prerequisite: HMNS 1010 and 2200) Note: A grade of C or better is required

for Human Service program students. Students are required to have a current BCI (Bureau of Criminal Investigation) background check and should be up-to-date with immunizations. Lecture: 3 hours

HMNS 2710 - Diversity and Cultural Competency Skills (3 Credits)

This course provides students with an awareness of the historical, cultural, socioeconomic, biological and psychosocial influences that define diversity. Students learn skills critical to becoming culturally competent and sensitive to diversity. Students develop core competencies to communicate more effectively with diverse populations, to foster inclusive attitudes in the classroom and to work more effectively toward the elimination of racism and other forms of discrimination in public education and social service delivery systems. A 15-hour practicum is required to meet the artifact requirement for Education majors planning to transfer. (Corequisite: HMNS 2060 or 2070 or permission of instructor) Note: A grade of C or better is required for Human Services majors. Lecture: 3 hours

HMNS 2900- Human Services Capstone (3 Credits)

The Human Services Capstone course integrates students' comprehensive knowledge gained through the learning experiences involved in pursuit of the Human Services program curriculum. Students draw upon knowledge and skill gained in Human Services and general education requirements to prepare comprehensive and integrated solutions to case study problems presented in class. A large part of learning will come from students' small group work, taking advantage of each other's collective knowledge and skill, integrating both educational and social services curricula. (Prerequisite: Final semester standing) Note: A grade of C or better is required for Human Services majors) Lecture: 3 hours

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

HOSP (HOSPITALITY)

HOSP 1010 - Lodging Management I (3 Credits)

This course introduces the student to an overview of the lodging management industry, including the organization of guest services and hospitality careers, as well as front office cycle and housekeeping operations. *Lecture: 3 hours*

HOSP 1020 - Lodging Management II (3 Credits)

This course builds on the concepts and principles presented in the Level I course and includes the areas of leadership/management, hospitality marketing and sales and the food and beverage service industry. *(Prerequisite: HOSP 1010) Lecture: 3 hours*

HSTO (HISTOTECHNICIAN)

HSTO 1310 - Introduction to Histology (3 Credits)

Students are introduced to the procedures involved in the initial accessioning, evaluation, processing and slide preparation of various surgical and autopsy specimens. Additional topics such as safety/infection control, instrumentation and laboratory mathematics are included. *(Prerequisite: Enrollment in Histotechnology program) Lecture: 3 hours*

HSTO 1320 - Histology II (6 Credits)

This course provides practical application of principles and techniques of histological practices. The clinical setting provides the realistic conditions under which a histotechnician functions and allows students to refine and build upon knowledge from the Introduction to Histology course. Students are introduced to the procedures involved

in the processing, embedding, cutting and evaluation of various surgical and autopsy specimens. Students also experience basic histology equipment use and maintenance along with quality control measures. *(Prerequisite: HSTO 1310) Lecture: 3 hours, Clinical: 8 hours per week*

HSTO 2310 - Histology III (9 Credits)

This course provides practical application of principles and techniques of histological practice. The clinical setting provides realistic conditions under which a histotechnician functions and allows students to refine those skills acquired in Histology II. Students are introduced to the procedures involved in the embedding, cutting, H and E staining, and evaluation of various surgical and autopsy specimens. Students also will experience special stains for various tissue components including minerals, pigments, connective tissues, amyloids and carbohydrates. *(Prerequisite: HSTO 1320) Lecture: 3 hours, Clinical: 16 hours per week*

HSTO 2320 - Histology IV (12 Credits)

This course provides practical application of principles and techniques of advanced histological procedures. The clinical setting provides realistic conditions under which a histotechnician functions and allows students to refine skills acquired in Histology III. Students will refine skills in embedding, cutting tissue sections, H and E staining and evaluation of various surgical and autopsy specimens. Students experience special stains for microorganisms and neuropathology. Students are introduced to special procedures such as immunohistochemistry, enzyme histochemistry and electron microscopy. *(Prerequisite: HSTO 2310; Corequisite: HSTO 2330) Clinical: 32 hours per week*

HSTO 2330 - Histology Seminar (2 Credits)

This course provides students with an extensive review, as well as assistance in the preparation of a portfolio. Guest lecturers discuss advanced topics in histology and professional issues. *(Corequisite: HSTO 2320) Lecture: 2 hours*

INST (PROCESS CONTROL TECHNOLOGY)

INST 1010 - Introduction to Instrumentation Technology (3 Credits)

This course stresses the theory and practical application of mechanical and electrical sensing devices and control systems. Topics covered include sensing and control devices for temperature, humidity, pressure, level and flow. In addition, calibration procedures are covered. *Lecture: 2 hours, Lab: 2 hours*

INTC (HEALTH CARE INTERPRETER)

INTC 1300 - Interpreting in Health Care I (7 Credits)

This course prepares students who are bilingual to develop awareness, knowledge, and skills necessary for effective language interpretation in health care settings. Emphasis includes the roles and responsibilities of a health care interpreter, basic knowledge of common medical conditions, treatments and procedures, insight in language and cultural nuances for specific communities necessary in the art of interpretation. Fieldwork experiences provide opportunities for students to observe a competent health care interpreter. *(Note: Students enrolled in the Health Care Interpreter Program must take this course concurrently with INTC 1310) (Corequisite: RHAB 1010) Lecture: 6 hours, Clinical: 3 hours*

INTC 1310 - Interpreting in Health Care II (8 Credits)

This course prepares individuals who are bilingual to become integral members of the health care team by bridging the language and cultural gap between clients and providers is a critical aspect of health care. Interpreting skills learned in INTC 1300 are further enhanced, covering specialized health care service areas such as genetics, mental health, and death and dying. Emphasis also is placed on the development of cultural competency in the community and workplace and careers in interpretation. Fieldwork experience is included to enable students the opportunity to demonstrate application of knowledge and technical interpreting skills to facilitate linguistic and cultural communication between client and health care providers. *(Prerequisites: RHAB 1010 and INTC 1300) Lecture: 6 hours, Clinical: 6 hours*

ITAL (ITALIAN)

ITAL 1000 - Basic Spoken Italian I (3 Credits)

This is an introductory elective course for beginners emphasizing correct pronunciation and basic vocabulary for practical use in everyday conversational situations and travel dialogues. Students with no previous study of the language are prepared to use and understand it within a limited context and basic structure. *Lecture: 3 hours*

ITAL 1100 - Basic Spoken Italian II (3 Credits)

This is a continuation of Basic Spoken Italian I (ITAL 1000). *(Prerequisite: ITAL 1000 or its equivalent) Lecture: 3 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

ITAL 1010 - Elementary Italian I (3 Credits)

This course is for students with little or no preparation and covers elements of the language, including conversation, pronunciation, reading, writing and grammar. Aspects of Italian culture also are included. *Lecture: 5 hours*

ITAL 1020 - Elementary Italian II (3 Credits)

This is a continuation of Elementary Italian I (ITAL 1010). (*Prerequisite: ITAL 1010, 1030 or its equivalent*) *Lecture: 5 hours*

ITAL 1030 - Elementary Italian I (3 Credits)

Italian 1030 is a faster paced version of Italian 1010. This course is suitable for students with previous experience (e.g., Basic Spoken Italian and/or other prior formal study of the language, prior formal study of another foreign language or informal experience with a foreign language). The course covers elements of the language including conversation, pronunciation, reading, writing and grammar. Aspects of Italian-speaking cultures also are included. *Note: Course content is the same as Italian 1010 with two fewer hours per week. (Prerequisite: Prior preparation as noted above or permission of instructor)* *Lecture: 3 hours*

ITAL 1040 - Elementary Italian II (3 Credits)

This is a continuation of Elementary Italian I (ITAL 1030). (*Prerequisite: ITAL 1010, 1030 or its equivalent*) *Lecture: 3 hours*

ITAL 1510 - Conversational Italian I (3 Credits)

This course further develops students' fluency in speaking Italian. Oral practice includes active use of the language in short dialogues stressing basic communication

and correct pronunciation. Reading of easy cultural texts also provides material for conversation and discussion. CDs are available for individual practice. (*Prerequisite: Two years of high school Italian or one year of college Italian or the equivalent*) *Lecture: 3 hours*

ITAL 1520 - Conversational Italian II (3 Credits)

This is a continuation of Conversational Italian I (ITAL 1510) including conversational practice, cultural readings and discussions. (*Prerequisite: ITAL 1510 or its equivalent*) *Lecture: 3 hours*

ITAL 1900 - The Italian Heritage (3 Credits)

This course introduces students to the cultural development of the Italian people through the centuries. Guest lecturers and class discussion center on significant aspects of Italian literary, social and artistic life as they have contributed to Western Civilization. Audio-visual aids present the lives and works of great figures and are used for appreciation of Italian art, music, food and wine. Italian films viewed in class are a backdrop for discussing the Italian cinema. The history and cultural contributions of Italian-Americans also are included from the discovery of America to mass immigration to present times. *Note: The course is conducted in English. Lecture: 3 hours*

ITAL 1910 - Italian Culture – Cuisine (1 Credit)

The Italian Culture – Cuisine course offers students the opportunity to participate in the CCRI Summer Travel/Study Program in Italy to enhance their educational, professional and personal growth through a multidisciplinary approach to learning and a complete immersion in the Italian language and culture. The course combines linguistic,

artistic, historical and literary traditions and hands-on workshops of the rich culinary traditions of central Italy and other regions of Italy. *Lecture: 6 hours, Lab: 9 hours (2 weeks)*

ITAL 1950 - Italian for Business and Travel (1 Credit)

This course is designed particularly for employees of travel agencies, those in wholesale/retail or import/export businesses and those individuals who are planning a cultural trip to Italy. The course is tailored to the needs of the individual who wants to gain knowledge and appreciation of the Italian language and culture expediently. Emphasis is placed on common verbal expressions for basic communication, such as greetings, lodging, shopping, food, transportation and cultural information about Italian customs and traditions. *Lecture: 1 hour*

ITAL 2010 - Intermediate Italian I (3 Credits)

This course helps students develop skill in reading and discussing Italian texts related to culture and literature. Coursework is supplemented by further work in grammar, conversation and composition. (*Prerequisite: ITAL 1020 or 1040 or its equivalent*) *Lecture: 3 hours*

ITAL 2020 - Intermediate Italian II (3 Credits)

This is a continuation of Intermediate Italian I (ITAL 2010). (*Prerequisite: ITAL 2010 or its equivalent*) *Lecture: 3 hours*

ITAL 2210 - Italian Conversation and Composition I

This is an intensive course in conversation and composition. Selected cultural videos, CDs, readings and classroom discussions provide an atmosphere to develop and improve speaking and understanding of

Italian. Oral presentations and written compositions are required. (*Prerequisite: ITAL 2020 or permission of instructor*) *Lecture: 3 hours*

ITAL 2220 - Italian Conversation and Composition II

This course is a continuation of Italian Conversation and Composition I (ITAL 2210). (*Prerequisite: ITAL 2210 or permission of instructor*) *Lecture: 3 hours*

JAPN (JAPANESE)**JAPN 1000 - Basic Spoken Japanese I (3 Credits)**

This is an introductory elective course for beginners emphasizing correct pronunciation and basic vocabulary for practical use in everyday conversational situations and travel dialogues. Students with no previous study of the language are prepared to use and understand it within a limited context and basic structure. *Lecture: 3 hours*

JAPN 1100 - Basic Spoken Japanese II (3 Credits)

This is a continuation of Basic Spoken Japanese I (JAPN 1000). (*Prerequisite: JAPN 1000 or equivalent*) *Lecture: 3 hours*

LAWS (LAW)**LAWS 1000 - Introduction to Law Enforcement (3 Credits)**

This course examines the history and philosophy of the role of police in society. It surveys organizational structures and basic procedures of police work, police ethics and major problems confronting the law enforcement profession. Students examine international, federal, state and local law enforcement agencies, identifying the origin, jurisdiction, mission and functions of each. *Lecture: 3 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

LAWS 1010 - Criminal Law (3 Credits)

This course is a study of crimes from early English common law to modern American criminal law including common law and statutory offenses. Criminal intent, criminal act and causation are thoroughly analyzed. General definitions of crimes, classifications of crimes, parties to crimes and common defenses, such as insanity and self-defense, are considered. *Lecture: 3 hours*

LAWS 1020 - Criminal Procedure (formerly Administration of Justice) (3 Credits)

This course presents an overview of the criminal justice system, including an examination of the organization and jurisdiction of federal, state and local courts and law enforcement agencies. The arrest, arraignment, plea, preliminary hearing, bail, grand and petit jury proceedings, verdict, sentence and petitions for new trial are studied together with the jurisdiction of the courts on all levels. *Lecture: 3 hours*

LAWS 1030 - Criminalistics I (3 Credits)

This course surveys basic crime scene investigation methods. Topics include first responder duties, evidence collection and processing, photography, impression evidence, blood analysis, trace evidence, arson investigation and casting methods for impression evidence. Students complete projects involving plaster casting and crime scene sketching. A mock crime scene investigation is conducted. Lab fee required. *Lecture: 3 hours*

LAWS 1040 - Criminalistics II (3 Credits)

This course is an advanced study of criminalistics. Topics include the investigation of specific crimes (sexual assault, homicide, burglary and auto theft); alcohol and drug detection; firearms investigations; advanced latent fingerprint techniques; and forensic entomology. Lab fee required. (*Prerequisite: LAWS 1030*) *Lecture 3 hours*

LAWS 1080 - Introduction to Paralegal Studies (3 Credits)

This course is designed to provide an overview of the functions of paralegals/legal assistants within the legal environment. It also will include material on the organization and structure of law firms, legal ethics, various types of legal practice and use of computers in the legal environment. Background material on federal and state constitutional law, statutory law and court decisions is provided as a foundation for other law courses required in the Paralegal Studies program. *Lecture: 3 hours*

LAWS 2000 - Constitutional Law (3 Credits)

This class presents a view of the role of the Supreme Court in its interpretation of the United States Constitution. Areas to be scrutinized include judicial review, federalism, civil liberties and the Bill of Rights (through the 14th Amendment) as it applies to the states. Case and text method. *Lecture: 3 hours*

LAWS 2010 - Law of Evidence (3 Credits)

This course is a study of the body of rules governing the admissibility of evidence at trial. The nature of evidence; circumstantial and direct evidence; testimonial, documentary and real evidence; hearsay and the

exceptions thereto; the presentation of evidence and the rules on relevancy; and lastly, competency, credibility and impeachment of witnesses are examined. *Lecture: 3 hours*

LAWS 2020 - Basic Civil Procedure for Paralegals (3 Credits)

This course introduces the legal concepts and practical applications of civil litigation using the rules of civil procedure as applied in the federal and state court systems. The course will cover the court system; jurisdiction and venue; pleadings (complaints, answers, counterclaims and cross-claims); and discovery documents (interrogatories, depositions and requests for production). (*Prerequisite: LAWS 1020 and 1080 or permission of instructor*) *Lecture: 3 hours*

LAWS 2030 - Criminal Law and the Constitution (3 Credits)

This course presents a consideration and analysis of the most significant and recent Supreme Court decisions as they pertain to the rights of the accused in the areas of arrest, search and seizure, interrogation and right to assistance of counsel. Case and text method. *Lecture: 3 hours*

LAWS 2040 - Law and Society (3 Credits)

This course studies adjudicated cases involving the leading social issues affecting society today and the impact such adjudications have had upon society. Stress is placed upon the relationship of law to social values and morals. The delicate balance between the interests of society and individual rights is scrutinized and the students' views as to the maintenance of the balance is evaluated in the light of the cases studied. *Lecture: 3 hours*

LAWS 2050 - Law of Contracts (3 Credits)

This course studies the legal rules, concepts and terminology relating to voluntary agreements entered into for the provision of services or the sale of property. The areas included are agreement, consideration, contractual capacity, legality, genuineness of assent and legal form. *Lecture: 3 hours*

LAWS 2060 - The Law of Property, Estates and Trusts (3 Credits)

This course studies the laws of real property, personal property and decedents' estates. Topics to be covered include definitions of real and personal property; the ownership and transfer of real estate (concurrent ownership, deeds, mortgages and leases); and the areas of gifts, wills, inheritance laws, probate and trusts. *Lecture: 3 hours*

LAWS 2070 - Law of Business Organization (3 Credits)

This course covers the law of agency (principal-agent relationships and independent contractors), federal and state employment law and the law regarding legal forms of business (*sole proprietorships, partnerships of various kinds, corporations and limited liability companies*). *Lecture: 3 hours*

LAWS 2090 - Legal Research and Writing (4 Credits)

This course for Paralegal Studies majors covers legal research using primary sources (statutes, court decisions and regulations); case digests and finding aids; secondary legal sources (encyclopedias, treatises and annotations) and citators (Shepard's Citations and WestLaw's KeyCite). Emphasis is on legal research using computer-assisted legal research (CALR) tools. Students are expected to complete a full legal research project and write a legal memorandum. (*Prerequisites: Laws 1080 and 24 credit hours earned or permission of instructor*) *Lecture: 4 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

LAWS 2100 - Law of Torts (3 Credits)

Law of Torts involves the study of civil wrongs that result in personal injury, property damage or economic injuries. This course deals with areas of negligence, intentional torts and strict liability torts. It also covers topics of professional malpractice, products liability and premises liability. (Prerequisite: LAWS 1020 or 1080 or permission of instructor) Lecture: 3 hours

LAWS 2500 - Case Studies in Criminal Law (3 Credits)

This capstone course in the Law Enforcement program will integrate the material covered in prior classes in the areas of substantive criminal law, criminal procedural law, crime scene investigation, evidentiary law and constitutional law related to law enforcement. Students will work on, and write reports on, two case studies based upon comprehensive case files. These case files will include documents that would be involved in an actual criminal case such as bills of indictment, police reports, witness statements, forensic reports, search warrant affidavits and inventories, transcripts of court hearings involving the case and the substantive criminal laws that may apply to the facts of the case. (Prerequisites: LAWS 1010, 1020, 1030, 2010 and 2030 or permission of instructor) Lecture: 3 hours

LEGL (ADMINISTRATIVE OFFICE TECHNOLOGY)**LEGL 2310 - Legal Forms and Terminology (2 Credits)**

This course studies forms used by attorneys in legal and business transactions. An explanation of the origin and use of the forms introduces terminology in which the legal assistant should be versed. Discussions and simulations revolve around legal terms in

the context of a variety of legal documents such as complaints, motions, stipulations and contracts. Lecture: 2 hours

LEGL 2420 - Legal Office Administration (2 Credits)

This course prepares students to work as legal administrative assistants in a variety of law office environments. Procedures followed by attorneys in various specialties of the law are covered including litigation, real estate law, criminal law, wills and estates and many other areas of the law. Students also become familiar with the court system. Lecture: 2 hours

LIBA (LIBERAL ARTS)**LIBA 1000 - The Learner's Journey: Critical Thinking and Learning Strategies for College Students (3 Credits)**

This fully transferable, seminar-style course has been designed to help students maximize their effectiveness in the classroom and, in turn, enhance their entire college experience. In The Learner's Journey, students develop their critical thinking, reading and writing skills; acquire valuable strategies for analyzing course content and for expressing themselves more confidently and effectively; improve their writing, presentation, collaboration and research skills; and learn to make connections between courses in different disciplines. Through readings, discussions and active participation, students take ownership of their education and find their voices as learners in a higher education environment.

LIBA 1010 - Cooperative Work Experience I (4 Credits)

Cooperative work experience provides students with an opportunity to observe and participate in a work environment related to their academic interests or explore

advancement in their current career. Students work approximately 15 to 20 hours a week at an approved site for competitive wages and participate in a one-hour and 40-minute weekly seminar on campus or online. Students must contact the Career and Internship Office at 401-825-2050 or 401-333-7254 before they register. Note: LIBA 1010 is for students in Allied Health, Chemical Technology, Computer Science, Engineering, Fine Arts, Fire Science, General Studies, Human Service, Industrial Technology, Liberal Arts, Nursing, Paralegal Studies and Law Enforcement. Work placement: 195 hours; Seminar: 25 hours

LIBA 1020 - Cooperative Work Experience II (4 Credits)

This is an extension of LIBA 1010 in which students develop an in-depth knowledge of specific content areas and demonstrate increased levels of expertise. Students work approximately 15 to 20 hours a week at an approved site and participate in a one-hour and 40-minute weekly seminar on campus or online. For information regarding prerequisites, please contact the Career and Internship Office at 401-825-2050 or 401-333-7254. Note: LIBA 1020 is for students in Allied Health, Chemical Technology, Computer Science, Engineering, Fine Arts, Fire Science, General Studies, Human Service, Industrial Technology, Liberal Arts, Nursing, Paralegal Studies and Law Enforcement. Work placement: 195 hours; Seminar: 25 hours

LIBA 2030 - Honors Colloquium (3 Credits)

This Honors Colloquium is a discussion-based, research-oriented, multidisciplinary course in which students pursue individual topics of relevance to today's society under the guidance of faculty. The curriculum, which follows the Phi Theta Kappa Honors Program, includes guest speakers and

multimedia presentations in addition to lecture and discussion. The study topic changes every two years. (Prerequisite: ENGL 1010 with grade of C or better) Lecture: 3 hours

LRCT (LIBRARY)**LRCT 1010 - Introduction to College Research (1 Credit)**

This course introduces students to online strategies for locating and evaluating articles, books and Web resources. Students learn to cite their sources according to standard scholarly formats. Lecture: 1 hour, Lab: 1 hour

LRCT 1015 - College Research (3 Credits)

College Research expands students' knowledge of various types and formats of information resources. Students learn information literacy skills, including advanced search techniques and evaluation of resources. Students also gain a greater understanding of issues associated with the ethical use of information. Students demonstrate the application of learned skills in research for class assignments, as well as for personal and professional research needs. Lecture: 3 hours

LRCT 1020 - College Success (3 Credits)

This course will give new students practical tips and strategies that will help them succeed in college. Emphasis is on attitude, study habits, time and stress management. In a setting of active and collaborative learning, students are engaged in a variety of instructional experiences, including discussions, with reading, speaking, writing and listening assignments. The course will require the creation of a personal success plan that will include educational and career goals and will introduce and make use of the college's resources and personnel. Lecture: 3 hours

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

MATH (MATHEMATICS)

Math Placement Test

Math placement tests are required of all students who wish to enroll in their first math course at CCRI. Students are required to take the placement test either before or at the beginning of the semester in which they wish to take their first math course. Students who are not enrolled in a math course but want to plan for the future are encouraged to take the placement test during the semester prior to enrolling in a math course.

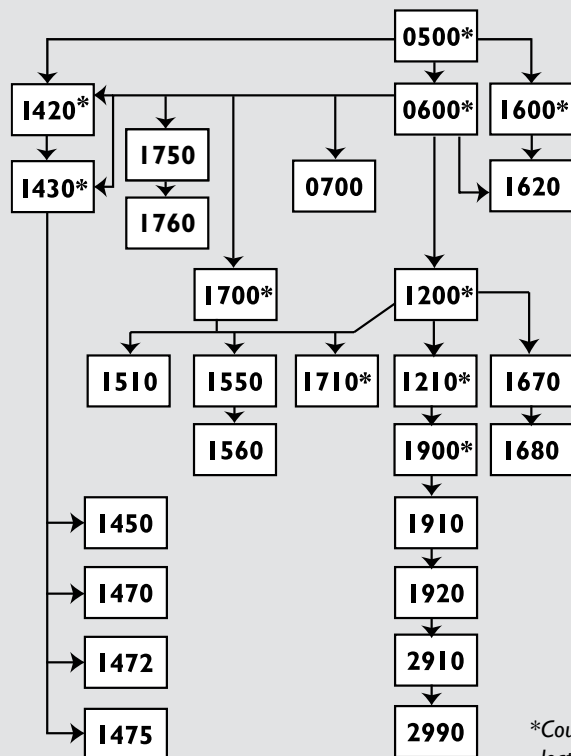
Placement test preparation assistance is available at www.ccri.edu/advising/new_students/placement.html.

Note: Developmental math courses are designed to build/refresh basic mathematical skills which provide the necessary background for college-level mathematics courses. All students must demonstrate mental calculation skills and mastery of course content to complete the courses successfully.

College-level math courses require the use of mental calculation skills since each course builds upon the material learned in the prerequisite courses.

Students with a documented disability should meet with a representative from the Office of Disability Services for Students. CCRI will make modifications to academic requirements where appropriate and provide the necessary accommodations to ensure accessibility. The institution cannot, however, make modifications that would substantially change the essential elements of the curriculum. While striving to meet the individual needs of all students, CCRI reserves the right to set and maintain academic standards for performance and personal conduct.

SEQUENCES OF CCRI MATH COURSES



*Courses offered in lab and lecture formats.

Math Lab

The Math Lab option allows students to progress in a course at their own pace with the assistance of a faculty member. Students must successfully complete six tests for each Math Lab course. Course sections designated as Math Labs rather than lectures are noted in the online course listing published each semester. For more information, visit: www.ccri.edu/math.

In-house Credit

In-house credits are counted for full- and part-time status and for reasons of financial aid and academic progress. They are not

counted in overall GPA, do not count toward any degree or certificate and will appear on student transcripts as “exclude credit.”

IMPORTANT INFORMATION

Preparation

Prerequisites for each course are fulfilled only by a grade of C or better or by a sufficient placement test score. The Math Department strongly recommends courses and their prerequisites be taken sequentially in consecutive sessions.

*In-house credits cannot be applied toward graduation requirements.

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

MATH (MATHEMATICS)

MATH 0500 - Fundamentals of Mathematics (3 In-house Credits*)

This course provides students with a thorough foundation in the topics of whole numbers, fractions, decimals, ratios and proportions, percents, geometric figures and measurement. (Prerequisite: An ACC-UPLACER arithmetic score of 35 or higher is required; and completion of, or concurrent enrollment in, ENGL 0850 earning a grade of C or better; or, placement into ENGL 0890 or higher. Offered in lab and lecture formats.) See Important Information box on page 229. Lecture: 3 hours

MATH 0600 - Elementary Algebra (3 In-house Credits*)

This course in basic algebra introduces the real number system, properties for solving linear equations and inequalities, formula rearrangement, properties of and operations with polynomials, basic factoring, quadratic equations, operations with rational expressions, roots and radicals, graphs of linear equations and the Pythagorean Theorem. (Prerequisite: MATH 0500; Offered in lab and lecture formats.) See Important Information box on page 229. Lecture: 3 hours

MATH 0700 - Geometry (3 In-house Credits*)

This course is designed for students with no previous exposure to the subject or who are in need of review. Focus is on traditional topics of Euclidean geometry with proofs and constructions. If time permits, additional material on logic or analytic geometry may be presented. (Prerequisite: MATH 0600) See Important Information box on page 229. Lecture: 3 hours

MATH 1200 - College Algebra (3 Credits)

Designed for students who plan to study quantitative business analysis or calculus eventually, this course covers functions and graphs; systems of equations and inequalities; quadratic equations; polynomial and rational expressions; radical, exponential and logarithmic forms. (Prerequisite: MATH 0600; Not recommended for those receiving a grade below B in MATH 0600. Offered in lab and lecture formats.) See Important Information box on page 229. Lecture: 4 hours

MATH 1210 - College Trigonometry (3 Credits)

Designed for students who plan to study calculus eventually, this course deals with trigonometry from an analytical approach. Topics include relations and functions in general, the trigonometric functions and their inverses, graphs, solutions of triangles, vectors, trigonometric identities and equations, and applied problems. (Prerequisite: MATH 1200; Offered in lab and lecture formats.) See Important Information box on page 229. Lecture: 4 hours

MATH 1420 - Introduction to College Mathematics (3 Credits)

Covering the development of the real number system and the fundamental concepts of algebra and geometry, this course is suitable for prospective elementary school teachers or anyone desiring an introduction to college mathematics. (Prerequisite: Placement in ACCUPLACER grid 2 or MATH 0500 with a grade of C or better or MATH 0600 with a grade of C or better.) See Important Information box on page 229. Lecture: 3 hours

MATH 1430 - Mathematics for Liberal Arts Students (3 Credits)

This course deals with the fundamentals of logic, set theory, probability and statistics. (Prerequisite: MATH 0600 or MATH 1420; Offered in lab and lecture formats.) See Important Information box on page 229. Lecture: 3 hours

MATH 1450 - Development of the Number System (3 Credits)

Topics covered in this course include ancient numeration systems; bases; modulo arithmetic; set theoretical and historical development of our number system including natural numbers; integers; rational, irrational, imaginary and complex numbers (with operations and computation within each system); groups and fields; and elementary number theory (basic proofs, divisibility rules, Pythagorean studies, Fermat and Mersenne numbers). Note: Recommended for future teachers. (Prerequisite: MATH 1430) See Important Information box on page 229. Lecture: 3 hours

MATH 1470 - Topics in Mathematics (3 Credits)

This course is designed primarily for the Liberal Arts student who does not plan to pursue any continuing mathematics program. Each semester, different sections focus on different topics and are announced in the online course listing published each semester. The depth of the material is similar to that of MATH 1450. Note: This course may be repeated for credit with a change of topic. (Prerequisite: MATH 1430) See Important Information box on page 229. Lecture: 3 hours

MATH 1472 - History of Mathematics (3 Credits)

This course traces the development of mathematical thought through history. Topics include mathematicians, primitive number systems and algorithms, early formulas for area and volume, proofs of theorems, pi, the

golden ratio, the development of advanced mathematics, the computer, calculus, network theory and non-Euclidean geometries. Note: Recommended for future teachers. (Prerequisite: MATH 1430) See Important Information box on page 229. Lecture: 3 hours

MATH 1475 - Statistics for the Social Sciences (3 Credits)

Statistical procedures required for the analysis of data are explored using data acquired from such fields as medicine, social work, biology, education and business, and employing statistical packages as a tool. (Prerequisite: Placement in ACCUPLACER Grid 3 or MATH 0600 with a grade of C or better or MATH 1420 with a grade of C or better.) See Important Information box on page 229. Lecture: 3 hours

MATH 1510 - Scientific Programming (3 Credits)

This course offers instruction in scientific programming using a current programming language. Problems, both numerical and non-numerical, are programmed and solved by use of a mainframe and/or personal computers. (Prerequisite: MATH 1200 or 1700) See Important Information box on page 229. Lecture: 3 hours, Lab: 1 hour

MATH 1550 - Statistical Analysis I (3 Credits)

An introduction to elementary statistics, this course covers methods used in the collection, presentation, analysis and interpretation of data. Topics include frequency distributions, measures of central tendency and dispersion and sampling, with emphasis on estimation and hypothesis testing. (Prerequisite: MATH 1200 or 1700) See Important Information box on page 229. Lecture: 4 hours

MATH 1560 - Statistical Analysis II (3 Credits)

This course includes a study of simple and multiple linear regression, curvilinear regression, correlation analysis, basic designs of experiments, analysis of variance and an introduction to the concepts of time series and index numbers. A statistical package is used in the development and application of topics. (Prerequisite: MATH 1550) See Important Information box on page 229. Lecture: 3 hours

MATH 1600 - Business Mathematics (3 Credits)

The application of elementary mathematics to business and retail situations is discussed. Topics include bank services, taxes, simple interest, compound interest, commercial discounts, markup and markdown. (Prerequisite: MATH 0500; Offered in lab, lecture and distance learning formats.) See Important Information box on page 229. Lecture: 3 hours

MATH 1620 - Mathematics of Finance (3 Credits)

This course studies in depth the topics of simple interest, bank discount, compound interest and annuities, including amortization and sinking funds. (Prerequisite: MATH 0600 or 1600) See Important Information box on page 229. Lecture: 3 hours

MATH 1670 - Quantitative Business Analysis I (3 Credits)

The purpose of this course is to develop the quantitative methods needed to solve various problems in business and economics. Topics include functions and graphs, systems of linear equations, linear programming, matrices and determinants, logarithmic and exponential functions, and the mathematics of finance. (Prerequisite: MATH 1200) See Important Information box on page 229. Lecture: 3 hours

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

MATH 1680 - Quantitative Business Analysis II (3 Credits)

Differential and integral calculus are developed with special emphasis on practical applications to business and economics. See *Important Information box on page 229*. (Prerequisite: MATH 1670) Lecture: 3 hours

MATH 1700 - Algebra for Technology (3 Credits)

Topics considered in this course include linear equations and their graphs, systems of linear equations, quadratic equations, algebraic fractions, exponents, radicals and logarithms. (Prerequisite: MATH 0600; Offered in lab and lecture formats.) See *Important Information box on page 229*. Lecture: 4 hours

MATH 1710 - Trigonometry for Technology (3 Credits)

This course covers application of the trigonometric functions and their graphs, the solution of triangles, vectors, complex numbers, trigonometric identities and equations, and applied geometric problems. (Prerequisite: MATH 1700; Offered in lab and lecture formats.) See *Important Information box on page 229*. Lecture: 4 hours

MATH 1750 - Applied Technical Mathematics I (3 Credits)

This course is the first semester of a two-semester sequence covering the essentials of applied technical mathematics. Topics include the basics of working with numerical data, plane and solid geometric shapes, an introduction to functions and their graphs, factoring, operations with algebraic fractions, quadratic equations with real roots, an introduction to the trigonometric functions of acute angles, solving problems involving right triangles, expressions involving rational exponents and base ten logarithms. (Prerequisite: MATH 0600 with grade of C or better) See *Important Information box on page 229*. Lecture: 4 hours

MATH 1760 - Applied Technical Mathematics II (3 Credits)

This course is the second semester of a two-semester sequence covering the essentials of applied technical mathematics. Topics include graphing linear equations, solving systems of linear equations, using trigonometry to solve problems involving vectors, graphical analysis of waveforms, working with radical expressions, the complex numbers and their application to AC circuits, an introduction to statistics and some miscellaneous topics involving nonlinear equations. (Prerequisite: MATH 1750) See *Important Information box on page 229*. Lecture: 4 hours

MATH 1900 - Pre-Calculus Mathematics (4 Credits)

Functions and their graphs are discussed with particular attention paid to polynomial, rational, trigonometric, exponential and logarithmic functions. Determinants, matrices, complex numbers and analytic geometry also are studied. (Prerequisite: MATH 1200 and 1210; Offered in lab and lecture formats.) See *Important Information box on page 229*. Lecture: 4 hours

MATH 1910 - Calculus I (4 Credits)

Topics considered in this first course of differential and integral calculus include limits and continuity, first- and higher-order derivatives with applications (including curve sketching), the differential and definite and indefinite integrals with applications (including areas and volumes). (Prerequisite: MATH 1900) See *Important Information box on page 229*. Lecture: 4 hours

MATH 1920 - Calculus II (4 Credits)

This course covers the calculus of logarithmic, exponential, trigonometric, inverse trigonometric and hyperbolic functions. Some methods of integration are covered,

including integration by parts and numerical methods. L'Hospital's rule, improper integrals, infinite series and the calculus in polar coordinates also are introduced. (Prerequisite: MATH 1910) See *Important Information box on page 229*. Lecture: 4 hours

MATH 2500 - Applications in Science and Math (1 Credit)

This capstone course is intended for students in their final semester of the Science program. It allows students an opportunity to demonstrate an integration of knowledge and abilities acquired in previous science and mathematics courses with the added intent of developing new insights. Students read selected articles, such as those that come from scientific journals, in a variety of fields and then have the opportunity to collaborate with their peers and hone writing, synthesis and presentational skills in a seminar setting. (Prerequisite: Successful completion of a minimum of 21 general education credits and a minimum of 18 Science credits or permission of instructor) See *Important Information box on page 229*. Lecture: 2 hours

MATH 2910 - Calculus III (4 Credits)

This course covers the calculus of three-dimensional space, including partial derivatives, multiple integrals and the calculus of vector-valued functions. (Prerequisite: MATH 1920) See *Important Information box on page 229*. Lecture: 4 hours

MATH 2990 - Advanced Engineering Mathematics (4 Credits)

This course covers first-order ordinary differential equations, second-order linear differential equations, Laplace transforms and power series solutions. A unit on applied linear algebra also is included. (Prerequisite: MATH 2910) See *Important Information box on page 229*. Lecture: 4 hours

MEDL (ADMINISTRATIVE OFFICE TECHNOLOGY)**MEDL 2350 - Medical Terminology (2 Credits)**

This course introduces medical, diagnostic, symptomatic and surgical terms. Literal definitions and spelling are stressed. Lecture: 2 hours

MEDL 2360 - Medical Document Processing (2 Credits)

This course acquaints the medical administrative secretaries/assistants with formatting and editing skills needed for processing medical documents that are commonly part of their work environment. A job simulation project is the basis for these applications and is completed using Microsoft Word. Students continue to develop their keyboarding speed and accuracy. The keyboarding speed needed to pass this course is 30-55 wpm. (Prerequisite or corequisite: OFTD 1220 or permission of instructor) Lecture: 2 hours, Lab: 1 hour, Fall only

MEDL 2380 - Medical Office Transcription I (3 Credits)

This course focuses on the skills a medical transcriptionist must possess in preparing for eventual employment in a private physician's office, clinic or hospital. Emphasis is placed on the efficient production of case histories and physical examinations, radiological reports, X-rays, operative reports, pathology reports, discharge summaries and autopsy reports from pre-recorded dictation material. (Corequisite: OFTD 1220 or permission of instructor) Lecture: 2 hours, Lab: 2 hours, Fall only

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

MEDL 2390 - CPT Medical Insurance Coding (3 Credits)

This course familiarizes students with Current Procedural Terminology (CPT) codes and modifiers along with their corresponding unique descriptions. Topics include use of guidelines, notes, index, appendices and modifiers and AMA documentation guidelines to ensure correct coding. Office of Inspector General (OIG) compliance for individual and small group physicians' practice also is included. (Corequisite: MEDL 2400, 2350) Lecture: 3 hours

MEDL 2400 - ICD-CM Medical Insurance Coding (2 Credit)

This course familiarizes students with International Classification of Diseases and Clinical Modification codes (ICD-CM). An overview of the Tabular List (Volume I) and the Alpha Index (Volume II) will include coding fundamentals and conventions. Various coding scenarios challenge small student groups to apply techniques learned to code claims. (Corequisite: MEDL 2350 or permission of instructor) Lecture: 2 hours

MEDL 2410 - Medical Insurance Billing (3 Credits)

This course prepares students for employment as medical insurance specialists in physicians' offices and clinics. Topics include the claim process, inpatient and outpatient billing, procedural coding and billing requirements of various health care providers. Lecture: 2 hours, Lab: 1 hour

MEDL 2420 - Practical Applications in Professional Medical Coding (4 Credits)

This course advances the student's knowledge of the Current Procedural Terminology (CPT), International Classification of Diseases (ICD), and Healthcare Common Procedure Coding (HCPC) code sets and

outlines the application of the fundamentals of coding and documentation in the physician's practice. This course prepares students for the American Academy of Professional Coders CPC certification examination. (Prerequisite: MEDL 2390 and 2400) Lecture: 4 hours

MEDL 2430 - Electronic Medical Records and Practice Management (3 Credits)

This course prepares students for employment within health care facilities. Topics include fundamentals of electronic medical records (EMR) management, integration of patient and provider information, clinical documentation and effective office communication via an EMR system. This course will also prepare students to take the National Health Care Association's Certified Electronic Health Records (CEHRS) Assessment to become CEHRS certified. Lecture: 3 hours

MEDL 2480 - Medical Office Transcription II (2 Credits)

This is a continuation of the applications of medical transcribing skills learned in MEDL 2380 and provides a more in-depth understanding of medical terminology pertaining to the body systems. Medical reports are transcribed for individual case studies in patients with specific medical problems. In addition, outpatient medical reports are transcribed using the HPIP (*history, physical, impression and plan*) and SOAP (*subjective, objective, assessment and plan*) formats. (Prerequisite: MEDL 2380) Lecture: 2 hours, Lab: 1 hour, Spring only

MEDL 2910 - Medical Cooperative Work Experience (3 Credits)

This is a planned and supervised cooperative work experience. Students are placed in a medical office during their last semester for the purpose of observing the operations

and routines of that office. The opportunity to perform tasks required in a medical office is provided. Students attend class on campus during weeks one through five then work approximately 13 hours a week in an approved cooperative work experience placement during weeks six through 15. (Prerequisites: MEDL 2360 and 2380; enrollment in Administrative Office Technology program, completion of 24 credits in that program and 2.0 GPA or permission of instructor) Lecture: 1 hour per week for five weeks, CO-OP: 13 hours per week for 10 weeks

MLTC (CLINICAL LABORATORY TECHNOLOGY)**MLTC 1110 - Bacteriology (4 Credits)**

The biological aspects of microbial structure, metabolism and growth are presented. Emphasis is on classification of microorganisms, mostly bacteria and identification of disease-producing organisms. (Prerequisite: Enrollment in Clinical Laboratory Technology program or department permission) Lecture: 2 hours, Lab: 4 hours

MLTC 1120 - Clinical Immunology/Serology (3 Credits)

This course covers basic theories of immunology, laboratory diagnosis of infectious diseases and diseases of the immune system. Students learn to perform basic serological techniques. Note: This course is a prerequisite for MLTC 1160. (Prerequisite: Enrollment in Clinical Laboratory Technology program or department permission) Lecture: 2 hours, Lab: 3 hours

MLTC 1130 - Phlebotomy for Clinical Laboratory Technicians I (5 weeks) (1 Credit)

This course covers principles of phlebotomy and specimen handling. Students perform venipuncture on training arms, venipuncture

on adults, capillary punctures, blood film preparation, isolation techniques, blood donor site preparation and specimen processing. Note: This course is a prerequisite for MLTC 1930. (Prerequisite: Enrollment in Clinical Laboratory Technology program or department permission) Lecture: 2 hours, Lab: 2 hours

MLTC 1150 - Urinalysis (3 Credits)

The formation of urine and the principles of the laboratory procedures used in the physical, chemical and microscopic examination of urines are discussed. Normal values are presented and the significance of abnormal results explained. Complete urinalysis is performed in the training laboratory. Quality control in the urinalysis laboratory is stressed. (Prerequisite: Enrollment in Clinical Laboratory Technology program or department permission) Lecture: 2 hours, Lab: 2 hours

MLTC 1160 - Immunohematology (3 Credits)

This course covers red cell antigens and antibodies, antibody identification, cross-matching, donor processing and component therapy. Theory is presented in lecture and a laboratory experience enables students to apply these theories to routine laboratory procedures. (Prerequisite: MLTC 1120 or equivalent or department permission)

MLTC 1170 - Quality Assurance for Point of Care Laboratory Testing (5 weeks) (1 Credit)

This course is designed for health care workers who perform clinical laboratory tests that are waived tests in a physician's office or medical care center. The course includes laboratory safety (*OSHA regulations*), quality control procedures to ensure quality assurance, a detailed discussion on CLIA '88 waived tests and instruction on the performance of these tests. Students are provided with the technical knowledge and

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

skills required for competent performance of waived laboratory procedures with increased reproducibility accuracy and precision. *(Prerequisite: Enrollment in Phlebotomy or Renal Dialysis program or department permission)* Lecture: 2 hours, Lab: 2 hours

MLTC 1180 - Specimen Collection and Handling for Health Care Professionals (5 weeks) (1 Credit)

This course covers the principles of specimen collection and handling. National standards are presented. Various specimen collection techniques are introduced to the health care professional, with emphasis on the importance of a properly collected specimen. *(Prerequisite: Second-year students enrolled in RESP, XRAY, ADNU or LPNU, RENL programs or department permission)* Lecture: 2 hours, Lab: 2 hours

MLTC 1190 - Fundamentals of Clinical Chemistry (3 Credits)

This course introduces the analytical skills needed to correctly perform analytic procedures that yield accurate and precise information. Basic principles and practices of clinical chemistry are emphasized. Laboratory safety, quality control and statistics, analytical techniques and instrumentation are stressed. *(Prerequisite: Enrollment in Clinical Laboratory Technology program or department permission)* Lecture: 3 hours

MLTC 1210 - Introduction to Clinical Laboratory Science (3 Credits)

This course offers a basic introduction to the clinical laboratory. Current concepts and general principles of all areas connected with the medical laboratory field are explored. Students are introduced to selected basic techniques used in the clinical laboratory. *Note: This course is open to any student interested in the field of clinical laboratory technology or can be used as a General Studies elective.* Lecture: 2 hours, Lab: 2 hours

MLTC 1930 - Phlebotomy for Clinical Laboratory Technicians II (1 Credit)

This course provides Clinical Laboratory Technology students with the opportunity to become proficient in phlebotomy in a clinical laboratory setting. In addition, use of laboratory information systems, accessioning and proper record-keeping are demonstrated. *(Prerequisite: MLTC 1130 or department permission)* Clinical: 40 hours per week

MLTC 1940 - Clinical Immunology/Immunoematology (4 weeks) (4 Credits)

Students perform selected procedures in serology and immunoematology at the clinical site. *(Prerequisite: MLTC 1120 and 1160)* Lab: 40 hours per week

MLTC 1950 - Clinical Urinalysis (2 weeks) (2 Credits)

Students perform selected procedures in urinalysis at the clinical site. *(Prerequisite: MLTC 1150)* Lab: 40 hours per week

MLTC 1960 - Clinical Laboratory Information Systems (5 weeks) (1 Credit)

Workflow in the laboratory has been adjusted because of the introduction of the computer. This course is an introduction to data entry processing and retrieval of laboratory information. Specimen tracking is emphasized in this hands-on environment. *(Corequisite: PHLE 1010)* Lecture: 2 hours, Lab: 2 hours

MLTC 1970 - Clinical Laboratory Information Systems for CLT (2 weeks) (2 Credits)

This course provides students with the knowledge to perform laboratory procedures that require the use of a computer. Students learn to understand the basics of

a system that delivers rapid and accurate reporting to caregivers and to understand the role that the regulatory agencies play in the laboratory information system. *(Prerequisite: COMI 1100)* Lecture: 2 hours, Lab: 2 hours

MLTC 2110 - Clinical Microbiology I (4 Credits)

Procedures for cultivation and identification of pathogenic microorganisms from clinical material are covered in this course. Additional topics such as antimicrobial susceptibility tests, quality control and automation in microbiology also are included. *(Prerequisite: MLTC 1110 or equivalent)* Lecture: 2 hours, Lab: 4 hours

MLTC 2120 - Hematology (4 Credits)

The study of the structure and function of blood and its role in health and disease is presented. Red blood cells, white blood cells and coagulation factors including platelets are observed and discussed. The classification of leukemias, anemias and other hematological disorders is studied. Development of skills in manual and automated laboratory procedures is stressed. Laboratory procedures include coagulation studies, manual and automated red blood cell, white blood cell and platelet counting and enumeration of special cells. Films of normal and abnormal peripheral blood are examined. Lecture: 2 hours, Lab: 6 hours

MLTC 2130 - Selected Topics in Clinical Laboratory Science (1 Credit)

This course is for individuals interested in maintaining proficiency in clinical laboratory medicine. It provides students with updated information, current trends and state-of-the-art methodology. Content covers selected areas of clinical laboratory science. *(Prerequisite: Graduate technologist or permission of instructor)* Lecture: 1 hour

MLTC 2190 - Clinical Chemistry I (5 Credits)

The basic principles of spectrophotometry and the diagnostic methods of analysis are presented. The study of protein, fat and carbohydrate metabolism, electrolyte and acid-base balance and enzymes and renal function procedures as they relate to diagnostic testing are stressed. Laboratory mathematics and quality control are discussed. Selected laboratory procedures including manual and automated quantitative analysis of serum, plasma and urine are performed. *(Prerequisite: MLTC 1190 or department permission)* Lecture: 3 hours, Lab: 6 hours

MLTC 2910 - Clinical Microbiology II (5 weeks) (4 Credits)

This course provides practical application of principles and techniques that have been previously learned. Students learn by doing actual testing at the bench with the same exposure to realistic conditions under which a technician works. Coursework involves skill development of clinical bacteriology, mycology and parasitology. *(Prerequisite: MLTC 2110)* Lab: 32 hours per week

MLTC 2920 - Clinical Hematology (4 weeks) (4 Credits)

This course provides practical application of principles and techniques that have been previously learned. Students learn by doing actual testing at the bench with the same exposure to realistic conditions under which a technician works. *(Prerequisite: MLTC 2120)* Lab: 32 hours per week

MLTC 2930 - Clinical Laboratory Science Seminar (2 Credits)

The course examines case studies as they relate to hematology, clinical chemistry, microbiology, urinalysis, immunoematology and immunology. Computer programs and

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

audio-visual slides are used to enhance students' knowledge base. (*Corequisite: MLTC 2910 or 2920 or 2990 or department permission*) *Lecture: 3 hours*

MLTC 2990 - Clinical Chemistry II (4 weeks) (4 Credits)

This course provides practical application of principles and techniques that have been previously learned. Students learn by doing actual testing at the bench with the same exposure to realistic conditions under which a technician works. (*Prerequisite: MLTC 2190*) *Lab: 32 hours per week*

MRIC (MAGNETIC RESONANCE IMAGING CERTIFICATE)

MRIC 2260 - Introduction to Magnetic Resonance Imaging (6 Credits)

This course provides students with a knowledge of MRI image production, including image acquisition and reconstruction. The selection of scan protocols will be related to anatomical region, patient history and physical condition. Attention is given to patient education, screening and care. Clinical application is part of this course. Anatomical regions of the head and neck, spine, thorax and abdomen are considered. (*Prerequisite: Registered radiographer*) *Lecture: 3 hours, Clinical: 16 hours*

MRIC 2270 - MRI Physics and Instrumentation (3 Credits)

This course provides students with a basic understanding of the physics of magnetic resonance imaging and the instrumentation used to acquire MRI images. The basic principles of electricity and magnetism are addressed, as well as the characteristics of

radio frequencies and the phenomenon of resonance. Application of these principles to data acquisition is discussed. Hazards associated with strong magnetic fields and radio frequencies are addressed, as are the actual components of magnetic resonance equipment. (*Prerequisite: Registered radiographer*) *Lecture: 3 hours*

MRIC 2280 - Procedures and Methods for MRI Imaging (6 Credits)

This course addresses advanced imaging techniques, including MR angiography, cardiac imaging and spectroscopy. The nature and use of contrast agents is discussed. Factors related to image quality, artifacts and quality assurance are considered. Imaging of the pelvis, musculoskeletal and vascular systems are discussed. Supervised clinical practice is included. *Lecture: 3 hours; Clinical: 16 hours*

MRIC 2290 - MRI Safety and Quality Assurance (3 Credits)

This course addresses safety practices and quality assurance as they relate to magnetic resonance imaging. Factors related to image quality and optimal operation of imaging equipment are considered. Students evaluate MRI images for quality and learn to manipulate parameters when necessary. MRI screening procedures and safety considerations for all patients are addressed as are special concerns for patients with biomedical implants and devices. Students apply knowledge from classroom instruction and activities as part of a supervised clinical experience. *Lecture: 3 hours*

MUSC (MUSIC)

MUSC 1010 - Foundations in Music (3 Credits)

This is a beginning study of music reading and writing including notation, terminology, major and minor keys, interval recognition, triad identification, rhythmic perception, melodic dictation and sight singing. This course can be used as an elective for non-majors. Music majors may enroll in the course as a review if necessary, but this course does not count toward Music degree requirements. (*See MUSC 1700.*) *Lecture: 3 hours*

MUSC 1030 - Voice Class (3 Credits)

This course is designed to develop basic vocal technique in terms of breath control, tone production, tone placement, articulation and diction through appropriate exercises, as well as to develop basic musicianship through careful study and singing of a diversified vocal repertoire. Both ensemble and solo pieces are assigned. *Lecture: 3 hours*

MUSC 1050 - Music Before 1750 (3 Credits)

The history of music of the early Christian, Medieval, Renaissance and Baroque periods is examined in reference to the culture in which each was created. Special emphasis is placed on intensive listening. *Lecture: 3 hours, Spring semester*

MUSC 1060 - Music After 1750 (3 Credits)

This course covers the history of music of the Rococo, Classical, Romantic and early 20th century periods with cultural correlations to the periods. Special emphasis is placed on intensive listening. *Lecture: 3 hours, Fall semester*

MUSC 1091 - Opera Workshop I (1 Credit)

This course is a workshop designed to explore the basics of integrating singing, movement and dramatization into opera performance. Emphasis is placed on character development, score study and stage movement in two consecutive semesters. Each student in the class will be assigned a role in the spring opera production. During the first semester, the roles are musically prepared and memorized. Detailed musical coaching includes stylistic study, diction, and period performance practice. Opera Workshop I may be repeated four times. (*Prerequisite: College freshman ability in singing, as demonstrated in an informal audition at the first class meeting; recommended: Enrollment in sequential course, MUSC 1092 - Opera Workshop II in Spring semester*) *Rehearsal: 2.5 hours, Fall semester*

MUSC 1092 - Opera Workshop II (1 Credit)

This course is the second semester of a workshop designed to explore the integration of singing, movement and dramatization into operatic performance. By the performance date, students will display a comprehensive knowledge of the opera roles assigned, including the acting, stage movement and overall dramatic presentation by participating in a fully staged performance of the chosen opera. Opera Workshop II may be repeated four times. (*Prerequisite: Completion of MUSC 1091 in the same academic year*) *Rehearsal: 2.5 hours, Spring semester*

MUSC 1110 - Jazz History (3 Credits)

This course is designed to familiarize students with literature and techniques employed in jazz from the 1890s to the present. The course begins with a study of the elements of music and major jazz

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

styles are considered in historic context. Significant jazz artists studied include Louis Armstrong, Duke Ellington, Charlie Parker and Miles Davis. *Lecture: 3 hours*

MUSC 1112 - Introduction to Digital Recording Technology (3 Credits)

This is an introductory course in recording technology and music production using Pro Tools software. The course assumes no prior music production experience or music theory background. The fundamental concepts of sound, digital audio workstations (DAW), recording studio equipment and techniques, audio and MIDI recording, editing, mixing and mastering will be introduced. Students will finish the course with the basic knowledge of how to set up a home studio and begin producing their own music. *Lecture/Studio: 3 hours*

MUSC 1113 - Audio Recording (3 Credits)

This course is an in-depth study of digital signal processing within a multimedia, sound design, or music production process. It includes techniques such as spectrum, dynamic, time, and mastering configurations. Students will explore the modern concepts of personal computer processing, as well as analyze the recording, mixing and mastering of professional mixes. (*Prerequisite: MUSC 1112 or permission of instructor*) *Lecture/studio: 3 hrs*

MUSC 1120 - The American Musical (3 Credits)

This course is a study of the American Broadway musical from 1870 to the present, including works by Kern, Rodgers and Hammerstein, Sondheim and Webber. *Lecture: 3 hours*

MUSC 1130 - String Class I (3 Credits)

This course is designed to develop the basic skills of playing the violin, viola, cello or double bass, including tone quality, intonation, technical facility, sight reading and basic performance. A limited number of instruments are provided by the department. No prior playing experience is necessary, but students must read music. (*Prerequisite: MUSC 1010 or 1700 or permission of instructor*) *Lecture: 3 hours, Spring semester only*

MUSC 1135 - String Class II (3 Credits)

This is a sequel to MUSC 1130 to improve basic playing skills and to acquaint students with a string instrument not studied in String Class I. (*Prerequisite: MUSC 1130 or permission of instructor*) *Lecture: 3 hours, Spring semester*

MUSC 1137 - Beginning Guitar Class (3 Credits)

This elective course is designed to introduce students to the fundamentals of music through a study of the guitar. Students with little or no experience on the instrument will learn the basics of rhythm, melody and harmony as well as learn to perform solo, duet and ensemble pieces in a class setting. The course will develop technical skills through scales and exercises, which are essential for performing chords, song accompaniments and folk melodies. In addition, basic music reading and writing will be learned throughout the semester. Also, students must supply their own nonelectric instruments. No previous musical experience is required for this class. This beginning guitar course is not for the experienced guitarist. *Lecture: 3 hours*

MUSC 1140 - Piano Class I (2 Credits)

This course develops basic keyboard skills, including two-octave scales and chord progressions, improvisation of simple

accompaniments and sight reading of easier selected pieces. (*Prerequisite: MUSC 1010 or 1700 or permission of instructor*) *Lecture: 4 hours*

MUSC 1145 - Piano Class II (2 Credits)

A sequel to MUSC 1140, this course places emphasis on improving finger dexterity, hand coordination, pedalling techniques, sight reading, articulation and interpretive skills. (*Prerequisite: MUSC 1140 or permission of instructor*) *Lecture: 4 hours*

MUSC 1160 - Introduction to Music (3 Credits)

This course is designed to foster better understanding and appreciation of great music of the Western world. European and American musical styles, techniques and forms are presented from the listener's standpoint. *Lecture: 3 hours*

MUSC 1165 - History of Rock (3 Credits)

This course covers the history of rock music, its diverse American influences, its emergence as a recognizable style in the 1950s and its symbiotic relationship with 20th century and contemporary society. Students will learn to become active listeners and to articulate the ways in which various compositional techniques and performance practices in rock music express aspects of the human condition. *Lecture: 3 hours*

MUSC 1170 - Music in Human Services and Education (3 Credits)

This course is designed to prepare Early Childhood Education, Social Services and Elementary Education students for teaching music in day care and retirement centers and the elementary classroom. Fundamental music skills are included to enable students

to prepare and present music activities confidently. Students learn to use autoharp and rhythm band instruments for accompaniment purposes. *Lecture: 3 hours*

MUSC 1175 - Music Therapy and Geriatrics (3 Credits)

This is an introductory course on the field of Music Therapy and the benefits of using music as an intervention with a geriatric population. Students will learn how music and music-related activities can be utilized to connect with people who are living with age-related disorders. Topics will include the history of Music Therapy, the function of music, and how music is used by trained Music Therapists when working with an elderly population. Students will learn activities and strategies that can be used by health and human services professionals when working with an elderly population when a Music Therapist is not available. *Lecture: 3 hours*

MUSC 1180 - Jazz Ensemble (1 Credit)

This is a course designed to provide students with opportunities to participate in a musical ensemble, perform various styles of jazz and develop their improvisational ability. *Note: Instrumentation and stylistic direction of the ensemble may vary from semester to semester. Four credits of this ensemble may be counted toward the A.F.A. degree ensemble requirement. Additional credits are counted as electives. (Prerequisite: Technical proficiency on an instrument and audition during the first week of classes)* *Rehearsal: 2.5 hours*

MUSC 1200 - Chamber Ensemble (Band) (1 Credit)

The course provides an opportunity for students to develop ensemble skills in a small group setting. Various combinations of winds, strings, piano and percussion are utilized. *Note: Four credits of this ensemble*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

are counted toward the A.F.A. degree requirement. Further ensemble credits are counted as electives. (Prerequisite: Moderate technical proficiency on an instrument and/or permission of instructor) Rehearsal: 2.5 hours

MUSC 1210 - Chorus (1 Credit)

This course is designed to provide singers an opportunity to perform in an ensemble while developing vocal technique, proper breath support, tone production, tone placement, etc. Note: Four credits of this ensemble are counted toward the A.F.A. degree requirement. Further ensemble credits are counted as electives. (Prerequisite: Audition at first class meeting) Rehearsal: 2.5 hours

MUSC 1220 - Chamber Singers (1 Credit)

This course is for a select group of singers who perform a variety of choral repertoire, including a cappella, polyphonic compositions and 20th century styles. Note: Four credits of this ensemble are counted toward the A.F.A. degree requirement. Further ensemble credits are counted as electives. (Prerequisite: Audition at the first class meeting) Rehearsal: 3 hours

MUSC 1231 - Orchestra (1 Credit)

This course includes the study and performance of standard and modern repertoire for the orchestra. It is open to qualified instrumentalists by audition. Course meets at Rhode Island College's Nazarian Center. In addition to weekly rehearsals, attendance at dress rehearsal and performance dates (TBA) are required. Rehearsal: 2.5 hours

MUSC 1700 - Music Theory I (3 Credits)

This course is designed for the student who has a foundational music theory background. This is a study of the organizing factors of music including scales, key signatures, intervals, triads with inversions,

seventh chords with inversions, rhythm, meter, four-part structure and harmonization with primary triads. Basic keyboard assignments are included. (Prerequisite: Please refer to www.ccri.edu/performingarts/music/ assessment for Music Theory Advising Assessment to see if you have sufficient background for MUSC 1700. Enrollment in Music/Jazz degree program or permission of Music faculty; Corequisite: MUSC 1710) Lecture: 3 hours, Fall semester

MUSC 1710 - Sight Singing and Ear Training I (1 Credit)

This is a course in practical sight singing and ear training via solfeggio, to express and comprehend aurally the concepts studied in MUSC 1700 Music Theory I. (Prerequisite: Enrollment in Music/Jazz program or permission of Music faculty; Corequisite: MUSC 1700) Lab: 2 hours, Fall semester

MUSC 1800 - Music Theory II (3 Credits)

A sequel to MUSC 1700, this course continues with the principles of four-part writing, seventh chords, chorale analysis, modulations and two-part counterpoint. Basic keyboard assignments are included. (Prerequisite: MUSC 1700 or permission of Music faculty; Corequisite: MUSC 1810) Lecture: 3 hours, Spring semester

MUSC 1810 - Sight Singing and Ear Training II (1 Credit)

A sequel to MUSC 1710, this course provides practical application of concepts studied in MUSC 1800. Special emphasis is placed on seventh chords and more complex rhythm studies. (Prerequisite: MUSC 1710 or permission of Music faculty; Corequisite: MUSC 1800) Lab: 2 hours, Spring semester

MUSC 2040 - Applied Music: Jazz-Rock Arranging (2 Credits)

This course is designed to introduce students to the skills required for arranging in the jazz and jazz-rock idioms. Topics include instrumental characteristics, writing for winds and rhythm sections, multi-part writing and analysis of works by significant arrangers. Student projects include the preparation of two arrangements for jazz ensemble. (Prerequisites: Music 1800 and 1810) Private lesson: 1 hour per week by appointment. Applied Music Fee to be paid to the bursar after registering for the course. See page 12 for more information. Contact the Performing Arts Department for information and to apply.

MUSC 2070 - Jazz Harmony I (2 Credits)

This course is designed to introduce students to theoretical analysis and aural recognition in the jazz idiom. Topics include chord construction and identification, sight singing and ear training. (Prerequisites: MUSC 1800 and 1810) Lecture: 2 hours, Fall semester

MUSC 2080 - Jazz Harmony II (2 Credits)

This course is designed to develop further understanding of theoretical analysis and aural recognition in the jazz idiom. Topics include modal harmony, reharmonization, sight singing and ear training. (Prerequisite: MUSC 2070) Lecture: 2 hours, Spring semester

MUSC 2090 - Jazz Improvisation I (3 Credits)

This course introduces students to the skills required for jazz improvisation. Topics include chord progressions, scales, modes and the analysis and creation of melodic lines. Musical performance is emphasized. (Prerequisite: MUSC 1800 and 1810) Lecture: 3 hours, Fall semester

MUSC 2100 - Jazz Improvisation II (3 Credits)

This course is designed to further develop students' improvisational skills. Topics include complex chords, modes of the melodic minor scale and performing standard works in all keys. (Prerequisite: MUSC 2090) Lecture: 3 hours, Spring semester

MUSC 2700 - Music Theory III (3 Credits)

This course involves further study of musical organization to include 18th century polyphony, augmented and Neapolitan sixth chords, borrowed chords and instrumental forms of the 18th and 19th centuries. Basic keyboard assignments are included. (Prerequisite: MUSC 1800 or permission of Music faculty; Corequisite: MUSC 2710) Lecture: 3 hours, Fall semester

MUSC 2710 - Sight Singing and Ear Training III (1 Credit)

This course offers a practical aural and vocal study of the concepts presented in MUSC 2700 with particular emphasis upon non-diatonic pitches and modulation. (Prerequisite: MUSC 1810 or permission of Music faculty; Corequisite: MUSC 2700) Lab: 2 hours, Fall semester

MUSC 2720 - Applied Music: Composition (2 Credits)

This course provides students the opportunity to study music composition on an individual basis with a private instructor. Students pursue either jazz or classical styles beginning with melodic organization, through various tonal concepts, including counterpoint, harmonization, form and instrumentation. Semester projects are presented in written score and performance. (Prerequisite: MUSC 2700 or 2070, plus MUSC 1140 – Piano Class I or equivalent) Private lesson: 1

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

hour per week by appointment. Applied Music fee to be paid to the bursar after registering for the course. See page 12 for more information. Contact the Performing Arts Department for information and to apply.

MUSC 2721 - Applied Music: Composition 2 (3 credits)

This course continues music composition study on an individual basis with a private instructor. Students will explore writing topics including modulations; transformation methods such as augmentation, rhythmic transformation, inversion and retrograde; and scoring for two or more different instruments. (Prerequisite: MUSC 2720) Applied Music fee to be paid to the bursar after registering for the course.

MUSC 2800 - Chromatic and Modern Music Theory IV (3 Credits)

A sequel to MUSC 2700, this course covers topics from the late Romantic period through Impressionism and the 20th century. It offers a continuation of forms, extension of pitch organization, to include serialism, aleatory, sound mass, electronic synthesis, MIDI and minimalism. Basic keyboard assignments are included. (Prerequisite: MUSC 2700 or permission of Music faculty; Corequisite: MUSC 2810) Lecture: 3 hours, Spring semester

MUSC 2810 - Sight Singing and Ear Training IV (1 Credit)

This is a practical aural and vocal study of the advanced concepts presented in MUSC 2800 – Chromatic and Modern Music Theory IV. (Prerequisite: MUSC 2710 or permission of Music faculty; Corequisite: MUSC 2800) Lab: 2 hours, Spring semester

MUSC - Applied Music for Majors (2 Credits)

This course provides private music instruction on a principal instrument or in principal voice for Music majors. Instruction is offered in classical music or jazz (one hour-long lesson per week) for students already proficient in playing an instrument or singing. Ability to read music is required. All students registered for principal applied music are required to perform in a student recital at least once per semester. Admission to any of the applied music courses is by audition only. Students are assigned to CCRI Music faculty. (Prerequisite: College freshman ability in playing an instrument or singing, as demonstrated in an audition); Applied Music fee to be paid to the bursar after registering for the course. See page 12 for more information. Contact the Performing Arts Department for detailed audition information and dates, and to apply.

Bassoon 1380, 1390, 2380, 2390
 Clarinet 1360, 1370, 2360, 2370
 Flute 1320, 1330, 2320, 2330
 French Horn 1420, 1430, 2420, 2430
 Guitar 1620, 1630, 2620, 2630
 Oboe 1340, 1350, 2340, 2350
 Organ 1520, 1530, 2520, 2530
 Percussion 1480, 1490, 2480, 2490
 Piano 1500, 1510, 2500, 2510
 Saxophone 1600, 1610, 2600, 2610
 String/Electric Bass 1300, 1310, 2300, 2310
 Trombone 1440, 1450, 2440, 2450
 Trumpet 1400, 1410, 2400, 2410
 Tuba/Euphonium 1460, 1470, 2460, 2470
 Viola 1260, 1270, 2260, 2270
 Violin 1240, 1250, 2240, 2250
 Violoncello 1280, 1290, 2280, 2290
 Voice 1540, 1550, 2540, 2550

MUSC - Secondary Applied Music (1 Credit)

Private music instruction on a second instrument or in voice for Music majors, or private music instruction for nonmajors wishing to study an instrument or voice for credit. Instruction is offered in classical music or jazz (one half-hour lesson per week) for students with basic proficiency in playing an instrument or singing. Elementary ability to read music is necessary. All students are required to perform in a student recital at least once per semester. Admission is by audition only. Students are assigned to CCRI Music faculty. (Prerequisite: Basic proficiency in playing an instrument or singing, as demonstrated in an audition); Applied Music fee to be paid to the bursar after registering for the course. See page 12 for more information. Contact the Performing Arts Department for detailed audition information and dates, and to apply.

Bassoon-Secondary 1382, 1392, 2382, 2392
 Clarinet-Secondary 1362, 1372, 2362, 2372
 Flute-Secondary 1322, 1332, 2322, 2332
 French Horn-Secondary 1422, 1432, 2422, 2432
 Guitar-Secondary 1622, 1632, 2622, 2632
 Oboe-Secondary 1342, 1352, 2342, 2352
 Organ-Secondary 1522, 1532, 2522, 2532
 Percussion-Secondary 1482, 1492, 2482, 2492
 Piano-Secondary 1502, 1512, 2502, 2512
 Saxophone-Secondary 1602, 1612, 2602, 2612
 String/Electric Bass-Secondary 1302, 1312, 2302, 2312
 Trombone-Secondary 1442, 1452, 2442, 2452
 Trumpet-Secondary 1402, 1412, 2402, 2412
 Tuba/Euphonium-Secondary 1462, 1472, 2462, 2472
 Viola-Secondary 1262, 1272, 2262, 2272
 Violin-Secondary 1242, 1252, 2242, 2252
 Violoncello-Secondary 1282, 1292, 2282, 2292
 Voice-Secondary 1542, 1552, 2542, 2552

NURS (NURSING)

Corequisites for Nursing curriculum must be taken within the same semester.

NURS 1010 - Foundations of Nursing Practice (6 Credits)

This course will introduce the student to the role of the professional nurse, including legal and ethical standards. Students will learn how to assess and provide safe, evidence-based interventions to meet basic patient needs using the nursing process, with an emphasis on the older adult. Application of foundational concepts and basic psychomotor skills occurs in the nursing laboratory and a variety of clinical settings. (Prerequisites: BIOL 1010, ENGL 1010, PSYC 2010; Corequisites: NURS 1015, 1061 and BIOL 1020) Lecture: 4 hours per week, Clinical: 6 hours per week

NURS 1015 - Gerontological Nursing (2 Credits)

This course introduces the student to the social, psychological, and physiological changes associated with the aging process with the intent of promoting safety and maintaining optimal levels of health. Nursing management of common health care issues that often affect older adults will be addressed. This course encompasses the six core organizing concepts in the Nursing curriculum. These include Patient Centered Care, Nursing Judgment, Safety and Quality Improvement, Professional Identity, Teamwork and Collaboration, and Informatics in health care of older adults. (Prerequisites: BIOL 1010, ENGL 1010, PSYC 2010; Corequisites: NURS 1010, 1061; Corequisite or prerequisite: BIOL 1020) Lecture: 2 hours per week

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

NURS 1020 - Medical-Surgical Nursing I (3 Credits)

This introductory, concept-based medical/surgical nursing course will focus on the acquisition of knowledge and psychomotor skills necessary for delivering safe, evidence-based nursing care to adults in a variety of clinical settings. The emphasis of this course will be on common acute and chronic health problems. (Prerequisites: BIOL 1010, 1020; PSYC 2010; ENGL 1010; NURS 1010, 1015, 1061; Corequisites: NURS 1023, 1062; Corequisite or prerequisite: PSYC 2030) Lecture: 3 hours per week, Clinical: 9 hours per week over 15 weeks.

NURS 1023 - Mental Health Nursing (3 Credits)

In this course, the student will acquire a basic knowledge of the causes, treatment, prevention and patient-centered nursing care for common and severe mental health problems across the life span. Emphasis is placed on application of therapeutic communication techniques, psychosocial assessment skills, and the nursing process with an integration of ethical and legal concepts. (Prerequisites: BIOL 1010; NURS 1010, 1015, 1061; Corequisite: NURS 1020, 1062; Corequisite or prerequisite PSYC 2030) Lecture: 6 hours per week, Clinical: 9 hours per week over 5 weeks

NURS 1061 - Pharmacology I (1 Credit)

This course begins the nursing student's education on the basic principles of pharmacology, establishing a knowledge base that applies to the various routes of medication administration. An emphasis is placed on the nursing role in safe dosage calculation and medication administration. (Prerequisites: BIOL 1010; ENGL 1010; PSYC

2010, MATH 0500 with a minimum grade of B- or ACCUPLACER Arithmetic Test with a minimum score of 65. Corequisite: NURS 1010, 1015; Corequisite or prerequisite: BIOL 1020) Lecture: 1 hour per week

NURS 1062 - Pharmacology II (1 Credit)

This course builds on the basic principles of pharmacology, progressing to include major classes of drugs that are used in the nursing management of patients with commonly occurring physical and mental health problems. (Prerequisites: NURS 1010, 1015, 1061; Corequisites: NURS 1020, 1023; Corequisite or prerequisite: PSYC 2030) Lecture 1 hour per week

NURS 1063 - Pharmacology III (1 Credit)

This course focuses on the role of the professional nurse in the administration of drugs used in the management of patients with complex multisystem health problems across the lifespan. (Prerequisites: NURS 1020, 1023, 1062; PSYC 2030; Corequisites: NURS 2040, 2050) Lecture: 1 hour per week

NURS 2040 - Medical-Surgical Nursing II (5 Credits)

This intermediate-level medical/surgical course will expand on concepts presented in prior courses, with an emphasis on application of professional nursing judgment to care for patients with complex acute medical/surgical conditions. Students will learn to prioritize and manage evidence-based care for 1–2 patients. (Prerequisites: NURS 1020, 1023, 1062; PSYC 2030; Corequisites: NURS 1063, 2050) Lecture: 6 hours per week, Clinical: 12 hours per week over 7.5 weeks

NURS 2050 - Maternal-Child Health (6 Credits)

Building on concepts learned in previous courses, the emphasis of this course is on utilizing evidence-based nursing judgment to assist the new family in achieving optimal levels of health during the childbearing and childrearing years in a variety of clinical settings. (Prerequisites: NURS 1020, 1023, 1062; PSYC 2030; Corequisites: NURS 1063, 2040) Lecture 8 hours per week, Clinical 12 hours per week over 7.5 weeks

NURS 2060 - Medical-Surgical Nursing III (6 Credits)

This advanced-level medical/surgical course builds on and emphasizes analysis and synthesis of theory from prior nursing courses. Students will learn to apply professional nursing judgment to the care of patients with emergent and/or multisystem health problems. An emphasis is placed on managing care and collaborating with an interprofessional team for multiple patient assignments. (Prerequisites: NURS 1063, 2040, 2050; Corequisite: NURS 2500; Corequisite or prerequisite: BIOL 2210) Lecture: 8 hours per week, Clinical 12 hours per week over 7.5 weeks

NURS 2500 - Capstone Course (3 Credits)

In this course, students will synthesize acquired knowledge and have the opportunity to apply that knowledge in a clinical immersion experience. Students will examine and apply an understanding of professional nursing standards, ethical problem-solving, evidence-based practice, and a commitment to lifelong learning. The clinical experience will provide opportunities for teamwork and collaboration in managing care for groups of patients, develop

leadership skills, and participate in quality improvement activities. (Prerequisites: Successful completion of all nursing course prerequisites and nursing courses.) Lecture: 1 hour per week, Clinical: 12 hours per week over 7.5 weeks

OCEN (OCEANOGRAPHY)**OCEN 1010 - Introduction to Oceanography (3 Credits)**

This course is a study of the marine environment describing principles of physical, chemical, biological and geological oceanography. Topics include the origin of oceans; the composition and history of seawater; oceanic currents, tides, waves and beaches; the sea floor; plant and animal life in the sea; oceanic resources and food; and marine pollution. Note: Completion of both OCEN 1010 and OCEN 1030 will satisfy one laboratory science requirement in the Liberal Arts and General Studies programs. Lecture: 3 hours

OCEN 1020 - Applied Oceanography (3 Credits)

This course covers ocean resources; minerals and fossil fuels and marine mining; offshore petroleum exploration, operation and development; and alternative energy resources from the oceans. It also explores geological and geophysical techniques including satellite observation and remote sensing of the oceans; subsurface and aerial maps and photos; and hydrographic charts and geochemical techniques of ascertaining the quality of sea water. Oceanic problems on national, state and local levels are examined at greater depth. Narragansett Bay is used as the case study. Lecture: 3 hours

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

OCEN 1030 - Oceanography Laboratory (1 Credit)

This lab course emphasizes topics covered in OCEN 1010 (Introduction to Oceanography) such as ocean life, sediments, salinity, currents and plate tectonics. It allows a more hands-on approach to learning. *Note: Completion of both OCEN 1010 AND OCEN 1030 will satisfy one laboratory science requirement in the Liberal Arts and General Studies programs. Lab: 2 hours*

OCTA (OCCUPATIONAL THERAPY ASSISTANT)**OCTA 1000 - Introduction to Occupational Therapy (2 Credits)**

This course provides an overview of occupational therapy that includes the history, philosophy and theoretical foundations of the profession, as well as current issues in the field. Topics include treatment models; factors contributing to health, wellness and dysfunction; and the impact of multicultural factors in treatment. The relationship of the certified occupational therapy assistant to other health professionals is explored. Professional standards and ethics are addressed, including state regulations, credentialing requirements and membership in professional organizations. *Lecture: 2 hours (2.5 hours in summer session due to condensed time frame)*

OCTA 1010 - Fundamentals of Treatment I (4 Credits)

The student will study and practice the administration of standardized evaluation procedures and nonstandardized tests used by occupational therapists to assess task performance. The student will learn to administer sensory evaluation, coordination testing and hand and pinch strength. The

student will learn how to collaborate with an OTR to utilize results from testing in the design and application of adaptive equipment, fabrication of splints, and therapeutic seating and positioning of the client. *(Corequisites: RHAB 1030 and OCTA 1070) Lecture: 3 hours, Lab: 3 hours*

OCTA 1030 - Fundamentals of Treatment II (4 Credits)

This course approaches the concept of activity analysis through the definition of occupational performance areas, task components and occupational challenges. Individual and group activities are analyzed and graded in the context of relevant occupational environments. *(Prerequisites: OCTA 1010 and 1070; RHAB 1030 and 1110; Corequisites: OCTA 1040, 1050, 1060 and 1080) Lecture: 3 hours, Lab: 3 hours*

OCTA 1040 - Gerontologic Occupational Therapy (3 Credits)

This course examines the aging process and offers an overview of medical conditions and precautions associated with treatment of the elderly client. Treatment strategies are practiced in the laboratory setting. *(Prerequisites: OCTA 1010 and 1070; RHAB 1030 and 1110; Corequisites: OCTA 1030, 1050, 1060 and 1080) Lecture: 2 hours, Lab: 2.5 hours*

OCTA 1050 - Pediatric Occupational Therapy (4 Credits)

This course examines the physical and social needs of the growing child and explores their impact on the learning and adaptation processes that accompany the development of performance skills. It includes an overview of diseases and disabilities that may affect children seen in early intervention, school-based, outpatient and hospital settings. This course includes theory and practice relating to

these populations. *(Prerequisites: OCTA 1010 and 1070; RHAB 1030 and 1110; Corequisites: OCTA 1030, 1040, 1060 and 1080) Lecture: 3 hours, Lab: 3 hours*

OCTA 1060 - Level I Fieldwork (1 Credit)

The student will participate in a minimum of 35 hours of clinical observation and selected practice of occupational therapy skills and processes. Each student will complete observation at two clinical sites. Emphasis is on experiential learning and development of clinical reasoning skills as well as the development of professional behaviors. *(Prerequisites: OCTA 1010 and 1070; RHAB 1030 and 1110; Corequisites: OCTA 1030, 1040, 1050 and 1080) Clinical: 35 hours*

OCTA 1070 - Tests and Measurements for Occupational Therapy Assistants (2 Credits)

This course focuses on the methodology for range of motion measurement and manual muscle testing. Emphasis is placed on the study of the upper extremities. *(Prerequisite: RHAB 1110; Corequisites: OCTA 1010; RHAB 1030) Lecture: 1 hour, Lab: 2 hours*

OCTA 1080 - Therapeutic Activity Group Skills (2 Credits)

Therapeutic activity groups are frequently used in physical rehabilitation facilities, nursing homes, mental health programs and wellness programs. This course provides students with an opportunity to explore the use of group activity for therapeutic effect. There is an emphasis on occupational therapy framework and theory in designing groups. *(Prerequisites: RHAB 1030 and 1110; OCTA 1010 and 1070; Corequisites: OCTA 1030, 1040, 1050 and 1060) Lecture: 1 hour, Lab: 1 hour*

OCTA 2010 - Psychosocial Occupational Therapy (4 Credits)

This course reviews psychiatric disorders and the interdisciplinary approach to the treatment of conditions commonly exhibited in clients referred to occupational therapy in a mental health setting. Topics of discussion include clinical description and etiology of mental health diagnoses; use of the clinical team; legal issues; nomenclature; and alternatives to hospitalization, including outpatient programs, supervised living apartments, group homes and case management. Use of therapeutic groups and 1:1 interventions and treatment are practiced in lab. *(Prerequisites: OCTA 1010, 1030, 1040, 1050, 1060, 1070 and 1080; RHAB 1030 and 1110; Corequisite: OCTA 2020) Lecture: 3 hours, Lab: 3 hours*

OCTA 2020 - Physical Rehabilitation and Health (4 Credits)

This course teaches techniques for management of physical dysfunction cases typically referred to occupational therapy. Topics include screening, evaluation, treatment planning and implementation, interventions, and prevention techniques as utilized by occupational therapy assistants in a variety of clinical settings. Supervision concepts and reimbursement systems are discussed. Therapeutic intervention and treatment modalities are practiced in the laboratory setting. *(Prerequisites: OCTA 1010, 1030, 1040, 1050, 1060, 1070 and 1080; RHAB 1030 and 1110; Corequisite: OCTA 2010) Lecture: 3 hours, Lab: 3 hours*

OCTA 2030 - Occupational Therapy Assistant Fieldwork II A (4 Credits)

This course is an eight-week placement in a clinical site. Under the supervision of licensed occupational therapists, students apply clinical reasoning skills which they have learned in the Occupational Therapy

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

Assistant program to individuals and groups. This fulfills one-half of the requirement for level II fieldwork as required for graduation from the Occupational Therapy Assistant program and meets the accreditation standards set by the Accreditation Council for Occupational Therapy Education. (*Prerequisites: OCTA 1010, 1030, 1040, 1050, 1060, 1070, 1080, 2010 and 2020; RHAB 1030 and 1110; Corequisites: OCTA 2035 and 2040*) *Fieldwork: 35 hours per week*

OCTA 2035 - Occupational Therapy Assistant Fieldwork II B (4 Credits)

This course is an eight-week placement in a clinical site. Under the supervision of licensed occupational therapists, students apply clinical reasoning skills which they have learned in the Occupational Therapy Assistant program to individuals and groups. This fulfills one-half of the requirement for level II fieldwork as required for graduation from the Occupational Therapy Assistant program and meets the accreditation standards set by the Accreditation Council for Occupational Therapy Education. (*Prerequisites: OCTA 1010, 1030, 1040, 1050, 1060, 1070, 1080, 2010 and 2020; RHAB 1030 and 1110; Corequisites: OCTA 2030 and 2040*) *Fieldwork: 35 hours per week*

OCTA 2040 - Occupational Therapy Assistant Fieldwork Seminar (2 Credits)

This course consists of lecture, demonstration, group discussion, student presentation and fieldwork assignments that are designed to assist students with transitioning from the classroom to the clinic setting. It allows students to share their fieldwork experiences with peers, expanding the knowledge base that each student will take into employment. This class meets every other week during the semester. (*Prerequisites: OCTA 1010,*

1030, 1040, 1050, 1060, 1070, 1080, 2010 and 2020; RHAB 1030 and 1110; Corequisites: OCTA 2030 and 2035) *Lecture: 2 hours*

OFTD (ADMINISTRATIVE OFFICE TECHNOLOGY)

OFTD 1105 - Essential Note-Taking Skills (1 Credit)

Note taking is a one-semester course designed to improve writing speed; teach how to take fast and accurate notes at meetings, on the phone, and/or at school; and enhance the student's professional productivity and academic success. It is an efficient, rapid writing skill designed to capture key points from spoken word or written text. *Lecture: 1 hour*

OFTD 1120 - Microcomputer Keyboarding (3 Credits)

This course is designed for business use. It emphasizes proficiency in touch-typing keyboard mastery, proper typing techniques and the development of speed and accuracy. It also provides practice in applying these skills to document formatting such as centering and business letters. Individualized instruction units are given throughout the course. A minimum typing speed of 15 words per minute is required to pass this course. *Lecture: 4 hours, Lab: 1 hour*

OFTD 1130 - Editing Skills for Office Communications I (2 Credits)

This course emphasizes the elements of style applied in written business communications. It is for the student who is developing editing skills in order to transcribe accurately. There is particular concentration on spelling, proofreading, word division, capitalization, expression of numbers and abbreviations in dictated material. *Lecture: 2 hours*

OFTD 1140 - Office Technology and Procedures I (3 Credits)

This course is designed to provide students with a basic background in the rapidly expanding applications of office technology, including an introduction to telework, telecommunications, Web research, online projects, PowerPoint presentations and Outlook. In addition, students develop their communication skills and learn about proper business attitudes with an emphasis on developing soft skills (people skills), critical thinking and problem-solving skills. *Lecture: 3 hours*

OFTD 1160 - Basic Keyboarding Mastery (2 Credits)

This course is designed for the personal development of keyboarding skill. It is intended for the beginning student and those who have had a minimum of keyboarding instruction. The major objectives are to develop touch control of the keyboard and proper typing techniques, build basic speed and accuracy skills and provide practice in applying these beginning skills to basic document formatting. *Lecture: 2 hours, Lab: 1 hour*

OFTD 1170 - Office Transcription I (2 Credits)

This course develops entry-level proficiency in transcribing dictation to final copy. It is designed to refine and integrate office skills and applications. Emphasis is on the application of language arts skills in the production of written communications. (*Prerequisites: OFTD 1120 and 1130*) *Lecture: 2 hours, Lab: 1 hour*

OFTD 1180 - Speech Recognition Software Applications I (1 Credit)

This course assists students in increasing their computer-use productivity. Topics include enunciation, correcting speech errors and navigating and formatting documents. Students should be able to attain speeds of about 130 wpm or more with 95 to 98 percent accuracy. *Lecture: 1 hour*

OFTD 1190 - Speech Recognition Software Applications II (1 Credit)

The purpose of this course is to gain further expertise in the creation of voice-typed documents by building on the skills attained in OFTD 1180. In addition, students are trained in the use of career-specific terminology and applications. (*Prerequisite: OFTD 1180*) *Lecture: 1 hour*

OFTD 1220 - Microsoft Office Applications I (4 Credits)

This course further refines students' keyboarding speed and accuracy. In addition, the beginning and intermediate levels of MS Word skills are covered. The keyboarding speed needed to pass this course is 25 to 50 wpm. (*Prerequisite: OFTD 1120*) *Lecture: 4 hours, Lab: 1 hour*

OFTD 1250 - Office Accounting (2 Credits)

This course develops the office worker's understanding of the basic procedures used in keeping a set of accounting records in a service business. Basic accounting principles are covered along with their implementation in an electronic office system. *Lecture: 2 hours, Lab: 1 hour*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

OFTD 1280 - Editing Skills for Office Communications II (3 Credits)

This course continues with the mechanics of the transcription process in business correspondence. It includes sentence structure as a foundation for an intense study of punctuation rules required for business communication. Students are trained to consult a reference manual for variations in usage. *Lecture: 3 hours*

OFTD 1370 - Business File Management (2 Credits)

This course provides a foundation in business information maintenance. It covers life cycle concepts of document control, creation, filing, storage and retrieval procedures using a manual method and introduces electronic filing. Students also are introduced to the basics of Access and Excel. *Lecture: 2 hours*

OFTD 1380 - Customer Service Essentials (5 Credits)

This course will equip students with the knowledge and skills that will enable them to be a successful and proactive part of a customer service team. It focuses on strategies for effective customer service, troubleshooting skills, call-handling procedures, call center metrics, incident management, communications skills and call center processes. This course prepares students to take the HDI Customer Service Representative certification exam. *Lecture: 5 hours*

OPTI (OPTICIANRY)**OPTI 1010 - Optical Theory I (3 Credits)**

This course examines the nature of light and details the behavior of light when it encounters various refractive surfaces. In addition, the course examines lens power, indices and prisms. This course establishes the foundation for advanced ophthalmic applications. (Corequisites: OPTI 1020, 1030 and 1040) *Lecture: 3 hours*

OPTI 1020 - Ophthalmic Laboratory I (3 Credits)

This course introduces students to terms, instruments, calculations, lenses, frames, materials and processes to be used in the surfacing and finishing of ophthalmic prescription eyewear. (Corequisites: OPTI 1010, 1030 and 1040) *Lecture: 2 hours, Lab: 1 hour*

OPTI 1030 - Ophthalmic Dispensing I (3 Credits)

This course introduces students to opticianry and the procedures necessary for becoming a dispensing optician. Topics include the history of the profession, patient/client measurements, prescription analysis, ophthalmic frame and lens materials, and selection and adjustment techniques. (Corequisites: OPTI 1010, 1020 and 1040) *Lecture: 3 hours*

OPTI 1040 - Anatomy and Physiology of the Eye (3 Credits)

This course gives opticianry students an insight into the anatomical structure of the eye and its adnexa. Students learn the function of the parts of the eye as they relate to vision and fitting of contact lenses. Learners are presented with common pathologies of the eye and ocular pharmacology. (Corequisites: OPTI 1010, 1020 and 1030) *Lecture: 3 hours*

OPTI 1050 - Optical Theory II (3 Credits)

This course is taken subsequent to OPTI 1010: Optical Theory I. It continues the study of optical theory. Topics include prism notation and vertical imbalance. It also presents methods of correction such as vertex power, illuminance, reflection and absorption, diffraction, third order aberrations, lens tilt, anisometropia and spectacle magnification. (Prerequisites: OPTI 1010, 1020, 1030 and 1040; Corequisites: OPTI 1060, 1070 and 1080) *Lecture: 3 hours*

OPTI 1060 - Ophthalmic Laboratory II (3 Credits)

This course continues the study of prescription eyewear fabrication processes. Students learn to calibrate and maintain equipment, layout and edge multi-focal lenses, tint and coat lenses, perform advanced neutralization of lenses for verification or duplication purposes. Instruction is provided in techniques for special surfacing processes such as bicentric grinding and prism thinning. (Prerequisites: OPTI 1010, 1020, 1030 and 1040; Corequisites: OPTI 1050, 1070 and 1080) *Lecture: 2 hours, Lab: 1 hour*

OPTI 1070 - Ophthalmic Dispensing II (3 Credits)

This course continues an examination of lens materials, types and fitting with a particular focus on multi-focals, progressive addition lenses, absorptive lenses and special lens designs. Focus is on understanding and using ophthalmic instruments and devices to take patient measurements, read prescriptions and perform frame adjustments. Governing agencies of the optical profession and legal and ethical issues are introduced. (Prerequisites: OPTI 1010, 1020, 1030 and 1040; Corequisites: OPTI 1050, 1060 and 1080) *Lecture: 3 hours*

OPTI 1080 - Ophthalmic Dispensing Clinical I (3 Credits)

This course is part of a three-semester dispensing laboratory. During the three semesters, the students should learn and demonstrate competencies from the competency lists. By the end of the three experiences, students must demonstrate all listed competencies. Students may be required to demonstrate some competencies in more than one course. (Prerequisites: OPTI 1010, 1020, 1030 and 1040; Corequisites: OPTI 1050, 1060 and 1070) *Clinical: 90 hours*

OPTI 2010 - Ophthalmic Dispensing Clinical II (3 Credits)

This course is part of a three-semester dispensing laboratory. During the three semesters, students should learn and demonstrate competencies from the competency lists. By the end of the three experiences, students must demonstrate all listed competencies. Students may be required to demonstrate some competencies in more than one course. (Prerequisites: OPTI 1080 and 2020; Corequisites: OPTI 2040 and 2060) *Clinical: 90 hours*

OPTI 2020 - Ophthalmic Laboratory Skills I (3 Credits)

This course is the skills component of OPTI 1020: Ophthalmic Laboratory I. Students will develop competencies in performing clinical laboratory skills at the introductory level under the direction and supervision of the faculty. Emphasis is placed on accuracy and attaining skills that meet an acceptable professional level. (Prerequisites: OPTI 1010, 1020, 1030, 1040, 1050, 1060, 1070 and 1080) *Lecture: 2 hours, Lab: 2 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

OPTI 2030 - Optical Business Management (3 Credits)

This course presents basic management and leadership skills necessary for a successful eye care office. The course teaches analysis, creative thinking, judgment, planning strategy and implementation skills necessary for optical business challenges. (*Prerequisites: OPTI 2010, 2020 and 2040; Corequisites: OPTI 2050 and 2070*) *Lecture: 3 hours*

OPTI 2040 - Introduction to Contact Lenses (3 Credits)

This course includes a historical review of contact lenses as well as theory, design and optical principles. Indications and contraindications for contact lenses wear, patient evaluation, lens types and availability and fundamental techniques and fitting philosophies are covered. The uses of the biomicroscope, keratometer and radioscope are presented as well as patient education on care, cleaning, insertion and removal of contact lenses. (*Prerequisite: OPTI 2020; Corequisites: OPTI 2010 and 2060*) *Lecture: 3 hours*

OPTI 2050 - Ophthalmic Dispensing Clinical III (3 Credits)

This course is part of a three-semester dispensing laboratory. During the three semesters, students should learn and demonstrate listed competencies. By the end of the three experiences, students must demonstrate all competencies listed. Students may be required to demonstrate some competencies in more than one course. (*Prerequisites: OPTI 2010, 2040 and 2060; Corequisites: OPTI 2030 and 2070*) *Clinical: 90 hours*

OPTI 2060 - Ophthalmic Laboratory Skills II (3 Credits)

This course is the skills component of OPTI 1060: Ophthalmic Laboratory II. Students will develop competencies in performing clinical laboratory skills at the advanced level under the direction and supervision of the faculty. Emphasis is placed on accuracy and attaining skills that meet an acceptable professional level. (*Prerequisite: OPTI 1010, 1020, 1030, 1040, 1050, 1060, 1070, 1080 and 2020*) *Lecture: 2 hours; Lab: 2 hours*

OPTI 2070 - Contact Lenses Clinical (3 Credits)

This course includes a historical review of contact lenses as well as theory, design and optical principles. Indications and contraindications for contact lens wear, patient evaluation, lens types and availability, and fundamental techniques and fitting philosophies are covered. The uses of the biomicroscope, keratometer and radioscope are presented as well as patient education on care, cleaning, insertion and removal of contact lenses. (*Prerequisites: OPTI 2010, 2020 and 2060; Corequisites: OPTI 2030 and 2050*) *Clinical: 90 hours*

PHED (PHYSICAL EDUCATION)**PHED 1110 - Introduction to Tennis and Badminton (1 Credit)**

This course covers the basic skills of tennis and badminton, including the rules, strategy and etiquette of these games.

PHED 1210 - Team Sports (1 Credit)

This course introduces students to the basic skills for team-oriented sports, including the rules and strategy of the games. Special emphasis is placed on the enjoyment of these team sport activities in a recreational environment.

PHED 1400 - Swimming I - Primary Skills (1 Credit)

This course focuses on helping students feel comfortable in the water so they can enjoy the water safely. *For students who have little or no experience.*

PHED 1410 - Swimming II - Stroke Development (1 Credit)

This course is designed for those who have experience in the water and would like to work on development of the key strokes. Additional water safety skills are presented. (*Prerequisite: Swimming I or permission of instructor*)

PHED 1420 - Swimming III - Fitness Swimming (1 Credit)

This course will assist efficient swimmers (passed Swimming II) in developing a swimming fitness program or in adapting the life skill of swimming into their current personal fitness program. (*Prerequisite: Swimming II or permission of instructor*)

PHED 1430 - Water Safety Instructor (3 Credits)

This course will teach American Red Cross candidates how to teach the infant and pre-school aquatics program and the seven levels of the Learn-to-Swim Program. (*Prerequisite: Permission of instructor*)

PHED 1440 - Lifeguard Training (2 Credits)

This course is designed to teach lifeguards the skills and knowledge needed to prevent and respond to aquatic emergencies. Lifesaving materials of the American Red Cross are included to meet requirements for the state of Rhode Island.

PHED 1450 - Lifeguard Training Review (1 Credit)

This course will allow currently certified lifeguards to renew their certifications without taking the entire course.

PHED 1460 - Introduction to Aquatics/Aquatic Sports (1 Credit)

The purpose of this course is to introduce individuals to the concepts and principles of aquatics/aquatic sports with special focus on rules and regulations of water sports and staffing considerations. Equipment and rules of water polo, water basketball and water volleyball are discussed.

PHED 1610 - Essentials of Physical Fitness (3 Credits)

This course focuses on the components of physical fitness. Lectures focus on nutrition, cardiorespiratory endurance, muscular strength, muscular endurance and flexibility. Students will be active participants in the development of individualized fitness programs.

PHED 1620 - Advanced Physical Fitness and Wellness (3 Credits)

A continuation of PHED 1610, this course provides more comprehensive and advanced techniques of fitness. Emphasis is placed upon personal responsibility for lifestyle changes to foster wellness. (*Prerequisite: PHED 1610*)

PHED 1630 - Weight Training and Sports Conditioning I (2 Credits)

This introductory course provides a foundation of knowledge, skills and techniques in resistance training as well as an opportunity for the creation of an individualized training program.

PHED 1645 - Kettles and Ropes (2 Credits)

This course incorporates kettlebell, suspension bodyweight training and rope wave velocity training in an overall cardiorespiratory and strength training program. Students will be responsible for creating a training program to meet their functional strength, endurance and cardiorespiratory needs. *Lecture: 1 hour, Lab: 2 hours*

PHED 1665 - Advanced Weight Training (3 Credits)

This course provides an opportunity for the development and achievement of performance goals attained by the application of advanced lifting techniques. Olympic lifts, functional fitness, agility training and sprinting are incorporated into the training plan. *Lecture: 2 hours, Lab: 2 hours*

PHED 1670 - Athletic Performance Enhancement (3 Credits)

The purpose of this course is to introduce basic psychological concepts and principles with special reference to motor performance, learning motor skills, perception and emotion in sport situations. The study of numerous psychological parameters pertinent to the prospective athletic coach, teacher, parent and student-athlete are investigated.

PHED 1700 - Prevention and Care of Athletic Injuries (3 Credits)

This course will introduce techniques for conditioning, taping and bandaging as they relate to the prevention and care of athletic injuries. *Lecture: 2 hours, Lab: 1 hour*

PHED 1720 - Real Coaching (3 Credits)

Designed for teachers who coach, coaches who teach and others who lead sports, this course provides an analysis of the operational, managerial, physiological, social, ethical and moral aspects of coaching. Those currently coaching or with aspirations of coaching at the secondary level or inter-collegiate level will find this course particularly useful. *Lecture: 3 hours*

PHED 1730 - Sport and Recreation Operations (3 Credits)

This course is designed to introduce students to the broad range of administrative responsibilities involved in conducting sports and recreation programs. Those with aspirations of pursuing a career in sport administration should find this course particularly useful. *Lecture: 3 hours*

PHIL (PHILOSOPHY)**PHIL 1010 - Introduction to Philosophy (3 Credits)**

This course is a systemic study of basic philosophical questions, including: Is there a God? How is knowledge acquired? Does life have meaning? These questions are examined by reading major Western philosophers such as Plato, Aristotle, Descartes and others. Students learn and practice several critical reasoning skills applicable to academic, professional and personal areas of life. *Lecture: 3 hours*

PHIL 2020 - Philosophy of Religion (3 Credits)

A systemic study of basic issues in the philosophy of religion, this course covers the concepts of God, traditional arguments for the existence of God, the problem of evil, mysticism and philosophical atheism.

Students engage in theoretical discussions, develop critical reasoning skills and gain practical insight into their personal philosophy of religion. *Lecture: 3 hours*

PHIL 2030 - Ethics (3 Credits)

This course is a critical analysis of main theories of moral conduct. In the areas of personal and social morality (e.g., citizenship, employment, student life, family life, etc.), some major moral problems are discussed such as capital punishment, abortion, race relations, social justice, war, sex and marriage, and ecology. When student curriculum needs in a given program, such as Law Enforcement, Nursing, etc., require a special focus, the instructor can provide special assignments to meet those needs. *Note: Meets ethics requirement. Lecture: 3 hours*

PHIL 2040 - Logic (3 Credits)

This course studies the basic principles of correct thinking in semantics and in deductive and inductive reasoning. It introduces beginning students to the logical techniques of thought and argument. Exercises incorporate various current issues and topics. Clear and adequate thinking is the goal of the course. *Lecture: 3 hours*

PHLE (PHLEBOTOMY)**PHLE 1010 - Phlebotomy I (6 Credits)**

This course presents the theory and practice of phlebotomy, that includes such topics as: phlebotomists in health care delivery systems; medical terminology; infection control and safety; anatomy and physiology of body systems; collection equipment, reagents and interfering factors in blood collection; venipuncture and capillary puncture blood

collection procedures and requisitioning. Laboratory experiences include venipuncture practice by vacutainer, syringe and winged collection set on adult and pediatric training arms. Skin puncture collection procedures using a variety of lancets are performed. *Lecture: 5 hours, Lab: 2 hours*

PHLE 1020 - Phlebotomy II (6 Credits)

This course includes collection and handling of nonblood specimens, quality assurance, specimen handling, specimen processing, communications techniques, legal issues, professionalism and arterial puncture. A review of CLSI Standards for skin puncture and venipuncture is included. In the college laboratory, students perform specimen processing, blood smear preparation, blood culture collection, skin puncture and venipuncture collection. Students spend a total of 160 hours of clinical training in phlebotomy techniques at an affiliated site. *Note: Students must be available to train weekdays (8 hrs x 5 days per week) for four (4) consecutive weeks. (Prerequisite: PHLE 1010 with grade of C or better) Lecture: 5 hours, Lab: 2 hours, Clinical: 160 hours*

PHTA (PHYSICAL THERAPIST ASSISTANT)**PHTA 1000 - Introduction to the Physical Therapist Assistant (2 Credits)**

This course is open to students who are considering admission into the Physical Therapist Assistant program. An overview of the field of physical therapy and the roles of the physical therapist and physical therapist assistant within the health care delivery system are presented. Topics such as licensure, reimbursement, education, employment opportunities and professional organizations

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

are covered. Ethical issues facing health care workers, the Code of Ethics for the Physical Therapist Assistant and the attitudes of health care workers toward illness and injury are discussed. *Lecture: 2 hours*

PHTA 1010 - Physical Therapist Assistant I (6 Credits)

This course will introduce the student to fundamentals of patient care procedures including body mechanics, bed and chair positioning, bed mobility, transfers, aseptic procedures, burn and wound care, edema assessment and management, vital signs and their relationship to treatment programs; measurement of assistive devices and ambulation training, wheelchair mobility and measurement, and introduction to basic principles of therapeutic exercise. Guidelines for documentation of physical therapy treatment will be introduced. *Lecture: 4 hours, Lab: 4 hours*

PHTA 1020 - Physical Therapist Assistant II (4 Credits)

This course includes an introduction to physical agents and modalities used for pain relief and improvement of tissue healing and function. Techniques presented will include massage, mechanical traction and thermo-, hydro-, photo- and electro-therapies and modalities. These techniques are taught as they relate to practice in a problem-solving, case study format. Students learn to document treatment parameters and patient responses to treatment. *(Prerequisites: RHAB 1110; PHTA 1010 and 1120) Lecture: 2 hours, Lab: 5 hours*

PHTA 1120 - Tests and Measurements for Physical Therapist Assistants (2 Credits)

This course instructs PTA students in testing and measurement techniques, specifically manual muscle testing and goniometry for the head, spine and extremities. *Lecture: 1 hour, Lab: 2 hours*

PHTA 1220 - Basic Therapeutic Exercise (1 Credit)

This is an optional course to instruct PTA students to correctly perform therapeutic exercises for musculoskeletal conditions of the upper extremity, lower extremity and trunk. This course prepares students to instruct and perform basic exercise in preparation for their first clinical experience. This course has five sessions that are three hours each. *(Prerequisite: RHAB 1110) Lecture/Lab: 3 hours*

PHTA 2010 - Physical Therapist Assistant III (7 Credits)

This course focuses on interventions for the pulmonary, cardiovascular and musculoskeletal systems with a broad overview of the other body systems. Lecture and laboratory presentations instruct cardiovascular training for risk assessment and rehabilitation; chest physical therapy procedures; therapeutic exercise, particularly as it pertains to orthopedic physical therapy and movement dysfunction; and the management of lower extremity prosthetics. This course runs the first 10 weeks of the semester. *(Prerequisites: RHAB 1030 and 1110; PHTA 1010, 1020 and 1120) Lecture: 9 hours, Lab: 6 hours*

PHTA 2020 - Physical Therapist Assistant IV (7 Credits)

This course includes the study of pathologies and physical therapy intervention for conditions of the central and peripheral nervous system. Treatment approaches such

as PNF, Bobath, Rood and Brunnstrom will be included. Emphasis will be on application of therapy in rehabilitation settings. Students also will have exposure to specialty areas of physical therapy practice such as geriatrics and pediatrics. This course runs for the first 10 weeks of the semester. *(Prerequisites: RHAB 1030 and 1110; PHTA 1010, 1020, 1120, 2010 and 2910) Lecture: 9 hours, Lab: 6 hours*

PHTA 2030 - Physical Therapy for Impaired Neuro Function (1 Credit)

This course is designed to support PHTA 2020 - Physical Therapist Assistant IV. This course reviews the structure and function of the nervous system and neuropathology as it affects structures of the nervous system. The course offers additional laboratory time for students to practice treatment interventions as they relate to abnormal movement and function caused by neuropathology. The course runs concurrently with PHTA 2020 and is scheduled at intervals that will help students with theoretical information and practical skills presented in PHTA 2020. *(Prerequisite: PHTA 2010; Corequisite: PHTA 2020) Lecture: 9 hours, Lab: 6 hours*

PHTA 2040 - Career Development Seminar (1 Credit)

This course is designed to support the students as they prepare for graduation, licensure and employment. Topics such as résumé development, interviewing skills, preparation for licensure, negotiation and professionalism will be presented. Appropriate resources for professionalism will be referenced, including the Rhode Island Rules and Regulations for Physical Therapists and Physical Therapist Assistants, Physical Therapy Code of Ethics and Professionalism in PT: Core Values document. *(Prerequisites: PHTA 2010 and 2920; Corequisites: PHTA 2020 and 2930) Lecture: 1 hour*

PHTA 2110 - Selected Topics in Physical Therapy (1 Credit)

This course is designed for PTAs or PTA students enrolled in the PTA program interested in maintaining and improving clinical skills utilizing various physical therapy treatment modalities such as pool therapy. *Lecture: 2 hours, Lab: 2 hours*

PHTA 2910 - Clinical Education I (3 Credits)

This course is the first of three full-time clinical experiences in the PTA program and runs for a period of six weeks during the summer semester. Students are assigned to clinical sites for 35 to 40 hours per week of supervised clinical practice. Students observe and assist with physical therapy treatment under direct supervision and guidance of physical therapists and physical therapist assistants. Students will participate in an online seminar in which relevant clinical issues will be discussed. *(Prerequisites: RHAB 1030 and 1110; PHTA 1010, 1020 and 1120) Lecture: 1 hour, Clinical: 240 hours*

PHTA 2920 - Clinical Education II (3 Credits)

This course is the second of three full-time clinical experiences in the PTA program, and runs for the last six weeks of the fall semester. Students are assigned to clinical sites for 35 to 40 hours per week of supervised clinical practice. Students will have the opportunity to grow more independent in performing physical therapy treatment under the supervision and guidance of physical therapists and physical therapist assistants. Participation in ancillary components of physical therapy practice will foster the development of a responsible professional identity. Students will participate in an online seminar in which relevant clinical issues will be discussed. *(Prerequisites: RHAB 1030 and 1110; PHTA 1010, 1020, 1120, 2010 and 2910) Lecture: 1 hour, Clinical: 240 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

PHTA 2930 - Clinical Education III (3 Credits)

This course is the final of three full-time clinical experiences in the PTA program, and runs for the last six weeks of the spring semester. Students are assigned to clinical sites for 35 to 40 hours per week of clinical practice under the supervision of a licensed physical therapist or physical therapist assistant. Students will be exposed to more complex patients and will be allowed to partake in fulfilling a broad array of practice responsibilities, with increasing degrees of independence. This clinical experience should maximize the integration of all aspects of practice and will render the student prepared to function as a responsible entry-level physical therapist assistant. Students will participate in an online seminar in which relevant clinical issues will be discussed. (Prerequisites: RHAB 1030 and 1110; PHTA 1010, 1020, 1120, 2010, 2020, 2910 and 2920) Clinical: 240 hours

PHYS (PHYSICS)**PHYS 1000 - Conceptual Physics/Physical Science (4 Credits)**

This course is for students not majoring in science. Physical principles are presented with emphasis on nonquantitative, practical applications of these concepts. Note: This course satisfies one semester of the Science requirement for the Associate in Arts degree. (Prerequisite: Basic knowledge of algebra) Lecture: 3 hours, Lab: 2 hours

PHYS 1030 - General Physics I (4 Credits)

Mechanics and heat are studied as the basic topics of this course. One lecture hour is used as a help session. (Prerequisite: High school algebra and trigonometry) Fall only. Lecture: 3 hours, Lab: 3 hours, Recitation: 1 hour

PHYS 1040 - General Physics II (4 Credits)

Sound, electricity and magnetism, light, atomic and nuclear theories and their applications are studied in this course. (Prerequisite: PHYS 1030 or equivalent) Spring only. Lecture: 3 hours, Lab: 3 hours, Recitation: 1 hour

PHYS 1050 - Physics for Technology I (4 Credits)

This course is for students in the Engineering Systems Technology and Computer Technology programs. Mechanics, sound, temperature and heat are studied. (Prerequisite: MATH 1710 or 1750) Fall only. Lecture: 3 hours, Lab: 3 hours

PHYS 1060 - Physics for Technology II (4 Credits)

This course is for students in the Electronic Engineering Systems Technology program. Electrical circuits, simple harmonic motion and selected topics in modern physics are studied. (Prerequisite: PHYS 1050) Lecture: 3 hours, Lab: 3 hours

PHYS 1070 - Introduction to Renewable Energy (3 Credits)

This course introduces renewable energy resources and their applied technologies. Students learn the physics of energy as well as the geology of energy. Topics covered include solar, geothermal, tidal and wave energy, as well as hydroelectric energy. (Prerequisite: MATH 0600) Spring only. Lecture: 2 hours, Lab: 2 hours

PHYS 1080 - Fundamentals of Optical Communications (4 Credits)

Course content includes the components of optical fiber systems, devices, integrated optics, light source and detectors, and complex and distribution networks. (Prerequisite: Basic knowledge of algebra and trigonometry; Some background in physics is helpful, but not required.) Lecture: 3 hours, Lab: 3 hours

PHYS 1100 - Engineering Physics (4 Credits)

This course is a study of the basic equations of mechanics, heat and thermodynamics. Note: It is usually taken by Engineering students in the second semester of the first year. (Prerequisite or corequisite: MATH 1910) Lecture: 3 hours, Lab: 3 hours, Recitation: 1 hour

PHYS 1110 - Radiographic Physics (4 Credits)

This course covers the fundamentals of electrical and radiation physics. Students gain an understanding of the basic principles underlying the operation of X-ray equipment and auxiliary devices. Note: Open only to students currently enrolled in the Radiography program. (Prerequisite: MATH 1700 or its equivalent) Spring only. Lecture: 3 hours, Lab: 2 hours

PHYS 1120 - Modern Technical Physics I (4 Credits)

This is an introductory physics course presenting the principles and laws of modern physics. Units studied include kinematics, dynamics, energy-work relationships and principles and laws of modern physics. Lecture: 3 hours, Lab: 2 hours

PHYS 1130 - Technical Physics (4 Credits)

This is an introductory physics course in which the fundamental principles of physics are presented. Units include dynamics,

energy-work relationships, wave behavior, electric and magnetic fields, and motor and generator principles. Lecture: 3 hours, Lab: 2 hours

PHYS 1140 - Newtonian Physics (4 Credits)

This is an introductory physics course presenting the principles of physics with special emphasis on the Newtonian physics. Fundamental laws of motion, kinematics, dynamics and energy are studied. Lecture: 3 hours, Lab: 2 hours

PHYS 1220 - Modern Technical Physics II (4 Credits)

This introductory physics course presents the principles and laws of electricity, circuits, solid state circuits, semi-conductors and automatic control systems. Lecture: 3 hours, Lab: 2 hours

PHYS 2110 - Topics in Acoustics, Optics and Thermodynamics (3 Credits)

This course deals in the fundamentals of acoustics and optical phenomena and introduces topics of thermodynamics, kinetic theory and wave motion. Calculus is used. Note: Usually taken by Engineering students in the first semester of the second year. (Prerequisite: PHYS 1100 or equivalent and MATH 1910 and 1920 or equivalent or instructor's permission) Spring only. Lecture: 3 hours

PHYS 2111 - Introduction to Acoustics and Optics Laboratory (1 Credit)

This course deals with laboratory experiments in simple harmonic motion sound waves, reflection and refraction of light, lenses, prisms, diffraction of light, holography and some fiber optic systems. (Prerequisite: PHYS 2110 or equivalent) Spring only. Lab: 3 hours

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

PHYS 2500 - Applications in Science and Math (1 Credit)

This capstone course is intended for students in their final semester of the Science program. It allows students an opportunity to demonstrate an integration of knowledge and abilities acquired in previous science and mathematics courses with the added intent of developing new insights. Students read selected articles, such as those that come from scientific journals in a variety of fields, and then have the opportunity to collaborate with their peers and hone writing, synthesis and presentational skills in a seminar setting. *(Prerequisite: Successful completion of a minimum of 21 general education credits and a minimum of 18 Science credits or permission of instructor) Spring only. Lecture: 2 hours*

PHYS 2820 - Modern Physics I (3 Credits)

This course offers an introduction to modern physics for Engineering students. Topics include kinetic theory, special relativity, wave and particle properties of matter and radiation, atomic structure and quantum mechanics. Integral and differential calculus, differential equations and vector analysis are used. *(Prerequisite: PHYS 2110 or equivalent or instructor's permission) Lecture: 3 hours*

PHYS 2830 - Modern Physics II (3 Credits)

Basic concepts and theories of solid state and nuclear physics are studied in this course. *(Prerequisite: PHYS 2820 or equivalent) Lecture: 3 hours*

POLS (POLITICAL SCIENCE)**POLS 1000 - Introduction to Government and Politics (3 Credits)**

An introduction to the field of political science, covering each area of the discipline, including comparative government and political systems, political economy, political ideology, international and global politics and methods of political analysis. Recommended as a first course for those pursuing further study in political science. Also recommended as a single course for those not taking other political science courses. *Lecture: 3 hours*

POLS 1010 - American National Government (4 Credits)

This course is a study of the American political system at the national level. It covers the structure of the U.S. government and its powers and limitations. It also covers policymaking, the governing and electoral processes, the roles of the people, the media, special interests and political parties. Areas of national concern such as economic and foreign policy and national security also are covered. *Lecture: 4 hours*

POLS 1030 - State and Local Government (formerly POLS 2030) (3 Credits)

This course is a study of politics and government at the state and local level, including governmental structures, powers and limitations and governing and electoral processes. Areas of state and local concern such as urban and regional planning, most of the legal system and everyday matters ranging from public works to education are covered. *Lecture: 3 hours*

POLS 2010 - International Relations (formerly POLS 1210) (3 Credits)

This course studies international and global politics. It includes study of diplomatic history, theoretical approaches, global political economy, international law and organization issues of war, peace and political stability. *(Recommended: POLS 1000 or 1010 or HIST 1020 prior to taking this course) Lecture: 3 hours*

POLS 2040 - American Political Parties and Politics (3 Credits)

This course studies political parties, politics and elections in the United States. It covers the political history of elections, voting patterns and party alignments, as well as the roles of special interests and the media in the electoral process. *(Recommended: POLS 1000 or 1010 or HIST 1210 or 1220 prior to taking this course) Lecture: 3 hours*

POLS 2045 - American Politics and Government - Critiques and Analysis (4 Credits)

This course is a critical and analytical study of the various theories which interpret the American political system, their historical applications and relationship to current policy areas. *(Prerequisite: POLS 1010) Lecture: 4 hours*

POLS 2110 Modern Political Ideologies (formerly POLS 1110) (3 Credits)

In this course, students study modern and contemporary political ideologies in terms of their development and applications. This course involves intensive reading and interpretation of original works. *(Recommended: POLS 1000 or 1010 or HIST 1020 prior to this course) Lecture: 3 hours*

PORT (PORTUGUESE)**PORT 1000 - Basic Spoken Portuguese I (3 Credits)**

This is an introductory elective course for beginners emphasizing correct pronunciation and basic vocabulary for practical use in everyday conversational situations and travel dialogues. Students with no previous study of the language are prepared to use and understand it within a limited context and basic structure. *Lecture: 3 hours*

PORT 1100 - Basic Spoken Portuguese II (3 Credits)

This course is a continuation of Basic Spoken Portuguese I (PORT 1000). *Lecture: 3 hours*

PORT 1010 - Elementary Portuguese I (3 Credits)

This course is for students with little or no preparation and covers elements of the language including conversation, pronunciation, reading, writing and grammar. Aspects of Portuguese culture also are included. *Lecture: 5 hours*

PORT 1020 - Elementary Portuguese II (3 Credits)

This is a continuation of Elementary Portuguese I (PORT 1010). *(Prerequisite: PORT 1010, 1030 or its equivalent) Lecture: 5 hours*

PORT 1030 - Elementary Portuguese II (3 Credits)

Portuguese 1030 is a faster paced version of Portuguese 1010. This course is suitable for students with previous experience (e.g., Basic Spoken Portuguese and/or other prior formal study of the language, prior formal study of another foreign language or

informal experience with a foreign language). The course covers elements of the language including conversation, pronunciation, reading, writing and grammar. Aspects of Portuguese-speaking cultures also are included. *Note: Course content is the same as Portuguese 1010 with two fewer hours per week. (Prerequisite: Prior preparation as noted above or permission of instructor) Lecture: 3 hours*

PORT 1040 - Elementary Portuguese II (3 Credits)

This course is a continuation of Elementary Portuguese I (PORT 1030). *Note: Course content is the same as PORT 1020 with two fewer classroom hours per week. (Prerequisite: PORT 1010, 1030 or its equivalent) Lecture: 3 hours*

PORT 1510 - Conversational Portuguese I (3 Credits)

This course further develops students' fluency in speaking Portuguese. Oral practice includes active use of the language in short dialogues stressing basic communication and correct pronunciation. The reading of easy cultural texts also provides material for conversation and discussion. CDs are available for individual practice. *(Prerequisite: Two years of high school Portuguese or one year of college Portuguese or the equivalent) Lecture: 3 hours*

PORT 1520 - Conversational Portuguese II (3 Credits)

This is a continuation of Conversational Portuguese I (PORT 1510) that includes conversational practice, cultural readings and discussions. *(Prerequisite: PORT 1510 or the equivalent) Lecture: 3 hours*

PORT 1710 - Portuguese for Medical Service Personnel (3 Credits)

This course provides students an opportunity to master enough oral Portuguese to deal directly with Portuguese-speaking patients and family from hospital admission to through discharge. Day-to-day dramatic re-creations of hospital experiences from the points of view of both nurse and patient help students to improve proficiency in the use of spoken Portuguese. *Note: Elective credit for students in Nursing and Allied Health fields. Lecture: 3 hours*

PORT 2010 - Intermediate Portuguese I (3 Credits)

This course helps students develop skill in reading and discussing Portuguese texts related to culture and literature. Course-work is supplemented by further work in grammar, conversation and composition. *(Prerequisite: PORT 1020, 1040 or equivalent) Lecture: 3 hours*

PORT 2020 - Intermediate Portuguese II (3 Credits)

This course is a continuation of Intermediate Portuguese I (PORT 2010). *(Prerequisite: PORT 2010 or its equivalent) Lecture: 3 hours*

PSYC (PSYCHOLOGY)

PSYC 1030 - Psychology of Personal Adjustment (3 Credits)

This basic course provides insight into the general problem of normal adjustment. Consideration is given to the role of personality and the influence of one's environment, both physical and psychosocial. A practical approach is used to provide the student with greater self-understanding and greater awareness of the psychosocial factors in the community. *Lecture: 3 hours*

PSYC 1050 - Psychology in the Workplace (3 Credits)

This course is for individuals who may eventually become supervisors in their professions. The material covers psychological problems and how people adjust to them in the working environments of the business world. *Lecture: 3 hours*

PSYC 1070 - Psychology of Women (3 Credits)

This course focuses on how a woman's role changes during her adult years. Concerns of women who are involved in career and lifestyle decisions are identified. Topics related to these concerns and ways to resolve them include role conflicts, role "overload," role discontinuity, achievement expectations, myths about women workers and midlife career changes. *Lecture: 3 hours*

PSYC 1110 - Career Information Seminar (2 Credits)

This course assists individuals in formulating career goals and in understanding vocational development. Theories of career choice are applied to the exploration of different occupations and college majors. Students learn to develop a specific plan of action, including interview techniques and construction of résumés to apply for a position. *Lecture: 2 hours*

PSYC 1970 - Human Relations Seminar and Application (3 Credits)

This course involves an exploration into the human condition including the process of communication and response; the art of helping; choice and the decision process; the limitations set by individual uniqueness; and the acceptance of self and of others. Emphasis also is placed on the role of the value system

and problems that arise out of value conflicts. Practical application of the human relation theories are explored through student participation in group exercises and role-playing. *Lecture: 3 hours*

PSYC 2010 - General Psychology (4 Credits)

This course is a survey of the core areas of scientific psychology. Emphasis is placed on the theories, methods and findings concerning biopsychology, sensation-perception, consciousness, development, learning and memory, motivation and emotion, thinking and intelligence, social behavior, personality, health psychology, and behavior disorders. Contemporary controversial issues are also addressed and critically examined. *Lecture: 4 hours*

PSYC 2020 - Social Psychology (3 Credits)

The emphasis of this course is the experimental approach to the study of social influence. The behavior of individuals in relation to their social-cultural environment is considered in light of special topics such as conformity, attitudes, aggression, cognitive organization, group dynamics, prejudice and interpersonal attraction. *(Prerequisite: PSYC 2010) Lecture: 3 hours*

PSYC 2030 - Developmental Psychology (3 Credits)

This course offers students an understanding of the significant dynamics of human development, with emphasis on the normal rather than abnormal. Levels or stages of development covered include prenatal, infancy, childhood, adolescence, adulthood and old age. The earlier, more formative years receive special consideration because of their importance to later development. *(Prerequisite: PSYC 2010) Lecture: 3 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

PSYC 2040 - Psychology of Adult Development and Aging (3 Credits)

This course is an intensive study of human growth and development in the adult years. Topics include adult personality, as affected by both continuity and changes; mental and physical performance of adults; participation in social roles such as spouse, parent, worker and retiree; physiological aspects of aging and recent research in gerontology. *Note: This course is of benefit to those who plan to work with adults in social service occupations, as well as those who are just going through the phases of adulthood themselves. (Prerequisite: PSYC 2010) Lecture: 3 hours*

PSYC 2050 - Behavior Modification (3 Credits)

This course reviews, in detail, basic research and data on learning, focusing primarily on operant and classical conditioning. Basic principles and theories of behavior modification are emphasized, including reinforcement, punishment and methods of collecting data in both laboratory and natural settings. Students are required to design and conduct a behavioral change project under the supervision of the instructor. *(Prerequisite: PSYC 2010) Lecture: 3 hours, Lab: As required*

PSYC 2070 - Educational Psychology (3 Credits)

This course deals with the application of psychological principles to preschool, elementary, special needs and secondary level classroom situations. Focus is on four topics essential to effective teaching: human development, learning and instruction, motivation and evaluation. *Lecture: 3 hours*

PSYC 2080 - Psychology of Death, Dying and Bereavement (3 Credits)

This course deals with the significant loss of someone through death. Topics covered include death and the process of dying, the

role of the helping professions, family and the dying child, suicide, society's response to death and dying, grief and bereavement. The course incorporates readings, lectures, films, guest speakers, structural class exercises and field trips. Projects lead students beyond the readings to further research and independent study. *Lecture: 3 hours*

PSYC 2090 - Adolescent Psychology (3 Credits)

This is an in-depth study of the adolescent period, including significant theories of physical, cognitive and psychosocial development. The course surveys past and present sociocultural, economic and educational issues affecting the behavior of individuals from puberty into adulthood. *(Prerequisites: PSYC 2010 and 2030) Lecture: 3 hours*

PSYC 2100 - Theories of Personality (3 Credits)

This course provides a detailed review and formal representation of the major theories of personality. The role of personality theory in the development of psychology, along with the location of the major viewpoints in the contemporary scene, is emphasized. *(Prerequisite: PSYC 2010) Lecture: 3 hours*

PSYC 2110 - Abnormal Psychology (3 Credits)

This course examines a wide range of psychological and behavioral problems including theories of their causation. Emphasis is placed on evidence and problems in connection with theories of treatment ranging from Freudian analysis to learning theory. *(Prerequisite: PSYC 2010) Lecture: 3 hours*

PSYC 2120 - Foundations of Psychological Research (3 Credits)

This course surveys the basic principles of scientific inquiry followed by an intensive development of the techniques involved

in conducting and reporting behavioral research. Methods of experimental control and design, use of descriptive statistics and the appropriate form and style of written research reports are covered. *(Prerequisite: PSYC 2010) Lecture: 3 hours*

RENL (RENAL DIALYSIS TECHNOLOGY)**RENL 1010 - Renal Dialysis Technology I (4 Credits)**

This course is designed to provide students with information concerning the principles of renal dialysis, the normal operation of dialysis equipment and the procedure for performance of renal dialysis. Emphasis is placed on the procedure for the performance of renal dialysis. Content includes the technical aspects of preparing, operating, monitoring and maintaining dialysis equipment. Attention is given to medications routinely used in renal dialysis and the role of the dialysis technician. Patients' needs and safety are addressed throughout. Theoretical information is supplemented with clinical observation. Privacy issues, HIPAA requirements, standard precautions for protection of patients and personnel are emphasized. *Lecture: 4 hours*

RENL 1020 - Patient Care and Assessment for Renal Dialysis Technicians (3 Credits)

This course is designed to provide students with the information necessary to provide care appropriate to the renal dialysis patient. End-stage renal disease is discussed as well as methods of treatment and associated conditions. Psychosocial and dietary needs specific to patients with renal disease are discussed as are methods for patient assessment and documentation. The control of infection and measures for patient comfort and transfer also are considered. *Lecture: 3 hours*

RENL 1030 - Renal Dialysis Technology II (6 Credits)

This course is designed to provide students with information concerning the principles of renal dialysis. The skills critical to the recognition of complications or abnormal situations as well as the appropriate responses are stressed. An examination of previously discussed patient care skills and monitoring procedures relative to emergency situations are reviewed. Emphasis is placed on standards and regulations pertinent to water treatment, quality control issues and workplace safety. Theoretical information is supplemented with clinical observation. Written case presentations, as they relate to the dialysis patient, are required. *Lecture: 2 hours, Lab: 4 hours, Clinical: 24 hours*

RESP (RESPIRATORY THERAPY)**RESP 1000 - Introduction to Respiratory Therapy (3 Credits)**

In this course, students explore current concepts in health care including patient/client care issues such as effective communication, cultural and age-specific concerns and disease management models. Health care provider topics such as professionalism, and ethical and legal considerations, including credentialing and licensure, are addressed. A brief overview of the U.S. health care system is discussed, addressing past and present payment structure, care settings and delivery models. An introduction to medical terminology also is included. *Lecture: 3 hours*

RESP 1010 - Respiratory Care I (4 Credits)

This course introduces students to the hospital and patient environment in the classroom and the laboratory. Students learn an array of respiratory therapy procedures.

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

An overview of the structure and function of the cardio-respiratory system is examined as well as physical principles of gas flow and lung mechanics. Principles of breathing and gas exchange, including oxygen and carbon dioxide transport and arterial blood gas values and interpretation are addressed. Laboratory practice is included. (*Admission to the Respiratory Therapy program*) *Lecture: 3 hours, Lab: 3 hours*

RESP 1012 - Preclinical Practice (2 Credits)

This course is designed to prepare students for the initial clinical experience in the program. It will emphasize students' ability to identify and follow protocols in order to carry out commonly ordered respiratory therapy procedures. Students will recognize and interpret basic findings in patient assessment, including vital signs, chest assessment, and values for blood chemistry testing. Students will be introduced to the electronic medical record and tracking system, and will participate in case simulations. (*Prerequisite: Admission to the Respiratory Therapy program.*) *Lecture: 2 hours*

RESP 1100 - Respiratory Care II (4 Credits)

This course offers a detailed review of therapeutic and diagnostic techniques in respiratory care. It includes the study of both invasive and noninvasive diagnostic techniques for assessing oxygenation, ventilation, pulmonary function and electrocardiography. Students interpret graphics from these techniques, and are able to classify specific findings. Management of airway emergencies and artificial airways is included. Laboratory practice is provided. (*Prerequisite: RESP 1010*) *Lecture: 3 hours, Lab: 3 hours.*

RESP 1800 - Clinical Practicum I (1 Credit)

This clinical experience introduces students to the hospital environment. Emphasis is on orientation, becoming familiar with respiratory therapy department structure and procedures, and use of the medical record. Medical gas therapy and incentive spirometry are applied with direct bedside teaching. (*Prerequisite: Successful completion of preclinical competency testing*) *Clinical: 120 hours*

RESP 2020 - Cardiopulmonary Diseases I (4 Credits)

This course emphasizes the study of microorganisms and control of pathogens related to cardiopulmonary disorders, the study of common cardiopulmonary disorders with emphasis on characteristics, application of diagnostics and determining appropriate therapeutic regimens. *Lecture: 4 hours*

RESP 2030 - Cardiopulmonary Diseases II (4 Credits)

This course continues the study of the pathophysiology of cardiopulmonary disorders and their treatment. A portion of this course emphasizes the study of cardiopulmonary disorders in pediatric patients and in the neonate. *Lecture: 4 hours*

RESP 2110 - Respiratory Critical Care (3 Credits)

This course offers an introduction to critical care concepts and application of physiologic measures to patient care in the acute care setting. *Lecture: 3 hours*

RESP 2120 - Respiratory Care III (4 Credits)

This course covers the principles of positive pressure breathing devices, their clinical applications and alternatives. Students are introduced to critical care modalities with emphasis on artificial airway management,

ACLS protocols, mechanical ventilation principles of operation, management and terminology. Critical care monitoring, including hemodynamic monitoring and pharmacological control are discussed. Laboratory practice is part of this course. *Lecture: 3 hours, Lab: 3 hours*

RESP 2130 - Respiratory Care IV (4 Credits)

Specialized respiratory therapy is studied in-depth with emphasis on nonconventional mechanical ventilation including indications, equipment, procedures and precautions. A portion of this course focuses on pediatric and neonatal critical care modalities. Advanced cardiopulmonary diagnostics, including arrhythmia interpretation and ACLS support, rehabilitation practices, medical ethics and laws pertaining to the care of patients with cardiopulmonary disorders, are discussed. Laboratory practice is included. *Lecture: 3 hours, Lab: 3 hours*

RESP 2140 - Basics of Electrocardiography (ECG) (1 Credit)

This course is designed to provide the health care practitioner with the knowledge and skills needed to accurately identify basic cardiac arrhythmias. A review of cardiac terminology, cardiac physiology and patient interaction before, during and after testing is included. Laboratory instruction provides hands-on practice of electrode placement, equipment set-up and troubleshooting of the electrocardiograph and practice reading ECG rhythm strips for arrhythmias. *Note: Phlebotomy students - See prerequisites under program requirements. (Prerequisite: Open to individuals employed in the health care field. Knowledge of cardiac physiology required or permission of department.) Lecture: 2 hours, Lab: 2 hours*

RESP 2800 - Clinical Practicum II (2 Credits)

This clinical experience allows students to apply knowledge developed through previous and current study. Students are guided and evaluated through bedside teaching. They are exposed to the diagnostic procedure of respiratory therapy and perform specific diagnostic procedures under direct supervision by the clinical director and affiliate staff. Experience in all areas of the hospital with emphasis on respiratory therapeutics, as well as home care are provided. Interpersonal skills are practiced and assessed. (*Prerequisite: Successful completion of preclinical competency testing*) *Clinical: 144 hours*

RESP 2810 - Clinical Practicum III (4 Credits)

This clinical experience allows students to apply the techniques and skills of previous and current study to hospitalized patients under direct supervision. Students are introduced to the clinical application of mechanical ventilation as well as to specialized areas of patient care through bedside teaching. In addition, students prepare a case presentation of patients in these areas. Pulmonary function training also is provided. (*Prerequisite: Successful completion of preclinical competency testing*) *Clinical: 336 hours*

RESP 2820 - Clinical Practicum IV (3 Credits)

In this clinical experience, students apply all the techniques and skills of the respiratory therapist to hospitalized patients under direct and indirect supervision by the clinical director and affiliate staff. Clinical study of mechanical ventilation is completed. Students also examine neonatal and pediatric procedures. (*Prerequisite: Successful completion of preclinical competency testing*) *Clinical: 224 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

RHAB (REHABILITATIVE HEALTH)

RHAB 1010 - Medical Terminology for Rehabilitation (1 Credit)

This course includes an introduction to word parts building medical terms, instruction in organization of the body, directional terms, abbreviations and an overview of the different systems in the body. Students are expected to complete the course via progression through course modules. The course is offered both onsite and online. *Lecture: 1 hour*

RHAB 1030 - Pathophysiology for Rehabilitative Health Practitioners (3 Credits)

This course includes a systems study of pathological conditions. The structure and function of each organ system is presented. Discussion involves the etiology, signs, symptoms, diagnostic procedures, common medical/surgical management and the prevention of pathological processes as they affect each system. Students learn the implications of pathological processes on function and contraindications and precautions for treatment. This course is offered both onsite and online. *Lecture: 3 hours*

RHAB 1100 - Foundational Kinesiology (3 Credits)

This online course uses a regional approach to studying the anatomical structures that create both stability and movement in the human body. With a strong focus on musculoskeletal anatomy, the student will be guided through a basic analysis of how functional movement occurs and how the body

interacts functionally with the environment. Each student will complete a muscle mapping project where the attachment points of the skeletal muscles are drawn on a real miniature skeletal model. *Online: 3 hours*

RHAB 1110 - Kinesiology (4 Credits)

This course covers the subjects of human movement and locomotion by combining human anatomy with aspects of biomechanics, muscle physiology and the physical laws of gravity, leverage and motion. This course deals with specific kinesiological functions of the musculoskeletal system, characteristics of normal posture, and ambulation and an introduction to the clinical manifestations of muscle dysfunction. Students will be instructed in palpation of surface anatomy. *Note: Restricted to OCTA, and PHTA students. (Prerequisite: BIOL 1010 or 1070) Lecture: 3 hours, Lab: 2 hours*

RHAB 2010 - Nutrition Basics (3 Credits)

This is an online interactive course designed to prepare students to understand how carbohydrates, fats and proteins function in the body; how each macronutrient, alone and when combined, undergoes integrated metabolism within tissues; and how the macronutrients integrate to affect overall metabolism, disease risk and recovery. Additionally, this course will prepare students to understand how micronutrients (vitamins and minerals) play a significant regulatory role as well as the interaction between nutrients. Students will explore the variability in micronutrient requirements between individuals and outline the signs and symptoms associated with both nutrient deficiency and excess. Other topics presented within this course are the functions of nutrients in the production, quality

and consumption of foods and how they are to be prepared consistent with food safety precautions, budgeting for nutritious foods, nutrition across the lifespan, and current topics in nutrition. *Lecture: 3 hours*

ROTC (ARMY ROTC)

ROTC 1010 - Freshman Military Science (3 Credits)

Under auspices of Providence College Military Science Department.

ROTC 1020 - Leadership Skills (3 Credits)

Under auspices of Providence College Military Science Department.

ROTC 2050 - Sophomore Military Science (3 Credits)

Under auspices of Providence College Military Science Department.

ROTC 2060 - Advanced Leadership Skills (3 Credits)

Under auspices of Providence College Military Science Department.

ROTC 2070 - Sophomore Military Science and Lab (3 Credits)

Under auspices of Providence College Military Science Department. *(Prerequisite: ROTC 2050); Spring semesters only*

RUSN (RUSSIAN)

RUSN 1000 - Basic Spoken Russian I (3 Credits)

This is an introductory elective course for beginners emphasizing correct pronunciation and basic vocabulary for practical use in

everyday conversational situations and travel dialogues. Students with no previous study of the language are prepared to use and understand it within a limited context and basic structure. *Lecture: 3 hours*

RUSN 1050 - Elementary Russian I (3 Credits)

For students with some previous experience in the language. This course covers elements of the language including conversation, pronunciation, reading, writing and grammar. Aspects of Russian culture also are included. *Lecture: 3 hours*

SOCS (SOCIOLOGY)

SOCS 1010 - General Sociology (3 Credits)

This is an introductory course presenting a description and analysis of the structure and dynamics of human society. It focuses on social norms, groups, intergroup relations, social change, stratification and institutions. Social interaction and the values that orient behavior in groups are examined. Contemporary society and its problems are discussed. *Lecture: 3 hours*

SOCS 2020 - Marriage and Family (3 Credits)

This is a survey of the basic factors of courtship, mate selection, engagement, marriage and rearing children in preparation for successful marriage and parenthood. Marital values and problems are discussed. The course studies the family as the basic unit in society and its relationship to society as a whole. Current changes in family life and their causes are examined. *Lecture: 3 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

SOCS 2030 - Urban Sociology (3 Credits)

This course analyzes the influences of urban interaction on group relationships. Consideration is given to multi-factors inherent in problems pertaining to urban population movements, economic dislocations, minority-majority cultural conflicts and pluralistic power patterns. The role of public media and pressure groups also is studied as integral to contemporary urban group relationships. *Lecture: 3 hours*

SOCS 2040 - Sociological Perspectives of Race and Ethnic Relations (3 Credits)

This is a survey of the sociological aspects of intergroup relations as they pertain to race and ethnicity. Emphasis is placed on the socio-historical conceptualization of race and ethnicity, classical and contemporary sociological theories (e.g. assimilation, theories of immigration, racialization, and typologies of racism) regarding race and ethnicity. Majority-minority relations in the U.S. are also examined. *SOCS 1010 is highly recommended as a prerequisite. Note: May be taken as an alternative to SOCS 1010 in Human Services. Lecture: 3 hours*

SOCS 2050 - Social Problems (3 Credits)

This is a survey of the sociological aspects of major contemporary social problems in the United States. Emphasis is placed on personal pathologies (e.g., *alcoholism, drug addiction, sexual pathology, suicide*) population problems, educational problems, racism, sexism, ethnic problems, family problems and crime. (*Prerequisite: SOCS 1010*) *Lecture: 3 hours*

SOCS 2110 - Introduction to Anthropology (3 Credits)

This course is an introduction to the basic principles and methods of cultural anthropology. Emphasis is placed on the concept of culture as a way of explaining human behavior, with illustrations from selected preliterate societies. The biocultural evolution of mankind is covered. *Lecture: 3 hours*

SOCS 2300 - Criminology (3 Credits)

This course considers the nature of crime and the criminal who commits social infractions. Emphasis focuses equally on theoretical and applied criminology. *Lecture: 3 hours*

SOCS 2120 - Sociology of Work in Formal Organizations (3 credits)

Students learn to think critically and develop skills for teamwork in the context of large organizations, based on sociological principles of bureaucracy, group dynamics, leadership and authority. A solid grasp of the concepts in this course enable students to analyze and articulate the basic components of large organizations, the purpose of teamwork, and the kind of skills needed to succeed as a member of a team.

SPAN (SPANISH)**SPAN 1000 - Basic Spoken Spanish I (3 Credits)**

This is an introductory elective course for beginners emphasizing correct pronunciation and basic vocabulary for practical use in everyday conversational situations and travel dialogues. Students with no previous study of the language are prepared to use and understand it within a limited context and basic structure. *Lecture: 3 hours*

SPAN 1100 - Basic Spoken Spanish II (3 Credits)

This course is a continuation of Basic Spoken Spanish I. (*Prerequisite: SPAN 1000 or its equivalent*) *Lecture: 3 hours*

SPAN 1010 Elementary Spanish I (3 Credits)

This course is for students with little or no preparation and covers elements of the language including conversation, pronunciation, reading, writing and grammar. Aspects of Spanish and Hispanic-American culture also are included. *Lecture: 5 hours*

SPAN 1020 - Elementary Spanish II (3 Credits)

This is a continuation of Elementary Spanish I (SPAN 1010). (*Prerequisite: SPAN 1010, 1030 or equivalent*) *Lecture: 5 hours*

SPAN 1030 - Elementary Spanish I (3 Credits)

Spanish 1030 is a faster paced version of Spanish 1010. This course is suitable for students with previous experience (e.g., Basic Spoken Spanish and/or other prior formal study of the language, prior formal study of another foreign language or informal experience with a foreign language). The course covers elements of the language including conversation, pronunciation, reading, writing, and grammar. Aspects of Spanish-speaking cultures also are included. *Note: Course content is the same as Spanish 1010 with two fewer hours per week. (Prerequisite: Prior preparation as noted above or permission of instructor)* *Lecture: 3 hours*

SPAN 1040 - Elementary Spanish II (3 Credits)

This course is a continuation of SPAN 1030. *Note: Course content is the same as SPAN 1020 with two fewer classroom hours per week. (Prerequisite: SPAN 1010, 1030 or its equivalent)* *Lecture: 3 hours*

SPAN 1210 - Spanish for Human Services Personnel I (3 Credits)

This is an elective course designed for the student seeking a position in the human services field and/or the professional already working in the field. The course focuses on common situations encountered by human services professionals, providing students with many practical communication skills development and information needed for daily work routines. Correct pronunciation and basic grammar are addressed. *Lecture: 3 hours*

SPAN 1230 - Spanish for Law Enforcement Personnel I (3 Credits)

This is an elective course designed for the student seeking a position in the law enforcement field and/or the professional already working in the field. (This is a language elective for Law Enforcement students.) The course focuses on common situations encountered by law enforcement professionals providing practical communication skills development and information needed for daily work routines. Correct pronunciation and basic grammar are addressed. *Lecture: 3 hours*

SPAN 1510 - Conversational Spanish I (3 Credits)

This course further develops students' fluency in speaking Spanish. Oral practice includes active use of the language in short dialogues stressing basic communication and correct pronunciation. The reading of easy

cultural texts also provides material for conversation and discussion. CDs are available for individual practice. (*Prerequisite: Two years of high school Spanish or one year of college Spanish or the equivalent*) *Lecture: 3 hours*

SPAN 1520 - Conversational Spanish II (3 Credits)

This is a continuation of Conversational Spanish I (SPAN 1510) that includes conversational practice, cultural readings and discussions. (*Prerequisite: SPAN 1510 or its equivalent*) *Lecture: 3 hours*

SPAN 1710 - Spanish for Medical Service Personnel I (3 Credits)

This course provides students an opportunity to master enough oral Spanish to deal directly with Spanish-speaking patients and family from hospital admission through discharge. Day-to-day dramatic re-creations of hospital experiences from the points of view of both nurse and patient help students improve proficiency in the use of spoken Spanish. (Note: *Elective credit for students in Nursing and Allied Health fields.*) *Lecture: 3 hours*

SPAN 1720 - Spanish for Medical Service Personnel II (3 Credits)

This is a continuation of Spanish for Medical Service Personnel I (SPAN 1710). (*Prerequisite: SPAN 1710 or permission of instructor*) *Lecture: 3 hours*

SPAN 1900 - Culture of Spanish-Speaking People (3 Credits)

This course is a survey of the Spanish-speaking people from the earliest days of the Roman and Arabic occupations of Spain to the present day “cultures” in Latin America. *Lecture: 3 hours*

SPAN 2010 - Intermediate Spanish I (3 Credits)

This course helps students develop skills in reading and discussing texts related to Spanish and Hispanic-American culture and literature. Coursework is supplemented by further work in grammar, conversation and composition. (*Prerequisite: SPAN 1020 or 1040 or the equivalent*) *Lecture: 3 hours*

SPAN 2020 - Intermediate Spanish II (3 Credits)

This is a continuation of Intermediate Spanish I (SPAN 2010). (*Prerequisite: SPAN 2010 or its equivalent*) *Lecture: 3 hours*

SPAN 2210 - Spanish Conversation and Composition I (3 Credits)

This is an intensive course in conversation and composition. Selected cultural videos, CDs, readings and classroom discussions provide an atmosphere to develop and improve speaking and understanding of Spanish. Oral presentations and written compositions are required. (*Prerequisite: SPAN 2020 or permission of instructor*) *Lecture: 3 hours*

SPAN 2220 - Spanish Conversation and Composition II (3 Credits)

This is a continuation of Spanish Conversation and Composition I (SPAN 2210). (*Prerequisite: Permission of instructor*) *Lecture: 3 hours*

THEA (THEATRE)

THEA 1080 - Introduction to Costuming (3 Credits)

This is a basic course in costume design, including theory and practice, with units on costume history, sewing and construction. Two hours of lecture and one hour of lab weekly. (May be counted toward the Fine Arts requirement in the Liberal Arts program.) *Lecture: 3 hours, plus 25 hours practical costume work within the semester.*

THEA 1090 - Introduction to Theatre (3 Credits)

This course introduces students to the various aspects of theatre, focusing on the ways in which a play script is translated into a full production. Functions of the playwright, actor, director and designer are covered. (May be counted toward the Fine Arts requirement in the Liberal Arts program.) *Lecture: 3 hours.*

THEA 1120 - Stagecraft (3 Credits)

This course is a survey of various aspects of technical theatre with emphasis on set design, scenic construction, scenic painting and properties. An artistic approach to a unified production concept is stressed. (May be counted toward the Fine Arts requirement in the Liberal Arts program.) *Lecture: 3 hours (plus 25 lab hours within the semester)*

THEA 1125 - Play Analysis for Production (3 Credits)

This course is designed to equip students with skills necessary to use a script as a “blueprint” for production, including research, analysis and interpretation. It gives an overview of different historical eras, elements of script analysis and utilization of these elements by directors, designers and actors. *Lecture: 3 hours*

THEA 1126 - Diverse Voices in Contemporary Theatre (3 Credits)

This course is intended to engage students in discovering the significant ideas, vibrant characters and universal themes of multiculturalism through the lens of theatre. Plays to be studied will include, but will not be limited to, the works of Wilson, Nottage, Diamond, Norris, Hwang, Hudes, Lopez, Cruz and Rivera. Emphasis is on the social, cultural and philosophical implications in the representative plays. *Lecture: 3 hours*

THEA 1130 - Origins of Theatre (3 Credits)

This is a lecture course emphasizing the development of theatre in Western and Eastern civilization. Included are various theatrical forms and styles as reflections of the historical periods in which they grew. (May be counted toward the Fine Arts requirement in the Liberal Arts program.) *Lecture: 3 hours*

THEA 1140 - Acting I (3 Credits)

This is a beginning course in acting techniques. Students participate in a variety of theatre exercises, improvisations and scenes with the purpose of self-discovery leading to character development and interpretation. (May be counted toward the Fine Arts requirement in the Liberal Arts program.) *Lecture: 3 hours*

THEA 1150 - Theatre for Children (3 Credits)

This course acquaints students with theory and basic practices in working with children as participants in dramatic activities and with preparing theatrical productions for the child audience. Topics include creative dramatics, improvisational games, story dramatization, puppetry, script selection and analysis and play production. Students apply

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

principles discussed to the preparation of a children's theatre production for public performance. (May be counted toward the Fine Arts requirement in the Liberal Arts program.) *Lecture: 3 hours*

THEA 1160 - Movement for Actors (3 Credits)

This is a lecture-performance course in theatre considering body movement as a fundamental instrument of the actor. It deals with the basic principles, techniques and styles of movement for the actor. Major emphasis is on the various forms movement can take in creating a role (characterization) and on translating emotions into movement and dance. (May be counted toward the Fine Arts requirement in the Liberal Arts program.) *Studio: 3 hours*

THEA 1170 - Theatrical Make-up (3 Credits)

This course explores the use of make-up for theatrical purposes. Students develop and implement the make-up for several different characters, including basic beauty, old age and fantasy. The history of facial styles as well as the chemical components of make-up also are covered. Students receive hands-on practical experience by helping create the make-up for one of the semester's theatre productions. *Lecture: 3 hours*

THEA 1180 - Stage Lighting and Sound Production (3 Credits)

A survey of various aspects of technical theatre, with emphasis on light and sound design and execution and stage management. The course stresses an artistic approach to a unified production concept. (May be counted toward the Fine Arts requirement in the Liberal Arts program.) *Lecture: 3 hours (plus 25 lab hours within the semester)*

THEA 1470 - Beginning Jazz Dance (II, III, IV) (1 Credit) (repeatable to 4 Credits)

Introduction to the fundamental technique of jazz dance. Emphasis is placed on class participation so that students may develop their knowledge and understanding of the basic principles of jazz dance, including warm-up, isolations and choreography. Jazz dance history and historical jazz dance figures will be explored and discussed, as it pertains to the genre of jazz dance. *Repeatable up to four credits. Studio: 2 hours*

THEA 1480 - Dance I (II, III, IV) (1 Credit)

This course explores dance as an art form through familiarizing the student with various forms such as ballet, jazz and modern dance. Intensive studio experience emphasizes the acquisition of basic dance skills, kinesthetic perception, rhythmic awareness and development of strong fundamental technique. *Repeatable up to four credits. Studio work: 2 hours*

THEA 2140 - Acting II (3 Credits)

Continuing the work begun in Acting I, this course emphasizes increased depth in performance and further practical work in characterization, text analysis and scene preparation. (May be counted toward the Fine Arts requirement in the Liberal Arts program.) *(Prerequisite: THEA 1140 or permission of instructor) Lecture: 3 hours*

THEA 2200 - Theatre Graphics (3 Credits)

This course offers a survey of U.S.I.T.T. standard graphics, drafting, rendering techniques and model construction for theatrical designs (*settings, lighting and costuming*). It prepares students for a major in design or theatre technology at a four-year college

or university. This is a capstone course for students in the Technical Theatre track at CCRI. *(Prerequisites: ENGT 1060; ARTS 1010; THEA 1090, 1120 and 1180) Lecture: 3 hours*

TMSG (THERAPEUTIC MASSAGE)

TMSG 1000 - Introduction to Therapeutic Massage (2 Credits)

This course presents an overview of the field of massage therapy and the evolving roles and opportunities of the massage therapist within the health care delivery system. Topics such as history, licensure requirements, education, employment opportunities, professional organizations and the benefits of massage are covered. Ethical issues for the massage therapist are discussed. The student will learn basic techniques for hand and foot massage. The student is required to receive one full body massage from a licensed massage therapist during the semester. *Lecture: 30 hours (2.5 hours in summer because of condensed time frame)*

TMSG 1020 - Swedish Massage (5 Credits)

Students will learn the five standard Swedish massage strokes, as well as complementary strokes commonly used in Swedish massage. Through demonstration and practice, the students are able to perform a full-body Swedish massage in one hour. The theoretical principles of research including scientific study of professional touch is discussed. The indications, contraindications, limitations and physiological effects of these techniques are described. Introduction to documentation is provided. Students are instructed in the scope of practice, creating professional boundaries, the therapeutic relationship, approaches to care, working with hospital

based clients, proper draping methods, personal and client hygiene, obtaining a medical history, proper body mechanics, basic exercises for personal care, basic first aid, creating a business brochure and OSHA regulations to provide a safe and nurturing practice environment. *(Corequisite: TMSG 1040) Lecture: 3 hours, Lab: 5 hours*

TMSG 1030 - Deep Tissue Massage (5 Credits)

This course presents student with a wider and deeper understanding of soft tissue techniques and their effects on the human body. Students are instructed in specific patterns for common pathological condition, the use of trigger point therapy, deep tissue manipulation, fascial restrictions to abnormalities and postural analysis. Origin, insertion and action of major muscles will be reviewed. The indications, contraindications, limitations and physiological effects of these techniques will be described discussion along with the effects of stress and disease. Students will focus on determining and applying the appropriate modality to achieve the goals. Students will learn an introduction to the lymphatic system and how it works. Students will learn about the flow of lymphatic fluid, lymph nodes, and basic protocols along with contraindications. The course applies concepts from anatomy, kinesiology, neuromuscular assessment and evaluation. Laboratory experience will provide students with the opportunity to become comfortable with the techniques, proper body mechanics, obtaining medical history and therapeutic relationships. Through demonstration and practice, the student will be able to complete a treatment plan and be able to perform a full body massage and receive a full body massage, using a variety of deep tissue techniques. Professional behaviors in the classroom setting are expected at all times and are evaluated each class. *(Prerequisites: TMSG 1020, 1040; Corequisites RHAB 1030) Lecture: 3 hours, Lab: 4 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

TMSG 1040 - Introduction to Eastern Modalities (2 Credits)

Students explore eastern modalities in health and wellness care. The primary focus is an introduction to the history, theory and basic practice of shiatsu therapy and acupressure. This includes a study of selected meridians, acupoints and other aspects of traditional Chinese medicine. The indications, contraindications, limitations and effects of shiatsu and acupressure are described. Students learn methods and terminology for documentation. Laboratory experience provides students with the opportunity to become comfortable with shiatsu and acupressure techniques and to learn proper mind-body mechanics for providing safe and effective treatment on the shiatsu mat and on a massage chair. Students also learn techniques for integrating shiatsu and acupressure into their Swedish massage and explore how to practice massage in a more embodied, mindful, compassionate, and ecologically attuned way. Students encounter a range of additional modalities including qi gong, yoga, t'ai chi, meditation and feng shui. Participation in all aspects of this course is required. (Corequisite: TMSG 1020) Lecture: 1 hour, Lab: 2 hours

TMSG 1140 - Integrating Eastern and Western Techniques (2 Credits)

Students will learn clinical applications of Eastern modalities in the integrative clinical practice of massage therapy. Specifically, students will learn protocols for integrating Eastern body mechanics, mind-body techniques and meridian/acupoint work into Swedish and/or deep tissue massage treatments. After a review of fundamentals of shiatsu and traditional Chinese medicine theory and practice, students will explore

integrative massage strategies for addressing various ailments and improving overall health and well-being. Students will explore contemporary clinical acupuncture and shiatsu research in the development of integrative massage treatment protocols. Participation in all aspects of this course, which includes regular qi development exercises, mind-body cultivation, and integrative massage practice outside of class hours, is required. (Prerequisites: TMSG 1020, 1040; Corequisite: RHAB 1030, TMSG 1030) Lecture: 1 hour, Lab: 2 hours

TMSG 2010 - Introduction to Sports Massage (2 Credits)

This course serves as a basic introduction to the role of the sports massage therapist. The course applies concepts from anatomy and orthopedic massage, and will focus on the uses of massage in sports activities. Students will understand the benefits and learn techniques for pre-event, inter-event, post-event and maintenance massage. Students will gain skill in treatment session planning, palpation assessment and documentation. An overview of common sports injuries and conditions will be presented. Musculoskeletal concerns will be examined. Hydrotherapy as an adjunct to tissue and muscle healing will be addressed. Specific hydrotherapeutic methods will be reviewed and presented in laboratory sessions. (Prerequisites: RHAB 1030, TMSG 1020, 1030, 1040; Corequisite: TMSG 2020, 2021) Lecture: 1 hour, Lab: 2 hours

TMSG 2020 - Student Massage Clinic (3 Credits)

This course marks the first part of the student's clinical education, focusing on integrating skills learned in previous courses, community outreach and educating the public to the benefits of clinical massage therapy. The course is conducted at the

college providing massage services to clients within the community. Students will set up and run the in-house clinic under the supervision of licensed program faculty, with emphasis on clinic policies and procedures, clinical behavior, professionalism, interview skills and developing treatment plans, ethics and proper client care. Students will gain experience relative to a massage office practice, marketing, record keeping, scheduling clientele, basic accounting procedures and ensuring compliance with OSHA standards, blood borne pathogens and HIPAA training. (Prerequisites: RHAB 1030, TMSG 1020, 1030, 1040; Corequisites: TMSG 2010, 2021) Clinical: 100 hours

TMSG 2021 - Massage Practice Building (2 Credits)

This course focuses on providing students with knowledge of business management skills for massage practitioners. Students write their own business plan, research licensure issues and develop marketing tools used in establishing the "in-house" student clinic for TMSG 2020. Seminar topics include legal and ethical issues, record-keeping, taxes, pricing, bookkeeping, inventory maintenance, interviewing skills and résumé development. Students are provided with an overview of OSHA, HIPAA and ADA regulations as they relate to the massage profession. (Prerequisites: RHAB 1030; TMSG 1020, 1030, 2010; Corequisite: TMSG 2020, 2120) Lecture: 2 hours

TMSG 2030 - Clinical Internship I (2 Credits)

The focus of this course is to gain experience providing massage therapy services to the healthy population, or to special populations including those with various pathologies and injuries. Students will be supervised by qualified healthcare providers employed at

various community and healthcare facilities. Clinical placements are available in a variety of settings including private offices, nursing homes, group homes, athletic training facilities and hospitals. In addition to gaining clinical experience, students will participate in record maintenance, accounting procedures, and ensuring OSHA standards in the health care environment. (Prerequisites: RHAB 1030; TMSG 1020, 1030, 1040, 1140, 2010, 2020, 2021; Corequisites: TMSG 2040, 2110, 2130) Clinical: 60 hours

TMSG 2040 - Foundations of Evidence-Based Outcomes for Massage (3 Credits)

This course is designed to provide students with information necessary to evaluate the effectiveness of various massage techniques, with client populations under various conditions. The emphasis is to provide the student with skills to conduct a literature search, appreciate the value of evidence-based practice for massage therapists, to critically evaluate research studies and to use the information to design more effective treatment plans. Students will demonstrate the ability to use this evidence to inform consumers, health care providers, government agencies and professional associations of the value of massage in the health care system. (Prerequisites: RHAB 1030; TMSG 1020, 1030, 1040, 1140, 2010, 2020, 2021; Corequisite: TMSG 2030, 2110, 2130) Lecture: 3 hours

TMSG 2050 - Selected Topics in Massage Therapy (2 Credits)

This course is designed to present various topics designed to increase awareness of newer concepts and techniques in massage therapy. It is open to licensed massage therapists and students in the Therapeutic Massage program. Lecture: 2 hours

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

TMSG 2110 - Advanced Sports Massage (2 Credits)

This course serves as an advanced level of training in the role of the Sports Massage Therapist. Athletic concepts and techniques will be expanded for use in a variety of settings. The course will focus on the uses of massage in the athletic training environment. Students will learn to assess and treat for repetitive use injuries, including hamstring strains, rotator cuff injuries, knee and foot pathologies. Cryotherapy and Thermotherapy as an adjunct to tissue and muscle healing will be addressed. Specific methods such as MET, SCS and STR as well as an in-depth study of stretching methods will be demonstrated in hands on palpation sessions. Students will learn about overtraining syndrome causes and effects and explore self- myofascial release techniques. An introduction to the Kinesio Taping method will also be provided. *(Prerequisites: RHAB 1030; TMSG 1020, 1030, 1040, 2010; Corequisite TMSG 2030, 2040, 2130) Lecture: 1 hour, Lab: 2 hours*

TMSG 2130 - Clinical Internship II (2 Credits)

The focus of this course is to gain experience providing massage therapy services to the healthy population or to special populations including those with various pathologies and injuries. Students will be supervised by qualified healthcare providers employed at various community and healthcare facilities. Clinical placements are available in a variety of settings including private offices, nursing homes, group homes, athletic training facilities and hospitals. In addition to gaining clinical experience, students will participate in record maintenance, accounting procedures, and ensuring OSHA standards in the health care environment. *(Prerequisites: RHAB 1030; TMSG 1020, 1030, 1040, 1140, 2010, 2020, 2021; Corequisites: TMSG 2030, 2040, 2110) Clinical: 60 hours*

TRVL (TRAVEL, TOURISM, HOSPITALITY)**TRVL 1010 - Introduction to Travel and Tourism (3 Credits)**

This course provides an overview of the travel and tourism profession. Students explore a full range of travel products and destinations, as well as the business and technical skills necessary to begin a productive travel career. *Lecture: 3 hours*

TRVL 1020 - Destination Geography (3 Credits)

The major purpose of this course is to familiarize the student with basic travel geography as it relates to the travel and tourism industry. Major attractions of various countries at specific times, including cultural, industrial, historical and artistic displays are emphasized; and seasonal attractions such as festivals, camping and sports, etc., also are included. *Lecture: 3 hours*

TRVL 2010 - Computer Reservation Systems I (3 Credits)

This course is designed to give students simulated, hands-on training utilizing various computerized software programs, like SABRE, for ticketing on airlines, hotels and motels, car rental agencies and other essential parts of travel. Students start with the basic steps of building a passenger name record to the complicated entries of extensive travel itineraries. *(Prerequisites: TRVL 1010 and 1020 or permission of instructor) Lecture: 2 hours, Lab: 2 hours*

TRVL 2020 - Travel Agency Operations and Administration (3 Credits)

This course provides students with the background necessary to handle the day-to-day operations of a travel agency. It provides a

thorough understanding of agency business, including conference requirements, location and staffing, reservations and bookings, sales reports, agency record-keeping and commissions tracking. *(Prerequisites: TRVL 1010 and 1020 or permission of instructor) Lecture: 3 hours*

TRVL 2030 - Conference and Convention Planning (3 Credits)

This course develops an understanding of the skills required to plan and conduct successful meetings and conventions. Topics covered include setting up timetables, selecting meeting sites, negotiating, menu planning and budgeting. *Lecture: 3 hours*

TRVL 2110 - Computer Reservation Systems II (3 Credits)

This course further expands the skills developed in the Computer Reservation Systems I course. It will provide the student with an opportunity to complete the most advanced areas of airline computer reservation systems. *(Prerequisites: TRVL 2010 or permission of instructor) Lecture: 2 hours, Lab: 2 hours*

XRAY (RADIOGRAPHY)**XRAY 1000 - Introduction to Radiography (3 Credits)**

This course is designed to give prospective radiography students an introduction to allied health professions in general and to diagnostic imaging in particular. Topics include admission and graduation requirements for health programs. Medical terminology and an overview of anatomy is taught, along with basic imaging concepts. Radiation safety and patient care issues are addressed. *Note: This course is a requirement for Radiography students but is open to all students. (Prerequisite or corequisite: ENGL 1010) Lecture: 3 hours*

XRAY 1010 - Clinical Radiography (3 Credits)

This course familiarizes students with the field of radiological technology. Topics include basic anatomy, radiation protection and safety, as well as medical ethics and law as related to radiographic practice. The anatomy, positioning and image critique for selected procedures are included and coordinated with laboratory practice and clinical application. Students are assigned to a four-week rotation upon successful completion of the classroom and lab portion of this course. *(Prerequisite: XRAY 1000) Lecture: 2 hours, Lab: 1 hour, Clinical: 40 hours per week*

XRAY 1110 - Principles of Radiography I (3 Credits)

This course introduces students to the principles of radiographic exposure, image processing and the prime factors in radiography. *(Prerequisite: XRAY 1000) Lecture: 3 hours*

XRAY 1130 - Radiographic Anatomy and Physiology (3 Credits)

This course is a study of basic anatomy and physiology and provides students with the opportunity to develop an understanding of the normal functions of organs and body systems as a basis for radiological examination. *(Prerequisites: XRAY 1000, 1010 and 1110) Lecture: 3 hours*

XRAY 1220 - Principles of Radiography II (3 Credits)

This course is a continuation of XRAY 1110 and is designed to give the student a thorough knowledge of the manipulation of exposure factors and to construct technique charts. *(Prerequisite: XRAY 1110) Lecture: 3 hours*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.

XRAY 1230 - Patient Care for Radiographers (1 Credit)

This course is designed to develop skills needed to address the needs of patients in the radiology department. Medical asepsis, patient assessment, communication skills, patients' rights and standard of care are addressed, in addition to routine and emergency care. *(Prerequisite: XRAY 1010) Lecture: 1 hour*

XRAY 1910 - Radiography I (6 Credits)

This course is a study of basic positioning for extremities, chest, abdomen and the bony thorax. Proper patient communication, radiation protection and identification of structures on radiographs are incorporated into each unit of study. This course is coordinated with practical application in the radiography laboratory and at the affiliated hospital. *(Prerequisites: XRAY 1010 and 1110) Lecture: 3 hours, Lab: 1 hour, Clinical: 16 hours per week*

XRAY 1920 - Radiography II (7 Credits)

This course is a study of the vertebral column, skull and facial bones. The alimentary canal, biliary tract and the urinary system are studied in relationship to the contrast agents and positioning utilized for each examination. This course is coordinated with practical application in the radiography laboratory and at the affiliated hospital. *(Prerequisite: XRAY 1910) Lecture: 3 hours, Lab: 2 hours, Clinical: 16 hours per week*

XRAY 1930 - Radiography III (6 Credits)

This course is designed to expand the students' working knowledge of technique formulation and conversion factors; to help the student understand the use and

limitations of the X-ray tube; to help the student develop an understanding of the function and use of various types of imaging equipment and accessories; and to examine methods for producing radiographic images in fluoroscopy, the operating room and at the patient's bedside. This is related to the students' ongoing clinical experience and their use of computer-assisted imaging modalities in a hospital setting. *(Prerequisite: XRAY 1920) Lecture: 4 hours, Clinical: 32 hours per week*

XRAY 2110 - Selected Topics in Radiography (Podiatry) (1 Credit)

This course is for individuals interested in developing or maintaining diagnostic imaging skills. Course content requires background or employment in podiatric medicine. *Lecture: 1 hour*

XRAY 2340 - Quality Assurance in Radiography (1 Credit)

This course is designed to examine the effective functioning of a radiology department. Methods for evaluating quality, equipment testing and documentation will be discussed, as well as the role of the registered radiographer in maintaining quality. *(Prerequisite: XRAY 1930) Lecture: 1 hour*

XRAY 2410 - Introduction to Radiation Biology (3 Credits)

This course presents basic radiobiology in relationship to the possible genetic and somatic effects of radiation dependent upon dose and the rate to specific types of human cells, organs and systems. Every known method used to limit ionizing radiation from diagnostic examinations is presented. *(Prerequisites: XRAY 1130; PHYS 1110) Lecture: 3 hours*

XRAY 2430 - Sectional Imaging (3 Credits)

This course is a study of human anatomy from a sectional perspective. The anatomy of the head, neck, thorax, abdomen, pelvis and vertebral column are studied. This anatomy is related to the use of computer-assisted imaging modalities. Common pathological findings in each area are discussed. *(Prerequisite: XRAY 1130) Lecture: 3 hours*

XRAY 2460 - Applied Radiographic Physics and Technique (3 Credits)

This course allows students to apply the principles of physics in examining the function and capabilities of complex imaging systems. It includes methods of data acquisition, manipulation, display and storage for computer-assisted imaging modalities. The application of imaging principles to nontraditional patient populations also is discussed. *(Prerequisites: XRAY 1220 and 1920) Lecture: 3 hours*

XRAY 2470 - Radiographic Pathology (1 Credit)

This course examines the most common congenital and acquired diseases that are demonstrated radiographically. Etiology, symptoms, treatment and prognosis are discussed. Students evaluate the quality of radiographs of patients with these conditions. *(Prerequisite: XRAY 1930) Lecture: 1 hour*

XRAY 2910 - Radiography IV (6 Credits)

This course deals with the specialized and highly technical procedures in radiography, the equipment and contrast media employed and the general indications for each examination. This course is coordinated with practical application in the radiographic laboratory and the clinical affiliate, where practical skills associated with these procedures are developed. *(Prerequisite: XRAY 1930) Lecture: 3 hours, Lab: 1 hour, Clinical: 24 hours per week*

XRAY 2920 - Radiography V (4 Credits)

This course requires students to prepare a research project that forms the basis for a written paper and an oral presentation. Students also are required to read and evaluate material on selected topics in health care and new imaging modalities. Mastery of previously learned material is evaluated by comprehensive examinations. Mastery of clinical skills built on previously learned material also is evaluated. Observations in associated imaging modalities are required. *(Prerequisite: XRAY 2910) Lecture: 1 hour, Clinical: 24 hours per week*

Prerequisite: Successful completion of course required before registering. **Corequisite:** Course must be taken prior to or at the same time.