

NHTI, Concord's Community College

Academic Course Descriptions 2018-2019



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Number sequencing to the right of the course name means the following: first digit designates the number of lecture hours for the course; the second digit designates the number of lab, clinic or practicum hours; and the third digit designates the credit hours for the course.

Prerequisite: a course that must be passed prior to proceeding with a more advanced course; minimum passing grade for a prerequisite course is a "D minus" unless otherwise indicated.

Corequisite: a course that must be taken concurrently (at the same time) with another course. (Note that with departmental permission, a corequisite course may sometimes be taken in advance of the course for which it is a corequisite.)

Course descriptions are presented by subject heading with corresponding lettered course designator.

Courses numbered 100-199: These courses are typically introductory and/or freshman-level courses. Some may require assessment testing and/or completion of prerequisites prior to enrollment.

Courses numbered 200 or higher: Instruction in these courses assumes that students will have successfully completed one or more semesters of college level study prior to enrollment. Additionally, some courses may require one or more specific prerequisites.

Accounting

ACCT 101C Accounting I 3-0-3

An introduction to accounting procedures and principles covering the accounting cycle, accounting for a merchandising business, special journals, control over cash, receivables, and inventories. A grade of "C-" or higher must be achieved to continue with the next accounting course.

ACCT 102C Accounting II 3-0-3

A continuation of the fundamentals of accounting concepts and procedures, including the following topics: depreciation, payroll, notes payable, bonds, partnerships and corporations. A grade of "C-" or higher must be achieved to continue with the next accounting course. (Prerequisite: A grade of "C-" or better in ACCT 101C.)

ACCT 110C Managerial Accounting 3-0-3

A study of the analysis, reporting and use of accounting data as a management tool for planning, control and decision making. Specific areas of study include break-even analysis, financial statement analysis, cost classification and allocation, standard costing and variance analysis, and budgeting. (Prerequisite: ACCT 102C.)

ACCT 205C Intermediate Accounting I 4-0-4

A review of the overall accounting cycle, followed by an in-depth study of accounting concepts and FASB statements dealing with topics to include balance sheets, income statements, receivables, inventories, and cash flows. (Prerequisite: ACCT 102C.)

ACCT 206C Intermediate Accounting II 4-0-4

A study of accounting principles dealing with asset acquisition and retirements, long term investments, current and contingent liabilities, debt securities and equity securities, capital structure of corporations, revenue recognition, and leases. (Prerequisite: ACCT 205C.)

ACCT 230C Taxes 4-0-4

A study of the Internal Revenue Tax Code as it relates to individuals and small businesses. This course will include an examination of income recognition, deductions for and from AGI, tax credits, depreciation calculations and analysis of capital gains and losses. The student will apply this knowledge in preparation of income tax returns and related forms. (Prerequisite: ACCT 102C or permission of department head of Accounting)

ACCT 250C Cost Accounting 3-0-3

Provides cost accounting fundamentals including manufacturing statements, job cost systems, process cost systems, standard costs and cost analysis. (Prerequisite: ACCT 102C.)

Addiction Counseling

ADCL 120C Survey of Addictive Behaviors and Treatment 3-0-3

A study of addictive behaviors and treatment from a multi-modal presentation of historical, sociological, political and medical issues and their importance relative to the treatment of addictive behaviors in today's society.

ADCL 205C Fundamentals of Dependency Counseling Skills 3-0-3

This course includes a comprehensive and detailed study of application both in documentation and treatment of the 12 core functions. Emphasis will be on preparation for on-site practice and for eventual state and national licensure and certification. (Prerequisite: ADCL 120C or permission of department head of Human Service.)

ADCL 230C The Four Domains of the Certified Recovery Support Worker (CRSW) 3-0-3

This eight-week online course includes detailed and comprehensive information on the educational components required by the NH Licensing Board for Alcohol and Other Drug Use Professional as well as education in the Four Domains of the CRSW credential. This course meets the educational requirements for the CRSW. To receive the CRSW certification, however, students must contact the Licensing Board and meet additional requirements which include 500 hours of paid or volunteer work, completion of the IC&RC exam, and any other conditions as required by the Board. This Credential is ideal for anyone seeking a career in the substance use disorder profession, specifically pertaining to the recovery of individuals suffering from the disease of addiction.

ADCL 235C Physiology and Pharmacology of Addiction 3-0-3

An in-depth study of psychopharmacological aspects of drugs is covered including a study of brain and body drug metabolism, medical complications and the treatment of psychiatric disorders as outlined in the the most current edition of the DSM. (Prerequisite: ADCL 120C or permission of the Program Coordinator of Addiction Counseling or the department head of Human Service.)

ADCL 296C Addiction Practicum I* 2-8-4

The first internship experience offers 30 hours of classroom-based group clinical supervision in support of 125 hours of fieldwork in an approved clinical setting. The student initially learns to integrate into an agency atmosphere within which they may research, observe, role-play and practice the fundamental skills of screening, intake, orientation, assessment, treatment planning, counseling, case management, crisis intervention, client education, referral, record keeping and consultation. (Prerequisites: ADCL 120C, ADCL 205C, HSV 111C, MHTH 187C, PSYC 105C, PSYC 283C, and HSV 242C, each with a grade of "C" or higher; PSYC 220C and ADCL 235C may be taken as a prerequisite or a corequisite; or by permission of the Program Coordinator of Addiction Counseling or the department head of Human Service.)

ADCL 297C Addiction Practicum II* 2-8-4

The second internship experience offers 30 hours of classroom-based group clinical supervision in support of 125 hours of fieldwork in an approved clinical setting. The student assumes increased responsibility culminating in substantial use of the fundamental skills of screening, intake, orientation, assessment, treatment planning, counseling, case management, crisis intervention, client education, referral, record keeping and consultation in direct contact with clients/patients. A greater understanding of available treatment resources is accomplished via an inspection of the state-wide continuum-of-care. (Prerequisites: AD 296 with a grade of "C" or higher and permission of the Program Coordinator of Addiction Counseling or the department head of Human Service.)

*** The student will also complete an interview with the practicum coordinator the semester prior to the first scheduled practicum. Special requests regarding practicum entrance may be brought to the department head by the student. Review of the requests will be made by the department faculty and special exemptions may be made for entrance into the practicum.**

Advanced Manufacturing Processes

MNFP 105C Engineering Drawing I 2-2-3

Understanding and interpreting engineering drawings is an essential tool for the machine tool technician. Basic engineering drawing practices will be covered including, multi-view projection, dimensioning, section and auxiliary views, basic GD&T concepts, hole/thread callouts. Sketching assignments will reinforce common drawing practices and conventions. While the course focuses on reading and understanding drawings, a basic introduction to Computer Aided Design, CAD will be included.

MNFP 110C CNC Programming & Operation I 3-3-4

This course covers fundamentals of computer numerical control, CNC. Basic programming and operation of CNC machines are covered. The course begins with manual programming practices so that the student will understand the programming code and its structure. Standard safety conventions will be introduced for safe programming practice. Computer simulation exercises will facilitate the learning process as the student gains practice in checking and trouble-shooting programs. The basic operation of CNC milling machines and lathes are covered. The lab uses software simulations where students test their program prior to use on the CNC machines, and actual CNC machine operation. The lab is geared so that students will understand what and how the program and machine will function. (Prerequisite: MNFP 101C)

MNFP 112C CNC Programming & Operation II 3-3-4

This course is a continuation of CNC Programming & Operation I. Advance programming methods and practices are covered in more detail. An introduction to computer aided manufacturing, CAM, is used to generate more complex part geometries using a software package. Advanced machine operations will also be covered such as 4-axis programming and machining. The lab will allow the student to practice

programming skills and give them additional practice time on actual CNC machines. (Prerequisite: MNFP 110C.)

MNFP 114C Applied Shop Mathematics II 3-0-3

This is a second course in Applied Shop Mathematics covering in-depth practical mathematical problems taken from the machine tool industry. Emphasis is placed on applied geometry and applied trigonometry using various techniques and methods to solve complex toolroom type machine problems. (Prerequisite: MNFP 104C)

MNFP 115C Engineering Drawing II 2-2-3

This is a second course in reading, interpreting, and analyzing engineering drawings and the information conveyed to the machine operator or tool maker. This course will give the student more exposure to engineering drawings and a better understanding for interpretation of the information presented. Students will also create hand sketches and be introduced to a Computer Aided Design, CAD, software to create working drawings. (Prerequisite: MNFP 105C)

MNFP 203C Manufacturing Processes III 1-9-4

A third course in Manufacturing Processes covers complicated machine tool techniques and processes used in general machine shop practice. High precision machine work is the focus with tool making projects. Students will make various complicated lab projects which reflect tool making ability. (Prerequisite: MFNP 102C)

MNFP 204C Manufacturing Processes IV 1-9-4

A fourth course in Manufacturing Processes covers more elaborate tool making concepts and techniques. Lab projects include complicated machining of high tolerance parts. Laboratory work will include the traditional manual machines as well as CNC machining centers. (Prerequisite: MNFP 203C)

Agriculture

AGRI 110C Sustainable Agriculture I 3-2-4

Students will learn about agricultural disease and pest identification and management, ratios and proportions for mixing fertilizers and additives, soil and water chemistry, niche market identification, agricultural adaptation to climate change in New England, as well as local and federal regulations and an introduction to resources for farmers. Lecture format will include formal lectures, guest speakers, and field trips. Labs will include in-lab research and experiments, as well as on and off campus fieldwork. Students will choose an area of specialization, based on their market niche, to begin the development of their portfolio.

AGRI 112C Practical Applications for Sustainable Agriculture I (8weeks) 1-3-2

This course will take place at a local farm using sustainable agriculture practices. Students will participate in all levels of farm operation from seed selection and ordering to pest, soil and water management, and transplanting crops. Focus areas will include soil analysis, financial and regulatory record keeping, greenhouse set up, chemical use and safety, and equipment selection and operation.

AGRI 115C Practical Applications for Sustainable Agriculture II (8 weeks- summer only) 1-3-2

This course will take place at a local farm using sustainable agriculture practices. Students will be involved in harvesting, crop rotation and direct sowing, pest management, soil health and watering. Students will also gain practical knowledge about bringing a product to market, food safety and contamination, food and crop loss, health and safety regulations and documentation. Students will build a portfolio that can be adapted and used when they work in the field. The portfolio will contain all necessary licenses, certifications and financial documentation needed for all agricultural businesses.

Allied Dental Education

A grade of "C" or higher is required in BIOL 195C, BIOL 196C, BIOL 202C and CHEM 110C to progress in the Dental Hygiene Program

ADED 100C Dental Hygiene I 2-0-2

An introduction to the theories and principles of the delivery of dental hygiene care, including evaluation of the patient, professional and clinical services. Emphasis will be placed on current concepts in preventive dentistry.

ADED 103C Dental Hygiene II 2-0-2

An introduction to common systemic diseases with emphasis on dental hygiene treatment planning and management of medical and dental emergencies. Topics discussed during seminar include substance abuse, stress, occupational and environmental hazards and special needs patients. (Prerequisite: BIOL 195C with a minimum grade of "C," ADED 100C, ADED 113C and ADED 134C.)

ADED 105C Dental Radiology for Dental Assisting 2-3-3

Lectures and demonstrations are coordinated with laboratory practice on mannequins to develop mastery of dental radiographic techniques to include digital radiography, processing, mounting and evaluating films. Emphasis will be placed on client and operator protection, exposure and processing errors, asepsis protocol, radiographic techniques and equipment function. Two clients will be scheduled near the end of the term when students exhibit acceptable and safe skills.

ADED 110C Dental Assisting Science I 3-0-3

A study of the anatomy of the head, emphasizing the osteological landmarks and the structures of the oral cavity. Both the permanent and primary dentitions are studied, including embryonic development and eruption patterns. In addition, an introduction to the structure and function of the human body systems in health and disease will be presented.

ADED 111C Dental Assisting Science II 2-0-2

An introductory study of drugs with specific consideration of those used in dentistry. Emphasis on drug origin, properties, dosages and therapeutic effects. Studies in oral pathology will include signs and symptoms of the diseases common to the oral cavity to include neoplastic disease and the inflammatory response. (Prerequisite: ADED 110C.)

ADED 113C Clinical Dental Hygiene I 1-8-3

A pre-clinical course for the development and application of information relating to preventive dental hygiene services. Includes topics on asepsis, infection control, gathering and evaluating patient medical and dental histories, legal and ethical considerations, body mechanics, intra and extra oral exams, and instrumentation. Use of adjunct dental hygiene aids is also taught. Skills will be practiced on student partners. A classroom seminar for learning activities and group discussion is included. All students enrolled in ADED 113C will be charged a \$500 per semester clinical surcharge. (Corequisites: ADED 100C and ADED 134C.)

ADED 114C Clinical Dental Hygiene II 1-8-3

Clinical Dental Hygiene II is a continuation of Clinical Dental Hygiene I. Students will apply techniques learned in Clinical Dental Hygiene I directly on clinical patients. Emphasis is placed on the introduction of additional dental hygiene instruments, as well as dental health education techniques. A classroom seminar for learning activities and group discussion is included. All students enrolled in ADED 114C will be charged a \$500 per semester clinical surcharge. (Prerequisites: ADED 100C, ADED 113C, and ADED 134C.)

ADED 126C Nutrition 2-0-2

Essentials of adequate diet, vitamins and nutritional balances/imbbalances, emphasizing total body health and dental care are discussed. Emphasis is placed on oral manifestation of nutritional diseases, dietary analysis and counseling for the prevention of dental caries and periodontal disease. (Prerequisite CHEM 125C with a minimum grade of "C")

ADED 134C Oral Anatomy I 2-1-2

A detailed study of the anatomy of the deciduous and permanent dentitions. Also included is tooth eruption and basic dental terminology. This course includes laboratory sessions which are coordinated with lectures to provide practical applications of dental anatomy.

ADED 136C Oral Anatomy II 2-0-2

A detailed study of the embryonic development and anatomy of the hard and soft tissues of the face and oral cavity. Study of the anatomical structure of the head and neck with emphasis on the cranial nerves, muscles of mastication and facial expression, temporomandibular joint, vascular and lymphatic systems, tooth development and histology of dental tissues and supporting structures. (Prerequisite: BIOL 195C with a minimum grade of "C," ADED 113C and ADED 134C.)

ADED 140C Dental Radiology for Dental Hygiene 2-3-3

Lectures and demonstrations are coordinated with laboratory practice on mannequins to develop mastery of dental radiographic techniques as well as processing, mounting and evaluating films. Other topics include the principles of digital radiography, radiographic interpretation, radiographic landmarks and localization techniques. Emphasis will be placed on patient and operator protection and equipment function. Patients will be scheduled near the end of the term when students exhibit acceptable skills. (Prerequisites: ADED 100C and ADED 134C; corequisites: ADED 136C and ADED 114C.)

ADED 155C Oral Hygiene Education/Nutrition 2-0-2

Methods of preventive oral hygiene education, including patient motivation, will be discussed. Lectures in nutrition will stress the importance of good eating habits in maintaining optimal general and dental health. Emphasis will be given to the essential role of the dental assistant in counseling the patient in these disciplines. (Prerequisite: ADED 110C.)

ADED 161C Dental Materials-DA 2-3-3

Study of the composition and properties of materials used in dentistry. Laboratory sessions emphasize practice in manipulation of various materials.

ADED 162C Dental Materials-DH 2-3-3

An introduction to the composition and properties of dental materials with emphasis on materials currently utilized in dental and dental hygiene treatments. Laboratory sessions are coordinated with lectures to provide practice in manipulation of materials with emphasis on impression taking and preparation of study casts. (Prerequisite: CHEM 125C with a minimum grade of "C," ADED 114C and ADED 136C; or permission of the department head of Allied Dental Education)

ADED 175C Dental Assisting Theory I 2-0-2

A course designed to teach the dental assisting student clinical techniques. Includes information on sterilization and disinfection techniques, charting, and the use of dental equipment and instruments. Students are introduced to four-handed chairside assisting as it pertains to all types of dental procedures including oral evacuation, instrument transfer, tray set-ups, and completing dental clinical records. Emphasis is placed on the dental health team concept.

ADED 182C Office Procedures and Management with Computer Applications 1-0-1

Development of working knowledge of office procedures to include telephone techniques, appointment scheduling and filing systems. Lectures will include fundamentals of bookkeeping systems, prepaid dental care plans, payroll and inventory control. Information from lecture topics will be integrated into Dental Assisting Theory II with the use of specialized office management software. (Prerequisite: ADED 110C.)

ADED 191C Dental Assisting Clinical Experience I 0-4-1

Clinic sessions are coordinated with lectures in preclinical theory. Demonstration and practice of all procedures in simulated clinical situations including the dental assistant's role in medical emergencies. All students enrolled in ADED 191C will be charged a \$350.00 per semester clinical surcharge.

ADED 196C Dental Assisting Clinical Experience II 0-15-5

Experience in a dental office performing chair-side assisting, laboratory procedures, office procedures, and exposing, processing and mounting radiographs. All students enrolled in ADED 196C will be charged a \$500 per semester clinical surcharge. (Prerequisites: ADED 105C, ADED 110C, ADED 161C, ADED 175C and ADED 191C.)

ADED 201C Dental Hygiene III 2-1-2

Lectures in periodontology with emphasis on the hygienist's role in detection and treatment of periodontal disease. Techniques of patient evaluation, instrumentation and prevention are taught in lecture and implemented in the laboratory/clinic situation. (Prerequisites: ADED 103C, ADED 114,C ADED 136C, and ADED 140C.)

ADED 212C Clinical Dental Hygiene III 1-12-4

Practical application of dental hygiene theories and techniques with emphasis on individual patients' oral health needs and the further development of oral prophylactic and radiographic techniques, including the preparation of diagnostic aids and patient education. Students will gain experience through work in their on-campus clinical assignments. All students enrolled in ADED 212C will be charged a \$500 per semester clinical surcharge. (Prerequisites: ADED 114C and ADED 201C.)

ADED 221C Clinical Dental Hygiene IV 1-12-4

Practical application of dental hygiene theories and techniques with emphasis on individual patients' oral health needs and the further development of oral prophylactic and radiographic techniques, including the preparation of diagnostic aids and patient education. Students will gain experience through work in their on-campus clinical assignments. All students enrolled in ADED 221C will be charged a \$500 per semester clinical surcharge. (Prerequisite: ADED 212C.)

ADED 225C Dental Hygiene Community Clinic 0-4-1

Practical application of dental hygiene theories and techniques with emphasis on the oral health needs of special patient populations. Students will gain experience in a variety of educational and public health settings. (Prerequisites: ADED 114C and ADED 201C.)

ADED 227C Dental Ethics and Jurisprudence 1-0-1

A study of the ethical and legal issues involved in dental care delivery as well as office management procedures.

ADED 239C Concepts of Risk Management 2-0-2

This course will orient the student to risk management topics including the prevention of medical emergencies, pharmacology and actions to assist in the management of a medical condition/emergency, and dental record documentation. Ethics and jurisprudence topics related to risk management are also included. (Prerequisite: ADED 110C)

ADED 242C Community Dental Health I 2-0-2

Students will gain information in dental public health. Emphasis is on planning, education, healthcare promotion, epidemiology, evidenced-based research, basic biostatistics, cultural competence, and healthcare financing. (Prerequisite: ADED 201C.)

ADED 243C Community Dental Health II 1-0-1

Students will implement the theory base from DN 242 into the spring semester with practical applications of the ADED 242C course content. The course will entail completion of

various projects and assignments with a community emphasis. (Prerequisites: ADED 212C and ADED 242C.)

ADED 245C Pain Management for the Dental Hygienist 1-3-2

This course will provide a comprehensive program of study designed to provide dental hygiene students with the knowledge and skills necessary to effectively administer block and infiltration anesthesia, as well as nitrous oxide sedation. The course will include classroom, laboratory and clinical instruction. Participants will work in groups of two or three and administer local anesthesia and nitrous oxide analgesia on each other. Upon successful completion of this course, and upon graduation, participants will have completed the educational requirements for local anesthesia and nitrous oxide licensure in New Hampshire. (Prerequisites: ADED 103C, ADED 114C, ADED 136C, ADED 140C, and CHEM 125C.)

ADED 247C Dental Hygiene Science - Pharmacology 2-0-2

Pharmacology emphasizes the study of drug origins, properties, dosages, and therapeutic effects. Specific consideration is given to those drugs used in dentistry and anesthesiology. (Prerequisites: BIOL 196C and BIOL 202C with minimum grades of "C" and ADED 136C.)

ADED 248C Dental Hygiene Science - Oral Pathology 2-0-2

Oral pathology includes the study of diseases affecting the oral cavity, manifestations of inflammation, degenerative changes, neoplastic disease, and anomalies. Oral pathology prepares the student to detect deviations from normal in the assessment of a client's systemic and oral health status and to make appropriate decisions regarding referral and treatment when needed. (Prerequisites: BIOL 196C and BIOL 202C with minimum grades of "C" and ADED 136C.)

ADED 275C Dental Assisting Theory II 1-3-2

A course designed to introduce the dental advanced functions to dental assisting students. Includes instruction in basic instrumentation concepts, removal of coronal cement, application of pit and fissure sealants, suture removal, coronal polishing, expanded orthodontic functions and the monitoring of nitrous oxide sedation. Pre-clinical skills will be introduced on mannequins and competency skills on patients. Advanced Dentrix computer applications will also be included. (Prerequisites: ADED 105C, ADED 110C, ADED 161C, ADED 175C and ADED 191C.)

ADED 298C Dental Assisting Clinical Experience III 2-8-4 (6 weeks)

Expanded opportunities in chair-side assisting to encompass all dental specialties including orthodontics, surgery, endodontics, pedodontics and prosthodontics. A weekly seminar is held to evaluate the individual clinical experiences. (Prerequisite: ADED 196C.)

Animation and Graphic Game Programming

In addition to listed prerequisites, students must earn grades of "C" or higher in each major field course and AGGP prerequisite to progress in the program.

AGGP 101C Introduction to Game Design and Creation with Programming 2-3-3

introduces the student to game design with a focus on core programming concepts and common game mechanics. No prior knowledge of game development is assumed. Several hands-on game programming assignments demonstrate real world implementations of abstract concepts. A research paper on the game industry and development topics is assigned. Each student is required to create a small game project during the last several weeks of the course. (Co/Prerequisite: CPET 107C, or with permission of Program Coordinator for AGGP)

AGGP 103C Introduction to Content Development 2-2-3

This course is designed for students entering the AGGP program to gain practical experience in developing content using applications, techniques, and standards used by the game industry. This course includes an introductory overview of image editing and manipulation, sprites, tiles, and tile based worlds. Course material is reinforced with hands on assignments and the creation of a portfolio. (Prerequisite: Working knowledge of current desktop operating systems) **Students who do not intend to enter the AGGP Program should instead consider enrolling in VRTS 193C: Introduction to Photoshop.**

AGGP 131C Introduction to 2-D and 3-D Game Development 2-3-3

This course focuses on the fundamental aspects of programming, development, and design for games using 2-D gameplay. Other topics explored include an introduction to 3-D programming, single-system multiplayer programming, multi-platform programming, and support for data originating from level editors. The coursework is structured with several hands on projects, classroom presentations, a team project, and a final public presentation. (Prerequisites: AGGP 101C, AGGP 103C, and CPET 107C, or with permission of Program Coordinator for AGGP)

AGGP 140C Digital Art Modeling and Animation 2-3-3

This course is an introduction to modeling and animation for game programmers to provide a common understanding to work with artists and designers in an effective manner. Topics include modeling, material creation, basic lighting, and an introduction to skeletal animation. Models will be created and then used to understand animation and asset pipelines using current industry tools and engines. Course topics are applied through practical hands on assignments. (Prerequisite: AGGP 103C or permission of Program Coordinator for AGGP)

AGGP 225C 3-D Game Engine Application Development 2-3-3

Students in this course will use a commercially available game engine or framework. The majority of the work in the class will be hands-on using these technologies. A common practice within the industry is team development of applications using licensed game engine technology. Students will understand how to use the engine's interwoven mesh of different systems, which include user input, networking and rendering. Game modification, also known as "Modding", and

source control will be covered. (Prerequisites: AGGP 110C, AGGP 121C, AGGP 131C and AGGP 140C or with permission of Program Coordinator for AGGP)

AGGP 231C Application Development and Software Prototyping 2-3-3

Current application development can target multiple platforms across a range of devices such as phones, tablets, smart devices, consoles, and personal computers. Students will study current technologies for cross platform development and deployment. Several intense hands-on software prototype projects will be required where students will design a concept, build a proof of concept, and conduct a postmortem review. (Prerequisites: CPET 125C, AGGP 101C, and AGGP 140C or with permission of Program Coordinator for AGGP)

AGGP 247C Math and Physics for Game Programmers 2-3-3

Math and physics play key roles in game programming. Effective use of math is needed for code design, data structures utilization, using design patterns, developing artificial intelligence (AI), using scripting engines, controlling 3D pipelines and texture mapping development. Math is also needed to implement the physics utilized in Newton's laws and concepts of collisions and reactions. Programmed applications which use math and physics in game development will form the foundation for this hands on course. (Prerequisites: AGGP 101C, CPET 107C, and have completed the math requirement for the AGGP program with a grade of "C" or higher; or with permission of Program Coordinator for AGGP.)

AGGP 270C Emerging Game Technologies 2-3-3

The field of game development is rapidly evolving. Changes driven by emerging technologies include new devices, new platforms, evolving software tools, and enhanced content delivery. The means to assimilate new technology in the workplace and the impact on business models will be explored. Several intense, hands-on projects will be assigned. (Prerequisites: AGGP 110C, AGGP 225C, and AGGP 255C or with permission of Program Coordinator for AGGP)

AGGP 291C Project Definition and Portfolio Specifications 1-3-2

Leaving NHTI with a polished, professional portfolio is one of the most important program benefits for an AGGP graduate. With these portfolios our students find themselves in better positions to compete in the hiring process, to transfer to other schools, and to receive scholarships for further education. In AGGP 291C, students begin the construction of a professional industry portfolio. Assignments given to support an effective portfolio include collecting and polishing potential portfolio pieces, crafting resumes and cover letters, and learning job search networking techniques. An exemplary individual project intended to be included in a portfolio is required in addition to other assignments. A study of game theory and game projects will be used to define a team capstone project to be undertaken in AGGP 294C. (Prerequisites: Completion of all AGGP major courses in the first year of the curriculum; corequisites: additionally, the student must be enrolled or have already taken all AGGP major courses for the fall semester of the second year curriculum; or with permission of Program Coordinator for AGGP.) **Students enrolling in AGGP 291C come with the**

expectation that they will directly enroll in AGGP 294C in the next semester. Students who do not take AGGP 294C in the next semester after taking AGGP 291C must re-take AGGP 291C before enrolling in AGGP 294C. Students who have passed AGGP 291C but who are required to re-take the course should be aware that the cost of the course may not be covered by financial aid and should consult with the Financial Aid Office prior to registration.

AGGP 292C Portfolio Development 2-3-3

Critical to breaking into the game industry is the development and refinement of an impressive portfolio showing both team and individual content. The portfolio is the means to display one's skills and ability to work within a team. Each portfolio is developed as an individual student effort. AGGP 292C builds upon the work already started in AGGP 291C. The lab in this course is devoted to a major portfolio piece or for students to be available for an internship off-campus. Students are expected to prepare a presentation of their work as part of this course. (Prerequisites: AGGP 291C Project Definition. Summary of all prerequisites: completion of all major AGGP courses in the first year of the curriculum and all major AGGP courses in the second year fall semester and Corequisites: additionally, the student must be enrolled in all the AGGP courses for the spring semester of the second year curriculum or have completed these courses; or with permission of Program Coordinator for AGGP)

AGGP 294C Animation and Graphic Game Programming Capstone Project 2-5-4

Students will be working on campus in team projects or off-campus on internships. Students will be creating projects based on the specifications developed in AGGP 291C. The lab portion of this class is devoted for student project development. All work, either on-campus or off-campus, will be supervised by an NHTI instructor and students are expected to work at an industry performance level. Final team presentations of the work accomplished are part of this course. (Prerequisites: AGGP 291C Project Definition completed during the previous semester. Summary of all prerequisites: completion of all major AGGP courses in the first year of the curriculum and all major AGGP courses in the second year fall semester; corequisites: additionally, the student must be enrolled in all the AGGP courses for the spring semester of the second year curriculum or have completed these courses; or with permission of Program Coordinator for AGGP)

Anthropology

ANTH 101C Introduction to Cultural Anthropology 3-0-3

This course is an introduction to the perspectives, methods, and ideas of cultural anthropology and will analyze human diversity and similarities among people throughout the world, both western and non-western, through cross-cultural comparison. Topics include: culture and society; ethnographic research; ethnocentrism and cultural relativism; how societies adapt to their environment; different forms of marriage and social relationships; male, female and other forms of gender; the social functions of religion; and the processes of social-cultural change.

ANTH 210C Native American Studies I 3-0-3

A study of North American Indian cultures from the lithic period to the 21st century. Origin of Native American civilization and development will be studied, including: lifeways, religion, ceremonies, arts and social organizations. The course will first focus on Mesoamerica during the pre-Columbian period. The study then proceeds to an in-depth review of the people/tribes of the Northeastern and southeastern woodlands and the Great Plains cultural area.

Architectural Engineering Technology Architectural Focus

ARET 101C AutoCAD 2D 3-0-3

This is an introductory course in Computer-Aided Drafting (CAD) for beginning students. Topics include drawing set-up, line drawing, text placement, orthographic drawing, basic editing, and dimensions. This hands-on course, using AutoCAD, focuses on the most common basic functions necessary to complete 2-D drawings including move, mirror, copy, offset, trace, OSNAP, distance, and more. Projects incorporate basic techniques of drawing and computer-aided drafting. This course is part of the CAD Certificate program. Note: Students are expected to be able to read and interpret architectural/engineering graphics to register for this course.

ARET 102C AutoCAD 3D 3-0-3

This course introduces students to architectural three-dimensional CAD applications, 3-D manipulation of entities and to create and control views in 3-D space through Isometric and perspective projections. Topics include three-dimensional drawing, coordinate systems, viewing, rendering, modeling, and output options. Upon completion, students should be able to prepare basic architectural three-dimensional drawings and renderings. This course is part of the CAD certificate program. (Prerequisite: ARET 101C or permission of department head of Architectural Engineering Technology.)

ARET 103C Architectural Graphics and Sketching 2-2-3

The first semester is devoted to the basic ways of representing architectural ideas graphically through the development of sketching and computer-aided-drawing (CAD) skills. Architectural line techniques, lettering styles, geometric construction, principles of projection and drawing expression are the areas of early concentration. Architectural design issues are studied regarding residential planning and siting. The student produces floor plans, foundation plans, site plans, elevations, building sections, wall sections and details. An introductory structural analysis for foundation loading is explored. Production of drawings by sketching and CAD demonstrates the student's ability to perform. (Corequisite: ARET 120C.) (**Note:** CAD certificate students and Industrial Design Technology students taking this course will not be required to register for ARET 120C.)

ARET 104C Architectural Design Studio I 2-2-3

The student will study the architectural design for an institutional building that is designated for public use. The terrain is sloping and provides for a two-story sloped roof structure that employs current construction methods. The student begins study through the use of sketch-to-scale

drawings. With an outline of design criteria and project guidelines, the student develops preliminary presentation drawings for floor plans, elevations and 3-dimensional views. As the student comes to know and appreciate the design, the emphasis shifts to a more in-depth understanding of the technology of construction. The student prepares construction documents for floor plans, elevations, building sections, wall sections and details. The preparation of preliminary drawings and construction documents include sketching to scale and drawings produced by CAD (Computer Aided Drafting & Design) AutoDesk software. The student demonstrates competency by studying, discussing and producing these drawings and presenting them to the class as a way of working on relevant verbal skills. (Prerequisites: ARET 103C and ARET 120C.)

ARET 120C Materials and Methods of Construction 4-0-4

A survey of the materials used in building construction, the methods used in assembling these materials into structures, and the forces acting on structures. Included are the characteristics and properties of each material and their relative cost. Materials and methods studied include site work, concrete, masonry, metals, wood and plastics, thermal and moisture protection, doors and windows, and finishes.

ARET 150C Statics and Strength of Materials 3-2-4

A study of forces and the effect of forces upon structural members in a state of equilibrium. It is the study of internal stresses and deformations that result when structural members are subjected to external forces through loading. While lectures, and some labs, deal mainly with the theory of force analysis and force systems solutions, laboratory projects involve the application of various stress and strain measuring instruments on many materials used in construction. (Prerequisites: MATH 124C and PHYS 133C.)

ARET 160C Introduction to Geographic Information Systems 2-2-3

An introduction to geographic information systems (GIS), global positioning systems (GPS), and ESRI's ArcGIS. Topics will include: basic GIS concepts; the structure and availability of GIS data in New Hampshire and beyond; the New Hampshire state GIS database (NH GRANIT); creation of maps; editing and creation of GIS data; the use of GPS to collect information for use in GIS; GIS processing and analysis. The course will combine lectures, hands-on exercises, and an individual student project over the course of the semester.

ARET 191C AutoCAD Architecture 3-0-3

This course is designed for architects and other building professionals. Participants begin with a conceptual massing model and work in 2D or 3D or both at the same time to create a design and draft construction documents. AutoCAD® Architecture is built on traditional drawing tools of AutoCAD allowing students to create a building model with parametric architectural objects that behave according to real-world properties. Because all drawings derive from a single data set, they are perfectly coordinated and automatically updated throughout the entire design process. **Note:** students are expected to be able to read and interpret architectural/engineering graphics to register for this course.

ARET 192C Revit Architecture 3-0-3

Revit® Architecture, a parametric building modeler based on parametric technology, enables the user to make a change anywhere in the building project and it's automatically updated everywhere else in the project. The course focuses on building a foundation for the basic elements in the software. **Note:** students are expected to be able to read and interpret architectural/engineering graphics to register for this course.

ARET 194C Microstation 3-0-3

This is an introductory course in Computer-Aided Drafting (CAD) for beginning students using Microstation V8 software. Topics include drawing set-up, line drawing, text placement, basic editing and dimensions. The course structure focuses on the most common basic functions necessary to complete drawings including move, mirror, copy, offset, distance and more. Projects incorporate basic techniques of drawing and computer-aiding drafting. **Note:** students are expected to be able to read and interpret architectural/engineering graphics to register for this course.

ARET 202C Architectural Design Studio II 2-2-3

Emphasis is placed on an architectural design solution for a multi-story addition to existing buildings and preparation of construction documents for an institutional building. The student will study a multi-story steel or concrete framed and masonry enclosed structure. Floor plans, elevations, sections and details using materials typically used in construction today are sketched to scale and produced by CAD (Computer Aided Drafting & Design) AutoDesk software. Lectures relating to the basics of circulation, egress requirements, structural steel framing, masonry, codes, metal pan stairs, barrier-free design and handicap code requirements, fire protection, acoustics, glazing, curtain-wall systems, roofing and building energy conservation and sustainable strategies, supplement studio work. Students will study sustainable strategies and energy utilization through the use of energy modeling software. (Prerequisites: ARET 103C and ARET 104C; corequisite: CVET 240C.) **Note:** course not required of students in Architectural Engineering Technology - Civil Focus.

ARET 250C Environmental Systems 3-0-3

A survey of the environmental control methods and support systems used in contemporary buildings. Emphasis is placed on the fundamentals of each system and design of simple systems, and how they relate to energy utilization and conservation in building design. Students will use an energy modeling software to study the design of a building. Economic comparisons and cost/benefit ratios are also studied. (Prerequisite: PHYS 135C.) **Note:** course not required of students in Architectural Engineering Technology - Civil Focus.

ARET 270C Construction Management 3-0-3

A course dealing with the business phase of a construction project, from working drawings and specifications to final completion of the structure. Both the architect's or engineer's role and contractor's role in coordinating project activities are discussed. Also covered are cost control (estimating) and contractual arrangements, including recent innovations of the industry. The impacts of green,

sustainability, and energy conservation issues on construction management will be studied. Guest lectures and a field trip to an ongoing construction project will supplement classroom lectures. (Prerequisite: ARET 202C or CVET 201C and ENGL 125C.)

ARET 297C Architectural Design Studio III 2-2-3

The student chooses a project for the term to design from a collection of instructor-approved projects requiring real site considerations. By discussing the relevant design criteria with the instructor and selection of a hypothetical client outside of class, the student develops and refines the program of space requirements and acquires an appreciation of the in-depth functionality of architecture, especially space adjacency requirements. The study includes an analysis of a site, structure, codes, circulation, material usage, and sustainability and energy considerations. Schematic and preliminary designs, with an emphasis on sketching for study purposes, presentations drawings and construction documents are produced by CAD (Computer Aided Drafting & Design) AutoDesk software. Students build a study and final model, and are required to submit a progress report. An emphasis is placed on a thorough coordination of the work, application of current technology and application of the knowledge gained in the ARET program. (Prerequisites: ARET 202C, CVET 220C, CVET 240C and ENGL 125C.)

Architectural Engineering Technology Civil Focus/Civil Engineering Technology

CVET 201C Civil CAD 2-2-3

This course is an introduction to the use of computer aided drawing and design software for the civil engineering discipline. Areas of application of the software within engineering include mapping, topography, site development, and subdivision. Within the field of highway design the student applies civil design software to detail roadway alignment and create final drawings of plan, profile and cross section. Laboratory time is typically for the student to generate designs and drawings with the support of the instructor. (Prerequisites: ARET 104C, or permission of department head of Architectural Engineering Technology.)

CVET 202C Soil Mechanics and Foundation Design 2-2-3

This course deals with the fundamentals of soil mechanics. Topics covered include moisture-density relations, mechanical and chemical gradation properties, basic shear strength theory, permeability and compression. Lecture topics will be supplemented by field observations and lab work. Upon completion of this course, students will understand the essential elements of soil mechanics theory such that it may parlay into practical applications. (Prerequisites: ARET 150C and CVET 220C or permission of the department head)

CVET 220C Surveying 2-3-3

A course to familiarize students with the equipment, procedures, and methodology of modern surveying practice. Includes measurement of distance, elevation, angle, and direction "in the field" with both manual and electronic

equipment. The methods of topographic, construction, and route surveying are also studied. Lastly, the student is taught to use software programs to aid in data collection, manipulation and map making. (Prerequisite: MATH 124C.)

CVET 235C Reinforced Concrete Design 2-3-3

To learn the fundamentals of design and analysis of steel reinforced concrete structures including beams, floor and roof slab systems, columns, foundation footings, and structural walls. Design sketches, based on calculations and in accordance with the latest American Concrete Institute (ACI) Building Code Requirements, are prepared. Also a major laboratory project including designing, building and testing reinforced concrete beam is done by student teams. (Prerequisite: CVET 240C.)

CVET 240C Timber and Steel Design 3-2-4

The study of structural steel and timber members that involves the design and analysis of beams with regard to bending, shear, and deflection. Columns are studied with respect to axial and eccentric loading. Miscellaneous structural elements such as beam bearing plates, column base plates, and welded and bolted connections are also designed. The student is taught first to make calculations manually, then with the aid of computer software. The laboratory time (2 hours per week) is dedicated to a variety of activities where the student is fully involved not only in the design and analysis, but also in the construction and testing of timber and steel beams, columns, connections, bracing systems, load packages and simple frames. Finally, the observations and results are documented through calculations, drawings, photos and CAD. (Prerequisite: ARET 120C and ARET 150C.)

CVET 245C Hydrology/Drainage Design 3-0-3

This is an entry-level course that will teach students the basics of stormwater drainage. They will learn how to delineate a watershed, apply runoff calculations to the watershed, and determine peak design flows. These design flows will then be used to instruct students in the basics of hydraulics as it pertains to stormwater flow. They will learn how storm drainage systems are planned and what components make up a drainage system. They will leave the course understanding stormwater flow in culverts, how to determine if a culvert is flowing with inlet or outlet control, and how to use nomographs in the selection of a particular culvert. Students will apply this knowledge to basic open channel flow and learn about erosion and sediment control. (Prerequisite: CVET 220C with a grade of "C" or higher.)

CVET 297C Highway Design 3-2-4

This course focuses on the highway design process, beginning with transportation requirements and soil mechanics and continuing with highway location, site planning, geometric design and pavement design. The knowledge gained equips students for project work. The course culminates with students' preparation (using CAD) and presentation of final engineering drawings of a section of roadway. This project is evaluated with respect to alignment, safety, aesthetic impact, construction cost and professional quality. Labs will involve the use of a soil testing lab and visits to nearby road construction sites will be scheduled. (Prerequisite: CVET 220C.)

Biology

BIOL 100C Introduction to Biology with Laboratory 3-2-4

An introductory course in biology intended to satisfy the biology admission requirement for NHTI health-related degree and professional certificate programs. Topics include scientific method and measurement, cell structure and function, energy transformation, nutrient processing, gas exchange, circulatory systems, nervous systems, principles of homeostasis, and heredity. Laboratory exercises parallel lecture topics, and include microscopy, dissection, biochemistry, and physiological experimentation. (For institutional credit only; does not count toward graduation requirements but is calculated into GPA; not intended for transfer.)

BIOL 111C General Biology I 3-2-4

Designed to provide the student with the basic principles of biology, including scientific method, cell structure, cellular biochemistry and energy transformations, and genetics. Laboratories are used to develop skills in scientific thought and common procedures used in biological experimentation. With BIOL 112C, intended to provide a foundation for further study in life sciences. (Prerequisites: algebra I with a grade of "C" or higher; high school level biology and chemistry, with labs, with grades of "C" or higher.)

BIOL 112C General Biology II 3-2-4

A continuation of BI 111. Includes a survey of the taxonomic groupings of life forms, as well as the principles of evolution and ecology. (Prerequisites: BIOL 111C with a grade of "C" or higher or permission of the Department Head of Natural Sciences.)

BIOL 115C Introduction to Ecology 3-2-4

This course is designed to give non-science majors an opportunity to learn about the interactions between the physical and biological components of the environment. The lecture will provide a broad introduction to the organismal, population, community and ecosystem levels of ecological interaction. Instructional methods include readings, lecture/discussion, in-class applications, field observations and field research. The lab portion of this course will provide students with practical experience in ecological methods and in the design, conduct and analysis of ecological studies. Laboratory exercises are designed to correspond with major lecture topics. Exercises include laboratory and field studies; student should come prepared to be outside for most labs. (Prerequisites: high school biology with lab or BIOL 100C with a grade of "C" or higher and high school chemistry with lab or CHEM 100C with a grade of "C" or higher and high school algebra I or MATH 092C with a grade of "C" or higher.)

BIOL 116C Field Ornithology 3-2-4

This course introduces the student to the biology of birds and the methods of modern field studies, identification, life histories, ecology, and behavior of birds, with an emphasis on local species. The course involves a major field component (i.e., observing and identifying birds in their natural habitats or "birding") complemented by investigations into aspects of bird biology and ecology, such as habitat use, bird morphology and flight, song, nesting and reproductive behavior, and migration. No previous experience with birds is

expected. Lecture and lab may include demonstrations, discussion, and field trips. (High school biology strongly recommended or permission of the Department Head of Natural Sciences.)

BIOL 117C Introduction to Plant Biology 3-2-4

An introduction to the structure and physiology of plants at the molecular, cellular and organismal levels; survey of major plant groups and their evolutionary relationships; and the relationships of plants to humans and other organisms. (Prerequisite: high school level biology with lab with a grade of "C" or higher or NHTI's BIOL 100C with a grade of "C" or higher.)

BIOL 120C Human Biology 3-2-4

A brief summary of human anatomical structure and physiological systems designed to provide students with the knowledge and perspective necessary to work in their chosen fields. (Prerequisite: high school biology recommended)

BIOL 122C Basic Pathophysiology 3-0-3

A course designed to provide the student with an understanding of the various mechanisms by which human diseases develop. Includes a survey of common disorders involving each of the major body systems. (Prerequisite: BIOL 120C with a grade of "C" or higher; or BIOL 195C and 196C with grades of "C" or higher.)

BIOL 123C The Biology of Human Reproduction 3-0-3

This is an introductory course intended to give an appreciation for the importance of the following areas of reproduction: male and female anatomy and development, sexual differentiation, puberty, menstruation, parturition, lactation, assisted reproductive technologies, birth control methods, and menopause. (Recommended: high school level [or higher] biology.)

BIOL 125C Human Genetics and Society 3-2-4

This course is an introduction to genetics for students not majoring in the sciences. The student will be introduced to the basic principles of Mendelian and molecular genetics and will apply these principles to human genetic traits. Causes and treatments of common inherited diseases will be discussed as well as genetic technologies and their applications (recombinant DNA technology, genetic engineering, in vitro fertilization). The associated ethical and social issues will also be examined. Lab component to complement lecture. (Recommended: high school level [or higher] biology.)

BIOL 129C Introduction to Sports Nutrition 3-0-3

This course is an introduction to the basic nutritional needs of those involved in individual and team sports. General nutrition topics will be interspersed with specific requirements and recommended intakes for athletes at all levels and ages. A variety of sporting activities, including those involving both endurance and strength athletes, will be covered. (High school biology recommended.)

BIOL 159C Personal Nutrition 3-2-4

An introductory course including laboratory for the individual interested in nutrition as a tool for personal health promotion and disease prevention. Incorporates basic principles of nutrition with discussions of contemporary issues. Laboratory

exercises allow for exploration of lecture topics and will include scientific method, food analysis, diet analysis and nutritional lifestyle analysis. (Prerequisite: high school biology recommended)

BIOL 180C Tropical Ecology and Conservation 3-2-4

This introductory level course is designed to introduce the student, through academic study and real experience, to the ecology, natural history, and conservation programs at work in Costa Rica. The classroom (on-line) portion of the course will prepare the student through studies of major ecological principles, tropical ecology in general and of Costa Rica specifically, and the major ecosystems of Costa Rica. The historical, economic, and cultural aspects of Costa Rica and their relationship to resource conservation efforts will be examined. The culmination of the course will be a nine-day travel experience to Costa Rica, where the class will visit several major ecological systems and conservation areas. The laboratory portion of the course will consist of the nine-day excursion to Costa Rica through the NHTI-sponsored Culture Quest trip. The travel portion of this course is a major part of the laboratory component and is required. During the time in Costa Rica, students will apply what they have learned to understand the different ecosystems visited, identify tropical plants and animals, and appreciate the threats to and efforts to conserve the unique biodiversity of Costa Rica. (Prerequisite: High school biology with lab with a grade of "C" or higher and high school chemistry with lab with a grade of "C" or higher.) [Students should note that the cost of the trip to Costa Rica is not included in the tuition for this course. Students are responsible for all costs of this trip.]

BIOL 195C Anatomy and Physiology I 3-2-4

An introduction to the structure and function of the human body. Includes elementary cytophysiology, histology, and anatomy and physiology of the integumentary system, skeletal system, muscular system, nervous system, and special senses. Laboratory work parallels lecture topics, and includes microscopy, study of human anatomical models, dissection of preserved animals, and physiological experimentation. (Prerequisite: high school biology with lab and high school chemistry with lab, each with a grade of "C" or higher, or permission of the Department Head of Natural Sciences.)

BIOL 196C Anatomy and Physiology II 3-2-4

A continuation of BIOL 195C. Includes anatomy and physiology of the endocrine system, circulatory system, immune system, respiratory system, digestive system, excretory system, and reproductive system. Other topics covered include nutrition and metabolism, acid/base balance, fluid and electrolyte balance, and genetics. Laboratory work parallels lecture topics, and include microscopy, study of human anatomical models, dissection of preserved animals, and physiological experimentation. (Prerequisite: BIOL 195C with a grade of "C" or higher or permission of Department Head of Natural Sciences.)

BIOL 202C Microbiology 3-3-4

Lectures focus on three major areas: 1) basic concepts of microbiology, including morphology and physiology of prokaryotes, eukaryotes, and viruses; 2) host resistance to disease and immunology; and 3) epidemiology of selected diseases caused by bacteria, viruses, fungi, protozoa, and parasitic worms. Labs also focus on three major areas: 1) basic skills such as staining, microscopy, and isolation techniques; 2) bacterial physiology as is pertinent to identification of bacterial species; and 3) control of microorganisms via chemotherapeutic agents, physical means and chemical disinfectants. (Prerequisite: BIOL 112C or BIOL 196 with a grade of "C" or higher.)

BIOL 211C Genetics 3-2-4

A lab course intended to enhance a student's knowledge of basic genetics and to provide the foundation necessary for further studies in molecular biology, cell biology, evolution, systematics, and behavior. Topics covered will include Mendelian genetics, molecular genetics, immunogenetics, genetics of cancer and population genetics. (Prerequisites: BIOL 112C or BIOL 196C with a grade of "C" or higher, and MATH 124C or equivalent or higher level math course* with a grade of "C" or higher; or permission of Department Head of Natural Sciences.) *excluding MATH 129C.

BIOL 212C Ecology 3-2-4

Investigations into the biological and physical factors affecting the distribution, abundance, and adaptations of organisms. Interrelationships at the population, community, and ecosystem levels will be studied. (Prerequisites: BIOL 112C and MATH 124C or equivalent or higher level math course* with grades of "C" or higher; MATH 251C with a grade of "C" or higher recommended; or permission of Department Head of Natural Sciences.) *excluding MATH 129C.

BIOL 215C Freshwater Ecology 3-2-4

This course enhances students' understanding of ecology, and introduces them to the biological, chemical, and physical properties of lakes, streams, and wetlands as they relate to the structure and function of freshwater ecosystems. Students will gain an understanding of freshwater environmental concerns and experience in water quality assessment. The course will also cover topics in sustainability, management, and rehabilitation of natural aquatic environments in relation to human impact. (Prerequisite: BIOL 111C or BIOL 112C or BIOL 115C with a grade of "C" or higher.)

BIOL 222C Pathophysiology 3-0-3

A course that provides the allied health student with an understanding of disease processes by building on the student's knowledge of normal anatomy and physiology. Common disorders of major body systems are discussed relative to the mechanisms by which they develop and their effects on homeostasis. (Prerequisite: BIOL 196C with a grade of "C" or higher or permission of Department Head of Natural Sciences.)

BIOL 229C Nutrition in Exercise and Sports 3-0-3

This course introduces the student to nutrition as it relates to the improvement or optimization of physical performance. Dietary interventions for strength and endurance exercise training and sporting event participation will be thoroughly investigated. Special emphasis will be placed on weight management; the reduction, maintenance and gain of body mass. (Prerequisites: BIOL 196C with a grade of "C" or higher, or BIOL 159C or equivalent with a grade of "C" or higher.)

BIOL 235C Principles of Evolution 3-0-3

This course provides an in-depth understanding of the mechanisms of genetic variation, natural and sexual selection, and patterns of evolutionary change, and will look at modern variations within the theory itself. The course also explores the historical development of the science and the modern social controversies associated with it. Pedagogical issues of teaching evolution may also be discussed. (Prerequisites: BIOL 112C General Biology II or equivalent with a grade of "C" or higher, or permission of the Department Head of Natural Sciences.)

BIOL 239C Public Health Nutrition 3-0-3

This course is designed to provide students with the foundation and core competencies of public health nutrition. This will include the skills, knowledge and tools used in assessment, community intervention, and evidence-based approaches to promote health and prevent diseases. This course will engage students in critical thinking and productive discussion around public health nutrition and health promotion. The course will address major public policy initiatives related to public health nutrition, health promotion and disease prevention nationally and globally. This course requires students to be proficient in writing. Successful completion of ENGL 101C strongly recommended. Prerequisites: BIOL 159C Personal Nutrition or BIOL 129C Intro Sports Nutrition (equivalent with a grade of "C" or higher) or permission from the Department Head of Natural Sciences.

BIOL 259C Normal and Therapeutic Nutrition 4-0-4

An introductory course in normal and therapeutic nutrition designed for students in allied health programs. Focuses on the application of basic principles of nutrition to health promotion and disease prevention, as well as the role of nutritional intervention as a therapeutic tool in specific pathologies. Includes discussion of contemporary issues in nutrition. Special note – it is recommended that students NOT take BIOL 159C prior to taking this course. (Prerequisites: BIOL 196C or equivalent with a grade of “C” or higher or permission of Department Head of Natural Sciences.)

BIOL 260C Cell Biology 3-3-4

Cell Biology is a course for biology majors focusing on eukaryotic cells. General topics include the structure and function of principal cellular components, energy metabolism, signal transduction, apoptosis, the cell cycle, gene expression, and an introduction to cancer biology. Laboratory experiments include modern cell research techniques such as ELISA, gel electrophoresis, and animal cell culture. (Prerequisites: BIOL 112C General Biology II or BIOL 196C Anatomy & Physiology II or equivalents with grades of “C” or higher, or permission of the Department Head of Natural Sciences.)

BIOL 279C Life Cycle Nutrition 3-0-3

Focuses on nutritional needs of the growing, developing human from conception to old age, with particular emphasis on the nutritional needs of infants, children, adolescents, adults, women and aging adults. (Prerequisite: BIOL 159C or BIOL 259C with a grade of “C” or higher or permission of Department Head of Natural Sciences.)

BIOL 290C Senior Capstone Project and Seminar 3-2-4

This course serves as the capstone course for the Biology Program. During this course the student will demonstrate the application of the knowledge gained throughout the program. This will be achieved either by independent study on a topic chosen by the student with guidance from a faculty member or through participation in a field internship with an approved industry partner. Independent study will involve the investigation of all sides of a current biological issue. In either case, the student will turn in a written paper and also make a presentation of his/her project to all interested students and faculty in a student seminar. (Prerequisites: All science and MT courses with grades of “C” or higher and the approval of the Department Head of Natural Sciences; only offered in the final semester of the Biology program.)

Building Inspector and Plans Examiner

BIPE 101C Introduction to the International Code Council (ICC) Codes 3-0-3

International Code Council's (ICC) building codes largely guide architecture, engineering, and construction industries to build safer and healthy built environment. Building codes continuously evolve in response to tragic incidents, technological advancements, and changing environmental dynamics. The scope and complexity of the building codes require practitioners, reviewers, and enforcers to remain well informed of the relevant building codes. Especially when federal, state, and local interpretations, adoptions, and enforcement vary. A brief history of the code development in

the USA explores the formation of various building codes in regards to the occupants' safety, health, well-being, and environmental issues.

BIPE 105C Construction Document Reading 3-0-3

This course introduces the fundamentals of reading construction documents for residential and commercial projects and drawing conventions. Section one of the course focuses on residential construction documents including the survey, off-site and site improvements, the structure, plumbing, mechanical, electrical systems, foundations and below-grade construction. Section two introduces commercial construction documents reading and applicable codes.

BIPE 110C Plan Review 3-0-3

This Plan Review course highlights aspects of building planning review, fire protection systems review, means of egress, fire-resistance-rated construction and interior finishes review. Some of the topics include international building code plan review record, components of fire-rated construction, fire detection and fire suppression systems, and ADA based design requirements. The critical aspects of plan review process forms the basis of this course. (Prerequisites: BIPE 101C and BIPE 105C.)

BIPE 115C State Construction Laws 3-0-3

This course surveys State Construction Laws from legal, practical, and professional dimensions. The topics include RSA's regarding Structure of Laws & Rules, Land Use Laws, Fire Code, Building Code, Conflicting and Complimenting RSA & Building Code, and other State Laws/ agencies including Licensing of Contractors/ Architects/ Engineers, Food Service, ADA, and Case Laws. This course will enhance the student's understanding of construction problems from a building inspector's perspective by familiarizing you with the critical aspects of construction law, its enforcement, and impacts on the construction industry and project costs.

BIPE 120C Legal Aspects of Enforcement 3-0-3

The Legal Aspects of Enforcement course provides an insight into the local government law, state and federal legislative laws, administration and enforcement, administrative and constitutional laws, property law concepts, liability for intentional wrongdoing, negligent wrongdoing, civil rights actions, and the role of the witness. Discussions particularly focus on the issues of misfeasance, malfeasance, nonfeasance, laches; preemption, sovereign immunity, injunctive relief, appeals process, and indemnification.

BIPE 125C Building Inspector Skills (Capstone) 3-0-3

Building Inspector Skills course highlights the essential roles, skills, and responsibilities of a building inspector including careful inspections and reviews to ensure construction complies with all applicable national and local codes, zoning regulations, and contract specifications. Major topics include safe buildings, approaches to inspection, getting along, customer service, doing the right thing, and communication.

Business Administration

BUS 101C Introduction to Business 3-0-3

An introduction to the general concepts of business, including organization, forms of ownership, finance, management, marketing, production and the relationship between business and society. The current business climate and attitudes will also be examined through the use of business publications and articles.

BUS 152C Foundations of Leadership 3-0-3

In this course, students will examine the outlook, skills, and behavior essential to successful leadership. Topics include leadership theory, motivation, group dynamics, communication, management, status, power and politics, as well as organization culture and ethics. Students will develop an approach to the leadership style that works for them while at the same time exploring techniques to develop leadership skills in others. The focus of the course is to bridge the distance between leadership theory and management practice.

BUS 170C Principles of Marketing 3-0-3

An introductory course presenting such topics as the seven managerial functions of marketing, problem-solving, decision-making, marketing research, ethics in marketing, new product development, price determination, marketing channels and advertising.

BUS 174C Principles of Sales 3-0-3

A study of the selling process as it relates to training professional sales people and the basic elements of the persuasion process. A systematic approach will be used to develop techniques to adjust to individual styles. Students will also study the tasks of the sales manager and techniques which are used to hire, train, and compensate the sales force. (Prerequisite: BUS 170C.)

BUS 180C Principles of Retailing 3-0-3

This course provides the basis for understanding the world of retailing. Topics include retail strategy, store location, buying merchandise, assortment planning, inventory management, retailing, customer service and store layout. (Prerequisite: BUS 170C.)

BUS 221C Health Care Management in the U.S. 3-0-3

This course will examine health care trends within the United States. The focus will be on the evolving nature of health care and current debates. Students will explore such topics as: history of health care, hospital reorganization, care delivery settings, administrative and caregiver role changes, reimbursement, managed care and governmental interventions.

BUS 225C Business Law I 3-0-3

Law I is the study of the fundamental principles of law as they apply in the business world. The course examines legal rights and remedies and contracts. Students will gain a detailed understanding of the law of Torts and Contracts, and will learn business law through related textbook readings and research on the Internet. This course emphasizes the relationship of business law to an individual's personal life as well as occupational life. Applications of the laws as they affect the individual in a moral society are featured.

BUS 226C Business Law II 3-0-3

Focuses on various forms of legal entities and Articles 2 and 9 of the UCC. The major laws governing securities, entities, antitrust, bankruptcy, and environmental issues are reviewed. Special emphasis is given to the legal liability of the professional. This course is designed for the future business manager, entrepreneur, or professional who wishes to have information regarding laws governing business. (Prerequisite: BUS 225C.)

BUS 240C Small Business Management 3-0-3

This course serves as the capstone experience for the Business Administration program through an integrated examination of formation, finance, marketing, operations, and the supply chain as applied to the small business. Conventional text assignments and assessments are supplemented with practical application of concepts and theory as teams of students operate a business via a web-based simulation. (Prerequisite: ACCT 101C, BUS 101C, BUS 170C, and BUS 270C or BUS 273C *or permission* of the Department Head of Business Administration.)

BUS 245C Organizational Behavior 3-0-3

This course helps students to develop a more complete understanding of the distinctively human dimensions of management. Emphasis is placed upon the allocation of theory to real world problems as well as the development of interpersonal skills. Topics include such issues as motivation, leadership, group dynamics, and interpersonal communication. (Prerequisite: BUS 101C or BUS 270C.)

BUS 250C Principles of Finance 3-0-3

A study of the planning and control involved in financial statement analysis, working capital management, cash budgets, cash flows, and break-even analysis within a corporate environment. (Prerequisite: ACCT 102C.)

BUS 255C Personal Financial Planning 3-0-3

Provides an effective learning experience in personal finance. Emphasis is on helping students make sound financial decisions in the areas of budgeting, insurance, taxes, credit, investment, real estate, and retirement planning. (Prerequisite: ACCT 101C or BUS 101C.)

BUS 261C Advertising 3-0-3

The basic principles of advertising and their role in media and society will be covered. This includes the advertising environment in the 21st Century, agency and client relationships, consumer behavior, ethics, and the role of research, creative appeals, and media selection in advertising effectiveness.

BUS 270C Principles of Management 3-0-3

The course provides an understanding and appreciation of organizational structures and the role of the manager within these structures, with emphasis on the influence of the social sciences upon current management theory.

BUS 273C Human Resource Management 3-0-3

A study of human resource management including the evolution of the personnel process, organizational models, leadership patterns, and issues touching upon planning,

assessment, staffing, training, development, and environmental issues. Emphasis is placed on the application of theory and practice so that students will gain a useful understanding of human resource management whether they seek careers in that field or in other disciplines. (Prerequisite: BUS 101C or BUS 270C.)

BUS 290C Management Internship 0-9-3

Students in this course engage in individually supervised employment within an area of management requiring applications of management theory and principles to the work environment. Students must work at least ten hours per week on the job, meet periodically with a supervising faculty member, research related literature in the employment field, and prepare a substantive report on the work experience and the studies involved. This course is limited to seniors and requires the approval of a supervising faculty member and the Department Head. (Prerequisite: 2.8 G.P.A. and approval of department head of Business Administration.)

Chemistry

CHEM 100C Introductory Chemistry 3-2-4

An introductory course in chemistry intended to satisfy the chemistry admission requirement for NHTI health-related degree and certificate programs. Consideration will be given to fundamental atomic theory, chemical arithmetic, kinetic theory, solution chemistry, acids, bases and salts, and introductory organic chemistry. Lab included. (Proficiency with the mathematical operations of high school algebra I or MATH 092C strongly recommended.) (For institutional credit only; does not count toward graduation requirements but is calculated into GPA; not intended for transfer.)

CHEM 103C General Chemistry I 3-2-4

Fundamental laws and concepts of chemistry, including elements, atomic structure, the periodic table, chemical bonding, compounds, chemical equations, and stoichiometry. Laboratories are used to reinforce concepts presented in lectures and to develop skills in scientific thought and common procedures used in chemical experimentation. With CHEM 104C, intended to provide a foundation for further study in life sciences and physical sciences. (Prerequisites: high school chemistry with lab with a grade of "C" or higher). (Pre/Corequisite: MATH 124C or higher level math *or permission* of the Department Head of Natural Sciences.)

CHEM 104C General Chemistry II 3-2-4

A continuation of CHEM 103C. Topics include gases and gas laws, solutions, acid-base chemistry, oxidation-reduction reactions, chemical equilibrium and thermodynamics. Also includes an introduction to organic chemistry and biochemistry. Laboratories are used to reinforce concepts presented in lectures and to develop skills in scientific thought and common procedures used in chemical experimentation. (Prerequisite: CHEM 103C with a grade of "C" or higher, or permission of Department Head of Natural Sciences.)

CHEM 105C Chemistry 3-2-4

This is an introductory and cursory course in which the

fundamental principles of chemistry are developed. Included are topics in atomic structure, chemical bonding, electronic configuration and the Periodic Table, stoichiometry, solutions, gases, and acid-base chemistry. Appropriate laboratory experiments will complement the lectures. This course is not meant as a substitute for either CHEM 103C or CHEM 104C. (Prerequisite: High school chemistry with lab strongly recommended. Pre/Corequisite: MATH 124C or higher level math *or permission* of the Department Head of Natural Sciences.)

CHEM 110C Introduction to Biochemistry 3-2-4

A course designed to provide allied health students with the basic principles of the chemistry of living processes. Includes the study of macromolecules, metabolic pathways, energy transformations, and enzyme action. (Prerequisite: high school chemistry with lab or permission of Department Head of Natural Sciences.)

CHEM 115C Brewing: The Science Behind Beer 3-2-4

This course explores both the most basic and more complex chemical reactions that take place during the production of beer, as well as discussing the microbiology and how it impacts the brewing process from beginning to end. Reactions that affect each stage of the process are discussed as well as the mechanisms that are utilized to control the properties of the finished product. There is also a focus on the importance of hygiene throughout the brewing process. **Please note:** Students taking this class must be at least 21 years of age. A valid ID must be presented to the instructor at the first class for confirmation.

CHEM 120C Introduction to Forensic Science 3-2-4

An overview of the multidisciplinary field of the forensic sciences. This course combines classroom lecture and laboratory analysis of samples from hypothetical criminal investigations to demonstrate the role of science and the forensic scientist in the criminal justice system. (Prerequisite: high school chemistry with lab with a grade of "C" or higher, or permission of Department Head of Natural Sciences.)

CHEM 125C Introduction to General, Organic, and Biochemistry 3-2-4

This course is designed for students who need an introductory chemistry course that covers the fundamentals across inorganic, organic and biological chemistry. This course focuses on the chemistry and chemical processes that operate in living systems. Topics will include physical and chemical properties of matter, chemical bonding, solutions, acids and bases, the properties and naming of organic compounds, metabolic pathways, and energy production. Appropriate laboratory experiments will complement the lectures. (Prerequisite: High school chemistry with lab or permission of the Department Head of Natural Sciences.)

CHEM 205C Organic Chemistry 3-3-4

An introduction to the nomenclature, structure, and reactions of organic compounds. Lab. (Prerequisites: CHEM 104C, or CHEM 105C or equivalent with a grade of "C" or higher, or permission of Department Head of Natural Sciences.)

Community Social Service

CSS 111C Introduction to Community Social Services 3-0-3

Provides an introduction to the history of care provided to people with a variety of disabilities and challenges. Presents and describes the principles of community integration and social role valorization, discusses client rights, quality of life, guardianship, and emerging issues in community social services. Presents a model for evaluating the quality of community social services.

CSS 112C Supportive Communication Skills 4-0-4

A study of the knowledge, skill, and personal characteristics that are needed in today's professional world of helping careers will be examined. Students will learn the purpose and skill of interpersonal communication techniques through various didactic and experiential methods. Coverage will include documentation, verbal and nonverbal communication, along with time management, self management, and successful work practices. Dynamics of human behavior, culture, and specific needs seen in the workplace will be explored.

CSS 115C Learning and Behavior 3-0-3

This course discusses the history and principles of behaviorism and presents a learning theory and teaching techniques based on positive behavioral principles. Presentation and discussion focus on the ethical and client rights issues of positive behavior change, and recent trends and techniques for applying learning principles in a variety of settings. (Prerequisite: CSS 111C and PSYC 105C.)

CSS 116C Assessment and Individual Planning 3-0-3

This course reviews the process for designing and implementing support for human service consumers. Presentation and discussion will include current and evolving models for assessment and planning, as well as the factors that influence achievement of individual plans. (Prerequisites: CSS 111C, CSS 115C, PSYC 105C, PSYC 220C.)

CSS 117C Community Social Service Practicum 2-8-4

This course is designed to provide initial experience with human services programs, agencies, and their customers. The student will develop professionally and will survey human services agencies and programs. The course will focus on issues of professionalism, ethics, the development of interviewing skills, and the analysis of case studies. Students will be expected to become familiar with a variety of agencies or programs. Guest speakers, consumers, and others may be invited to introduce students to their particular area of human services. A total of 125 hours will be spent in the field to meet the course requirement. (Prerequisites: CSS 111C, CSS 112C, CSS 115C, CSS 116C.)

Computed Tomography

CAT 201C Principles of Computed Tomography 3-0-3

An introduction to the principles of computed tomography with emphasis on patient care, patient interactions and management, radiation safety and dosimetry. (Prerequisite:

Acceptance into the Computed Tomography Program; corequisite: CAT 202C)

CAT 202C Computed Tomography Image Production 3-0-3

Study of the physics and instrumentation involved in computed tomography image production. Topics introduced include; system components, image processing and display, informatics, image quality and artifact recognition and reduction. (Prerequisites: Acceptance into the Computed Tomography (CT) Program; corequisites: CAT 201C)

CAT 203C Computed Tomography Procedures I 3-0-3

This course provides study of common computed tomography imaging procedures of the head and musculoskeletal system. Topics include: clinical indications, patient preparation and positioning, scanning protocols, radiographic technique, use of contrast media, normal anatomy and pathology and special procedures. (Prerequisites: CAT 210C and CAT 202C; corequisites: CAT 204C)

CAT 204C Computed Tomography Clinic I 0-16-3

Two days per week of clinical experience allows the student to develop practical skills through instruction, application, critique, and evaluation on common computed tomography imaging procedures. All students enrolled in CAT 204C will be charged a \$500 per semester clinical surcharge. (Prerequisites: CAT 201C and CAT 202C; corequisites: CAT 203C)

CAT 205C Computed Tomography Procedures II 3-0-3

This course is a continuation of Computed Tomography Procedures I. The course provides study of common computed tomography imaging procedures of the neck, chest, abdomen, pelvis and the pediatric patient. Topics include: clinical indications, patient preparation and positioning, scanning protocols, radiographic technique, use of contrast media, normal anatomy and pathology and special procedures. (Prerequisites: CAT 203C and CAT 204C; corequisites: CAT 206C and CAT 207C)

CAT 206C Computed Tomography Clinic II 0-16-3

Two days per week of Computed Tomography clinical experience to strengthen skills in preparation for registry exams and entry into the computed tomography field. All students enrolled in CAT 206C will be charged a \$500 per semester clinical surcharge. (Prerequisites: CAT 203C and CAT 204C; corequisites: CAT 205C and CAT 207C)

CAT 207C Computed Tomography Registry Review 1-0-1

Sessions will be used for review of Computed Tomography Program didactic and clinical courses in preparation for Computed Tomography registry exams. Focus will be on clinical case review, imaging procedures and radiation safety. (Prerequisites: CAT 203C, CAT 204C; corequisite: CAT 205C, CAT 206C)

Computer Aided Design

These are individual courses and are not part of any program.

CAD 101C CAD I 1-3-2

Basic Training in the use of Computer Aided Drawing (CAD) including entity creation, editing, dimensioning, file management, and plotting. A "hands on" approach will be taken while using PC based AutoCAD software. Applications will be taken from a variety of disciplines. **This course does not meet requirements for the MET/MFT programs.**

CAD 102C CAD II 1-3-2

A continuation of CAD 101C into more advanced concepts in Computer Aided Drawing. Topics include wire frame, surface and solid modeling as well as techniques to improve productivity. **This course does not meet requirements for MET/MFT programs.** (Prerequisite: CAD 101C.)

CAD 103C CAD III 1-3-2

This course is a continuation of CAD 101C and CAD 102C. Emphasis is placed on 3-D parametric solid modeling using Autodesk Mechanical Desktop. Student will develop skills and utilize techniques to produce geometric profiles that serve as a database for the production of 3-D models, working drawings, bill of materials and exploded views of assembled models. **This course does not meet requirements for MET/MFT programs.** (Prerequisites: CAD 101C and CAD 102C.)

Computer Engineering Technology

Students must earn a grade of "C-" or higher in each CPET and ELET course listed as a prerequisite to a subsequent CPET course.

CPET 107C Introduction to Programming with C++ 2-3-3

Introduces the student to program design using the language C++. No prior knowledge of programming is assumed. Focuses on effective structured design of code with variables, decisions, loops, functions, arrays and introduction of pointers. Use of professional programming design approaches and coding style will be used in laboratory assignments. Completion of this course provides the programming design skills to continue on with the study of the language C++ or other computer languages.

CPET 125C Data Structures 2-3-3

This course introduces students to abstract data types, object oriented programming, and algorithm analysis. Students will use procedural and object oriented techniques to program stacks, queues, linked lists, hash tables, and binary trees. Asymptotic (Big O) notation will be used to analyze data structures and sorting algorithms. The effective use of C++ topics such as pointers, operator overloading, and templates will be covered. Students will write programs in C++ and Java. (Prerequisites: CPET 107C or permission of the Department Head of Computer Engineering Technology.)

CPET 215C Integrated Circuits and Interfacing 3-3-4

For CPET and other NON-EET majors, this course supplements ELET 115C (Digital Fundamentals) with basic linear and

interface electronics. Topics covered include simple power supplies, op-amps, stepper motors, A/D & D/A conversion, and interfacing a computer bus. Advanced digital topics such as synchronous logic, programmable logic devices and Digital Signal Processing will also be covered. The labs demonstrate real world implementation of otherwise abstract academic concepts. Fluency with the use of test equipment and debugging skills will also be stressed in the laboratory environment. (Prerequisites: CPET 107C, ELET 101C, and ELET 115C; or permission of department head of Computer Engineering Technology. Strongly recommend having previously taken or to be concurrently taking ELET 144C.)

CPET 222C Data Communications and Internetworking 3-3-4

This course provides the student knowledge and skills in a wide range of topics covering data communications, packet transmission and the Internet. Data communications subtopics include transmission media, serial communications, error detection & correction schemes, data security and signal processing required for long distance communications. Packet transmission subtopics include local area networks, hardware addressing, LAN building blocks, and wide area networks. Internetworking subtopics include TCP/IP communication stack, ISO 7-layer communication stack, network addressing, Internet protocol (IP), address resolution protocol (ARP), Internet control message protocol (ICMP), IP routing protocols, transport control protocol (TCP), user datagram protocol (UDP), and client-server API. (Prerequisites: CPET 107C and CPET 235C; corequisites: CPET 240C, CPET 252C recommended; or permission of department head of Computer Engineering Technology.)

CPET 240C Programming for Windows Operating Systems 3-3-4

The Microsoft Windows API and Microsoft.Net Framework will be covered from Windows Applications to full utilization of the Internet. Microsoft Visual Studio.Net with its integrated development environment will be studied and utilized. Topics include Windows services, DLLs, accessing databases using ADO.NET, programming for the internet using ASP.NET, .NET assemblies, and advanced features of programming languages used to access the Windows API and .NET platform. Experience will be gained using extensive hands-on laboratory assignments. (Prerequisites: CPET 107C and CPET 235C or AGGP 121C or permission of department head of Computer Engineering Technology based on having introductory programming skills with languages such as Java, C++ or classic Visual Basic.)

CPET 252C Networking and Internet Technologies 3-3-4

This course provides the student knowledge and skills in a diverse range of topics including structured query language (SQL), client-server programming, selected internet applications and LAMP (Linux, Apache, MySQL and PHP). SQL subtopics include relational database concepts, the SQL language and relational database design. Client server programming is studied in C++ using socket APIs and Java using socket classes. Selected internet applications include domain name system (DNS), hyper-text transfer protocol (HTTP) and file transfer protocol (FTP). LAMP topics include a Linux overview, Apache web server configuration, dynamic web pages using PHP and MySQL relational database. Each student is also required to define, implement, demonstrate

and present a networking project during the last several weeks of the course. (Prerequisites: CPET 107C and CPET 235C or AGGP 121C or permission of department head of Computer Engineering Technology.)

CPET 260C Computer Real Time Interfacing 3-3-4

Interfacing computers to the outside world is the focus of this course. Computers are commonly used to gather data and to control processes in medical equipment, research projects and manufacturing. The course content focuses on practical real time (fast response) and multithreaded programming techniques used in interfacing with computer inputs and outputs. The course is divided into two major parts. First, a programmable logic controller industrial computer using the language relay ladder logic (Boolean algebra based) is used to teach the fundamentals of real time control. The second part covers multithreading programming techniques and issues including resource sharing, deadlock, critical sections, mutexes, and events. A final project is presented to the class. (Prerequisite: CPET 107C; corequisite: CPET 235C; or permission of department head of Computer Engineering Technology based on introductory knowledge of C++ or Java.)

CPET 301C Computer Project Definition 1-0-1

Students will elect this course as a first phase to Computer Project CPET 303C. During this course a student selects a project which is either provided by an industrial sponsor or chosen by the student. The selections are made with the guidance and approval of the instructor. The student will meet with the sponsor to initiate the project and then will write a specification to define the project. (Prerequisite: CPET 107C, ELET 101C, ELET 115C, CPET 125C, and Corequisites: CPET 240C, CPET 260C; or permission of department head of Computer Engineering Technology.)

CPET 303C Computer Project 1-4-3

The student will complete the project defined in CP 301 while maintaining logbook documentation, providing the advisor with progress reports. In addition, a formal oral presentation describing the project and a demonstration is required. (Prerequisites: CPET 301C, CPET 240C, CPET 260C, ELET 144C and Corequisites: CPET 222C, and CPET 252C; or permission of department head of Computer Engineering Technology.)

Criminal Justice

CRMJ 101C Introduction to Criminal Justice 3-0-3

This course presents the history, development and current status of the criminal justice system in the United States, and the challenges it faces. When appropriate, the opportunity is taken to visit relevant agencies.

CRMJ 121C Criminal Procedure 4-0-4

This course analyzes the constitutional issues in the United States which have direct bearing on the role and policies of criminal justice agencies. Application of these issues as they relate to investigation, arrest, pre-trial and appeal will be emphasized. The course is a combination of the case law and lecture method.

CRMJ 123C Criminal Law 4-0-4

This course combines an examination of the historical origins and development of criminal law as a form of social control. It will include the general principles of constitutional and statutory factors as they pertain to criminal liability, defenses to criminal charges and sentences. The final emphasis is placed on the substantive aspect of criminal law and how it differs from civil law.

CRMJ 150C Criminology 3-0-3

This course is a detailed analysis of the development of criminological theory, embracing the contributing disciplines of biology, psychology, sociology, political science and integrated theory combining those disciplines. Attention is also paid to the offender/victim relationship.

CRMJ 205C Police Administration and Operations 3-0-3

This course covers the principles of police organization, administration, along with community policing, as well as the selection, training, promotion and socialization of officers. It deals with the conflicting roles that the police and individual officers face in today's society as part of the justice system. It also examines issues involving the influence of research, police deviance, minorities, the use of force, and the general hazards of police work.

CRMJ 210C Juvenile Justice Administration 3-0-3

Theories, causation and prevention programs are studied. Rehabilitative theories and treatment programs of public institutions and public and private agencies are included. Case studies are made available to the student for analysis. Adolescent behavior, peer pressure, and the role of the family will be examined.

CRMJ 215C Corrections Operations 3-0-3

This course is a study of correctional processes and services, standards, personnel and principles of management; allocation of resources, training and staffing; the role of sentencing and work release programs; special programs and the use of outside contracts.

CRMJ 225C Drug Abuse and the Law 3-0-3

In the first part of this course, the historical use of the major drug groups (including alcohol) will be reviewed. In the second part, the reaction of the criminal justice system to

illegal involvement with drugs and alcohol and methods of treating substance abusers will be reviewed.

CRMJ 230C Justice and the Community 3-0-3

This course deals with the interaction of the various components of the justice system with the community. It involves an analysis of the way the work of police departments, courts, correctional institutions and community corrections agencies appear to the public. The image of the justice system in the media is examined: specific attention is paid to the issues of the young, minorities and community organizations.

CRMJ 270C Internship 0-9-3

The internship offers the student the opportunity to put learned theory to practical application. The student is responsible for seeking out the agency placement, with the assistance of the course instructor. The internship requires the completion of a mandatory minimum number of hours. A log is kept, and the final grade is based on a combination of the log, supervising agency assessment, and final analytical report.

CRMJ 275C Senior Project 3-0-3

In this course, through on-going and individualized contact with the supervising instructor, the student develops a topic pre-approved through a prospectus presented to the instructor. The student may develop any topic raised in any major class and is not limited by category. Empirical studies, surveys, literature reviews are among the acceptable categories of research. The final grade is determined by a review of the final product and the extent to which the student has followed the course guidelines.

HSCT 101C Introduction to Homeland Security 3-0-3

This course will introduce students to the study of the agencies necessary for the protection of the United States and the relationships among them. It will examine the individual and cooperative roles of federal, state, and local law enforcement agencies, as well as the roles of private security agencies and first responders, in implementing the Homeland Security Act. (Open to current TSA Employees only.)

HSCT 105C Intelligence Analysis and Security Management 3-0-3

This course provides an overview of national intelligence community operations and the collection and analysis of information. Students will see how the resulting intelligence products help provide a common operating picture for security management at all levels of government. Students will develop an understanding of the methods for collection and analysis of data to develop intelligence products to support both tactical operations and strategic planning for Homeland Security leaders. (Open to current TSA Employees only.)

HSCT 110C Transportation and Border Security 3-0-3

This course provides an overview of modern border and transportation security challenges, as well as different methods employed to address these challenges. This course covers a time period from post-September 11, 2001, to the present. The course explores topics associated with border

security and security for transportation infrastructure, to include: seaports, ships, aircraft, airports, trains, train stations, trucks, highways, bridges, rail lines, pipelines, and buses. The course will include an exploration of technological solutions employed to enhance security of borders and transportation systems. Students will be required to discuss the legal, economic, political, and cultural concerns and impacts associated with transportation and border security. The course provides students with a knowledge level understanding of the variety of challenges inherent in transportation and border security. (Open to current TSA employees only.)

Diagnostic Medical Sonography

DGMS 201C Principles of Sonography 3-2-4

An introduction to principles of ultrasound with emphasis on physical principles, instrumentation and terminology. Laboratory sessions will offer "hands-on" learning techniques.

DGMS 221C Sonographic Physics 3-0-3

Study of the physical principles involved in ultrasound and state-of-the-art equipment technology. (Prerequisite: DGMS 201C.)

DGMS 233C Seminars in Sonography 4-0-4

Sessions will be used for case presentations by students and preparation for registry exams. (Prerequisites: DGMS 297C and DGMS 241C.)

DGMS 241C Principles of Vascular Ultrasound 3-2-4

Study of physical and doppler principles utilized in the ultrasound study of vascular structures. Laboratory sessions will introduce students to scanning techniques used in vascular studies. (Prerequisites: DGMS 201C and DGMS 221C.)

DGMS 265C Sonographic Anatomy and Pathology I 3-0-3

Study of gross, sagittal and cross sectional anatomy of the abdomen and the pathological changes and disease processes which are found in ultrasound examination of the abdominal region.

DGMS 266C Sonographic Anatomy and Pathology II 3-0-3

A continuation of Sonographic Anatomy and Pathology I with an introduction of small parts anatomy and an in-depth study of pathologic changes and disease processes found in relation to these structures. (Prerequisites: DGMS 201C and DGMS 265C.)

DGMS 275C Sonographic Principles of OB/GYN I 3-0-3

In depth study of the anatomy of female reproductive organs and associated pathological changes with introduction to first trimester fetal development.

DGMS 277C Sonographic Principles of OB/GYN II 3-0-3

A continuation of Sonographic OB/GYN I, with emphasis on the continuing process of fetal development and associated pathologic conditions. (Prerequisites: DGMS 201C and DGMS 275C.)

DGMS 291C DMS Clinical Procedures I 0-12-4

Two days per week of observation and direct hands-on experience in the campus lab designed to familiarize students with working procedures in an ultrasound lab. Basic examination techniques will be performed. Students will work with each other and faculty on ultrasound equipment, simulators, and computer applications.

DGMS 296C DMS Clinic II 0-24-6

Three days per week of clinical experience at selected clinical sites. Students will gain continued scanning experience. All students enrolled in DGMS 296C will be charged a \$500 per semester clinical surcharge. (Prerequisites: DGMS 201C, DGMS 265C, DGMS 275C and DGMS 291C.)

DGMS 297C DMS Clinic III 0-21-5

Four 8-hour days per week at selected clinical sites for a 10 week period with emphasis on expanded roles in the ultrasound studies. Students will develop intermediate level skills and recognition of pathology will be stressed. All students enrolled in DGMS 297C will be charged a \$500 per semester clinical surcharge. (Prerequisites: DGMS 221C, DGMS 266C, DGMS 277C and DGMS 296C.)

DGMS 298C DMS Clinic IV 0-32-8

Four days per week of final experience to strengthen scanning and interpretation skills in preparation for challenging registry exams and entry into the sonography field. All students enrolled in DGMS 298C will be charged a \$500 per semester clinical surcharge. (Prerequisites: DGMS 241C and DGMS 297C.)

Digital Communications

DCOM 105C Digital Communications 3-0-3

This course provides an introduction to digital communications. The course covers key digital platforms such as websites, search engines, social media, email, and mobile applications. Using research spanning the digital communications industry, students create a marketing plan focused on the digital landscape. Students will learn to understand how digital marketing influences consumer behavior and the importance for businesses of optimizing their approaches to utilizing the Internet.

DCOM 130C Ecommerce, Websites and Blogging 3-0-3

In this course students create a functional website with a blog and e-commerce modules. The course covers basic website design, e-commerce management, and blogging techniques. Students will examine the multidimensional functions of websites and their importance of optimizing websites for ROI (Return on Investment).

DCOM 150C Social Media Strategy 3-0-3

In this course students create and implement a social media marketing plan. Topics addressed include determining and matching social media tactics with the appropriate marketing target, and developing a strategic approach to engage each market segment using several social media channels.

DCOM 210C Search Engine Optimization 3-0-3

This course introduces a strategic approach to search engine marketing, keyword research, algorithms, competitive analysis, link building, local and geo search, and SEO (Search Engine Optimization) tools. Through online platforms, applications, and tracking methods, students develop the vocabulary of industry professionals. Students will learn to understand how search engines influence consumer behavior and the importance for businesses of optimizing their strategic approach. (Prerequisite: DCOM 105 Strongly recommended)

DCOM 230C Email and Mobile Promotion and Marketing 3-0-3

This course provides an introduction to email and mobile marketing. Topics include email communication, creating an email, automation, Spam, metrics, mobile sites, loyalty programs, mobile search, and analyzing the user journey. Students learn how email and mobile marketing influences consumer behavior and the importance of optimizing the business approach. (Prerequisite: DCOM 105 strongly recommended)

DCOM 250C Digital Analytics 3-0-3

This course provides an introduction to theory and strategy in data and analytics. Students examine the foundations to optimize their online approach. Students will obtain certifications in Google Analytics, Google Adwords, and Hubspot; these professional certifications can be utilized throughout their profession to solve real-world challenges. (Prerequisite: MATH 251C and DCOM 210 strongly recommended)

Early Childhood Education

ECE 101C Growth and Development of the Young Child 3-0-3

Major theories and research findings in the physical, cognitive, language and social/emotional domains of development of young children from conception through age 8 will be the focus of this course. The work of Piaget (constructivism), Erikson (psychosocial theory), and Maslow (hierarchy of needs) will be emphasized. Students will use various tools to observe and record the development of young children in early care settings as they explore domains and theories. Emphasis will be placed on understanding children's development in the moment and the power of observations. A \$25 Child and Family Development Center (CFDC) Lab fee will be assessed for all students taking ECE 101C.

ECE 143C Teaching and Learning - STEAM (SRV) 3-0-3

With emergent curriculum as the overarching approach to curriculum development, this course will focus on designing, implementing, and evaluating appropriate activities and environments for children in preschool and kindergarten with a focus on blocks, math, science, woodworking, and technology with literacy and art concepts integrated into each area. Emphasis will be on the concrete, practical application of different philosophies, theories, and current research that is manifested in various curriculum models in early childhood education. Students will dialogue and reflect together as they explore the cycle of inquiry and project work

for developing, implementing and assessing curriculum. Emphasis will be on planning stimulating, age-appropriate classroom and outdoor learning environments that encourage child-initiated discovery and act as a tool in behavior management. These environments will be child and family friendly, barrier free, inclusionary, and meet state regulatory requirements. Students will learn about and apply successful attributes of documentation panels that make children's learning visible. **Service Learning is a component of this course.** A \$25 Child and Family Development Center (CFDC) Lab fee will be assessed for all students taking ECE 143C.

ECE 155C Using Children's Literature to Support Young Children's Language and Literacy Development (SRV) 3-0-3

High quality children's books will be used as a vehicle for supporting and applying current research on the acquisition of language and reading. This course will provide an overview of exemplary authors and illustrators of children's literature from birth to age 8. Students will become familiar with Caldecott Award-winning books and the artistic techniques used to create these books. Big books will be introduced as a way of distinguishing features of print. Poetry, multicultural books, and bibliotherapy as applied to early childhood education will be studied. Students will learn how to use children's literature to highlight the literacy elements of characterization, plot, setting, and theme. They will learn how to teach domains of language (phonology, semantics, syntax, morphology, and pragmatics) through shared storybook reading. Additionally, students will explore the teacher's role in promoting family literacy and participate in service learning on this topic. **Service Learning is a component of this course.** A \$25 Child and Family Development Center (CFDC) Lab fee will be assessed for all students taking ECE 155C.

ECE 167C Positive Behavior Guidance and Supporting Young Children with Challenging Behaviors 3-0-3

Through exploring various theories of behavior management and functions of behavior, the role of positive behavioral supports in preparing young children to become competent and cooperative individuals with a strong social and emotional foundation will be emphasized. Developmentally appropriate methods of guiding individual and group needs will be shared as approaches to preventing disruptive behaviors in the classroom. Techniques for dealing with more challenging and explosive behaviors using functional assessment, identifying replacement skills, and creating and implementing behavior intervention plans will be utilized. Partnering with families in developing these plans will be emphasized. Students will also learn about triggers of and interventions for the cycle of tantrums, meltdowns, and rage often experienced by children with autism spectrum disorder. Students will leave the course with tools for primary, secondary, and tertiary prevention of challenging behaviors. They will understand when and how to reach out for support in the community in dealing with issues beyond their expertise. Students will be able to use the class as a model for developing parent education programs for the families that they serve. A \$25 Child and Family Development Center (CFDC) Lab fee will be assessed for all students taking ECE 167C. (Prerequisite: ECE 101C or permission of the Department Head of Child and Family Studies.)

ECE 188C Health, Safety and Nutrition in Early Childhood Education (SRV) 3-0-3

This course offers an introduction to major issues affecting the health and safety of young children in early childhood settings. Nutrition and policy considerations about pediatric medications, infectious disease control, sick child care, universal precautions and liability, and health record keeping will be discussed. Childhood stress and education for the prevention of child sexual abuse will be highlighted. Students will learn how to integrate curriculum for young children related to health, safety, and nutrition into the overall program. **Service Learning is a component of this course.** A \$25 Child and Family Development Center (CFDC) Lab fee will be assessed for all students taking ECE 188C

ECE 215C Infant/Toddler Development and Programming 3-0-3

This course will be a study of important influences on infant and toddler development supported by research on brain development during the first three years of life. Emphasis will be put on the role and responsibilities of families, child care teachers, and specialists in creating high quality supportive environments. Sensitivity to attachment and the importance of observation and communication skills to nurture positive family, caregiver, and child relationships through the roles of primary caregiving, transitions, and continuity of care will be highlighted as students learn to design responsive programs for infants and toddlers and their families. Field work in an infant or toddler classroom is required as part of this class. A \$25 Child and Family Development Center (CFDC) Lab fee will be assessed for all students taking ECE 215C. (Prerequisite: ECE 101C or permission of the Department Head of Child and Family Studies.)

ECE 225C Autism Spectrum Disorder 3-0-3

This course will examine the neurological underpinnings and behavioral characteristics of children from birth through age 8 with autism spectrum disorders. It will focus on an overview of the strengths and challenges of child-centered, developmental, research-based interventions to be used in natural environments. The centrality of the family will be emphasized. Students will shadow an interventionist working with a young child with autism for a minimum of 10 hours over the course of the semester. (Prerequisite: ECE 101C or permission of the Department Head of Child and Family Studies.)

ECE 242C Child, Family and Community (SRV) 3-0-3

The course will provide an overview of families and family systems (including Bronfenbrenner's Bioecological Theory) with emphasis on developing effective models of teacher/program/family partnerships. Students will identify their own biases as a precursor to exploring issues of power and privilege in society. Cultural dilemmas and their impact on early care and education will be identified as students begin to evaluate their own cultural competence. Students will learn how to identify and strengthen protective factors that empower families and reduce the risk of child abuse. Students will research various crises encountered by families and identify an action plan to positively address the crisis. Community resources will be identified and involved. **Service Learning is a component of this course.** (Prerequisite: ECE 101C.)

ECE 261C Family Child Care Business Management 3-0-3

This course will review the fundamentals of sound business practices as they relate to the running of a successful Family Child Care business. Emphasis will be on designing of business plans, budgeting, insurance, effective business policies, contracts, pricing, marketing, customer relations, purchasing, financial, legal and licensing regulations and reports, small business management and related record keeping.

ECE 262C Organization and Management for the Practicing Professional 4-0-4

A survey of organization and management of early childhood programs and/or child care centers for the practicing professional. Emphasis will be on learning how to plan, organize, manage and evaluate programs and facilities for children. Specific skills addressed are licensing procedures, hiring, motivating and evaluating staff and parent involvement. Financial record keeping to inform program management decisions will be based on an understanding of Excel computer program use. Leadership and visioning skills will also be taught and evidence of implementation will be required. Students will be required to spend fifteen hours outside of class on a final project to be implemented in their professional work. This course will meet the requirements for Director Certification from the State of New Hampshire. It will also meet the criteria for accreditation by the National Association for the Education of Young Children.

(Prerequisite: permission of Department Head of Child and Family Studies.)

ECE 270C Teaching Young Children with Exceptionalities (SRV) 3-0-3

This course will broaden students' awareness of the theoretical and legal foundations for programs serving young children (infancy through age eight) with a wide range of special educational needs. Students will examine the causes, symptoms, social consequences and behavior characteristics of children with exceptionalities. Students will learn how to develop curriculum modification/accommodation strategies in all domains of development in an inclusive classroom setting or other natural environment. Emphasis will be on education for children and their families. Students will work with and observe a child and family to develop an understanding of their needs and develop a resource file of state, local and national supports. **Service Learning is a component of this course.** (Prerequisite: ECE 101C.)

ECE 275C Practicum 1 - Observation, Interpretation, Assessment and Portfolio Documentation 2-7-4

Students will work in NHTI-approved Early Childhood Education (ECE) settings for children in infant/toddler care, preschool, or kindergarten under the supervision of early childhood Cooperating Teachers. Students will conduct an in-depth child study over the course of the 105 hours that they will spend at their practicum site during the semester. They will become "students of childhood" as they learn how to interpret and assess their observations of children in the seminar class. Students will create and manage a portfolio for a child. They will use portfolio information to generate invitations to learning and implement child-centered curriculum. They will make children's learning visible through learning story documentations and incorporate their own wonderings as teachers. Their observations will be

summarized in narratives outlining the children's growth in the various developmental domains. All of this will be used to plan and carry out two parent conferences. Video-capturing of practicum students in the action of teaching will be required. NHTI ECE faculty schedule site visits to review and evaluate student progress during the practicum experience. Students must earn a grade of "C" or higher in ECE 275C to move on to ECE 276C. (Prerequisites: all 100-level ECE courses; a 2.5 minimum GPA in major field courses; permission of the ECE Practicum Coordinator; and submission of all required documents. ECE 155C may be taken concurrently with ECE 275C.)

ECE 276C Practicum 2 - Exploring Teaching: Implementing Responsive Emergent Curriculum (SRV) 2-7-4

Students will work in NHTI-approved Early Childhood Education (ECE) settings for children in infant/toddler care, preschool, or kindergarten under the supervision of early childhood Cooperating Teachers. Weekly seminars conducted by NHTI faculty offer support for students as they explore the characteristics of responsive child-centered emergent curriculum projects. Students will document and reflect on their experiences with children, families, and professional partners through projects as they develop a project history book connecting theory to practice. Students will also be encouraged to develop and embrace the dispositions of wonder, disequilibrium, and reflective practice as they experience the role of "teacher as researcher" through the process of action research. The 105 hours they spend at their sites over the course of the semester will include lead teaching responsibilities and will require flexibility in scheduling to allow for two full days at the site. Video-captures of the practicum students in the action of teaching will be required. NHTI ECE faculty schedule site visits to review and evaluate student progress during their practicum experience. Students must earn a grade of "C" or higher in Practicum 2 in order to graduate from the Early Childhood Education program. **Service Learning is a component of this course.** (Prerequisites: all 100 level ECE courses, a grade of "C" or higher in ECE 275C; a 2.5 GPA in major field courses, permission of the ECE Practicum Coordinator and submission of all required documents. ECE 242C, ECE 270C and ECE 290C may be taken concurrently with ECE 276C.)

ECE 282C Preschool Special Education Practicum 2-7-4

Students will work in NHTI approved community based settings with preschool children with special needs under the supervision of Cooperating Teachers. Students will become "students of childhood" as they conduct in-depth observations of preschoolers with special needs using a variety of tools during the 105 hours they spend at their practicum site this semester. Students will create and manage portfolios for children and use this information to write progress notes and narrative summaries. They will participate in IEP meetings and suggest and implement appropriate activity based interventions that are part of a child's IEP. NHTI program faculty schedule site visits to review and evaluate student progress during the practicum experience. Students must earn a grade of "C" or higher in this practicum to graduate from the degree program. (Prerequisites: all first year courses, 2.5 GPA in major field courses, permission of the practicum coordinator, and submission of all required documents.)

ECE 283C Early Intervention Practicum 2-7-4

This 105-hour field based experience provides students with a supervised opportunity to develop skills and demonstrate competencies necessary in early intervention in natural settings (child care, homes, public schools). Students will learn how to best support families and caregivers. Supervisors will provide guidance and support needed to enhance students' development as early intervention paraeducators. Students will use appropriate assistive technologies and learn how to create a supportive environment for children learning to use these technologies. Through participation in an IFSP or IEP team, students will learn how to partner with families in the education of their children. (Prerequisites: All other courses in either the Young Children with Autism and Exceptionalities Certificate or first year courses in the Early Care and Education for Young Children with Disabilities Degree with a GPA of 2.5 or higher in major field courses; students must pass ECE 283C with a grade of "C" or higher to graduate from the corresponding program.)

ECE 290C Early Childhood Leadership Seminar 1-0-1

This course explores the role of the early childhood professional in the workplace. Topics to be discussed include leadership, working in a team, and professional ethics. Students will develop a resume and create a Professional Portfolio that can be used for interview purposes. Emphasis will be placed on the role of ongoing professional development activities and involvement in the early childhood field through participation in varying boards and meetings around topics specific to the field. In lieu of textbook fees, students should plan on paying for, traveling to and attending the state AEYC conference on a Saturday in the spring. (Prerequisites: all 100 level ECE courses, ECE 275C; may be taken concurrently with ECE 242C, ECE 276C and ECE 270C.)

Economics

ECON 101C Macroeconomics 3-0-3

This course is concerned with the behavior of the economy as a whole, particularly fluctuations in economic activities. Basic elements of economic reasoning are applied to the public policy issues of unemployment, inflation, and economic growth. A brief survey of the history of economic ideas is followed by a study of the consequences for national policy of the changing institutional structure of the U.S. economy, and of the conflicts inherent in, and generated by, competition and private enterprise. Analytic tools are used to evaluate monetary and fiscal policies and to understand current macroeconomic controversies.

ECON 102C Microeconomics 3-0-3

An investigation into the functioning and politics of the U.S. economy from the vantage of the marketplace, emphasizing microeconomics, wage bargaining, taxation and the distribution of wealth and income. Topics include the theories of demand and production, and the determination of prices and quantities for commodities and factors of production in competitive and noncompetitive markets.

Education/Teacher Education Conversion Program

TECP 70C - TECP 92C are professional preparation courses for Teacher Education Conversion Program (TECP) candidates only.

EDU 101C/TECP 50C Introduction to Exceptionalities 3-0-3

This course introduces the various exceptionalities and related topics in the field of special education including definitions, prevalence, assessment and intervention. It includes discussion of strategies for facilitating students' independence, learning, social connections and self-advocacy skills. Curriculum emphasizes the philosophical and practical applications of valuing students' abilities and diversity and collaborating with educators and families. It will explore curriculum modifications and accommodations, problem-solving strategies and transition issues. **10 hours of field work are required in this course. (TECP candidates have additional course requirements for the certification portfolio.) A \$25 fee will be assessed to all students taking TECP 50C to cover the cost of clinical practice.**

EDU 104C/TECP 51C Foundations of Education 3-0-3

This is a survey course that investigates the philosophical, historical and social/cultural character of education in the United States. It is intended to be an examination of how schools function organizationally. Discussions will include the role of education, system philosophy and trends which have shaped contemporary education; field observations are included. This course is a concentration requirement for both Special Education and Education associate degree programs. It is intended to be the first in a series of learning experiences for those interested in careers as teachers. **10 hours of classroom observation required. (TECP candidates have additional course requirements for the certification portfolio.) A \$25 fee will be assessed to all students taking TECP 51C to cover the cost of clinical practice.**

EDU 200C/TECP 60C Supporting Students with Challenging Behaviors 3-0-3

This course will focus on the knowledge and skills necessary for supporting students with challenging behaviors in various learning environments, using the framework of positive behavioral supports. Students will gain knowledge of the basic assumptions about the context, function, and role of behavior. Students will learn to use a variety of positive behavior intervention techniques to control targeted behavior, support learning, and maintain the attention of students. **10 hours of field observation required. (TECP candidates have additional course requirements for the certification portfolio.) A \$25 fee will be assessed to all students taking TECP 60C to cover the cost of clinical practice.**

EDU 201C/TECP 61C Legal and Ethical Issues in Education 3-0-3

Predicated upon legislative requirements such as the Individuals with Disabilities Education Act (IDEA), this course considers theories and issues in the context of inclusive instructional settings. Students will develop an understanding of the various legal and ethical requirements as well as

effective instructional strategies for curriculum adaptation and delivery within the context of Federal and NH State Special Education and Education laws and procedures. (Prerequisite: EDU 104C/TECP51C or permission of department head of Education) **(TECP candidates have additional course requirements for the certification portfolio.)**

EDU 203C/TECP 62C Teaching Strategies for Diverse Learners 3-0-3

This course focuses on practical instructional strategies for designing developmentally appropriate and challenging learning experiences based on the unique needs of individual learners. Students use differentiated instruction and universal design for learning as frameworks for designing lessons that meet the needs of diverse learners. Methods for adapting instruction and supporting students through modifications, accommodations, and assistive technology are explored. Students will collect a repertoire of evidence-based strategies for identifying and addressing the reading, writing, math, and study skills of students with disabilities. Through field experience, students have the opportunity to observe in the classroom and gain practical experience planning, delivering, adapting, and reflecting upon a series of individualized lessons. **10 hours of field work are required.** (Prerequisites: EDU 101C/TECP 50C and ENGL 101C.) **A \$25 fee will be assessed to all students taking TECP 62C to cover the cost of clinical practice.**

EDU 204C/TECP 63C Instructional Technology 3-0-3

This course presents the theory and strategies for effective integration of technology resources and technology-based methods of instruction, and assistive technology designed for students with disabilities. A background of mediated instruction will be provided along with a review of the qualities and benefits of various technology options, including assistive technology, available to instructional settings. Opportunities to apply instructional delivery using common forms of media, multimedia, computers and specialized programs for students with disabilities will be integral to this course, in addition to contemplation of future issues of integration of technology and matters of time and place of the learning experience. (Prerequisite: EDU 104C or permission of department head of Education) **(TECP candidates have additional course requirements for the certification portfolio.)**

EDU 208C/TECP 68C Content Literacy 3-0-3

This course focuses on methods for integrating explicit instruction of effective reading comprehension strategies into content area teaching. Before, during, and after reading strategies that will help students to comprehend challenging content area reading material will be introduced and practiced. Mentor texts will be used to demonstrate text structure and make the connection between reading and writing in the content areas. Students will learn strategies for motivating and engaging students with reading, modeling effective reading and writing strategies, guiding comprehension, facilitating metacognitive discussions, and teaching vocabulary and study skills. Methods for assessing and developing skills in reading, writing, listening, and speaking will be explored. Methods for differentiating and accommodating for struggling readers and writers including

the use of assistive technology will also be explored. (Prerequisites: EDU 104C/TECP 51C.)

EDU 209C/TECP 66C Curriculum and Assessment 4-0-4

This course focuses on designing appropriately challenging learning experiences based on curriculum standards and individual needs. Students will learn strategies for direct and indirect instruction, supporting self-directed and collaborative learning, and promoting critical thinking and problem solving through questioning. Classroom management strategies that promote student engagement and a positive learning climate will be explored. Students will learn how to select, design, conduct, interpret, and use the results of formative and summative assessments. Use of the common core state standards in the planning, instruction, and evaluation process will be examined. **10 hours of classroom observation are required.** (Prerequisites: EDU 104C/TECP 51C or EDU 101C/TECP 50C or permission of the Department Head of Education.) **A \$25 fee will be assessed to all students taking TECP 66C to cover the cost of clinical practice.**

EDU 210C/TECP 69C Cross-Cultural Education Seminar 2-0-2

This course offers candidates a professional forum for researching, reviewing, and discussing socio-cultural contexts and topics in language teaching and education. In the course candidates will develop a broad-based understanding of cross-cultural education and discover appropriate practices and techniques for the multi-cultural classroom. The course is a requirement for all education and TECP candidates.

EDU 211C/TECP 67C Reading and Language Development 3-0-3

This course focuses on assessing and addressing student literacy skills. Students will learn about the language development process and demonstrate their ability to use a variety of assessments to identify the language skills and needs of individual learners. Using data driven, collaborative decision making, students will plan appropriate interventions. Research based methods for teaching phonics, vocabulary, spelling, fluency, reading comprehension, and writing will be explored. Students will learn how to guide readers and writers in developing effective strategies for reading, writing, speaking, and listening. Authentic, evidence-based, differentiated instruction linked to the common core standards will be emphasized. (Prerequisites: EDU 104C/TECP 51C.)

EDU 220C Field Experience in Education 1-6-3

Practical experience in a learning environment. The student spends a minimum of 45 hours per semester in a supervised assigned learning environment and participates in a weekly seminar. In the instructional environment, students will work with individuals and groups, as well as develop and deliver an instructional unit. This is a concentration requirement for the Associate in Science in Education program. (Prerequisites: interview required and permission of Department Head of Education)

EDU 222C/TECP 87C Language, Reading, and Literacy in ESOL 3-0-3

This course is designed to assist student educators in constructing a favorable learning environment for their

English language learners with regard to reading and literacy in the content area. Appropriate literacy strategies, instruction and assessments will be evaluated, and various aspects of first and second language acquisition will be examined. All aspects of second language development will be considered such as phonemic awareness, vocabulary, fluency, comprehension, and writing. Approaches for assisting young and older learners with reading comprehension will be addressed, and students will learn to adjust language instruction to meet the developmental literacy needs of the language learners from various socio-cultural, educational, and linguistic backgrounds. Students will have weekly opportunities to work as one-on-one content tutors with English language learning needs 1) to develop an understanding of various language learning needs, and 2) to increase educator effectiveness in improving student skills. Assessing and tracking English language learner progress will be explored. In addition, there will be a 20-hour service learning component wherein students will support ESOL learners and their community. This course is required for those in the TECP: ESOL certification programs. Others must have permission from the Director of TECP or the Director of Cross Cultural Education. **A \$25 fee will be assessed to all students taking TECP 87C to cover the cost of clinical practice.**

EDU 223C Instructional Approaches in ESOL Tutoring 2-3-3

This course focuses on the development of the knowledge and skills needed in tutoring ESOL (English for Speakers of other Languages) learners. The content of this course includes a variety of useful techniques in the field, including the strategies for tutoring learners in developing reading comprehension skills. Through interactive instruction, group discussions and practical activities, students will demonstrate a clear understanding of their role as educational supporters of ESOL teachers and language tutors in assisting ESOL learners with school work, cultural transition and social interaction. This course includes a minimum of 45 hours of practicum which provides the opportunity to apply the techniques learned in class. (Prerequisite: EDU 101C or EDU 104C and/or permission of the department head of Education.)

EDU 230C Essentials of Career and Technical Curriculum and Instruction 3-0-3

This course will explore the history, philosophy, principles, organization, and operation of career and technical education in the United States. Students will develop a functional understanding of the role and responsibilities of a professional career and technical educator. This course will provide the participant with the foundation and skills needed to design, implement and manage a curriculum in career and technical education. Identification of resources and occupational analysis, derivation of content, formulation of objectives, defining measurable learning outcomes and the selection and development of activities and evaluation methods will be explored.

TECP 70C Special Education Assessment 3-0-3

This course will prepare pre-service and in-service teachers to be able to assess the achievement of students with special needs. It examines various assessment strategies. It includes the examination of the NH state curriculum frameworks, NH

Rules for students with disabilities, IDEIA regulations, and informal and formal assessment methods. Students will apply the assessment techniques in a case study format. They will utilize the assessment results to implement successful teaching/learning strategies in education settings for students with disabilities. **This course addresses specific New Hampshire State Standards for certification in the area of general special education.** (Prerequisites: acceptance in the General Special Education Conversion program or approval from TECP director.)

TECP 71C Consultation/Collaboration and Individual Education Plans (IEP) 3-0-3

This course is an examination of the collaborative/consultative model in education and the skills necessary for that approach. It focuses on the state curriculum frameworks, the NH State Rules for students with disabilities, and federal (IDEIA) and local guidelines regarding the education of students with special needs. This course includes examination of the concepts and skills necessary for IEP and Team development such as, the development of student profiles, goals, objectives, communication and collaboration skills, leadership skills, and knowledge of the theories of change. **This course addresses specific New Hampshire State Standards for certification in the area of general special education.** (Prerequisites: acceptance in the General Special Education Conversion program, EDU 101C, EDU 200C, EDU 203C and/or approval from TECP director.)

TECP 73C Field Experience in Education 1-12-5

This course provides opportunities for the practical application of teaching skills and dispositions. Observation, analysis, and guided interaction of the teaching/learning experience within elementary, middle and/or secondary or post-secondary educational settings. Students are assigned to observe and perform specific teaching duties within a variety of educational settings. Psychological, philosophical, and historic educational theories are analyzed in light of current best practice as they occur in contemporary educational environments. Students are required to complete 60 hours of assigned field work during the semester. (Prerequisites: interview required and permission of Department Head of Education.)

TECP 80C Methods/Student Teaching for Middle/Secondary School Mathematics 2-30-12

This course will prepare prospective teachers with the methods for teaching mathematics at the middle/secondary school level. Developmentally appropriate content, strategies, and methods of instruction will be discussed with emphasis on the implementation in student teaching placement. This course requires a full time placement in an educational setting appropriate for the intended certification area. Students work toward mastery of attitudes, techniques and professional practice for successful teaching. Supervision is provided a by college supervisor and a field-based professional. **This course addresses specific New Hampshire State Standards for certification in the following content areas: Mathematics 5-8 and Secondary Mathematics 7-12 and Professional Education Standards (NH Standard Ed 610).** (Prerequisite: permission from the TECP director.)

TECP 81C Methods/Student Teaching for Middle/Secondary School Science Teachers 2-30-12

This course will prepare prospective teachers for teaching science at the middle/secondary school level.

Developmentally appropriate content, strategies, and methods of instruction will be discussed with emphasis on the implementation in the student teaching placement. In addition to the seminar, this course requires a full time placement in an educational setting appropriate for the intended certification area. Students work toward mastery of attitudes, techniques and professional practices for successful teaching. A college supervisor and a field-based professional provide supervision. **This course addresses specific New Hampshire State Standards for certification in the following content areas: Biology, Chemistry, General Science, Earth Science, Physical Science, Physics and Professional Education Standards (NH Standard Ed 610).** (Prerequisite: completion of previous coursework in TECP and permission from the TECP director.)

TECP 82C Methods and Practicum in General Special Education 2-15-7

This course will prepare prospective teachers for teaching in general special education K-12. Developmentally appropriate content, strategies, and methods of instruction will be discussed with emphasis on the implementation in the student teaching placement. In addition to the seminar, this course requires a semester-long placement in an educational setting appropriate for the intended general special education area. Students work toward mastery of attitudes, techniques and professional practices for successful teaching. A college supervisor and a field-based professional provide supervision. Students document a minimum of 300 hours of work in the schools, including referral, observations, teaching, assessment, remediation, aiding with transition issues, IEP development and implementation, consultation, collaboration, and designing and implementing behavioral programs. Seminars meet weekly throughout the semester. **This course addresses specific New Hampshire State Standards for certification in the area of general special education.** (Prerequisites: acceptance in the General Special Education Conversion program, completion of previous general special education coursework, acceptance into student teaching, and approval from TECP director.)

TECP 83C Methods and Student Teaching in General Special Education 2-30-12

This course will prepare prospective teachers for teaching in general special education K-12. Developmentally appropriate content, strategies, and methods of instruction will be discussed with emphasis on the implementation in the student teaching placement. In addition to the seminar, this course requires a full time, semester-long placement in an educational setting appropriate for the intended general special education area. Students work toward mastery of attitudes, techniques and professional practices for successful teaching. A college supervisor and a field-based professional provide supervision. Students document the hours of work in the schools, including referral, observations, teaching, assessment, remediation, aiding with transition issues, IEP development and implementation, consultation, collaboration, and designing and implementing behavioral programs. Seminars meet weekly throughout the semester.

This course addresses specific New Hampshire State Standards for certification in the area of general special education. (Prerequisites: acceptance in the General Special Education Conversion program, completion of previous general special education coursework, acceptance into student teaching, and approval from TECP director.)

TECP 84C Practicum and Methods for Teaching Middle/Secondary School Mathematics 2-15-7

This course will prepare prospective teachers for teaching mathematics at the middle/secondary school level. Developmentally appropriate content, strategies, and methods of instruction will be discussed with emphasis on the implementation in the teaching placement. In addition to the methods seminar, this course requires placement in an educational setting appropriate for the intended certification area. Students work toward mastery of attitudes, techniques, and professional practices for successful teaching. A college supervisor and a field-based professional provide supervision. **This course addresses specific New Hampshire State Standards for certification in the following content areas: Mathematics grades 5-8 and mathematics grades 7-12 and Professional Education Standards (NH Standard Ed 610).** (Prerequisite: completion of previous coursework in TECP and permission from the TECP director.)

TECP 85C Practicum and Methods of Teaching Middle/Secondary School Science 2-15-7

This course will prepare prospective teachers for teaching science at the middle/secondary school level. Developmentally appropriate content, strategies, and methods of instruction will be discussed with emphasis on the implementation in the teaching placement. In addition to the methods seminar, this course requires placement in an educational setting appropriate for the intended certification area. Students work toward mastery of attitudes, techniques, and professional practices for successful teaching. A college supervisor and a field-based professional provide supervision. **This course addresses specific New Hampshire State Standards for certification in the following content areas: Life Sciences, Chemistry, General Science, Earth/Space Science, Physics and Professional Education Standards (NH Standard Ed 610).** (Prerequisite: completion of previous coursework in TECP and permission from the TECP director.)

TECP 86C/ENGL 286C Introduction to Linguistics 3-0-3

The course focuses on linguistics, the scientific study of language. We will explore the properties of language and the linguistic challenges faced by English language learners. The course will expand upon the subfields within linguistics: phonetics and phonology, morphology and syntax, semantics and pragmatics. Concepts relevant to teaching English will be taught: pronunciation, grammar, and vocabulary. Language variation and written discourse will also be addressed as well as how to apply this knowledge to the English language classroom. Linguistic principles and features of both English and other languages will be examined to promote familiarity with the language experiences of English language learners. A native speaker of a world language will act as a "grammar text" as we decipher an unknown grammar in a field methods format. This course is required for those in the TECP: ESOL certification program. (Prerequisites: ENGL 101C, minimum of B average in ENGL 101C.)

TECP 88C Curriculum & Design and Assessment in ESOL 4-0-4

This course presents theories, tools, and techniques, and materials in the development of curricula which address the language and content needs of English language learners. The methodology for teaching such learners will be covered as well as how to plan and implement an adapted or differentiated curriculum to meet student need. Strategies that promote student success such as scaffolding and that create an effective learning environment for both the language and content classroom will be examined. Additionally, students will work with authentic formal and informal pre- and post-instructional assessments and will explore methods by which language proficiency, acculturation, and content may be measured. Student will create, judge, and adapt their own assessment tools as questions regarding standardized assessments will be raised. Is this assessment culturally sensitive? Is this assessment an authentic measurement of the language learners' progress? Is this assessment valid? Appropriate testing accommodations for English language learners will also be considered. The role the NH Department of Education plays in ensuring that schools maintain legal compliance and equitable, accessible education for English language learners will be discussed as well as the rights and responsibility of NHTI's ESOL programs under Title III funding and No Child Left Behind. The State's K-12 language placement screening, W-APTTM, and its proficiency test, ACCESS for ELLS®, as well as how the ESOL teacher becomes a certified W-APTTM or ACCESS for ELLS® test administrator, will be outlined. The State's adoptions of WIDE® English Language Proficiency Standards and its curriculum will be explored. This course is required for those in the TECP: ESOL certification program. Others must have permission from the Director of TECP or the Director of Cross-cultural Education. **This course requires 10 hours of field work. A \$25 fee will be assessed to all students taking TECP 88C to cover the cost of clinical practice.**

TECP 90C Supervised Student Teaching/Theory, Practice, and Methods/Materials in ESOL Education 2-30-12

This is a semester long, field-based course designed to integrate and apply previous course work in ESOL certification. Students document their work in the schools, including planning, teaching and consultation and aiding with transition issues. Students assume the full range of teaching responsibilities while supervised in the field. Seminars meet weekly throughout the semester. This course also focuses on communicative interactions between and within different culture groups. We will explore issues related both to effective cross-cultural communication and to miscommunication. An examination of how one's own cultural values and norms affect and guide intercultural interactions will guide class discussions and projects. Concepts such as power distance, hierarchy, uncertainty avoidance, non-verbal communication, and other intercultural communicative features will be explored, and ethnocentrism, stereotyping, and other value-based judgments will be addressed. (Prerequisites: acceptance in the ESOL Conversion Program, completion of the previous ESOL coursework and department head approval. Candidates enrolling in this course hold a teaching certification)

TECP 91C Practicum, Methods/Materials, and Culture in ESOL Education 2-15-7

This is a semester long, field-based course designed to integrate and apply previous course work in ESOL certification. Students document their work in the school, including planning, teaching, and consultation and aiding with transition issues. Students assume the full range of teaching responsibilities while supervised in the field. Seminars meet weekly throughout the semester. Students document a minimum of 300 practicum hours. This course also focuses on communicative interactions between and within different culture groups. We will explore issues related both to effective cross-cultural communication and to miscommunication. An examination of how one's own cultural values and norms affect and guide intercultural interactions will guide class discussions and projects. Concepts such as power distance, hierarchy, uncertainty avoidance, non-verbal communication, and other intercultural communicative features will be explored, and ethnocentrism, stereotyping, and other value-based judgments will be addressed. (Prerequisites: acceptance in the ESOL Conversion Program, completion of the previous ESOL coursework and department head approval. Candidates enrolling in this course hold a teaching certification.)

TECP 92C The Teaching Portfolio 1-0-1

This course is offered to continue to assist TECP candidates with their professional portfolio development. The portfolio is a program requirement for certification. In this course candidates will continue to add coursework and practicum (or student teaching) evidence and reflections to the portfolio. Candidates will prepare their portfolio for review before application for certification. All coursework and practicum and student teaching work is aligned to NH State Standards and TECP goals. Offered every semester. (Prerequisite: Permission of the Department Head of Education.)

Electronic Engineering Technology

Students must earn a grade of "C-" or higher in each CPET and ELET course listed as a prerequisite to a subsequent CPET course.

ELET 101C Electric Circuits 3-3-4

A beginning course in electricity, this course covers basic electric circuit theory, the nature of electricity, resistance, current and voltage. Detailed coverage of topics includes direct current, alternating current, Ohm's law, series circuits and parallel circuits as well as energy and power relationships. This course also covers DC circuit analysis techniques including mesh and nodal analysis, and network theorems such as Norton's, Thevenin's and maximum power transfer. The transient response of capacitors and inductors are discussed when a DC voltage is applied using the various circuit and analysis techniques. Additional topics include the discussion of alternating waveform characteristics and analysis of sinusoidal alternating waveforms. Laboratory experiments are designed to reinforce the classroom work. (Corequisite: MATH 124C; or permission of the Department Head of Electronic Engineering Technology. Strongly recommend having previously taken or to be concurrently taking ELET 115C.)

ELET 102C Circuit Analysis 3-3-4

A continuation of Electric Circuits. This course covers AC circuit analysis techniques including mesh and nodal analysis, and network theorems such as Norton's, Thevenin's, and maximum power transfer. Treatment is given to circuits containing dependent and independent sources of voltage and current. Resonance and basic filters are covered in detail as well as magnetism. Additional topics covered, as time allows, are transformers and three-phase circuits. Laboratory experiments are designed to reinforce the classroom work. (Prerequisites: ELET 101C, ENGL 101C, and MATH 124C; or permission of department head of Electronic Engineering Technology.)

ELET 110C Electronics I 3-3-4

This is a study of the physical behavior of electronic devices. Emphasis is on analysis and application of electronic circuits utilizing semiconductor diodes, operational amplifiers, and transistors. Topics covered include rectification, clipping and clamping circuits, regulated power supplies, basic op-amps, biasing of transistors, and simplified AC modeling of transistor circuits. Engineering Design Automation (EDA) tools are used to reinforce the theory through electronic analysis simulations. Laboratory experimentation reinforces classroom theory with practical work. (Prerequisites: ELET 101C.)

ELET 115C Digital Fundamentals 2-3-3

Open to all majors, this introductory digital course is designed for students with little or no electronics skills. Topics covered include basic logic gates, Base 2, 10, and 16 number systems, BCD, Gray and ASCII codes, Boolean algebra, Karnaugh maps, flip-flops, counters, programmable logic devices and other related digital devices. Hands-on laboratory experiments, which augment the learning process, are an integral part of this course. The labs demonstrate real world implementation of otherwise abstract academic concepts and provide valuable experience in breadboarding, testing and debugging circuits. (Prerequisite: Algebra I or permission of department head of Electronic Engineering Technology.) (This course replaces PLTW 102.)

ELET 144C Embedded Microsystems 3-3-4

Personal computers are used to host an integrated hardware/software development system for applications with embedded Microcontrollers. A system level approach to the specification, decomposition, hardware/software development, and system integration for the implementation of embedded systems is covered through lecture and laboratory experiments. Topics covered include microprocessor architecture, instruction sets, interfacing, and real-time programming techniques in assembly language. Laboratory exercises consist of system level development in serial and parallel data transfer, data acquisition, and analog input and output signal processing. (Prerequisites: CPET 107C, ELET 101C and ELET 115C or permission of department head of Electronic Engineering Technology.)

ELET 210C Electronics II 3-3-4

This course is a continuation of Electronics I covering more advanced electronics topics with a variety of applications. The non-ideal characteristics of op-amps and other electronic devices will be discussed with applications emphasizing

offset, gain and linearity. Other topics may include but are not limited to: sensors, pulse width modulations, Bode plots, SCRs, TRIACs and optoelectronics. EDA tools are used to reinforce the theory with electronic analysis simulations. (Prerequisites: ELET 110C; corequisite: ELET 102C or permission of the Department Head of Electronic Engineering Technology.)

ELET 215C Advanced Digital Electronics 3-3-4

Advanced topics in digital electronics are covered in this course. These topics include the internal structure of logic families, complex digital circuits, synchronous logic, A/D and D/A conversion, timing diagrams, computer bus systems, programmable logic devices (PLD), and complex circuit debugging. The topic of digital interfacing is also covered. This includes interfacing various logic families to each other as well as interfacing logic to various I/O loads, such as inductive loads and 120VAC loads. (Prerequisites: CPET 107C, ELET 110C, ELET 115C, and ELET 144C; or permission of department head of Electronic Engineering Technology.)

ELET 251C Advanced Topics in Electronics 3-3-4

This course introduces students to advanced applications in electronics. Topics covered include but are not limited to: an introduction to electronic communication theory including digital communications, fiber optics, programmable logic controllers and human-machine interface. Laboratory exercises are used to reinforce classroom theory. (Prerequisite: ELET 115C, ELET 144C, and ELET 210C; or permission of the Department Head of Electronic Engineering Technology.)

ELET 305C Design Project Preparation 1-5-3

This course contains the background material and preparation necessary for Senior Design Project (ELET 306C) and consists of three integrated learning objectives which are studied concurrently. Objective one will be to document, design and build a team project that will use a typical industry project management process to complete a project assigned by the instructor. Product design documents will be created to guide this objective. Objective two covers the mechanics of designing and fabricating printed circuit boards. This includes the use of Electronic Design Automation (EDA) tools. The tools used include, but are not limited to, schematic capture and printed circuit board layout. Printed circuit boards will be fabricated that encompass both traditional "through-hole" components and modern "surface-mount" technologies. An overview of current industry standards of workmanship and safety shall be included. In objective three, the student selects a Senior Project to be completed in ELET 306C, obtains approval for that project and develops a detailed project definition. Much latitude is given in selecting a project. Projects may be undertaken individually or as teams. They may be internal or collaborative with industry. The project may involve developing a specific circuit or a more general exposure in an appropriate industrial environment. Ultimately, the project must meet the requirements outlined in EL 306 Senior Design Project and receive final approval from the instructor. Having received final approval, the definition will serve as a guideline for the next phase of the senior project. (Prerequisites: ELET 102C, ELET 110C, ELET 115C, and ENGL 125C or ENGL 120C; corequisite: ELET 144C,

and ELET 210C; or permission of the Department Head of Electronic Engineering Technology.)

ELET 306C Senior Design Project 2-5-4

This course is the culmination of two years of theoretical study in the electronics engineering field and is intended to exercise and enhance the student's practical competency in that field. Combined with its preparation course (ELET 305C) each student will be involved with design, development, implementation, and testing of a curriculum related design as required by Project Definition developed by the student in ELET 305C. An accurate record of time invested is to be kept, all work is to be documented in a logbook, and regular progress reports are to be submitted. As the project nears completion, a technical write-up will be required as well as a formal presentation of the project. (Prerequisite: ELET 305C, ELET 144C, ELET 210C; corequisites: ELET 215C; or permission of department head of Electronic Engineering Technology.)

English

ENGL 099C Developmental Reading and English 4-0-4

This course integrates developmental English and reading into one course. The course is rooted in research and theory that allows students to be immersed in foundational literacy skills needed for successful progress in college-level courses as well as future integration into their chosen career path. The course is designed for students with mid- to upper-level developmental skills who may benefit from an intensive skill-building curriculum that targets English and reading skills. This course also requires corequisite academic supports. The focus of the course will be on reading and writing skill practice, application, and integration across the disciplines at the college-level. Students will be expected to successfully demonstrate and apply appropriate college-level reading skills and writing skills to a variety of assignments and assessments. Proficiencies in strategic and contextualized reading and writing skills will be developed. Topics in reading and writing skill practice, application, and integration include the reading and writing process, critical thinking strategies, active reading strategies, and well-developed paragraph construction. (Institutional credit only; permission of the Department Head of English/Fine Arts/Language or designee required for enrollment.)

ENGL 100C Introductory English 4-0-4

This course prepares students for success in English Composition through active reading and critical thinking, practice with the stages of the writing process (including prewriting, drafting, organization, development, coherence and editing), and work with grammatical concepts that affect clarity and style. **The four institutional credits awarded for this course do not count toward graduation requirements but are calculated into GPA.** Students are expected to receive a grade of "C" or higher in ENGL 100C to advance to ENGL 101C English Composition.

ENGL 101C English Composition 4-0-4

Required of all first-year students and designed to teach students to write clear, vigorous prose, this course takes students through all stages of the writing process. Essay topics range from personal narratives to logical arguments.

All students learn the resources of the NHTI library and write at least one documented research paper. **Available in Honors format.** (Note: Students who have received credit for ENGL 101C cannot also receive credit for ENGL 101FC, ENGL 101XC, GST 100C, or GST 102C.)

ENGL 101FC English Composition-FYE 4-0-4

This course meets the same objectives as ENGL 101C and also embeds topics typically covered in a first-year experience course, such as career and major research, priority management and study skills, such as note-taking, test-taking, and critical thinking. (Note: Students who have received credit for ENGL 101FC cannot also receive credit for ENGL 101C, ENGL 101XC, GST 100C or GST 102C.) (Prerequisite: Placement testing or ENGL 100C; permission of Academic Advisor.)

ENGL 101MC English Composition: Mindful 4-0-4

Like ENGL 101C, this course is designed to teach students to write clear, vigorous prose. This course takes students through all stages of the writing process. Essay topics range from personal narratives to logical arguments. All students learn the resources of the NHTI library and write at least one documented research paper. ENGL101MC features the study of mindfulness and incorporates mindfulness meditation as an instructional method while also exploring aspects of emotional intelligence as they relate to effective communication. (Note: Students who have received credit for ENGL 101MC cannot also receive credit for ENGL 101C, ENGL 101FC, and ENGL 101XC.)

ENGL 101XC English Composition—Corequisite 4-2-5

This course is designed for students who need practice in foundational skills while simultaneously engaging college-level reading and writing skills. Weekly lab sessions will reinforce skills and topics directly related to lecture topics. The course takes students through all stages of the writing process. Essay topics range from personal narratives to logical arguments. All students learn the resources of the NHTI library and write at least one documented research paper. (Note: Students who have received credit for ENGL 101XC cannot also receive credit for ENGL 101C, ENGL 101FC, GST 100C or GST 102C.)

ENGL 102C Introduction to Literature 3-0-3

An introductory survey exposing the student to representative works from the major genre forms: fiction, poetry and drama. **Available in Honors format.** (Note: Students who have received credit for ENGL 102C cannot also receive credit for ENGL 102C-FYE and ENGL 102MC.)

ENGL 102C-FYE Introduction to Literature: Hero's Journey 3-0-3

This survey course introduces students to representative works from major genres, such as fiction, poetry and drama and the concept of the Hero's Journey. Through reading, writing, discussion and presentation students analyze texts to understand the role of literature in culture. Using the framework of the literature, students will also examine and plan their own journey through college and beyond. (Note: Students

who have received credit for ENGL 102C-FYE cannot also receive credit for ENGL 102C and ENGL 102MC.) (ENGL 101C recommended)

ENGL 102MC Introduction to Literature: Mindful 3-0-3

This survey course introduces students to representative works from major genres, such as fiction, poetry, and drama. Through reading, writing, and class discussion, students analyze texts to understand the role of literature in culture. ENGL102MC features the study of mindfulness and incorporates mindfulness meditation as an instructional method while also exploring aspects of emotional intelligence as they relate to effective communication. (Note: Students who have received credit for ENGL 102MC cannot also receive credit for ENGL 102C and ENGL 102C-FYE.)

ENGL 120C Communications 3-0-3

This survey course focuses on the application of communication principles and theories, enabling students to develop public speaking, interpersonal, intrapersonal, and group communication skills. Through an in-depth look at self-concept, verbal and nonverbal language and listening skills, students gain an increased awareness of the way they perceive themselves and others as well as the cultural and ethical implications of behavior. Coursework includes a variety of speeches, exercises, and writing assignments.

Available in Honors format.

ENGL 120MC Communication: Mindful 3-0-3

Through this survey course focusing on the application of communication principles and theories, students will develop public speaking, interpersonal, intrapersonal and group communication skills. Through an in-depth look at self-concept, verbal and nonverbal language and listening skills, students gain an increased awareness of the way they perceive themselves and others as well as the cultural and ethical implications of behavior. Coursework includes a variety of speeches, exercises and writing assignments. Sections identified as MC (Communicating Mindfully) feature the study of mindfulness and incorporate mindfulness meditation as an instructional method while exploring aspects of contemplative neuroscience and emotional intelligence as they relate to effective communication.

ENGL 120WC Communications 3-0-3

Designed for students who intend to continue their education beyond the associate's level, this course emphasizes writing and communication skills to help students succeed in upper level college courses. This writing intensive seminar puts equal emphasis on process and product, giving students the opportunity to develop metacognitive abilities and improve interpersonal communication skills. Through this survey course focusing on the application of communication principles and theories, students will develop public speaking, interpersonal, intrapersonal and group communication skills. Through an in-depth look at self-concept, verbal and nonverbal language and listening skills, students gain an increased awareness of the way they perceive themselves and others as well as the cultural and ethical implications of behavior. Coursework

includes a variety of speeches, exercises and writing assignments.

ENGL 121C Introduction to Film 3-0-3

The art, history, technology and theory of the narrative motion picture from the silent period to the present.

ENGL 125C Communication and the Literature of Science and Technology 3-0-3

Built around the theme of science and technology, this course focuses on improving communication skills. Areas of study include critical reading, critical thinking, public speaking, interpersonal communication and writing. Topics of readings may vary and could include any of the following: physical and technical sciences; natural and health sciences; or social sciences.

ENGL 135C Introduction to Media Studies 3-0-3

This course focuses on the nature, development, and effects of various media in relation to culture and society. Students will gain an understanding of print and electronic media, public relations, advertising, media policy and law, global communications, and media ethics. Coursework includes a variety of presentations, exercises, and writing assignments. (Successful completion of ENGL 101C strongly recommended.) **Note:** This course does not satisfy NHTI's Humanities or English Literature requirements.

ENGL 150C Introduction to Drama 3-0-3

An introductory survey involving the study of drama as literature and performance beginning with the Greeks and continuing through Shakespeare to the present.

ENGL 160C Introduction to Poetry 3-0-3

A course designed to make students aware of the aesthetic value of poetry and to develop their critical skills as readers. Included is an in-depth study of the various genres and structural elements of poetry. Genres considered are sonnet, ode, elegy, ballad, epic, dramatic monologue and open form. Structural elements surveyed include imagery, sound, rhythm, rhyme, tone and diction.

ENGL 201C English Composition II 3-0-3

Aiming at higher levels of writing competencies, this class focuses on analysis, argument and research. It addresses issues of style and structure, from the sentence level to the whole essay, and incorporates peer review and critique. Students are required to collect and evaluate information, to analyze subjects from a variety of critical perspectives and to use logic to present and defend conclusions. Students compose essays of varying lengths, including shorter reflections and more sustained arguments. Individual instructors may choose to offer the course based on a theme. (Prerequisite: ENGL 101C with a grade of "C" or higher.)

ENGL 210C British Literature I 3-0-3

This course traces the development of British literature from the Middle Ages through the early eighteenth century and includes readings in poetry, fiction, essay, and drama. Authors' works will be examined within the cultural, philosophical and political climate in which they were

created. (Prerequisite: Successful completion of ENGL 101C or equivalent and an introductory level literature course are highly recommended.)

ENGL 211C British Literature II 3-0-3

This course traces the development of British literature from the late eighteenth century to the present. The poetry, fiction, essays, and dramas of several major authors of the Romantic, Victorian and Modern periods will be studied. Authors' works will be examined within the cultural, philosophical and political climate in which they were created. (Prerequisite: Successful completion of ENGL 101C or equivalent and an introductory level literature course are highly recommended.)

ENGL 214C American Literature Survey I: to 1865 3-0-3

The course traces American Literature to 1865. Students read representative major, as well as minor, writers from all literary periods and various movements. Readings are set in the cultural contexts in which they were created. (Prerequisite: Successful completion of ENGL 101C or equivalent and an introductory level literature course are highly recommended.) **Available in on-line format.**

ENGL 215C American Literature Survey II: 1865 – present 3-0-3

An historically-based survey course covering American literature from 1865 to the present. It is designed for English majors and others interested in the character and history of United States literature. Students read representative major, as well as minor, writers from various literary periods and movements. Readings will be set in an historical and cultural context. (Prerequisite: Successful completion of ENGL 101C or equivalent and an introductory level literature course are highly recommended.)

Special topics courses listed under ENGL 221C Film Genres and Directors

Courses under this heading will offer students an advanced, focused examination of the art, history and theory of a body of narrative films, which may be related by genre, filmmaker, country, style, movement, theme and/or culture and ideology. Courses will utilize viewing, lectures and class discussion and emphasize film theory, criticism and history. Note: this course may be repeated for credit as topics change, providing student earned a grade of "C" or better. (Prerequisite: successful completion of ENGL 101C, or equivalent, or permission of the Department Head of English; an introductory level literature course is highly recommended.)

ENGL 221AC - Images of Light 3-0-3

Utilizing viewings, lectures and class discussion and emphasizing film theory, criticism and history, Images of Light explores the creative and dynamic interrelationships of filmmaking, particularly between the director and the director of photography; between the vision of a film and its realization.

ENGL 221BC - Films of 1962 3-0-3

This course is an examination of the year 1962 in film, arguably the best year in international filmmaking.

Utilizing film viewing, lectures, projects and discussions the course will explore not only how and why international filmmaking reached its apogee in 1962 but also the lasting effects of these films and the filmmakers. Films screened include Jules et Jim; Eclipse; Through a Glass Darkly; Viridiana; Yojimbo; Last Year at Marienbad; Cleo From Five to Seven; Manchurian Candidate; To Kill a Mockingbird; Lolita; Ride the High Country; Miracle Worker; Man Who Shot Liberty Valance; and, Lawrence of Arabia.

ENGL 221CC - American Independent Cinema 3-0-3

An Independent Film is a film that has been funded independently of a Major Studio, typically the monies come from limited partnerships, personal loans, presales, private investors and even credit cards. The late 1980's and 1990's saw a tremendous emergence of US independent cinema, as an enormous variety of eccentric and challenging filmmakers and evolving film styles came to America. This course will focus on American Independent Film Directors, the process of conception, funding to creation and distribution of their initial film will be examined. With several Directors we will explore their achievements as well as their studio flops.

ENGL 221DC - The Modern Classics 3-0-3

Utilizing viewings, lectures, class discussions, presentations and emphasizing film theory, criticism and history, "The Modern Classics" (the influences on or films since the 1994 release of Quentin Tarantino's "Pulp Fiction") explores the audacity, range, depth and stylistic experimentation of the newest wave of filmmaking, as seen through American and foreign films.

ENGL 221EC - German Expressionism 3-0-3

Utilizing viewings, lectures and class discussion and emphasizing film theory, criticism and history, German Expressionism explores the creative and dynamic interrelationships in Germany of the Expressionist Film Movement in the time between the two world wars as well as the re-interpretation of that period prior to reunification. Expressionism and Post-Expressionism as movements will be explored within the context of the times, concentrating on the intensity of the artist's inner world capturing the nightmarish quality of artistic vision. Emphasis will be placed on the "mood" of Expressionism and how art anticipates history.

ENGL 221FC American Cult Cinema 3-0-3

The course will allow us to view, research, and discuss nearly two dozen motion pictures more or less widely regarded as "bad movies" in one or more ways. In seeking to determine intelligently what factors might contribute toward cinematic badness, we will consider subject matter, personal and societal prejudices, the effects of the passing of time, the effects of change, stigmatization of particular movie genres and/or directors and/or actors, and a wide variety of other aspects relating to viewer perception of a movie's quality or lack thereof.

ENGL 221GC - Darkness & Light: Film Noir 3-0-3

Utilizing viewings, lectures and class discussion and

emphasizing film theory, criticism and history, *Darkness & Light: Film Noir* explores the origins of Film Noir and examines not only pre-noir films but also noir films of the classic period as well as noir films of the post-classic and modern periods.

ENGL 221HC - Alfred Hitchcock 3-0-3

An in-depth study of the film techniques and unique storytelling genius of Alfred Hitchcock, including an examination of the influences of other directors and cinematic movements on Hitchcock. This course will trace his career as the "Master of Suspense" from his early films in England to his American works and includes the star system, character development, storyboards, and the art of the action montage.

ENGL 221IC - Stanley Kubrick 3-0-3

As a director known for controversial films such as *Lolita*, *Dr. Strangelove*, and *A Clockwork Orange*, Stanley Kubrick repeatedly bucked the Hollywood mainstream, emerging as an outsider who resisted the scrutiny of conventional film criticism and biography. This class will study in-depth the film techniques, influences of other directors and cinematic movements, and unique storytelling of Stanley Kubrick.

ENGL 227C Professional Communication & Public Speaking 3-0-3

This course focuses on the specific tools for communicating in complex, professional environments. Students will develop digital, social, and visual media skills; learn interpersonal, cultural, team, leadership, and ethical skills; learn a three-step process for composing business correspondence, letters, articles, e-mails, instant messages, blogs, tweets, and webpages; develop skills in researching, planning, and writing reports and proposals; write employment messages, letters, and resumes; develop and deliver oral presentations, a group presentation with a PowerPoint, and an impromptu speech; and develop questionnaires and conduct interviews. (Successful completion of ENGL 101 strongly recommended.) Note: This course does not satisfy NHTI's Humanities or English Literature requirements.

ENGL 240C Cultural Identity through Young Adult Fiction 3-0-3

Students will read, discuss, and evaluate a range of literature written for young adults (grades 8-12). This course will investigate the social and cultural "norms" that are presented to teens through the literature written for them. Students will consider whether YA literature is reflective of changing cultural norms, or if the shifts in popular literature can shape the collective identity of a generation of teens. In addition to exploration of mass media spin-offs and popular literature fads, students will also critically analyze the major contributing authors in modern YA literature, and how the common themes teens deal with are handled by those authors. (Prerequisite: ENGL 101C or equivalent with a grade of "C" or higher, or permission of the Department Head of English.)

ENGL 251C Contemporary Drama 3-0-3

A seminar focused on major European and American drama since the 19th century. Through reading, discussion and

lecture regarding the works of major writers, students are exposed to contemporary issues in the development of the dramatic art. (Prerequisite: Successful completion of ENGL 101C or equivalent and an introductory level literature course are highly recommended.)

ENGL 255C Shakespeare 3-0-3

A study of representative works by William Shakespeare. Selections are chosen from histories, comedies, and tragedies. Students are introduced to the social and cultural characteristics of the Early Modern Period, to the biography of the author, and to various issues surrounding the life and works. No previous knowledge of Shakespeare is assumed. (Prerequisite: successful completion of ENGL 101C or equivalent and an introductory level literature course are highly recommended.)

ENGL 260C The Novel 3-0-3

A genre class designed for advanced students, "The Novel" selects from a wide range of representative texts in this essential literary form. Students will read approximately eight works of fiction. Selections may be drawn from any period of literature from the 18th-century origin of the form up to the present and may incorporate both texts written in English as well as English translations of non-English texts. Readings will be set in their historical and cultural contexts and will display the wide range of texts covered by this word "Novel." (Prerequisite: **Honors Only**. Students must have earned a B+ or better in EN101 or receive approval from the instructor.)

ENGL 272C Modern Short Fiction 3-0-3

A study of fiction focusing on elements and themes of the short story art form in stories written in the past 150 years. Through close reading, lectures and discussions, stories are placed in the contexts of literary trends, and periods. Biographical information may also be studied to gain a better understanding of the unique styles and perspectives of individual authors. (Prerequisite: successful completion of EN 101 or equivalent and an introductory level literature course are highly recommended.)

ENGL 285C Literature, Technology and Culture 3-0-3

This course examines the cultural implications of science and technology in the modern world. Students study a range of essays and fictional works in traditional literature, science, and science fiction, which may include such works as *Frankenstein* and *Brave New World*. (Prerequisite: Successful completion of ENGL 101C or equivalent and an introductory level literature course are highly recommended.)

ENGL 286C/TECP 86C Introduction to Linguistics 3-0-3

The course focuses on linguistics, the scientific study of language. We will explore the properties of language and linguistic challenges faced by English language learners. The course will expand upon the subfields within the linguistics: phonetics and phonology, morphology and syntax, semantics and pragmatics. Concepts relevant to teaching English will be taught: pronunciation, grammar, and vocabulary. Language variation and written discourse will also be addressed as well as how to apply this knowledge to the English language classroom. Linguistic principles and features of both English and other languages will be examined to promote familiarity with the language experiences of English language learners.

A native speaker of a world language will act as a “grammar text” as we decipher an unknown grammar in a field methods format. This course is required for those in the TECP: ESOL certification program. Others must have permission from the Director of TECP or the Director of Cross Cultural Education. (Prerequisites: ENGL 101C, minimum of B average in ENGL 101C.)

ENGL 287C Women in Literature 3-0-3

Images and roles of women in literature are traced from historical to contemporary times through a study of selected works in fiction, poetry and drama. (Prerequisite: Successful completion of ENGL 101C or equivalent and an introductory level literature course are highly recommended.)

Special Topics courses listed under ENGL 291C

Contemporary Issues and World Literature

An investigation of current and enduring issues through world literature. Emphasis on 20th century works, but works from other periods also considered. Topics vary from year to year and with the instructor. See department for details of current offerings. (Prerequisite: Successful completion of ENGL 101C or equivalent and an introductory level literature course are highly recommended.) **Available in Honors format.**

ENGL 291AC Contemporary Latin American Literature 3-0-3

Images and examples of Latin American culture in literature are traced from historical to contemporary times with an emphasis on 20th century contemporary works through a study of selected works in fiction, poetry, film and drama.

ENGL 291BC Contemporary Spanish Literature 3-0-3

Through a study of selected works in fiction, poetry, film, and drama, this course traces images and examples of Spanish culture and relevant issues through various landscapes, comparing current and post-war issues as well as literary conversations and connections to American and European literature. The emphasis is on contemporary works. It is available in the on-line format. (Prerequisites: Successful completion of ENGL 101C or equivalent and an introductory level literature course are highly recommended.)

[Students interested in an enrichment travel experience related to this course should contact the English Department Chair. The travel portion of this course is not required. **Students should note that the cost of the trip to Barcelona is not included in the tuition for this course. Students are responsible for all costs of this trip.**]

ENGL 294MC Communicating Mindfully Capstone 1-0-1

This capstone course will review and build upon key elements of mindful communication students have been studying throughout their degree program. In particular, students will practice applying mindful communication skills in the workplace and reflect on those experiences in order to improve interactions with colleagues, customers, clients, and others (e.g., students or parents, if appropriate for one's degree program). In addition, students will work in groups of

two (or three, if necessary) in which each partner has a different major than the other (when possible). Through online discussion posts, students will practice mindful communication techniques in order to practice attending to others, confirming understanding, and providing feedback that is respectful, insightful, and useful in meeting their partner's needs related to goals students have set while taking the prerequisite MC courses. Throughout the course, students will be encouraged and given the opportunity to engage in regular contemplative practices such as mindfulness meditation. (Prerequisites: ENGL 101MC, ENGL 102MC, and ENGL 120MC, or permission of the Department Head of English) (Corequisite for IT majors only: IST 294C.)

Special topics courses listed under ENGL 295C Creative Writing

Courses under this heading are designed for writers interested in learning about creative writing. Students will present and critique their own original work and the work of their classmates as well as examine published works. Additionally, students will explore the various elements of drama, fiction or poetry or mixed genre, depending on the focus of the specific course. Information on preparing a manuscript for submission and publication may also be included. (Prerequisite: ENGL 101C or permission of the instructor; a literature course is recommended.)

ENGL 295AC Creative Writing: Fiction 3-0-3

This is a course designed for writers interested in learning more about the craft of fiction writing. Students will examine published short stories in the classic and contemporary canon as well as present and critique their own work and the work of others. Additionally, the students will explore some of the genres of fiction in more depth including science fiction and fantasy, mystery and children's books. Lectures on preparing a manuscript for submission and the publishing industry are included as well. **Available in Honors format.** (Prerequisite: ENGL 101C or permission of instructor. Students who do not have the prerequisite may be asked to submit a writing sample before enrollment is confirmed. Suggested additional prerequisite: a literature elective.)

ENGL 295BC Creative Writing: Poetry 3-0-3

This course is designed for writers interested in learning about the craft of poetry writing. Students will present original work to their teacher and classmates for discussion and critique as well as examine published works. Additionally, the students will explore the various elements of poetry. Students will be expected to spend the majority of their time writing and revising original works. Information on preparing a manuscript for submission and publication may also be included. (Prerequisite: ENGL 101C or permission of the instructor; ENGL 102C or ENGL 160C is recommended.)

ENGL 295CC Creative Nonfiction 3-0-3

This course provides an introduction to the art and craft of writing creative nonfiction, an approach to "telling the truth" that uses many of the tools of both fiction writing and journalism. Students will read, write,

critique, and analyze pieces demonstrating the different styles in this genre: memoir, essay, and literary journalism. In addition, this course will include lectures, workshops, and peer editing. Students will experiment with the basic techniques of journalism, such as researching, reporting, and interviewing. The goal is to help students write stories that give meaning to experience, in a way that touches others. (Prerequisite: ENGL 101C or by permission of the instructor.)

ENGL 295DC Playwriting 3-0-3

To illuminate and guide each student through the art and craft of writing for performance. This course explores the fundamental principles needed to build a realistic play that is intended to be produced upon the stage. Though the course is built around the construction of plays, the principles, writing exercises, readings, and other assignments serve as a solid base for any form of dialogue-driven writing. The class will culminate in the writing and staged-readings of 10-minute plays and performance texts. Students are expected to attend, at their own expense, one live theater production to be specified. (Prerequisite: ENGL 101C with a grade of "C" or higher.) [Students receiving credit for ENGL 295DC cannot also receive credit for THTR 120C.]

ENGL 295EC Creative Writing: Young Adult Fiction 3-0-3

This course is designed for writers interested in learning more about the craft of writing fiction for young adults. Students will examine published short stories and novels in the classic and contemporary canon for readers ages 12-17, as well as present their own work and critique the work of others. Students will explore some of the subgenres of young adult fiction in more depth, including science fiction and fantasy, edge, and horror, and study how the major themes relevant to teen readers are addressed in those subgenres. Students may choose to work on a series of short stories or on a longer, novel-length piece. (Prerequisite: ENGL 101C or equivalent with a grade of "C" or higher, or permission of the Department Head of English.)

ENGL 298AC Contemporary Spanish Literature: Barcelona Travel Lab 1-0-1

Following the study of selected works in fiction, poetry, film and drama, this course explores through travel to Barcelona many of the places referenced in these works and provides a hands-on experience of Spanish culture. It is intended to reinforce and set the learning acquired in EN 291B. (Prerequisite: ENGL 291BC with a grade of "C" or higher.) [Students should note that the cost of the trip to Barcelona is not included in the tuition for this course. Students are responsible for all costs of this trip.]

English as a Second Language

ESOL 101C Basic Writing 3-0-3

This course focuses on developing writing skills at the paragraph level. Students will have opportunities to develop

writing skills through a learning process that integrates reading, writing, and grammar practice. In learning and practicing a variety of writing tasks, students will gain increasing competence in expressing themselves in appropriate written English in an academic context. The developmental process also encourages cultural learning. **The three institutional credits awarded for this course do not count toward graduation requirements but are calculated into GPA.** (Prerequisite: Students must attain a minimum composite score of 55 on the MTELP. Completion of this course with a grade of "C" or better will satisfy the prerequisite for ESOL 201C Academic Writing.)

ESOL 102C Pronunciation Matters 3-0-3

The purpose of this course is to guide students into speaking clear and natural American English. It addresses basics in pronunciation for clear communication. Contents include sound/spelling patterns, syllables, consonant/vowel problems, linking, stress, and rhythm. The course will be a learner-centered, encouraging interactive activities and practice. **The three institutional credits awarded for this course do not count toward graduation requirements but are calculated into GPA.** (Prerequisite: Students must attain a minimum composite score of 55 on the MTELP. Completion of this course with a grade of "C" or better will satisfy the prerequisite for ESOL 202C Clear Communication.)

ESOL 104C American Culture I 3-0-3

The major purpose of this course is to introduce and explore American culture through selected topics of interest. The course introduces typical American people, places, and ideas, providing students with essential information about the USA and stimulating cross-cultural exchange. This course emphasizes cultural awareness and addresses the four basic language skills - reading, writing, speaking, and listening. A variety of high-interest topics will enable students to take part in discussions, present short talks, solve problems, and interact with each other. **The three institutional credits awarded for this course do not count toward graduation requirements but are calculated into GPA.** (Prerequisite: Students must attain a minimum composite score of 55 on the MTELP. Completion of this course with a grade of "C" or better will satisfy the prerequisite for ESOL 204C American Culture II.)

ESOL 201C Academic Writing 3-0-3

The goal of this course is to continue to prepare students for English composition and other academic writing at the college level. It focuses on developing writing skills at the essay level. Students will move from writing structured paragraphs to organizing, drafting, and revising complete essays. Course content includes introduction to patterns of essay organization such as the comparison and contrast, cause and effect, and process analysis. Grammar and complex sentence structures will be reviewed as needed. **The three institutional credits awarded for this course do not count toward graduation requirements but are calculated into GPA.** (Prerequisite: ESOL 101C Basic Writing with a grade of "C" or better, or permission of the Department Head of Cross-Cultural Education as determined using the student's score on the MTELP.)

ESOL 202C Clear Communication 3-0-3

The primary goal of this course is to help non-native speakers of English develop skills of oral communication and listening comprehension. Various pronunciation needs for communicating more effectively in academic or professional settings will also be addressed. The learner-centered instruction guides students in developing communicative English through a variety of interactive practices including stresses of words, intonations of sentences and styles of communication. **The three institutional credits awarded for this course do not count toward graduation requirements but are calculated into GPA.** (Prerequisite: ESOL 102C Pronunciation Matters with a grade of "C" or better, or permission of the Department Head of Cross-Cultural Education as determined using the student's score on the MTELP.)

ESOL 203C Grammar Practice 3-0-3

This course focuses on training students in developing proficiency through active grammar practice. Students will have various opportunities to learn grammar structures through systematic themes as well as practical application through exercises. Reading and other communicative activities will be integrated. Grammar exercises will cover a broad content of both a scientific and humanistic nature as well as selections from TOEFL. **The three institutional credits awarded for this course do not count toward graduation requirements but are calculated into GPA.** (Prerequisite: ESOL 101C Basic Writing with a grade of "C" or better, or permission of the Department Head of Cross-Cultural Education as determined using the student's score on the MTELP.)

ESOL 204C American Culture II 3-0-3

The major purpose of this course is to expand the students' knowledge of the American culture through selected topics of interest. The course not only provides students with essential information about the USA but also stimulates cross-cultural exchange. This course provides students with the opportunity to conduct research and then develop and deliver presentations to the class on their findings. Four language skills - reading, writing, speaking and listening - are addressed in this course. **The three institutional credits awarded for this course do not count toward graduation requirements but are calculated into GPA.** (Prerequisite: ESOL 104C American Culture I with a grade of "C", or permission of the Department Head of Cross-Cultural Education as determined using the student's score on the MTELP.)

ESOL 205C Reading Comprehension 3-0-3

The main goal of this course is to move learners toward higher proficiency in reading comprehension and cultural literacy by investigating concepts and texts related to many fields of study to include business, science, psychology, politics, technology, etc. Classes will emphasize a developmental process that integrates reading comprehension, vocabulary expansion, problem solving, critical thinking, and cultural literacy. Readings from journals, newspapers, and works of fiction and non-fiction will be explored in this course. **The three institutional credits awarded for this course do not count toward graduation requirements but are calculated into GPA.** (Prerequisite: ESOL 101C Basic Writing or ESOL 104C American Culture I

with a grade of "C" or better, or permission of the Department Head of Cross-Cultural Education as determined using the student's score on the MTELP.)

Environmental Science

ENVS 101C Fundamentals of Environmental Science 3-2-4

This course will provide an introduction to the structure, function and interactions of atmospheric, terrestrial and aquatic systems, as well as the impact of the human population on such systems. Topics will include basic scientific concepts and methods for understanding human population growth and their impact on the environment, including cycles of carbon, water and other materials, weather and climate, and sustainability of natural resources, in particular water and energy. The course will evaluate natural environmental processes, as well as human impacts to these processes, using case studies and real data to demonstrate the role of science in solving pressing environmental problems. (Prerequisite: high school biology and chemistry recommended.)

ENVS 220C Introduction to Soil Science 3-2-4

Students in this course will be introduced to the study, management and conservation of soils as natural bodies, both as a media for plant growth and as a part of a larger ecosystem. Students will learn to identify soil types in natural and disturbed communities. This course will present the concept of soil science such as: composition, chemical, physical and biological properties, classification and mapping, soil water, soil conservation, management practices as well as soil fertility and productivity. The world's soils are being greatly impacted by environmental impacts such as climate change, water pollution, deforestation and development. The quality of the soil determines the capacity of land to support natural ecosystems and human society. This course will provide an introduction to the soil types found in Northern New England and how those soil types will determine our capacity to grow food.

ENVS 250C Agroecology 3-2-4

This course introduces the discipline of agroecology from an ecological perspective. An emphasis will be placed on relevant ecological theory within the context of production agriculture. Students will examine and measure the interactions between plants, animals, soil and climate as well as the impact that human engagement has on these components. Students will research and present the history and consequences of modern industrial agricultural systems and the need for more sustainable management practices that consider ecological interactions. (Prerequisite: BIOL 111C with a grade of C or higher.)

ENVS 290C Senior Capstone Project and Seminar 3-2-4

This course serves as the capstone course for the Environmental Sciences program, in which the student will demonstrate the application of the knowledge gained throughout the program. This will be achieved either by independent study investigating all sides of a current environmental issue selected by the student with guidance from his/her program advisor or through participation in a field internship with an approved industry partner. In either

case, the student will submit a written paper and make an oral presentation of his/her project to all interested students, faculty, and industry partners in a seminar format. (Prerequisites: A grade of "C" or higher in all major field and other required science courses taken prior to the semester in which the student registers for this course and permission of the Department Head of Environmental Sciences. Prerequisites OR Corequisites: ARET 160C, GEOL 101C, PHIL 242C, BIOL 215C.)

Fine Arts

DANC 101C Dance Survey I 0-5-2

This studio class provides novice dancers with the fundamentals of strength and conditioning and an introduction to the basic dance genres of ballet, tap, jazz, and contemporary/lyrical. (Pass/No Pass grades only. Classes are held at the Concord Dance Academy. Students are required to wear dance-appropriate clothing.)

DANC 102C Dance Survey II 0-5-2

This studio class builds on the fundamentals of strength and conditioning and the introduction to the basic dance genres of ballet, tap, jazz, and contemporary/lyrical presented in Dance Survey I. (Pass/No Pass grades only. Classes are held at the Concord Dance Academy. Students are required to wear dance-appropriate clothing.) (Prerequisite: Successful completion of Dance Survey I or placement audition.)

DANC 140C Introduction to Modern Dance 1-4-3

This course is designed to guide students' knowledge and awareness of the performing art form that is Modern Dance through the study of the history of modern dance via assigned readings and viewings of videotaped performances by various modern dance companies and through the physical development of a basic movement vocabulary, elementary dance technique, improvisation exploration, and composition. Students must wear fitted sweat pants, running pants or shorts, and fitted T-shirts or a leotard with footless tights or other dance/exercise clothing during class sessions. **This course will be taught at the Petit Papillon dance studio, which is a 10-15-minute drive from the NHTI campus.** Students should plan their schedules to accommodate travel time.

DANC 141C Ballet Fundamentals 0-3-1

This course is designed to guide students' knowledge and awareness of the performing art form that is Classical Ballet through the following process: the study of the history of Classical Ballet by assigned reading, viewings of videotaped performances by various professional ballet companies, and by attending a live performance (**which may require special travel and separate ticket purchase**); the physical execution of basic ballet technique. (**Special attire - Women:** leotard and tights or other dance/exercise clothing, ballet slippers; **Men:** fitted sweat pants, running pants or shorts and fitted t-shirt.) **This course will be taught at the Petit Papillon Dance Studio, which is a 10-15 minute drive from the NHTI campus. Students should plan their schedules to accommodate travel time.**

MUSC 105C Introduction to Music 3-0-3

This course offers a fundamental approach to perceptive listening based on a detailed study of several masterpieces representing different periods and forms. The pieces will be studied from aesthetic and historical perspectives.

MUSC 106C The History of Jazz, Blues and Rock and Roll 3-0-3

This course examines the history of three of America's great musical contributions to world culture-jazz, blues and rock & roll-via detailed study of several masterpieces in each genre.

Students will explore the fundamental musical elements, the historical roots and the development of musical traditions of each style. Various listening and vocal music guides will facilitate the student's knowledge and awareness.

MUSC 107C World Music 3-0-3

Through the exploration of "soundscapes," or music within a cultural setting, students will learn sound characteristics and instrument classification that can be used for any type of music. Students will come to understand the significance of music within a culture. Students will develop critical listening skills and the vocabulary necessary to understand and evaluate music. No musical background is necessary.

MUSC 150C Introduction to Guitar 3-0-3

This course offers a fundamental approach to learning the guitar for beginning students with varied levels of experience. Students will be involved with and exposed to performance situations, some practical applications of music theory as well as different playing styles and techniques. Students must provide their own instruments. Acoustic instruments only.

MUSC 155C Vocal Production and Performance 2-2-3

This course offers an opportunity to study various aspects of vocal production and performance, which will include vocal process from theory to application. The vocal process will focus on optimizing one's vocal understanding through performance techniques and musicianship.

THTR 101C Acting I 3-0-3

Acting One is an introduction to drama as a performing art, with emphasis upon physical movement and the use of voice in the development of characterization. Students will learn to use improvisation and theatre games to make feelings accessible to the student actor for the purpose of performance. The class will take a functional approach to the basic techniques of acting with an in-class performance final. Students will be introduced to the fundamentals of acting that include action, relaxation, objective, spontaneity, emotion, monologues, texts, projection, presence, substitution, referential movement, character analyses, and heightened diction. It will include ideas about the rehearsal process, play scripts, scenes, staging, and performance.

THTR 102C Acting II 3-0-3

This course is a continuation of Acting I and is an introduction to diverse acting approaches through the practical study of scenes and monologues in class. Exercises, exploring these various acting techniques, will be done in class and will be discussed/critiqued. The scene assignments may be taken from scripts assigned to students or be chosen by students with approval from the professor. Students will be required to work in and outside of class and to attend two plays in the course of the semester—one on campus, one off campus. Emphasis will be placed on the special demands of scene analysis, milieu study and characterization, as well as beginning directing technique. Comfortable clothing for movement required. (Prerequisite: THTR 101C Acting I with a grade of "C" or higher.)

THTR 110C/ENGL 110C Introduction to the Theatre 3-0-3

This course will provide a broad survey of the basic

components of theatre. Because theatre is a study of the possible, that is, what may result from the collaboration of many talents, we will study it from a number of different perspectives. We will examine plays, the history of theatre as an art, acting, technical theatre, theatre's impact on society, and important practitioners in the field. Plays are unique in all of literature, because they are only finished in performance in front of an audience. To understand how plays come to their complete realization, we will see several productions, both on and off campus. The student will be responsible for the cost of one ticket for an off campus production.

THTR 150C Theater History: Prewriting to 1800 3-0-3

An examination of theater history from pre-writing to the Restoration through the context of play reading and primary texts. The course studies how the interrelationships among technologies, ideologies, geography, history, architecture, politics, and social expectations related to culture affected theatre productions. Students will engage in investigative research and reporting.

THTR 185C Children's Theatre 3-0-3

This course examines techniques for theatre in the classroom, creative dramatics, and theatre for young audiences. It examines the dramatic structure, audience needs, directing, and acting techniques that are employed in the production of theatre for children and creative drama in the classroom. Practical and creative applications of scene design, costumes, make-up, and lighting are topics studied in the preparation of the final production. There will be a performance for young audiences at the end of the semester during class time. (A \$25 specialty course fee will be assessed for all students taking THTR 185C.)

THTR 220C Playwriting 3-0-3

To illuminate and guide each student through the art and craft of writing for performance. This course explores the fundamental principles needed to build a realistic play that is intended to be produced upon the stage. Though the course is built around the construction of plays, the principles, writing exercises, readings, and other assignments serve as a solid base for any form of dialogue-driven writing. The class will culminate in the writing and staged-readings of 10-minute plays and performance texts. Students are expected to attend, at their own expense, one live theater production to be specified. (Prerequisite: ENGL 101C with a grade of "C" or higher.) [Students receiving credit for THTR 120C cannot also receive credit for ENGL 295C.]

THTR 250C Musical Theater 3-0-3

This course is an exploration of American Musical Theatre. Students will study the work of the actor/singer/dancer and use their gained knowledge to develop as performers and intelligent audience members. Students will prepare and present as soloists as well as members of small groups and larger ensemble. Students will not only sing but will choreograph and block movement appropriate for each piece. Since this is a workshop course, students will prepare material for class presentation and critique. There will also be a focus on the audition process, as well as musical theatre history and repertoire. Finally, the class will participate in a culminating showcase performance at the end of the semester to which the NHTI and extended community will be

invited. (Prerequisite: THTR 101C Acting I strongly recommended.) (A \$25 specialty course fee will be assessed for all students taking THTR 250C.)

THTR 255C Directing 3-0-3

This course is an introduction to the basic concepts, theories and methods of play direction that emphasizes text analysis, leading to the creation of the prompt book and production of a one-act play. Productions will be performed on the auditorium stage before an audience scheduled on an evening that does not conflict with main stage productions, classes, or other previously scheduled events. (Prerequisites: THTR 101C and THTR 102C with grades of "C" or higher or permission of the Department Head of English/Fine Arts/Languages.)

Foreign Language

ASL 104C American Sign Language for Beginners 3-0-3

This course will introduce students to basic knowledge and skills of American Sign Language. Students will achieve the beginning levels of fluency in communicating through the use of ASL.

ASL 105C Advanced American Sign Language 3-0-3

This course will teach students the advanced skills and knowledge of American Sign Language. Students will achieve fluency in communicating through the use of ASL. (Prerequisite: ASL 104C.)

CHIN 130C Mandarin Chinese I 3-0-3

Mandarin Chinese I is an introductory course for students with no background in the language. The student will learn to speak and understand standard Mandarin and read and write simplified Chinese characters. Students will develop speaking and listening skills through audiovisual media, interactive activities, and pair dialogue practice. Reading skills are developed through graded reading activities. Character writing practice and composing short pieces will develop writing skills. A strong emphasis on grammar provides the necessary framework to communicate clearly and effectively. Short lectures and the reading and sharing of current event news will develop an understanding of Chinese culture, past and present.

CHIN 132C Mandarin Chinese II 3-0-3

Mandarin Chinese II is designed for students who have been exposed to Mandarin Chinese and have knowledge of the Pinyin system. A strong interest in writing and learning characters is essential. Graded reading of short passages will help students remember Chinese characters and increase reading comprehension. Students will continue to improve pronunciation and tone. Conversation ability will continue to increase through listening and conversation practice. Chinese history and current events will be discussed. (Prerequisite: CHIN 130C Mandarin Chinese I or permission of the instructor.)

FREN 121C French I 3-0-3

An introduction to basic French language, history, and culture through a balanced four-skills approach to learning through listening, speaking, reading, and writing activities. Multimedia
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resources, interactive language programs, videos, and the Internet will be used. **French I is geared toward students who have no previous knowledge of the language.**

FREN 122C Elementary French II 3-0-3

A fully integrated intermediate French course that uses a multimedia approach to emphasize near-complete immersion in the French language and to build on the skills outlined in French I (FREN 121C). **French II is intended for students who have one or two years of high school French.** (Prerequisite: FREN 121C or equivalent.)

GERM 115C Elementary German I (3-0-3)

This course is designed for beginning German students who are interested and motivated in speaking and learning about the rich German language and culture. It is designed for continued language study, travel and business purposes. Since a German native speaker will be teaching the course, the emphasis will be in communicative as well as written skills of the living German language. Vocabulary and phonetics studies will be enhanced through visual and auditory means. Dialogue and oral presentations will help students form and develop these skills. For correct usage of the language, a strong grammar foundation will be given through multiple reading, speaking, writing and listening practices. Current German topics will also be discussed and there will be German guest speakers.

GERM 116C Elementary German II 3-0-3

This course is designed for students who have been exposed to the German language and have knowledge of German present-, past- and present perfect-tenses. Students should be motivated and interested in speaking German and learning about the rich German culture. The class is designed for continued language study, travel and business purposes. Since a German native speaker will be teaching the course, the emphasis will be in communicative as well as written skills of the living German language. Vocabulary and phonetics will be enhanced through visual and auditory means. Dialogue and oral presentations will help in forming and developing these skills. For correct usage of the language a strong grammar foundation will be given through multiple reading, speaking, writing and listening practices. German history and current German topics will also be discussed and there will be German guest speakers.

SPAN 111C Elementary Spanish I 3-0-3

A fully integrated introductory Spanish course. The course is designed for beginning Spanish students whose learning objectives and needs are in any of the following categories: continued language study, business purposes, or travel. The emphasis is to develop proficiency in communicative skills concentrating on the dynamic application of the living language taught through dialog, phonetics and vocabulary. A strong grammar foundation and other basic language skills are taught through actual phrases and sentences, helping the student develop an instinctive sense of the correct usage. These objectives will be achieved through the following approaches: speaking, listening, reading, writing, and cultural studies.

SPAN 112C Elementary Spanish II 3-0-3

A fully integrated intermediate Spanish course. The course is

designed for intermediate Spanish students whose learning objectives and needs are in any of the following categories: continued language study, business purposes, or travel. The emphasis is to consolidate and reinforce the language skills acquired in Elementary Spanish I or the equivalent and to continue building communicative skills and cultural appreciation. The course continues to offer a comprehensive review of basic first year grammar structures, while developing proficiency and advancement in communicative skills concentrating on the dynamic application of the living language taught through dialog, phonetics and vocabulary. A strong grammar foundation and essential language skills are taught through actual phrases and sentences, helping the student develop an instinctive sense of the correct usage. These objectives will be achieved through the following approaches: speaking, listening, reading, writing, and cultural studies. (Prerequisite: SPAN 111C, the equivalent or permission of department head of English.)

General Studies

GST 100C College Success Seminar 1-0-1

This course introduces students to the foundations of college success and to the academic environment and community of NHTI. Academic advising, assessment of skills and interests, and career and transfer research help students to identify academic and professional goals and support lifelong learning. This course is required for all General Studies and Associate in Arts in Liberal Arts majors except for those enrolled in GST 102C Study Strategies or for those planning to apply for experiential credit (see GST 101C below). **Please see the General Studies department head for the Waiver Policy for this course.**

GST 101C Assessment of Prior Learning 1-0-1

This course, required for all General Studies majors who wish to apply for experiential learning credit, will assist the student in defining career objectives and preparing proposals for experiential learning credit. It will include advising and in-class writing sessions.

GST 102C Study Strategies 2-0-2

Through the presentation of topics ranging from reading and study strategies to stress management, students become better equipped to adjust to the college experience and increase their chances of academic success. Individual periodic conferencing is also a key element of the course. It is open to all students and required for some AGS students. Waivers from GST 102C can be granted for students transferring two or more college level classes with grades of B- or better. GST 102C will fulfill the GST 100C course requirement for all General Studies and Associate in Arts majors. GST 102C may **not** be taken as an elective to meet graduation requirements.

GST 102EC Study Strategies for Non-Native Speakers of American English 2-1-2

Through the presentation of topics ranging from reading and study strategies to stress and time management, students become better equipped to adjust to the American college experience and increase their chances of academic success. Group discussion and periodic individualized conferencing

are also key elements of the course. GST 102EC will fulfill the GST 100C course requirement for all General Studies and Associate in Arts in Liberal Arts majors. GST 102EC may **not** be taken as an elective to meet graduation requirements. (Prerequisite: ESOL 201C or permission of the Director of Cross-Cultural Education; corequisite: ESOL 103C or permission of the Director of Cross-Cultural Education.)

GST 104C Study Strategies Seminar 1-0-1

Designed for students who were required to take GST 102C and whose cumulative GPA is 2.69 or below after the first semester. Study Strategies Seminar provides students opportunities to further develop and apply college success strategies to their second-semester courses while maintaining contact with their academic advisor through frequent conferencing. GST 104C may **not** be taken as an elective to meet graduation requirements. (Prerequisite: GST 102C.)

Geography

GEOG 110C Introduction to Cultural Geography 3-0-3

Introduction to Cultural Geography focuses on economic, social, and cultural geography to study the relationships between humans and their natural environment. Students will review the basic physical geography concepts as well as ideas for reviewing and comparing cultural traditions, resources, globalization, and interaction of countries and regions. This class introduces students to the study of people, culture, arts, tourism, regions, and current issues facing humanity.

Geology

GEOG 101C Essentials of Geology 3-2-4

This course introduces students to the basic geological principles, including minerals, rock formation, volcanism, weathering, external and internal processes in sculpting and modifying landscapes, geologic time and history, global cycles, and human impacts on geological processes. Environmental resource use and conservation issues are also addressed. Required field trips. (Prerequisites: high school level biology with lab and high school level chemistry with lab with grades of "C" or higher.)

Gerontology

GERN 195C Gerontology Practicum I 2-8-4

The student will work in an approved Gerontological setting under the supervision of an approved professional. Periodic conferences between the Supervisor and Practicum Coordinator are planned in order to evaluate the student's progress. At the close of the semester, the student will submit documentation of the practicum activities/experience and demonstrate the ability to relate theory to practice in the chosen field of experience. The student will complete a total of 125 hours of field experience. (Prerequisites: HSV 111C, HSV 242C, MHTH 187C, PSYC 105C, and PYSC 283C, each with a grade of "C" or higher, and permission of department head of Human Service.)

GERN 298C Gerontology Practicum II 2-8-4

Students will continue their field experience work in an approved Gerontological setting under the supervision of an approved professional. Skills, knowledge and personal characteristics are built upon and integrated into the learning and supervision of this course, as well as second year coursework including ethics, individual counseling and conflict resolution. Periodic conferences between the Supervisor and Practicum Coordinator are planned in order to evaluate the student's progress. At the close of the semester, the student will submit documentation of the practicum activities/experience and demonstrate the ability to relate theory to practice in the chosen field of experience. The student will complete a total of 125 hours of field experience. (Prerequisites: GERN 195C plus HSV 111C, HSV 242C, MHTH 187C, PSYC 105C, and PYSC 283C, each with a grade of "C" or higher, and permission of department head of Human Service.)

** The student will also complete an interview with the Practicum Advisor the semester prior to the first scheduled practicum. Special requests regarding practicum entrance may be brought to the department head by the student. Review of the requests will be made by the department faculty and special exemptions may be made for entrance into the practicum.*

Health Science

HLTH 101C Medical Terminology 3-0-3

A course designed to promote an understanding of the proper use, spelling, pronunciation and meaning of medical terms. This course emphasizes learner participation through group activities and reading assignments. Basic anatomy and physiology and common pathology of the body systems will also be discussed. Designed for people working in the health care environment.

HLTH 104C Health Care Data Content and Delivery Systems 3-0-3

This course will introduce the generic components of the content, use and structure of health care data and data sets, how these components relate to primary and secondary record systems and to introduce legal and ethical issues applicable to health information. Discussions will include health record content, documentation requirements comparing the various regulatory agency requirements and introduction to payment and reimbursement systems. The organization, financing and delivery of health care services in both the hospital and the medical office practice will also be discussed.

HLTH 120C Care and Prevention of Athletic Injuries 3-2-4

This course covers basic first aid and the principles and techniques involved in prevention and care of common athletic injuries. Weekly lab sessions will be used to demonstrate and practice special tests, taping and wrapping, and recognition of athletic injuries, and will coincide with material covered during lecture.

HLTH 125C Coaching Principles I 3-0-3

This course will focus on sport philosophy, sport pedagogy, and sport management for success as a coach at any level. Topics include: educational techniques, leadership, planning, legal aspects, successful coaching strategies, practice, event and game management. Students will explore the principles and foundations of coaching required to develop and successfully administer a sport at any level.

HLTH 150C Introduction to Personal Wellness 1-1-1

Students in this course evaluate the concept of personal wellness and improve self-selected areas of wellness. Students compare the physical, social, emotional, spiritual, intellectual, and environmental areas of personal wellness to determine factors that affect each. Initial self-assessments provide information reflective of students' levels of wellness, and students then set goals for individual focus during the semester, while also assessing NHTI's current supports for personal wellness areas. The format for the course is group discussion and lab exercises.

HLTH 152C Personal Trainer Course 3-2-4

This course addresses pertinent topics for the fitness professional and bridges the gap between theory and practice through practical hands-on training performed within the classroom and lab portions of the course. Following a structured "read, write and apply" format, students will attain the knowledge and abilities necessary to competently perform the tasks required of successful fitness professionals. Upon completion of the course, students should be well prepared to take the National Council on Strength and Fitness NCSF-CPT examination.

History

HIST 104C Western Civilization: Antiquity to 1650 3-0-3

This is the first of a two-course sequence about Western civilization. Study of history addresses the goals of being an educated person by liberating the learner from a narrowed perspective. Thinking about and understanding the past clearly provides for better alternatives in the present and the future. This course provides opportunities to learn about major historical events and trends from the earliest civilizations up to the Reformation which have shaped the past, present and will impact on the future. Social, political, intellectual and economic changes will be among the topics explored, as will critical scrutiny of Western tradition.

HIST 105C Western Civilization: 1650 to Present 3-0-3

Study of history addresses the goals of being an educated person by liberating the learner from a narrowed perspective. Thinking about and understanding the past clearly provides for better alternatives in the present and future. This course provides opportunities to learn about major historical events and trends since the mid fifteenth century which have shaped the past, present and will impact on the future. Social, political, intellectual and economic changes will be among the topics explored, as will critical scrutiny of Western tradition.

HIST 120C United States History to 1870 3-0-3

This is a course that explores the critical historical events that have interacted to shape life in this country from its

discovery until 1870. Included will be the discovery of America; colonization; social, political and economic development; the American Revolution; political documents which establish our form of government (Declaration of Independence/Constitution); slavery, the Civil War; and Reconstruction. Major topics are emphasized within a chronological framework and serve as a systematic introduction to United States History prior to 1870.

HIST 121C United States History 1870 to Present 3-0-3

A course which explores the critical historic events and forces that have interacted to shape life in the U.S. Topics will include: the Industrial Revolution, World Wars, the Cold War, the role of the U.S. as a world power, social revolutions, the Great Depression, and the workings of democracy within the republic.

HIST 131C World History I to 1500 3-0-3

This course examines the histories of civilizations in Asia, Africa, Europe and the Americas from the earliest times to 1500. The interrelationships among these societies, and their political, social, economic, religious and cultural features will be explored.

HIST 132C World History II 1500 to present 3-0-3

This course examines the histories of civilizations in Asia, Africa, Europe and the Americas from 1500 to present. The interrelationships among these societies, and their political, social, economic, religious and cultural features will be explored.

HIST 221C New Hampshire History 3-0-3

New Hampshire History is a general survey of New Hampshire's past, from prehistoric periods to the present. The course will be chronological in nature, with emphasis on certain key topics such as immigration and ethnicity, rural development, urban and industrial growth, tourism, environmental changes, and the evolution of government. Students will not simply be exposed to major events and personalities in New Hampshire history, but they will explore ways that people removed from us in time have made their living upon the land we call New Hampshire. In addition, students will use state and local resources to better understand the very nature of history and ways that the study of history provides a better appreciation of ourselves and the world in which we live.

Hospitality and Tourism Management

HSTM 101C Introduction to the Hospitality and Tourism Industry 3-0-3

An introductory course providing an overview of the structure and scope of the travel/tourism and hospitality industries. This course examines the components of the tourism industry: transportation, accommodation, food and beverage, and attractions. Other topics include the history, political, social and cultural impacts tourism has on local, state and global environments. A section of the course is devoted to the State of New Hampshire Tourism environment. Students will review marketing, motivation and other forces that draw guests to the State of New Hampshire. Students will be required to prepare a career-planning outline. **A Travel Fee of \$75 will be assessed for all students taking HSTM 101C. The money will be used to defray some of the costs associated with student travel experiences.**

HSTM 110C Introduction to Hotel Operations 3-0-3

This course is designed to give an overview of the working components of a hotel and their interrelationships. Students will explore in a descriptive fashion the responsibilities of each hotel department and how and why their interactions are important. Students will examine the difference in operations of various types and sizes of hotels from B&B to full service hotels. (Prerequisite: HSTM 101C with a grade of "C" or higher or permission of the Program Coordinator of Sport, Recreation and Tourism Studies.)

HSTM 115C Introduction to Fitness, Spa, and Wellness Management 3-0-3

This is an introductory course examining the interrelationships among fitness, spa, and wellness. Students will take a comprehensive look at industry basics: How to establish a wellness business, marketing and administrative practices, and client management. The course will evaluate many different approaches to maintaining a healthy lifestyle. A review of standard therapeutic programs will be studied. (Prerequisites: HSTM 101C recommended.)

HSTM 195C/SPTS 195C Sports Tourism 3-0-3

This course examines the relationship between sport travel and the tourism industry. As more people choose to travel to attend or participate in sporting events, a branch of the hospitality and tourism industry has developed to focus on the needs of these clients. Youth sport tourism, for example, has become a \$7 billion industry in the United States alone. The study of sports tourism draws upon the disciplines of management, finance, economics, event planning and marketing.

HSTM 205C Quality Service Management 3-0-3

This course examines the techniques and methods in delivering exceptional quality service for external and internal customers. Students will learn the skills and attitudes for service management through observation, video, case studies, and role play. Students will review the processes of Total Quality Management. (Prerequisite: HSTM 101C or HSTM 110C with a grade of "C" or higher or

permission of the Program Coordinator of Sport, Recreation and Tourism Studies.)

HSTM 210C Information Technology for Tourism 2-2-3

This course surveys the impact technology has on the tourism/hospitality industry. Students will look at the components of the tourism industry - transportation, accommodation, attractions, and food and beverage - on the Internet. Students will look at the Internet from the perspective of a traveler as well as a potential vendor distributing information. Other areas surveyed are: legal issues; customer service; marketing; destination planning; and special interest. Students will survey the Worldspan® reservation system basic availability, sell, fares, and PNR (Passenger Name Reservation) formats. (Prerequisite: HSTM 101C with a grade of "C" or higher or permission of the Program Coordinator of Sport, Recreation and Tourism Studies.)

HSTM 225C Front Office Operations 3-0-3

A comprehensive study of the front desk operations from a small inn to a full-service hotel. The student will explore front and back office systems. Topics include reservation procedures, registration, auditing, tour groups and check out procedures, room control, maintenance on guest accounts, public relations and sales. (Prerequisite: HSTM 101C or HSTM 110C with a grade of "C" or higher or permission of the Program Coordinator of Sport, Recreation and Tourism Studies.)

HSTM 227C Legal Issues for the Hospitality Industry 3-0-3

Students will review theory and the application of general and contract law as they relate to business regulations. A further study of the legal procedures as they apply to the statutes and common law governing innkeeper's liability. Students will also learn the legal issues as they relate to the travel and tourism industry. Additional topics include: disclaimer of liability, safe keeping facilities, guests' rights, personnel issues and other hospitality related issues. (Prerequisite: HSTM 101C or HSTM 110C with a grade of "C" or higher or permission of the Program Coordinator of Sport, Recreation and Tourism Studies.)

Special topics courses listed under HSTM 230C

Courses listed under this heading provide the opportunity to focus on specialized topical issues encompassing the tourism/hospitality industry and will be offered with an interdisciplinary approach. Faculty will be presenting material not normally covered in regular course offerings. (Prerequisite: HSTM 101C or HSTM 110C with a grade of "C" or higher or permission of the Program Coordinator of Sport, Recreation and Tourism Studies.)

HSTM 230AC Writing for the Travel Professional 3-0-3

Travel writing provides some of the most powerful, elegant, and descriptive forms of writing. Travel writing ranges across the whole of the modern world, dealing with issues as varied as environment, culture, history, geographic, and political issues. The first part of the course will review the evolution/history of travel writing. The second part will review current trends in travel writing for many types of media: TV; radio; print advertisements; short stories; and essays. The student

will write an article for publication. (Prerequisite: HSTM 101C or HSTM 110C with a grade of "C" or higher or permission of the Program Coordinator of Sport, Recreation and Tourism Studies.)

HSTM 230BC Principles of Ecotourism Management 3-0-3

This course will introduce students to the history, concepts, marketing, planning and management of ecotourism activities and development. Students will examine the relationship between natural and cultural resources with a special focus on rural areas, wildlife sanctuaries and other areas of forests, mountains, beaches and island people's way of life for sustainable use in tourism. (Prerequisite: HSTM 101C or HSTM 110C with a grade of "C" or higher or permission of the Program Coordinator of Sport, Recreation and Tourism Studies.)

HSTM 245C Event, Meeting and Convention Planning 3-0-3

This course gives students the experience in developing an event, meeting and/or conference program. Students will go through the step-by-step process of pre-planning, budget/agenda preparation, and marketing the event. Other topics include sales, negotiations and contracts. Students will complete a portfolio to include an agenda, floor plan, budget and brochure. (Prerequisite: HSTM 101C or HSTM 110C with a grade of "C" or higher or permission of the Program Coordinator of Sport, Recreation and Tourism Studies.)

HSTM 247C Principles of Wedding Planner Management 3-0-3

This course provides an introduction to the planning and management of weddings. Students will examine all aspects of wedding planning from event coordination to design and planning of weddings, including destination weddings. Key content to be studied includes: culture, contracts, timelines, budgets, venues, food and beverage management, ceremonies, music, and correlated issues. Time management skills are key to success in this course. (Prerequisite: Permission of the Program Coordinator of Sport, Recreation and Tourism Studies.)

HSTM 260C Hospitality Sales and Marketing 3-0-3

This course focuses on the hospitality markets and products. The student will analyze the organization of the hotel sales and marketing department by looking at the importance of increasing revenue through special market segment, planning itineraries with tour operators, brochure design and advertisement. (Prerequisite: HSTM 101C or HSTM 110C with a grade of "C" or higher or permission of the Program Coordinator of Sport, Recreation and Tourism Studies.)

HSTM 263C Tour Planning and Cruise Sales 3-0-3

The first half of the class is devoted to planning, guiding and escorting tours. Students will develop a tour, budget and marketing plan. Additional areas covered are group behavior, ethics and dealing with the unexpected disasters. The second half will focus on the cruise industry. Knowledge of cruise lines, destination, amenities and marketing/sales is examined. Students' understanding of the relationship geography has to identification of cruise ports is also studied. Sales skills and qualifying the client in selecting of cruise is

reviewed. (Prerequisite: HSTM 101C with a grade of "C" or higher or permission of the Program Coordinator of Sport, Recreation and Tourism Studies.)

HSTM 269C Food and Beverage Management 3-0-3

Students will examine the financial relationship of the food and beverage aspect of the hotel industry. Topics covered are: marketing, food purchase controls, production, service, management of bar and beverage, sales techniques and sanitation.

HSTM 270C Catering Operations 3-0-3

Food Service can determine the success or failure of any event. Catering Operations examines how a conference/event planner designs and implements the food service needs of the event. Students will review menu planning and design, software programs, beverage operations service and standards training. (Prerequisite: HSTM 101C or HSTM 110C with a grade of "C" or higher or permission of Program Coordinator of Sport, Recreation and Tourism Studies.)

HSTM 280C Senior Travel Seminar 2-0-2

This course addresses current issues in the hospitality/tourism industry through discussion, reports (oral and written) and professional literature. Students will examine business ethics, professional development and case studies. Additional topics include resume preparation and interviewing techniques. Students will complete a portfolio. (Prerequisite: HSTM 101C with a grade of "C" or higher or permission of the Program Coordinator of Sport, Recreation and Tourism Studies.)

HSTM 290C Hospitality and Tourism Internship 0-9-3

The internship offers the opportunity to put learned theory to practical application in a supervised work environment. Students are required to complete a minimum of 90 hours and complete a portfolio on the internship. Periodic conferences between the site supervisor and NHTI internship coordinators are scheduled to monitor and evaluate student progress. This course is limited to seniors and requires the approval of the Program Coordinator of Sport, Recreation and Tourism Studies. (Prerequisite: 2.5 GPA in major field courses and permission of Program Coordinator of Sport, Recreation and Tourism Studies.)

HSTM 295C Hospitality and Tourism Summer Residency Program 0-3-1

This is a hands-on, interactive practicum in which students will experience the operations of a hotel/resort while in residence. Students will complete five (5) full days engaging in the back-of-the-house operations. The hotel areas include: Front Desk, Housekeeping, Engineering, HR, Food and Beverage, Meeting and Convention Space, Sales and Marketing, and Recreation Operations. Proficiency in each of these hotel operations is required for successful completion of the program. **[NOTE: Residency costs at the designated hotel/resort are the responsibility of the student and will be an additional cost above tuition and fees.]** (Prerequisites: HSTM 101C or HSTM 110C, HSTM 205C, HSTM 225C, HSTM 245C or HSTM 247C, HSTM 260C, HSTM 269C or HSTM 270C; cumulative GPA of 2.5 or higher; Permission of the Program Coordinator of Sport, Recreation and Tourism Studies.)

Revised 7/11/2018

Human Service

HSV 111C Introduction to Human Service 3-0-3

An introductory course identifying the programs and activities of social and human service. Focuses on the practical problems facing the human service/mental health worker and examines the attitudes and objectives to be attained.

HSV 195C Human Service Practicum I* 2-8-4

The student will work in an approved human service setting under the supervision of an approved professional. Periodic conferences between the Supervisor and Practicum Coordinator are planned in order to evaluate the student's progress. At the close of the semester, the student will submit documentation of the practicum activities/experience and demonstrate the ability to relate theory to practice in the chosen field of experience. The student will complete a total of 125 hours of field experience. (Prerequisites: HSV 111C, HSV 242C, MHTH 187C, PSYC 105C, and PYSC 283C, each with a grade of "C" or higher, and permission of department head of Human Service.)

HSV 221C Social and Professional Issues in Today's Society 3-0-3

The student will examine and explore a variety of social and professional issues in today's society relating to the helping field. Skill and knowledge-based topics necessary for the success of the student's career in today's workplace may include basic human needs in homelessness, poverty, advocacy work, grant writing/proposals/funding, culturally competent counselor standards and community mental health delivery systems, as well as professional issues and skills that face today's helping professional.

HSV 230C Specialized Topics in Veterans Counseling 3-0-3

Military veterans have a wide variety of needs that they face on a daily basis. This course will review both the specialized topics as well as a networking approach in assisting the veterans. Mental health and substance abuse issues, housing, employment, veterans benefits and reentry back into society are a few of the topics that will be addressed. Understanding the veteran's responses to these needs, as well as their families, and networking to services will be discussed.

HSV 242C Ethics and the Professional Helper 3-0-3

A case related study of the ethical principles determining the standards of practice in the Human Service Field including Mental Health and Addiction Counseling. This course is reserved for the practitioner. Topics taken from the related national code of ethics will be discussed. The issues presented will be role-played and resolved according to universal philosophical principles. Philosophy as the foundation of professional practice guides this course. It will meet professional requirements for ethical training. (Prerequisites: HSV 111C, MHTH 187C, and ADCL 120C (Addiction Counseling majors only), each with a grade of "C" or higher, and permission of department head of Human Service.)

HSV 298C Human Service Practicum II* 2-8-4

The student will continue his/her field experience work in an approved human service setting under the supervision of an approved professional. Skills, knowledge and personal characteristics are built upon and integrated into the learning and supervision of this course, as well as second year coursework including ethics, individual counseling and conflict resolution. Periodic conferences between the Supervisor and Practicum Coordinator are planned in order to evaluate the student's progress. At the close of the semester, the student will submit documentation of the practicum activities/experience and demonstrate the ability to relate theory to practice in the chosen field of experience. The student will complete a total of 125 hours of field experience. (Prerequisites: HSV 195C plus HSV 111C, HSV 242C, MHTH 187C, PSYC 105C, and PYSC 283C, each with a grade of "C" or higher, and permission of department head of Human Service.)

** The student will also complete an interview with the Practicum Advisor the semester prior to the first scheduled practicum. Special requests regarding practicum entrance may be brought to the department head by the student. Review of the requests will be made by the department faculty and special exemptions may be made for entrance into the practicum.*

Industrial Design Technology

INDS 110C History of Industrial Design 3-0-3

Topics in history of industrial design from 1750 to 1945 - such as collaborations between art and industry; mass production; changing patterns of consumption; advances in material processes; the social and/or technological impact of industrial design; the social and/or technological impact of industrial design on transportation, health care; consumer goods; domestic space, and the workplace.

INDS 150C Industrial Design Studio 1 3-3-4

The design process is introduced and practiced as students apply learned fundamental principles to multiple three-dimensional forms, structures, and products. Students will be introduced to various model making methods. Students address the historical context of their designs as they practice critical thinking, research, problem solving, and aesthetic refinement. Projects require sketches, models, written reports and verbal presentations of design concepts.

INDS 180C Digital Rendering and Modeling 3-0-3

Computer aided design or "C.A.D." has become a major part of the product designers skill set in recent years. This includes digitally constructing three dimensional models of designs for manufacturing as well as image creation for marketing review and material visualization. There are many different CAD programs and associated rendering technologies available to choose from and a design firms decision of what to use often comes down to cost, availability and the experience of those who will use the program. One option in the family of "NURBS" or more simply "surface and solid" modelers is called Rhinoceros or just Rhino for short. It is inexpensive, powerful and easy to learn. Rhino also communicates directly in many of the same file formats as those CAD packages used

by mechanical engineers. This combination of attributes make it a good choice to learn for students looking to enter a design firm or start one of their own.

INDS 225C User Experience 3-0-3

Anywhere there is a person using a system, human factors engineering concepts inevitably apply. The class concerns the design of systems, products and services to make them easier, safer and more effective for human use. The course focuses on human factors concepts and is a broad survey of human factors topics important to designers and researchers. This course surveys topics related to the design of products and interfaces ranging from alarm clocks, cell phones, and aircraft cockpits to logos, presentations, and web sites. Design of such systems requires familiarity with Human Factors and Ergonomics, including the physics and perception of color, sound, and touch, as well as familiarity with case studies and contemporary practices in interface design and usability testing. Students will solve a series of design problems individually and in teams.

INDS 230C Material and Fabrication and Processes 3-3-4

Students become better designers when they have an intimate knowledge of a range of materials. In this course, students will learn about the properties of natural wood and engineered wood-based materials, investigate the related technical processes, and evaluate how this information is both connected to and influenced by the design process. Students will work with materials directly and master skills needed to manipulate these materials. They will develop projects that allow them to engage in the design and development process, promote creativity, problem solving and the correct use of materials. Facility procedures, safety and care and use of tools and equipment will be stressed.

INDS 232C Business of Design 3-0-3

Moving a great idea into a sustainable reality requires a fundamental understanding of business. Successful designers understand that business principles overlap, complement and enhance design principles. Through a variety of exercises students will learn how to approach a variety of real world scenarios, understand company expectations and anticipate employer concerns that will help them transition into an entry level career opportunity. At the end of the course students will have a started a portfolio and will understand basic professional practices including interviewing for jobs, pitching ideas, networking, freelancing, licensing and contracts. Students will also understand basic business vocabulary and the way design thinking skills can be used to identify and execute.

INDS 240C Plastics: Materials and Fabrication 3-3-4

This course studies the structures, properties and behavior of plastics as well as how they can be altered through mechanical working and heat treating. Consideration is also given to the selection of these materials to meet manufacturing and design criteria. Laboratory experiments will complement the classroom presentations.

INDS 242C Manufacturing Techniques 3-0-3

This course introduces students to methods, materials, and manufacturing processes that translate design processes into mass-produced goods. A major component of downstream

design activity involves manufacturing issues - the techniques by which materials are selected, manipulated, and then assembled. Consideration is also given to the selection of these materials to meet manufacturing and design criteria. In-class demonstrations of manufacturing techniques and site visits to local manufacturers will complement the classroom presentations.

INDS 250C Industrial Design Studio 2 3-3-4

In this course students will work in teams and continue to hone the design process by dissecting an existing product, analyze a market segment and redesign the product to fit the described market. Students integrate their drawing, model making and material knowledge to design for consumers. (Prerequisite: Completion of INDS 150C with a grade of "C" or higher.)

Information Technology

IST 102C PC Applications 3-0-3

The course introduces students to desktop applications with an emphasis on topics from a user perspective. Topics include use of: an operating system, a word processor, a spreadsheet, presentation software, Internet and hardware and software considerations. (Note: Students may not receive credit for both IST 102C, IST 102AC and IST 102XC.)

IST 102AC PC Applications 3-0-3

These accelerated versions of PC Applications are designed for those students who are more experienced in IT essentials and comfortable with self-directed learning. Students enrolling in any IT102A sections should expect topics to be introduced and developed by the instructor more quickly than in traditional sections of IT102. The course introduces students to desktop applications with an emphasis on Microsoft Office. Topics will include use of an operating system, Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Internet browsers and may include other computer-related discussions and/or assignments. These accelerated sections include 100% online, hybrid, 8-week, 1-hour, and 1-week intensive courses. Some sections will require that students purchase Microsoft Office to complete work off campus. (Recommended: Minimum score of 50 on the LASSI motivation placement test) (Note: Students may not receive credit for both IST 102C and IST 102AC. Similarly, students may not receive credit for both IST 102AC and IST 102XC.)

IST 102XC PC Applications 2-2-3

This extended version of PC Applications is designed for students less experienced in IT essentials. Topics are introduced and developed at a slower pace to enhance learning. The course introduces students to desktop applications with an emphasis on Microsoft Office. Topics will include use of an operating system, Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Internet browsers and may include other computer-related discussions and/or assignments. (Note: Students may not receive credit for both IST 102C, IST 102AC and IST 102XC.)

IST 103C Programming with Raspberry Pi 2-2-3

This course will start with an introduction to the Internet of Things, exploring the three basic insights of the Internet of Things (IoT): Why do we want to connect everything? What do we want to connect? And how do we connect everything? The course will then move towards the process of turning physical events into measurable quantities. Topics will include IoT solutions, such as sensors, local analytic abilities, network connections, and the ability to process and analyze the gathered data. This class will use multiple Raspberry Pi boards to create and prototype devices to implement IoT solutions. The course will also teach students how to program and utilize Raspberry Pi through Python and Java Script. A basic introduction to Linux will be covered, which will help prepare students for IST 108C PC Hardware and Software, as well as IST 170C, Introduction to Linux.

IST 106C IT Career Topics 1-0-1

This course is a series of presentation and panel discussions by experts and leaders in the field on the important topics in Information Technology careers. It provides information which helps students plan their college work and anticipate how they will apply it in subsequent professional positions. Students with two years or more of work experience in the computer field may request a waiver from the course. Students will take IST 106C the first half of the semester and GST 100C the second half.

IST 108C Personal Computer Hardware and Software 2-2-3

This course is an in-depth exposure to computer hardware and operating systems. Students learn the functionality of hardware and software components as well as suggested best practices in maintenance and safety issues. Through hands-on activities and labs, students learn how to assemble and configure a computer as well as install multiple operating systems and diagnostic application utilities. In addition, an introduction to networking is included. This course prepares for the CompTIA's A+ certification through the use of materials that align to the A+ Exams. Students registering for this course should be proficient in daily computer use (such as downloading and installing software from the Internet) and should be familiar with computer terms.

IST 110C Programming Fundamentals 2-2-3

Introduces students to program design using the C# language. No prior programming knowledge is necessary. Students encounter and resolve a range of programming problems by applying techniques of design, structured coding, debugging, error-handling and troubleshooting. The course begins by exploring procedural syntax and concludes with an introduction to object-oriented programming. Topics include: problem analysis, computer logic and flow control, decision and repetition structures, argument passing, program documentation, class definitions and use of a debugger.

IST 113C Introduction to Web Programming 2-2-3

Provides hands-on training to create dynamic web applications using ASP.NET and Visual Studio. Students will learn how to leverage the power of the .NET framework to build business web user interfaces. Topics include: events, properties, syntax, event managing, database acquisition and error handling. The lab component will focus on developing business applications. (Corequisite: IST 110C or permission of the Department Head of Information Technology.)

IST 140C Database Design and Management 2-2-3

Introduces students to the basic concepts used in database design. It later introduces students to more advanced topics that include: Structured Query Language (SQL), data modeling, and the creation of tables, forms, queries, and reports. The lab component includes development of business applications using a relational database, MS SQL Server.

IST 151C Introduction to Networks 2-2-3

Introduces the architecture, structure, functions, components, and models of the Internet and computer networks. The principles of IP addressing and fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes. A grade of "C" or higher must be achieved to continue to IST 153C.

IST 153C Routing and Switching Essentials 2-2-3

Describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. A grade of "C" or higher must be achieved to continue to IST 251C (Prerequisite: IST 151C with a grade of "C" or higher.)

IST 165C Information Security 2-2-3

This course covers basic security principles; compliance and operational security; threats and vulnerabilities; application, data, and host security; access control and identity management; and cryptography. It also covers mobile device security, cyber attacks and defenses, and recent developments and emerging trends in information security, such as virtualization. The course prepares students for the CompTIA Security+ certification exam. (Co/Prerequisite: IST 280C; Prerequisites: IST 108C, IST 151C.)

IST 170C Introduction to Linux 2-2-3

This is the first of two courses that introduce the basics of Linux system management and prepare students to earn the CompTIA Linux+, Linux Professional Institute LPIC-1 Linux Server Professional and the SUSE Certified Linux Administrator certifications. Students learn how to install & configure a computer running Linux, perform maintenance tasks with the command line, manage hardware and disks, maintain the file system and edit text files. (Prerequisite: IST 108C.)

IST 200C Spreadsheets 3-0-3

This course provides training in introductory and advanced topics related to spreadsheet creation, formatting and printing. Topics include row and column operations, formula creation (including functions), graph creation and printing, database management techniques, and macro design and execution. (Prerequisite: IST 102C or permission of the Department Head of Information Technology.)

IST 210C Object Oriented Programming 2-2-3

Begins with an introduction to the Java programming language and then uses both Java and C# programming languages to cover topics such as: arrays, strings, collections, exception handling and object-oriented programming. Object-oriented programming covers problem conceptualization, class definition, object instantiation, method definition and invocation, the principles and practices of reuse, inheritance and polymorphism. It also introduces graphical user interfaces and event-driven programming. (Prerequisite: IST 110C or permission of the Department Head of Information Technology.)

IST 215C Advanced Windows Programming 2-2-3

This course builds on the concepts learned in IT 210. Students will learn to use Java and C# programming languages to develop Data Structures and Algorithms. Later in the course, C# and .NET Framework will be used to develop Collections, Generics, Window Graphical User Interfaces (WinForms and WPF), and LINQ to Entities (collection, SQL and XML). Hands-on labs include performance analysis of sorting and searching algorithms, as well as business applications development with a GUI that uses LINQ to access a database. (Prerequisite: IST 210C or permission of the Department Head of Information Technology.)

IST 218C Mobile Application Development 2-2-3

A hands-on training course for designing and building mobile applications. This course walks students through a series of app-driven exercises showing the relationships among application building blocks. (Prerequisite: IST 110C; or permission of the Department Head of Information Technology.)

IST 225C C# Programming 2-2-3

This course introduces advanced programming topics in C# and prepares the student to earn a Microsoft Certified Professional certification by passing the 70-483 Programming in C# exam. The student will learn to manage program flow, create and use types, debug applications, implement security and implement data access in a C# environment. (Prerequisites: IST 215C.)

IST 240C Advanced Web Programming 2-2-3

Students will learn programming concepts that will enable them to create a commercial website. Students create the following components as needed: administration pages, login pages, security, shopping cart and Pay Pal integration. Website components will be created by applying knowledge of client/server application development, Structured Query Language (SQL), Extensible Markup Language (XML), database design and implementation. The lab component will include the development of a commercial website using relational databases and ASP.NET. (Prerequisites: IST 140C and IST 113C or permission of the Department Head of Information Technology.)

IST 251C Scaling Networks 2-2-3

Describes the architecture, components, and operations of routers and switches in a large and complex network. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot

routers and switches and resolve common issues with OSPF, EIGRP, STP and VTP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement DHCP and DNS operations in a network. A grade of "C" or higher must be achieved to continue to IST 253C (Prerequisite: IST 153C with a grade of "C" or higher.)

IST 253C Connecting Networks 2-2-3

Discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students also develop the knowledge and skills needed to implement IPsec and virtual private network (VPN) operations in a complex network. (Prerequisite: IST 251C with a grade of "C" or higher.)

IST 263C Network Security 2-2-3

This course is designed to give students the skills needed to identify and resolve computer and network security issues. The course will provide students an introduction to firewalls and other network security components that can be used to work together to create an in-depth defensive perimeter around a Local Area Network (LAN). Students will learn how to: identify threats; plan and design firewalls; develop a security policy; configure routers, workstations, servers, switches and firewall equipment for various packet filtering and security measures; create user authentication policies and methods; design and set up Virtual Private Networks (VPN); maintain and troubleshoot these systems. (Prerequisite: IST 108C, IST 153C and IST 280C (IST 280C can be taken as a prerequisite or as a Corequisite).)

IST 267C Cisco VoIP 2-2-3

This senior level course incorporates both theory and hands-on labs on topics such as connecting IP phones to the LAN infrastructure, installing Call Manager Express (CME), CME phone configuration, gateway and trunk concepts and configuration, as well as other topics pertaining to Voice over Internet Protocol. Students successfully completing this course will have mastered the skills necessary to install a Cisco VoIP solution for a small to midsized company. (Prerequisite: IST 153C.)

IST 270C Advanced Linux 2-2-3

This is the second of two courses that introduce the basics of Linux system management and prepare students to earn the CompTIA Linux+, Linux Professional Institute LPIC-1 Linux Server Professional and the SUSE Certified Linux Administrator certifications. Students learn how to customize and use the shell environment, write scripts, configure user interfaces, perform administrative tasks, configure essential system services, configure networking and secure the system. (Prerequisite: IST 170C.)

IST 280C Windows Server Operating Systems 2-2-3

The focus of this course is on the use of network operating systems in a business environment. Topics include business analysis, matching systems needs within appropriate network configuration, data and systems security measures for user

groups sharing files and resources, print services, network interconnectivity and related network management issues. (Prerequisites: IST 108C.)

IST 281C Administering Windows Server 2-2-3

This course covers implementing Group Policy; managing user and service accounts; maintaining directory services, configuring DNS and remote access; and optimizing file services and security. (Prerequisites: IST 280C.)

IST 282 Virtualization 2-2-3

Explores concepts and capabilities of virtual architecture with a focus on the installation, configuration, and management of a VMware virtual infrastructure, ESX Server, and VirtualCenter. Covers fundamentals of virtual network design and implementation, fundamentals of storage area networks, virtual switching, virtual system management, and engineering for high availability. (Prerequisites: IST 108C and IST 153C with grades of "C" or higher.)

IST 284C Advanced Windows Server Configuration 2-2-3

This course covers advanced network services, file services, dynamic access control, network load balancing, failover clustering and disaster recovery. It prepares the student to take the Microsoft 70-412 certification exam for Server 2012 R2. (Prerequisites: IST 281C.)

IST 293C IT Career Development 1-2-2

This course consists of a series of readings, exercises, and presentations designed to prepare students to succeed in their IT careers. Topics include resume writing, personal networking, job search resources, interviewing, compensation negotiation, career development, and considerations in working from home. Students will make a series of visits to companies for networking purposes and must obtain an internship for the following semester. Students will make a formal presentation to the Internship Review Board (IRB) to obtain internship approval (Prerequisites: IST 108C, and IST 151C.)

IST 294C Senior IT Internship 0-8-2

Capstone course for the Information Technology curriculum providing application of skills acquired in a "Real World" environment. Students test their ability to organize and interpret data, develop and apply programmed solutions to problems and submit thorough documentation of the task. (Prerequisite: IST 293C.)

Interdisciplinary

INDL 101C STEM in the First Year Experience 3-0-3

This interdisciplinary course introduces new college students to a STEM field (science, technology, engineering, and math) through integration with the social sciences and humanities while at the same time developing the "habits of mind" and academic skills critical to first-year college success. Through examination of a special topic, students will be challenged to reflect on the behaviors that both improve and impede their learning of specific subject matter and their overall academic progress. (Enrollment limited to first-time college students and transfer students with fewer than 12 credits by

permission of authorized academic advisors. Interested students should contact the Advising Center.)

INDL 120C Global Public Health Issues 3-0-3

This course is designed to provide students with an introduction to and overview of the key areas of global health by addressing the major determinants of health and how health status is measured to determine the burden of disease in the developing world. Using the perspectives of public health, the course will cover factors associated with the development of health problems and efforts to prevent disease in impoverished areas. Students will also explore the role of social communication, politics, religion, economics, education and culture in contributing to global public health issues and will integrate these factors and values in developing solutions to the widespread public health issues impacting communities worldwide. Students will learn about the magnitude of disease in the developing world (e.g., communicable and non-communicable disease, women and child health, nutrition, and unintentional injuries) and how health is assessed and how health systems effectively work together to improve global health. (Note: This course may be used to meet EITHER an "SOCl" elective OR an "Humanities" elective, but not both.)

Landscape Design

LAND 101C Identification and Uses of Trees 3-0-3

Students will be introduced to evergreen and deciduous trees commonly found and used in the Northeast. Emphasis will be on identification, cultural requirements and design applications in the landscape. Students will become proficient in identifying trees by recognizing distinctive features such as height, form, twig and bud characteristics, leaf shape, color and flowers.

LAND 102C Identification and Uses of Shrubs, Groundcovers and Vines 3-0-3

Students will be introduced to evergreen and deciduous shrubs, vines and groundcovers commonly found and used in the Northeast. Emphasis will be on identification, cultural requirements and design applications in the landscape. Students will become proficient in identifying plants by recognizing distinctive features such as height, form, twig and bud characteristics, leaf shape, color and flowers.

LAND 109C Basic Site Grading and Surveying 2-2-3

This course is designed to familiarize students with surveying techniques and grading principles that are integral to interpreting topographical information and understanding natural and man-made features that influence grade changes in the landscape. Emphasis will be on practical and basic applications of survey equipment, note-keeping, plotting and other measuring techniques that are useful to landscape contractors and designers. Practical exercises include incorporating designed features such as stairs, retaining walls, ramps, walkways, swales, etc., into the landscape. (Prerequisites: high school level Algebra I and Algebra II, with grades of "C" or higher, are recommended.)

LAND 112C Landscape Drawing and Presentation Techniques 2-2-3

This course focuses on learning the fundamentals of landscape design drawing necessary to graphically communicate design ideas. Students will learn techniques to improve line quality, lettering, sketching, rendering and drawing layout. Black and white and color media will be used. These drawing and rendering techniques will be used to create presentation quality site plans, elevations and perspectives. The use of computers as a means in creating presentation drawings will be introduced.

LAND 115C Landscape Architectural Design Theory 3-0-3

This course introduces the student to the field of landscaping architecture. Lectures, reading and problem-solving exercises provide a basic overview of historical, philosophical and technical aspects of the profession of landscaping architecture. The course will also explore how design, site environment and legislation affect the design process.

LAND 200C Vectorworks Landmark 2D 3-0-3

This introductory course in Vectorworks Landmark will teach students the basic functions and uses of computer-aided design (CAD) software used in landscape architecture, design, and construction. This course will focus on 2D applications of this CAD software to create presentation and construction documents. Students will learn how to import hand-drawn concepts, survey plans, create planting plans, construction drawings and details. Some 3D applications will be demonstrated at the end of the semester. Upon completion students should be able to prepare basic 2D landscape and planting plans.

LAND 218C Landscape Design Studio 3-0-3

Through lectures, site visits, and design projects, this studio design course focuses on understanding and analyzing the requirements of the program and the site to develop designs that respond both to client needs and environmental context. Moving through a series of projects that range in size, scale, and complexity, this course examines different issues in context, program, and client requirements. Students will learn to inventory and record existing site conditions. Emphasis in this design studio will be on preparing landscape plans, sections, planting plans, specifications, and details. All student work is expected to be of professional quality utilizing graphic techniques and software applications. (Prerequisites: LAND 101C, LAND 102C, LAND 115C, and LAND 220C, or permission of the Department Head of the Landscape and Environmental Design program.)

LAND 220C Planting Design 3-0-3

Lecture includes the combination of landscape elements when used with architectural, aesthetic, engineering, and climate control uses of plants. Students work in graphics skills and develop the ability to produce professional quality plans. (Prerequisites: LAND 102C and LAND 112C.)

LAND 225C Landscape Construction Details and Methods 2-2-3

A survey of the materials used in landscape constructions, the methods used in assembling the materials into the landscape and the forces acting on the structures. Included are the characteristics and properties of each of the landscape materials and the relative costs of the materials,

including installation. Landscape materials and methods to be studied include site work, various paving materials, various structural materials, and site drainage materials. The student will learn how to read plans and also prepare plans showing construction details including: walls, walkways, wooden structures, and water features. (Prerequisite: LAND 112C or permission of the Department Head of the Landscape and Environmental Design program.)

LAND 270C Sustainable Landscape Principles and Practices 3-2-4

This course will introduce and examine the principles and practices required to create a sustainable environment. Issues facing communities locally and globally will be examined and discussed. Emphasis will be placed on methods used to create landscapes that improve the environment by conserving resources and reducing chemical application. Students will learn how site design, plant selection, and pest and water management practices influence the sustainability of the designed landscape. (Prerequisites: LAND 102C, LAND 112C, and LAND 220C.)

LAND 290C Senior Project/Internship 0-12-4

As the capstone course of the Landscape and Environmental Design curriculum, this course will require the student to demonstrate integration and application of the knowledge and skills from all courses in the program. This may be achieved either through a comprehensive senior design project developed by the student under the guidance of a faculty member or through participation in a field internship with an approved industry partner. In either case, students will be required to provide regular and ongoing documentation of the learning experience to ensure that all course and program goals are met. (Prerequisite: LAND 102C, LAND 112C, LAND 220C with grades of "C" or higher and the approval of the Department Head of the Landscape and Environmental Design program.)

Learning Support

Individualized learning support courses for students who need structured guidance, applied study skills, and instruction in time management strategies.

Students enroll in LLRC courses to help them progress toward independent, self-directed learning and the rigors of college work. LLRC courses must be taken in conjunction with courses being taken for credit; earn institutional credit only; may not be taken as electives to meet graduation requirements, and are not eligible for financial aid. In addition, students in the AGS/AGS* programs must either be concurrently enrolled in or have already successfully completed GST 102C (Study Strategies).

Students must register with permission of the Coordinator of Disabilities Services or the Director of the Academic Center for Excellence (ACE) for any combination of up to 3 total LLRC courses, not to exceed a maximum of 6 credits toward GPA during enrollment at NHTI.

At the conclusion of any LLRC course enrollment, students are encouraged to use the academic supports available to all students, such as Math Lab, Writing Center, Computer Lab, request for tutor, assistive technology, and computer-aided instruction.

LLRC 111C Learning Skills Support 1-0-1

Students complete individual contracts consisting of a total of 15 contact hours. Students can register for LLRC 111C by Week 7 of the semester.

LLRC 112C Structured Learning Support 2-0-2

Students complete individual contracts consisting of a total of 30 contact hours. Students can register for LLRC 112C by Week 4 of the semester.

LLRC 113C Intensive Learning Support 3-0-3

For students who need significantly more time than the typical one to two hours of independent work required for each hour of class time. Academic guidance for those who have not demonstrated successful progress in the past will include addressing reasons for lack of success, such as fit with program requirements, goals, need for additional structure, and formal support. Students complete individual contracts consisting of a total of 45 contact hours. Students can register for LLRC 113C by Week 3 of the semester.

Legal Nurse Consultant

LGNC 101C Legal Nurse Consulting 1-0-1

This course is the introduction course for the Legal Nurse Consulting program and provides a comprehensive program for the principles and practices of Legal Nurse Consulting today. This course examines issues of health care and nursing law, as well as the judicial system. This course utilizes the most current and authoritative textbook in the specialty of legal nurse consulting and presents all facets of the practice.

LGNC 102C Risk Management 1-0-1

The student will define and examine risk management as well as be provided with the legal knowledge to assess and reduce risks to patients, visitors, staff and institution. The student will develop the tools for formulation of plans aimed at reduced risks.

LGNC 103C Administrative Law 1-0-1

The course covers the delegation of power to agencies, the procedures followed by agencies, and judicial and other oversight of agencies. The power of agencies to promulgate rules, decide individual cases, and conduct investigations is carefully studied.

LGNC 104C Healthcare Law 2-0-2

The course focuses on issues in the healthcare industry such as organization, treatment, staff requirements, regulatory compliance and record management. Topics include the delivery of healthcare services, private and public financing of healthcare services and ethical considerations.

LGNC 105C Legal and Healthcare Ethics 1-0-1

Examination of ethical issues. Topics include legal professional ethical rules, healthcare ethical issues with emphasis on skills necessary to guide self and others in the process of ethical decision making.

LGNC 106C LNC Internship 0-9-3

The internship offers the opportunity to combine the theoretical and practical issues of the classroom in the workplace setting. Students are required to complete a specified number of hours in a law-related environment or healthcare setting. Meetings will be held with the internship coordinator to discuss the ongoing experience.

Manufacturing Engineering Technology

MFET 111C Manufacturing and Materials Processing 3-3-4

The course is designed to provide a basic understanding of traditional methods of materials processing used in product manufacturing. Through lectures, demonstrations, and firsthand laboratory exposure, the student is given the theory and applications of each process. The following are covered: casting, extruding, forging, molding, forming, heat treating, joining, and an introduction to machining methods, both conventional and numerically controlled. A \$20 materials fee will be assessed for all students taking MFET 111C.

MFET 202C Measurement and Control 3-2-4

The course begins with the study of basic electronics (analog and digital) and electronic components (transistors, op-amps, SCR's). Electromechanical principles are introduced, leading to consideration of sensors and transducers used in production processes. Paralleling this sequence is the development of programming in Visual Basic. These two paths join during the second half of the course where programming logic controllers (PLC's) and relay ladder logic (RLL) are presented. In the laboratory, students gain hands-

on experience with all hardware and software covered in the course. (Prerequisites: PHYS 135C or basic AC/DC theory.)

MFET 210C Lean Manufacturing 3-0-3

A study of the concept of Lean Production applied to the manufacturing sector. The course covers the fundamental concepts and philosophy of lean used to achieve operational excellence. Lean concepts such as waste reduction, one-piece flow, pull systems, constant continuous improvement, development of personnel into leaders. Lean concepts/tools covered will include kaizen, value stream mapping, work standardization, kanban, 5S, 5 why, A3 report, just in time (JIT), and takt time.

MFET 220C Manufacturing Processes and Machine Tools 3-3-4

A technical study of the theory, equipment and application of machine tool and metal removal processes. In addition to understanding machining methods, the economics and comparison between machining methods are stressed. Processes covered are turning, milling, drilling, broaching, abrasive machining, finishing, numerical control as well as electrical and chemical machining. Theory is applied through actual machine operation in laboratory. A \$30 materials fee will be assessed for all students taking MFET 220C. (Prerequisites: ENGL 125C, MFET 111C and MCET 105C.)

MFET 225C Solid Works 3-0-3

The purpose of this course is to expose students to Solid Works, a widely used solid modeling software program. Students will learn how to translate their hand-sketches into three-dimensional CAD models. Lectures and assignments will focus on the development of form as it applies to plastic part design and assembly. Physical models will be realized through ABS rapid prototyping allowing students to experience true plastic part design.

MFET 231C Production Systems 3-0-3

A study of the organization of the production system as well as the techniques used to control its operation. Topics covered include forecasting, production planning, plant layout, inventory control, work measurement, job sequencing, and operation scheduling. An introduction to Lean Manufacturing concepts is also provided. (Prerequisite: MFET 111C.)

MFET 241C Computer Integrated Manufacturing (CIM) 3-3-4

A study of flexible industrial automation as it applies to product-producing industry. Particular emphasis is on robotics, numerical control and computer integrated manufacturing. The basic theory and application of these areas are studied. In the laboratory portion of the course, the student has the opportunity to set up, program, and operate all aspects of a computer-controlled manufacturing system. Programmable logic controllers, vision systems, and a variety of robotic devices and CAM capabilities are included. (Prerequisites: MFET 202C and MFET 220C.) (This course replaces PLTW 104 Computer Integrated Manufacturing.)

MFET 252C Quality Control 3-2-4

A study of the techniques used to collect, organize and analyze information which can be used in making decisions

regarding quality. The course will begin with the basic principles of statistics and probability and will then develop such topics as process capability, process control, acceptance sampling and reliability. The scope of quality will be expanded to include such topics as reliability, quality costs, product liability and quality systems. The laboratory sessions will provide the student with the opportunity to apply the principles developed in the classroom through the use of computer examples and "hands-on" exercises. (Prerequisites: MATH 124C.)

Mathematics

MATH 091C Prealgebra 4-0-4

This course will review the essential math skills required for success in an elementary algebra course. Topics include: basic arithmetic operations with whole numbers; signed numbers; fractions; decimals; percent; ratio and proportion; basic algebra; graphing. The institutional credits awarded for this course do not count toward graduation requirements but are calculated into GPA. Completion of this course requires a grade of "C" or higher.

MATH 092C Introduction to Algebra 4-0-4

A stand-alone preparatory course. Topics include: expressions; linear equations and inequalities; linear functions; slope; word problems; systems of linear equations; radicals; polynomials and factoring techniques; rational expressions; quadratic equations; exponents. Calculator use is allowed in the course. The institutional credits awarded for this course do not count toward graduation requirements but are calculated into GPA. Completion of this course requires a grade of "C" or higher to advance to a college-level mathematics course. *For institutional credit only.* (Prerequisite: Permission of academic advisor.)

MATH 115C Practical Mathematics in Electronic Technology 4-1-1

This course is designed to reinforce basic mathematical concepts and introduce terminology and problem solving with applications employed in Engineering Technology to students planning to enter the AGGP, EET, or CPET curriculums. Topics include: algebra; engineering notation; precision and accuracy of numbers; literal equations; unit conversions; basic electric circuits; component identification; measurement techniques. Exercises and laboratory experiments will concentrate on developing methods of analysis employed in problem solving. Emphasis is placed on terminology and development of methods and analytical skills applied in engineering technologies. Theory will be reinforced through laboratory experiments. A graphing calculator will be required.* Grading will be Pass/Fail.

MATH 120C Quantitative Reasoning 4-0-4

This course is designed to expose the student to a wide range of general mathematics. Problem solving and critical thinking skills, along with the use of technology, will be emphasized and reinforced throughout the course as the student becomes actively involved in solving applied problems. Topics include: number theory and systems; functions and modeling; finance; geometry; measurement; probability; statistics; selected subtopics related to the student's major field of

study. (Prerequisite: MATH 092C with a grade of "C" or higher or the high school equivalent with a grade of "C" or higher.) [Note: Students who have received credit for MATH 120C may not also receive credit for MATH 120XC.]

MATH 120XC Quantitative Reasoning 3-3-4

This extended version of Topics in Applied College Math provides students with requisite math skills while simultaneously gaining exposure to a wide range of general college-level mathematics. During lab sessions, students receive instruction and practice in fundamental skills directly related to the topics presented during lecture. Problem solving and critical thinking skills, along with the use of technology, is emphasized and reinforced throughout the course as students become actively involved in solving applied problems. Topics include: number theory and systems; functions and modeling; finance; geometry; measurement; probability; statistics; selected subtopics related to the student's major field of study. A graphing calculator is strongly recommended.* (Prerequisite: ACCUPLACER score of 26 or higher.) [Note: Students who have received credit for MATH 120C may not also receive credit for MATH 120XC.]

MATH 124C College Algebra 4-0-4

Topics include: linear, quadratic and higher degree equations; rational, radical, exponential, and logarithmic equations; graphs of functions; models and applications of functions; systems of linear equations; matrices, conic sections; sequences and series; trigonometry. A graphing calculator is required.* (Prerequisite: High School Algebra I with a grade of "C" or higher (or equivalent) or MATH 092C with a grade of "C" or higher.) [Note: Students who have received credit for MATH 124XC may not also receive credit for MATH 124C.]

MATH 124XC College Algebra 3-3-4

This extended version of College Algebra is designed for students who need to develop requisite math skills while simultaneously studying advanced algebra topics. During lab sessions, students receive instruction and practice in fundamental skills directly related to the topics presented during lecture. The course emphasizes the use of the graphing calculator as a learning tool and as a means to obtain solutions. Topics include: linear, quadratic and higher degree equations; rational, radical, exponential, and logarithmic equations; graphs of functions; models and applications of functions; systems of linear equations; matrices, conic sections; sequences and series; trigonometry. A graphing calculator is required.* (Prerequisite: High school Algebra II with a grade of "C" or higher (or equivalent) or MATH 092 with a grade of "C" or higher or by recommendation of the Math/Physics Department based on placement testing.) [Note: Students who have received credit for MATH 124C may not also receive credit for MATH 124XC.]

MATH 125C Finite Mathematics 4-0-4

Topics include: matrices; linear programming; counting techniques; sets; probability; statistics; mathematics of finance; Markov chains; game theory. Applications will be emphasized. A graphing calculator will be required.* (Prerequisite: MATH 124C.)

MATH 130C Geometry 4-0-4

Introduces the student to college-level Euclidean geometry, including definitions, postulates, and theorems. Topics include: reasoning and proofs; parallel and perpendicular lines; triangles and congruence; quadrilaterals; circles; transformations; area; and analytic geometry. The course also introduces concepts in non-Euclidean geometry. The student will complete a required project. A graphing calculator, compass and protractor, and dynamic geometry software are required. (Prerequisite: MATH 120C or MATH 124C or MATH 124XC or by permission of the Department Head of Mathematics.)

MATH 140C Precalculus 4-0-4

Topics include: rational functions; polynomial and rational inequalities; right triangle trigonometry; graphs of trigonometric functions; trigonometric identities and equations; oblique triangles; polar coordinates and equations; vectors; systems of equations and inequalities; matrices; rotation of conic sections; counting methods; binomial theorem; limits. A graphing calculator is required.* (Prerequisite: MATH 124C or recommendation of Math Department based on placement testing.)

MATH 205C Calculus I 4-0-4

This course in the calculus of one variable will include: limits; derivatives of algebraic, trigonometric, exponential and logarithmic functions; antiderivatives; and an introduction to integration. Applications will be stressed throughout the course including: velocity, acceleration, curve sketching, optimization and related rates. A graphing calculator is required.* (Prerequisite: MATH 140C or recommendation of Math Department based on placement testing.)

MATH 206C Calculus II 4-0-4

Topics include: indefinite integration; the definite integral; the Fundamental Theorem of Calculus; integrals of elementary transcendental functions; techniques of integration; polar coordinates; and power series including Taylor series. Applications will be stressed throughout the course including: area; volumes of revolution; centroids; and moments of inertia. A graphing calculator is required.* (Prerequisite: MATH 205C.)

MATH 208C Multivariable Calculus 4-0-4

A study of vectors, vector products, vector algebra, and vector-valued functions; motion in space; partial differentiation, gradient, divergence, curl, chain rule, tangent planes, extrema, Lagrange multipliers; multiple, line, and surface integrals; divergence, Green's and Stokes' theorems. A graphing calculator is required.* (Prerequisite: MATH 206C.)

MATH 210C Differential Equations 4-0-4

Topics include: methods of solving and applications of ordinary first- and second-order differential equations; Laplace Transformations; series solutions; basics of linear algebra; systems of differential equations. A graphing calculator is required.* (Prerequisite: MATH 206C.)

MATH 215C Mathematical Proofs 4-0-4

Introduces the student to reading and writing mathematical proofs. Topics include: sets and logic; methods of proof;

equivalence relations, functions, and cardinality; topics from number theory and calculus. (Prerequisite: MATH 205C.)

MATH 220C Elementary Linear Algebra 4-0-4

This is an introductory course emphasizing techniques of linear algebra with applications. Topics include: matrix operations; determinants; solutions of systems of linear equations; linear independence; matrix factorization; linear transformations; vector spaces; orthogonality; inner products and norms; eigenvalues and eigenvectors. A graphing calculator* is required. (Prerequisite: MATH 205C.)

MATH 251C Statistics 4-0-4

Topics include: basic measurements of central tendency and variability; frequency distributions; probability; binomial, Poisson, Chi-square, Student t, and normal distributions; sampling distributions; estimation of parameters; hypothesis testing; correlation; simple and multiple regression; prediction intervals. A graphing calculator will be required.* (Prerequisite: MATH 120C or MATH 124C.)

MATH 271C Probability and Statistics for Engineers and Scientists 4-0-4

Topics include: descriptive statistics; probability and probability distributions; statistical test and confidence intervals for one and two samples; building regression models; designing and analyzing experiments; statistical process control. Includes use of a statistical software package throughout the course. A graphing calculator will be required.* (Prerequisite: MATH 205C.)

MATH 290C Senior Project/Internship 0-12-4

This course serves as the capstone course for the Associate in Science in Mathematics degree, in which the student will demonstrate the application of the knowledge gained throughout the program. This will be achieved either by an independent study investigating mathematics, physics, and/or engineering topics selected by the student with guidance from his/her program advisor or through participation in an internship with an approved industry partner. In either case, the student will submit a written paper and make an oral presentation of the project/internship in a student seminar. (Prerequisites: All MT courses with grades of "C" or higher and the approval of the Department Head of Mathematics/Physics; only offered in the final semester of the Mathematics program.)

* *Texas Instruments model TI-84.*

Mechanical Engineering Technology

MCET 101C Design Graphics I 1-3-2

Please note: This course is not currently being offered.

The first of three course sequence aimed at developing the principles of graphic communication. Technical sketching, industrial print reading and Computer-Aided Drawing (CAD) training are presented concurrently. Topics covered include sketching techniques, lettering, orthographic projections, pictorials, auxiliary views, sectioning, dimensioning, tolerancing, fastening techniques and working drawings.

MCET 102C Design Graphics II 1-3-2

Please note: This course is not currently being offered.

A continuation of MCET 101C into topics of Computer-Aided Drawing and Design (CAD). The CAD training will include detailing, assembly drawings, Geometric Dimensioning & Tolerancing (GD & T) and 3D solid modeling.

MCET 105C Engineering Design 4-0-4

This course introduces students to the fundamentals of engineering design and professional practice through the use of hands-on projects. Students will learn about the design cycle and the necessary steps to complete a successful project as a member of a team. Topics include problem identification, brainstorming, drawing and documentation, reverse engineering, testing and evaluation, and manufacturing. Cost, safety, and environmental issues are considered as well as ethical and professional responsibilities. Students will document designs using industry standard 3D modeling software and will be required to communicate their designs through written, oral, and graphical presentations. (This course replaces PLTW 101 Introduction to Engineering Design.) A \$10 materials fee will be assessed for all students taking MCET 105C.

MCET 106C Advanced CAD Modeling 2-2-3

This is a computer aided design (CAD) course that builds upon the skills learned in MCET 105C Engineering Design. Advanced features of CAD will be explored and demonstrated in their application to mechanical design. CAD program used is latest version SolidWorks. Skills learned include: advanced part features (sweep, loft, and datum curves), design automation techniques (configurations and design tables), advanced assemblies (animation, simulations, and top-down design), and advanced design features (sheet metal and mold design). Participants in the class are eligible to download a student version of SolidWorks and take the Certified SolidWorks Associate CSWA exam. (Prerequisite: MCET 105C with a grade of "C-" or higher, or demonstrated core competency.)

MCET 110C Engineering Principles 4-0-4

This course is an introductory level survey course of engineering exploring a broad range of topics across multiple disciplines. Topics include mechanisms, energy, machine control, fluid power, statics, materials, statistics, and kinematics. Students will develop problem-solving skills and technology literacy as they create solutions to various challenges. The use of industry standard 3D CAD and Microsoft Office applications is integrated throughout as students document their designs in written and oral formats. (Prerequisite: MCET 105C, Corequisites: MATH 133C or MATH

109C.) (This course replaces PLTW 103 Principles of Engineering.)

MCET 150C Statics and Strength of Materials 3-2-4

Analysis of external force systems acting upon bodies in equilibrium with subsequent treatment of the stresses and strains induced. Laboratory projects will involve the use of nondestructive and destructive testing equipment to determine the various mechanical properties of materials and their behavior under load. (Prerequisites: MATH 124C and PHYS 133C.)

MCET 205C Material Science 3-2-4

This course studies the structures, properties and behavior of engineering materials as well as how they can be altered through mechanical working and heat treating. Materials considered are ferrous and nonferrous metals and their alloys, plastics and ceramics. Consideration is also given to the selection of these materials to meet manufacturing and design criteria. Laboratory experiments will complement the classroom presentations. (Prerequisites: CHEM 105C; MCET 150C strongly recommended.)

MCET 229C Thermodynamics and Heat Transfer 3-0-3

The fundamentals of equilibrium thermodynamics will be presented. Topics will include thermodynamic properties, processes, process diagrams, the First and Second laws, entropy, and an introduction to thermodynamic cycles. A brief study of heat transfer in its three modes (conduction, convection and radiation) will also be presented. (Prerequisites: MATH 205C and PHYS 133C.)

MCET 250C Dynamics and Mechanical Design I 3-2-4

A study of the effect of forces acting on rigid and deformable bodies subject to static and dynamic loading, and the utilization of this knowledge for the design of mechanical components. Major topics include strength and fatigue, kinematic analysis, power transmission, design methodology, and computer applications. (Prerequisites: ENGL 125C or ENGL 120C, MCET 105C, MCET 150C, and MATH 140C.)

MCET 260C Mechanical Design II 3-2-4

A continuation of MCET 250C, treating the topics of rigid and elastic fasteners, shafts and bearings, welds, springs, clutches and brakes. A series of design projects combining several of these elements will be assigned. Computer methods will be employed where appropriate. (Prerequisites: MATH 205C and MCET 250C.)

MCET 280C Fundamentals of Geometric Dimensioning and Tolerancing (GD & T) 2-0-2

A study of the technical language used to specify engineering design and drawing requirements with respect to actual "function" and "relationship" of part features. The Geometric Dimensioning and Tolerancing (GD & T) language is based on the US Standard ANSI/ASME Y14.5-1994. Practice in reading and applying the standard will be accomplished with video-taped presentations, discussion periods and workbook practice sessions. (Prerequisite: MCET 101C or permission of department head of Mechanical Engineering Technology.)

MCET 282C Senior Project 2-2-3

This course integrates the previous course work and experiences of the students by allowing them to select, define, research, and report on a single, major technical topic of their choice. The formal classroom environment is set aside and the student works under the guidance of a faculty advisor. There are three distinct phases to the course: proposal phase, development phase, and reporting phase. (Prerequisite: ENGL 101C or permission of department head of Mechanical Engineering Technology.)

MCET 290C Hybrid Vehicle Technology 3-0-3

Please note: This course is not currently being offered.

A general engineering study of the hybrid vehicle design and its impact on the environment and industry. Engineering principles such as vehicle dynamics, energy conversion, energy storage, lightweight and composite materials, power transmission, basic electronics, and thermal management will be applied to a hybrid vehicle. Topics will include alternate fuels, emissions, power sources, and safety issues. (Prerequisites: MCET 101C, MATH 140C and PHYS 133C; or permission of department head of Mechanical Engineering Technology.)

Medical Coding

MCOD 118C Introduction to Hospital Diagnosis Coding 4-0-4

The course provides an introduction to hospital diagnosis coding concepts, nomenclature and ICD-10-CM classification systems. It includes discussion of inpatient reimbursement systems including prospective payment, managed care and other third party payers. An introduction to basic current hospital diagnosis coding systems principles in assigning valid diagnostic codes is presented. "Official Inpatient Coding Guidelines" developed by the American Hospital Association (AHA) are utilized for accurate coding assignment of diagnoses. (Prerequisites: HLTH 101C, HLTH 104C, BIOL 120C, and BIOL 122C, each with a grade of "C" or higher; or permission of the Department Head of Natural Sciences.)

MCOD 119C Introduction to Hospital Procedure Coding 3-0-3

This course provides an introduction to current hospital procedure coding systems principles in assigning valid ICD-10-PCS procedure codes, expanding on and further applying concepts learned in Introduction to Hospital Diagnosis Coding. "Official Inpatient Coding Guidelines" developed by the American Hospital Association (AHA) are utilized for accurate selection of principal diagnosis and procedure and determining other diagnoses or procedures that will be coded. (Prerequisite: completion of Introduction to Hospital Diagnosis Coding (MCOD 118C) with a grade of "C" or higher or permission of the Department Head of Natural Sciences.)

MCOD 218C Advanced Hospital Coding 3-0-3

This is an advanced coding course that provides more complex cases using medical record reports. Students must read and interpret data utilizing prior learned skills from HLTH 101C, BIOL 120C, BIOL 122C. The 3M computerized encoding and grouping system will be employed to provide experience in utilizing technology to select codes and to calculate DRG (diagnosis related groups) payments for prospective payment systems. The student will expand on

and apply the principles of reimbursement and coding derived from Introduction to Hospital Diagnosis Coding and Introduction to Hospital Procedure Coding at an advanced level. The student will use the AHA "Official Inpatient Coding Guidelines" to accurately identify and sequence the principal diagnosis and procedure. Coding discussions will include determining which diagnoses or procedures should be included as secondary. (Prerequisite: completion of Introduction to Hospital Procedure Coding (MCOD 119C) with a grade of "C" or higher, or permission of the Department Head of Natural Sciences.)

MCOD 219C Ambulatory Coding 4-0-4

This course presents hospital ambulatory coding using Current Procedural Terminology (CPT) coding systems for procedures and ICD-10-CM coding system for diagnoses. Ambulatory reimbursement and payment systems are presented including prospective payment system and regulatory compliance issues. The course will include an introduction to ambulatory coding and applying the principles to medical record documentation. The 3M computerized encoding and grouping system will be employed to provide experience in utilizing technology to select codes and to calculate payments for prospective payment systems. (Prerequisite: completion of Advanced Hospital Coding (MCOD 218C) with a grade of "C" or higher, or permission of the Department Head of Natural Sciences.)

Mental Health

MHTH 187C The Helping Relationship: Interpersonal Communication Skills for Today's Professional 4-0-4

Knowledge, skills and personal characteristics that are needed in today's professional world of helping careers will be examined. Students will learn the purpose and skill of interpersonal communication techniques through various didactic and experiential methods. Coverage will include documentation and verbal and non-verbal communications, along with time management, self-management and successful work practices. Dynamics of human behavior, culture and specific needs seen in the workplace will be explored.

MHTH 195C Mental Health Practicum I* 2-8-4

The student will work in an approved mental health setting under the supervision of an approved professional. Periodic conferences between the Supervisor and Practicum Coordinator are planned in order to evaluate the student's progress. At the close of the semester, the student will submit documentation of the practicum activities/experience and demonstrate the ability to relate theory to practice in the chosen field of experience. The student will complete a total of 125 hours of field experience. (Prerequisites: HSV 111C, HSV 242C, MHTH 187C, PSYC 105C, and PYSC 283C, each with a grade of "C" or higher, and permission of department head of Human Service.)

MHTH 298C Mental Health Practicum II* 2-8-4

The student will continue their field experience work in an approved mental health setting under the supervision of an approved professional. Skills, knowledge and personal characteristics are built upon and integrated into the learning

and supervision of this course, as well as second year coursework including ethics, individual counseling and conflict resolution. Periodic conferences between the Supervisor and Practicum Coordinator are planned in order to evaluate the student's progress. At the close of the semester, the student will submit documentation of the practicum activities/experience and demonstrate the ability to relate theory to practice in the chosen field of experience. The student will complete a total of 125 hours of field experience. (Prerequisites: MHTH 195C plus HSV 111C, HSV 242C, MHTH 187C, PSYC 105C, and PYSC 283C, each with a grade of "C" or higher, and permission of department head of Human Service.)

** The student will also complete an interview with the Practicum Advisor the semester prior to the first scheduled practicum. Special requests regarding practicum entrance may be brought to the department head by the student. Review of the requests will be made by the department faculty and special exemptions may be made for entrance into the practicum.*

Nursing (RN)

All nursing courses integrate theory and clinical experience. Failure to receive a satisfactory grade in either theory OR the clinical experience portion of the course will result in a failing grade. All nursing major field courses must be passed before proceeding to the next level. A grade of "C" or higher is required in BIOL 195C, BIOL 196C and BIOL 202C, and math elective (MATH 124C or higher level math) to enter or progress in the nursing courses.

NURS 115C Nursing I 5-9-8

Nursing I introduces the student to the role of the associate degree nurse and the concepts of nursing knowledge and caring within the Self-Care Framework. The emphasis of the course is on assessment of the Universal Self-Care Requirements, which include air, food, activity and rest, elimination, water, solitude and social interaction. Promotion of normalcy and prevention of hazards will be addressed within the Universal Self-Care Requirements. The focus is on the use of the educative/supportive nursing system and effective therapeutic communication to care for patients with selected self-care deficits. Professional, ethical and legal standards of nursing practice are introduced to provide culturally-sensitive nursing care. Opportunities for application of nursing knowledge to clinical practice are provided through the Clinical Resource Center experiences and patient care assignments in various settings. To facilitate the teaching/learning process, ongoing evaluations occur through interactions between student and faculty. All students enrolled in NURS 115C will be charged a \$500 per semester clinical surcharge. All students taking NURS 115C in the Fall semester, will be charged \$305 to help cover the costs associated with ATI online practice and proctored assessments and tutorials, detailed individualized remediation plans, and end of program testing to prepare students for the NCLEX-RN licensure exam. (Corequisites: BIOL 195C, ENGL 101C, and PSYC 105C.) Clinical sites are in medical/surgical settings.

NURS 116C Nursing IIA 6-15-11

Nursing IIA expands upon the concepts of nursing knowledge and caring to support growth and development over the life cycle. The emphasis of the course is on Universal, Developmental and/or Health Deviation Self-Care Requirements. The student focuses on the educative/supportive and partially compensatory nursing systems and employs effective therapeutic communication to care for patients with selected self-care deficits throughout the life cycle. Professional, ethical and legal standards of nursing practice are utilized to provide holistic and culturally-sensitive nursing care throughout the life cycle. Planned learning experiences provide the student with the opportunity to coordinate environmental and technological resources in the delivery of patient care. Opportunities for analysis of principles and concepts of nursing knowledge are provided through Clinical Resource Center experiences and patient care assignments in various settings. To facilitate the teaching/learning process, ongoing evaluations occur through interactions between student and faculty. All students enrolled in NURS 116C will be charged a \$500 per semester clinical surcharge. All students taking NURS 116C will be charged \$255 if taken in the Fall or will be charged \$250 if taken in the Spring, to help cover the costs associated with ATI online practice and proctored assessments and tutorials, detailed individualized remediation plans, and end of program testing to prepare students for the NCLEX-RN licensure exam. (Semester 2 Prerequisites: NURS 115C; ENGL 101C & PSYC 105C and a minimum grade "C" in BIOL 195C; corequisites: BIOL 196C and PSYC 220C.) (Semester 3 Prerequisites: PSYC 220C and a minimum of grade of "C" in BIOL 195C & BIOL 196C; corequisites: BIOL 202C and MATH 124C or higher level math; MATH 251C strongly recommended.) Clinical sites include maternal/child, pediatrics and gerontology settings.

NURS 117C Nursing IIB 6-15-11

Nursing IIB expands upon the concepts of nursing knowledge and caring to support growth and development over the life cycle. The emphasis of the course is on Universal, Developmental and/or Health Deviation Self-Care Requirements. The student focuses on the educative/supportive and partially compensatory nursing systems and employs effective therapeutic communication to care for patients with selected self-care deficits throughout the life cycle. Professional, ethical and legal standards of nursing practice are utilized to provide holistic and culturally-sensitive nursing care throughout the life cycle. Planned learning experiences provide the student with the opportunity to coordinate environmental and technological resources in the delivery of patient care. Opportunities for analysis of principles and concepts of nursing knowledge are provided through Clinical Resource Center experiences and patient care assignments in various settings. To facilitate the teaching/learning process, ongoing evaluations occur through interactions between student and faculty. All students enrolled in NURS 117C will be charged a \$500 per semester clinical surcharge. All students taking NURS 117C will be charged \$255 if taken in the Fall or will be charged \$250 if taken in the Spring, to help cover the costs associated with ATI online practice and proctored assessments and tutorials, detailed individualized remediation plans, and end of program testing to prepare students for the NCLEX-RN licensure exam. (Semester 2 Prerequisites: NURS 115; ENGL

101 & PSYC 105 and a minimum grade of "C" in BIOL 195; corequisites: BIOL 196C and PSYC 220C.) (Semester 3 Prerequisites: PSYC 220C and a minimum of grade of "C" in BIOL 195C & BIOL 196C; corequisites: BIOL 202C and MATH 124C or higher level math; MATH 251C strongly recommended.) Clinical sites include mental health and medical/surgical settings.

NURS 178C LPN-RN Completion 4-10-7

Nursing 178 introduces the student to the advanced role of the associate degree nurse and the concepts of nursing knowledge and caring within the Self-Care Framework. The course expands upon the concepts of nursing knowledge and caring to support growth and development over the life cycle. The emphasis of the course is on Universal, Developmental and/or Health Deviation Self-Care Requirements. The student focuses on the educative/supportive and partially compensatory nursing systems and employs effective therapeutic communication to care for patients with selected self-care deficits throughout the life cycle. Professional, ethical and legal standards of nursing practice are utilized to provide holistic and culturally-sensitive nursing care throughout the life cycle. Planned learning experiences provide the student with the opportunity to coordinate environmental and technological resources in the delivery of patient care. Opportunities for analysis of principles and concepts of nursing knowledge are provided through Clinical Resource Center experiences and patient care assignments in various settings. To facilitate the teaching/learning process, ongoing evaluations occur through interactions between student and faculty. Clinical sites include mental health and medical/surgical settings. All students enrolled in NURS 178C will be charged a \$500 per semester clinical surcharge. All students taking NURS 178C will be charged \$280 to help cover the costs associated with ATI online practice and proctored assessments and tutorials, detailed individualized remediation plans, and end of program testing to prepare students for the NCLEX-RN licensure exam.

NURS 215C Nursing III 4-15-9

Nursing III incorporates principles and concepts from nursing knowledge and liberal arts education. The emphasis of the course is on the patient with commonly occurring illnesses. The student focuses on the wholly compensatory nursing system and evaluates effective therapeutic and collegial communication to enhance health outcomes. Planned learning experiences provide the student with the opportunity to utilize microsystem resources, evidence-based practice, quality improvement processes and safety standards in the delivery of patient care. The student demonstrates accountability for the professional, ethical and legal standards of nursing practice to provide holistic and culturally-sensitive nursing care throughout the life cycle. Opportunities to utilize critical thinking, clinical reasoning, and humanistic values are provided through Clinical Resource Center experiences and patient care assignments in various settings. To facilitate the teaching/learning process, ongoing evaluations occur through interactions between student and faculty. All students enrolled in NURS 215C will be charged a \$500 per semester clinical surcharge. All students taking NURS 215C in the Spring semester will be charged \$255 to help cover the costs associated with ATI online practice and proctored assessments and tutorials, detailed individualized

remediation plans, and end of program testing to prepare students for the NCLEX-RN licensure exam and an additional \$350 to cover the costs associated with the ATI Live NCLEX-RN Review Course. (Prerequisites: NURS 116C, NURS 117C, and a minimum grade of "C" or higher in MATH 124C or higher level math or MATH 251C strongly recommended; corequisites: ENGL xxxC, and PHIL 242C.) Clinical sites are in medical/surgical settings.

Orthopaedic Technology

ORTH 101C Orthopaedic Anatomy & Physiology I 3-0-3

This course is an introduction to the anatomy and physiology of the musculoskeletal system and related structures. Attention will be directed toward structural make-up, group composition, relationships, and location of each bone. Common fractures and treatments will be discussed in detail. Also covered will be normal and abnormal growth and development and the response to injury and disease, as well as the response of related structures to the mechanisms of injury and disease.

ORTH 102C Orthopaedic Anatomy and Physiology II 3-0-3

This course is a continuation of Orthopaedic Anatomy & Physiology I with a focus on common orthopaedic injuries and conditions of muscles, ligaments, tendons, and nerves, and their treatments. Also covered will be the disruption to continuity to the musculoskeletal system and related structures resulting from congenital, emergent, or opportunistic diseases and trauma and their treatments. (Prerequisite: ORTH 101C.)

ORTH 103C Basic Radiology Interpretation 3-0-3

This course will cover the history of radiology, and gives the student the basics of radiographic image production. Students will be introduced to the viewing and interpretation of plain orthopaedic radiographs, MRI's, and other types of permanent imaging relating to orthopaedics, terminology relating directly to the skeletal system and fracture healing, and describing a fracture as it relates to the radiographic image.

ORTH 104C Physical Assessment of the Orthopaedic Patient 3-2-4

A comprehensive course that provides integration of knowledge and terminology utilized for orthopaedic patient physical assessment. Included are life span differences and assessment of acute and chronic patient orthopaedic problems. Lab time covering the application and use of various orthopaedic devices, their complications, and contraindications is an intrinsic part of this course, allowing students hands-on experience with these products. Students will learn how to do custom measurements along with brace fitting techniques. Braces will be matched up with their commonly used diagnoses for better conceptual understanding of how these devices affect patient outcomes. Medical coding and reimbursement procedures will also be discussed. (Prerequisites: ORTH 101C, 103C, 105C, 112C, and 116C.)

ORTH 105C Casting and Splinting I 2-2-3

This area is an integral part of the practice of an orthopaedic

technologist. Topics to be covered will include the types, application, functions, and materials of the various casts and splints, as well as basic terminology related to the subject. Students will acquire a working knowledge of anatomy specifically relating to casting and splinting, the proper use of external aide devices commonly associated with casting and splinting, such as crutches, canes and walkers, and transfer of patients from wheel chairs and beds. Attention will be given to the removal of casts and splints, as well as the skills associated with providing patient instructions. A \$500 specialty supplies fee will be assessed for all students taking ORTH 105C.

ORTH 112C Traction 1-2-2

This lecture and lab course will teach students the basic principles of traction, different types of traction, traction set-up and application, and complications and contraindications.

ORTH 113C Orthopaedic Patient Care 2-2-3

This course is an introduction to patient care in an orthopaedic environment. Students will be introduced to the basic elements of professional interaction with patients, their families, and the orthopaedic surgeon. Topics will include communication skills, basic orthopaedic terminology and abbreviations, medication fundamentals critical to the orthopaedic setting, OSHA standards, patient safety, patient transfers, and patient education. In the lab setting, students will learn to take blood pressure, pulse, and BMI measurements, as well as wound care and routine and emergency procedures. (Prerequisite: ORTH 101C, 103C, 105C, 112C, and 116C.)

ORTH 114C Custom Bracing 1-2-2

This lecture and lab course will cover various orthopaedic devices. Students will learn custom brace fitting techniques along with complications and contraindications to be aware of. Medical diagnoses for these braces will be reviewed. Medical coding for reimbursement for all orthopaedic devices will also be discussed. (Prerequisites: ORTH 101C, 103C, 105C, 112C, and 116C.)

ORTH 116C Sterile Techniques 1-3-2

This lab course will provide students with an understanding of invasive and non-invasive procedures, aseptic technique, and instrumentation, and with the practical skills associated with assisting the orthopaedic surgeon with procedures. Students will be assigned to orthopaedic surgical sites for observation during the semester.

ORTH 150C Spring Externship 0-12-2

This externship provides students with an opportunity for initial concentrated clinical experience in an orthopaedic office or hospital setting. Students will practice the skills they have learned in the classroom and laboratory on real orthopaedic patients under the direct supervision of an orthopaedic clinical supervisor and orthopaedic provider. Clinical placement will be provided by the Program Coordinator. All students enrolled in ORTH 150C will be charged a \$500 per semester clinical surcharge. (Prerequisites: ORTH 101C, ORTH 103C, ORTH 105C, ORTH 112C, ORTH 116C, each with a grade of "C" or higher and permission of the Program Coordinator for Orthopaedic

Technology; corequisites: ORTH 102C, ORTH 104C, ORTH 113C, ORTH 114C, ORTH 205C.)

ORTH 205C Casting and Splinting II 2-2-3

Students will learn advanced casting techniques along with windowing of a cast, protection of pins and external hardware, pin care, and wound care. A \$500 specialty supplies fee will be assessed for all students taking ORTH 205C. (Prerequisite: ORTH 105C.)

ORTH 220C Senior Externship and Capstone Experience 1-16-6

This capstone experience provides students with an opportunity for concentrated clinical experience in an orthopaedic office or hospital setting, in which students will practice the skills they have learned in the classroom and laboratory on real orthopaedic patients under the direct supervision of an orthopaedic clinical supervisor and orthopaedic provider. Clinical placement will be provided by the Program Coordinator. In addition, students will be required to work in small groups to make a presentation to the class on an advanced topic related to the field of orthopaedic technology. Lecture hours also include a review for the national licensure exam in orthopaedic technology. All students enrolled in ORTH 220C will be charged a \$500 per semester clinical surcharge. (Prerequisites: Successful completion of all other courses in the Orthopaedic Technology program and permission of the Program Coordinator for Orthopaedic Technology.)

Paralegal Studies

PLGL 101C Foundations of Paralegal Studies 2-0-2

The Foundations of Paralegal Studies course is comprised of two sections, the Introduction to the Legal Profession and a Pre-Employment Seminar. Introduction to the Legal Profession covers in detail the legal systems of the United States, in both the Federal courts and the New Hampshire state courts. Students will also be introduced to the Federal and the New Hampshire constitutions, to the legislative processes and to a "how to" approach to the law. Practical experience in drafting court documents, conducting initial client interviews and investigating cases will be gained. Ethical rules and regulations governing lawyers and paralegals will also be covered. The Pre-Employment Seminar includes writing a resume, drafting a cover letter, refining interview techniques, and conducting an independent job search. In addition, NHTI, Concord's Community College has career and placement counselors available for customized counseling sessions.

PLGL 103C Causes of Action in Contract and Tort 2-0-2

For the purpose of this course, a "cause of action" is defined as a right the law gives and will enforce for one to recover something from another. It is the legal foundation from which the plaintiff derives the right of action against a defendant. The course is limited to the elements and defenses of various causes of action in contract and tort; it does not address remedies. (Prerequisites: PLGL 101C or permission of department head of Paralegal Studies.)

PLGL 104C Legal Research 3-0-3

The paralegal will be able to assist in most aspects of legal research in support of the drafting of clear and concise legal writings. Functional skills acquired in this course include a working knowledge of federal and state statutory research including legislative history; federal and state case law reporter systems; the hierarchy of the federal and state court systems; legal form books; law digests; case and statutory citators; legal treaties; legal periodicals; legal encyclopedia; and, both local and national standards of citation used in legal writing. An introduction to the use of LEXIS will also be included. (Prerequisites: PLGL 101C or permission of department head of Paralegal Studies.) **A \$100 fee will be assessed for all students taking PLGL 104C. This fee will cover costs associated with ABA dues, Lexis/Nexis, and UNH School of Law Library.**

PLGL 106C Introduction to Legal Studies 3-0-3

Introduction to Legal Studies covers in detail the legal systems of the United States, in both the Federal courts and the New Hampshire state courts. Students will be introduced to an overview of substantive and procedural law, legal research, interviewing and investigative skills. Ethical rules and regulations governing lawyers and paralegals will also be covered.

PLGL 107C Contracts and Torts 3-0-3

The contract portion of the class will cover Contract law from formation, defenses and remedies for breach. Likewise, various civil wrongs in which the victim is entitled to a remedy in the form of damages, including negligence, product liability, trespass and defamation, are addressed in the Torts section of the course. (Prerequisites: PLGL 106C or permission of department head of Paralegal Studies.)

PLGL 110C Litigation and Trial Preparation 3-0-3

The student will be able to assist in virtually all phases of litigation. Functional skills acquired include preparing and maintaining the file; gathering information through client interviews; drafting pleadings; organizing and indexing documents; tracing evidence; examining public records; and preparing briefs and memoranda. (Prerequisite: PLGL 106C and PLGL 107C or permission of department head of Paralegal Studies.)

PLGL 221C Real Estate 3-0-3

The student will be able to assist in virtually all phases of transactions in real property. Functional skills acquired include: conducting title searches; assisting in preparation and drafting of deeds, contracts of sale, leases and abstracts of title; gathering and reviewing documentation necessary in mortgage transactions; recording deeds and mortgages; and organizing and witnessing documents at the closing. (Prerequisites: PLGL 106C, PLGL 107C or permission of department head of Paralegal Studies.)

PLGL 225C Legal Research and Writing 3-2-4

The paralegal will be able to assist in most aspects of legal research in support of the drafting of clear and concise legal writings. Functional skills acquired in this course will include a working knowledge of federal and state statutory research including legislative history, federal and state case law reporter systems, the court systems, legal form books, law

digest, case and statutory citators, legal treaties and legal periodicals. In addition, an introduction to the use of LEXIS will be included. Furthermore, the student will develop the specific writing skills necessary for the paralegal. Preparation of trial memorandum and appellate court briefs will also be covered. Emphasis will be on brevity, clarity, and precision of expression together with the refinement of editing skills. (Prerequisites: PLGL 106C, PLGL 107C and PLGL 110C or permission of department head of Paralegal Studies.) **A \$100 fee will be assessed for all students taking PLGL 225C. This fee will cover costs associated with ABA dues, Lexis/Nexis, UNH School of Law Library, Supreme Court Library and PLS Associate Membership.**

PLGL 231C Business Organizations and Bankruptcy 3-0-3

The student will be able to assist in the formation, daily administration, reorganization and dissolution of a corporate entity. Functional skills acquired include: preparing articles of incorporation; satisfying state filing requirements; taking minutes at meetings of board of directors; preparing registration materials for regulatory agencies; and preparing bankruptcy petitions, claims and other documents. (Prerequisites: PLGL 106C, PLGL 107C or permission of department head of Paralegal Studies.)

PLGL 241C Family Law 1-0-1

The student will examine the substantive and procedural law and the legal ethics relating to marriage, divorce, support and custody issues, and will be prepared to assist the attorney in drafting pleadings and completing preliminary research relative to these aspects of family law. (Prerequisites: All PLGL courses at 100 level or permission of department head of Paralegal Studies.)

PLGL 242C Domestic Relations Law 3-0-3

The student will examine the substantive and procedural law and the legal ethics relating to marriage, divorce, and custody issues, and will be prepared to assist the attorney in drafting pleadings and completing preliminary research relative to these aspects of Domestic Relations Law. (Prerequisites: PLGL 106C and PLGL 107C or permission of department head of Paralegal Studies.)

PLGL 251C Probate Estates and Trusts 3-0-3

The student will be able to assist in the planning and administration of the decedent's estate. Functional skills acquired include: assisting with estate planning; collecting assets; notifying beneficiaries; assisting in preparation of Federal and State Estate Tax Returns; submitting documentation to the Probate Court; transferring securities; drawing checks for the Executor's signature; and maintaining account records. (Prerequisites: PLGL 106C and PLGL 107C or PLGL 101C and PLGL 103C, or permission of department head of Paralegal Studies.)

PLGL 261C Criminal Process 1-0-1

The student will examine the various elements of New Hampshire criminal practice and procedure and will trace the steps by which the process is completed, from the initial interview through the post-trial procedure. (Prerequisites: All PLGL courses at 100 level or permission of department head of Paralegal Studies.)

PLGL 262C Criminal Law and Procedures for the Paralegal 3-0-3

The student will examine the various elements of New Hampshire criminal practice and procedure and will trace the steps by which the process is completed, from the initial interview through the post-trial procedure. (Prerequisites: PLGL 106C, PLGL 107C, and PLGL 110C or permission of department head of Paralegal Studies.)

PLGL 270C Internship 0-9-3

The internship offers the opportunity to combine the theoretical and practical issues of the classroom in the workplace setting. Students are required to complete a specified number of hours in a law office or law-related environment. Weekly meetings will be held with the internship coordinator to discuss the ongoing experience. (Prerequisite: All 100 level PLGL courses or permission of department head of Paralegal Studies.)

PLGL 271C Legal Writing 1-0-1

This course focuses on the specific writing skills necessary for the paralegal. The assignments involve practical examples of paralegals' work products, as demonstrated in the areas covered in the Certificate curriculum. Preparation of a trial court memorandum and an appellate court brief will also be covered. Emphasis will be put on brevity, clarity, and precision of expression together with a refinement of editing skills. (Prerequisites: All other 100 level PLGL courses or permission of department head of Paralegal Studies; corequisite: PLGL 110C.)

Paramedic Emergency Medicine

PEM 111C Paramedic Procedures 1-3-2

This performance based course focuses on the broad spectrum of paramedic procedures. Students will perform the technical skills drawn from Advanced Trauma, Advanced Cardiology, Medical Emergencies, Special Populations, and Pharmacology courses. An emphasis will be placed on the skills and competencies making students eligible for advanced hospital and field clinic rotations. (Prerequisites: all fall PEM courses; corequisites: PEM 126C, PEM 135C and PEM 244C.)

PEM 117C Physical Assessment 2-0-2

A comprehensive course that provides integration of knowledge and terminology utilized for physical assessment. Included are life span differences and assessment of acute and chronic patients who present with medical problems. (Corequisites: PEM 142C, PEM 150C and PEM 161C.) **Any failure in PEM 117C, PEM 150C or PEM 142C will trigger a failure in PEM 161C (even if a passing grade in PEM 161C has been achieved).**

PEM 126C Pharmacology 3-0-3

An advanced course covering Pharmacology related to paramedic practice. Includes cardiovascular, respiratory, analgesic, G.I., antibiotic and CNS medications. (Prerequisites: all fall PEM courses; corequisites: PEM 111C, PEM 135C and PEM 244C/) **Any failure in PEM 126C, PEM 135C or PEM 244C will trigger a failure in PEM 162C (even if a passing grade in PEM 162C has been achieved).**

PEM 135C Medical Emergencies 2-0-2

A comprehensive course that includes the pathophysiology and management of selected medical emergencies. Critical thinking and problem solving will be emphasized using a scenario-based approach. (Prerequisites: all fall PEM courses; corequisites: PEM 111C, PEM 126C and PEM 244C.) **Any failure in PEM 126C, PEM 135C or PEM 244C will trigger a failure in PEM 162C (even if a passing grade in PEM 162C has been achieved).**

PEM 142C Cardiology I 2-0-2

This course focuses on the conduction system of the heart, electrocardiography, as well as interpretation and the treatment of cardiac arrhythmias. (Corequisites: PEM 117C, PEM 150C and PEM 161C.) **Any failure in PEM 117C, PEM 150C or PEM 142C will trigger a failure in PEM 161C (even if a passing grade in PEM 161C has been achieved).**

PEM 150C Advanced Trauma 2-0-2

A comprehensive course that covers the assessment, pathophysiology and management of trauma including: head, spinal, chest, abdominal, soft tissue, and musculoskeletal trauma. MCI, environmental emergencies, and HAZMAT are also covered. (Corequisites: PEM 117C, PEM 142C and PEM 161C.) **Any failure in PEM 117C, PEM 150C or PEM 142C will trigger a failure in PEM 161C (even if a passing grade in PEM 161C has been achieved).**

PEM 161C Integration Lab I 0-4-1

This scenario-driven course is designed to develop team leadership skills and clinical decision-making. A great emphasis will be placed on paramedic assessment skills, treatment aims and outcomes. Students will draw from the knowledge and interventions learned in Cardiology, Medical Emergencies, and Physical Assessment. (Corequisites: PEM 117C, PEM 142C and PEM 150C.) **Any failure in PEM 117C, PEM 150C or PEM 142C will trigger a failure in this lab course which includes the practical portion of the above listed courses.**

PEM 162C Integration Lab II 0-4-1

This scenario-driven course is designed to develop team leadership skills and clinical decision-making. A great emphasis will be placed on paramedic assessment, diagnostic skills, treatment aims and outcomes. Students will draw from the knowledge and interventions learned in Advanced Cardiology, Medical Emergencies, Advanced Trauma, and Pharmacology courses. (Prerequisites: all fall PEM courses; corequisites: PEM 126C, PEM 135C and PEM 244C.) **Any failure in PEM 126C, PEM 135C or PEM 244C will trigger a failure in this lab course which includes the practical portion of the above listed courses.**

PEM 163C Integration Lab III 0-4-1

This scenario-driven course is designed to develop team leadership skills and clinical decision-making. A great emphasis will be placed on paramedic assessment, diagnostic skills, treatment aims and outcomes. Students will draw from the knowledge and interventions learned in Special Populations. (Prerequisites: all first year PEM courses; corequisite: PEM 201C.)

PEM 164C Integration Lab IV 0-3-1

This scenario-driven course is designed to develop team leadership skills and clinical decision-making. A great emphasis will be placed on paramedic assessment, diagnostic skills, treatment aims and outcomes. Students will draw from knowledge and interventions learned in Field Operations and Advanced Paramedic Practice. (Corequisites: PEM 210C and PEM 278C.)

PEM 190C Introduction to the Clinical Environment 1-0-1

A course designed to set students up for success within a variety of clinical systems. An emphasis will be placed on mandatory inservice training topics such as universal precautions, body mechanics, fire procedures, incident prevention and other clinical protocols and procedures. Interpersonal and communication skills will be an integral part of the course and students will gain an understanding of clinical documentation systems. (Prerequisites: all first year PEM courses; corequisite: PEM 194C.)

PEM 194C Hospital Clinical 0-18-5

A comprehensive hospital experience that focuses on theory, assessment skills, invasive skills, and affective behaviors expected of a paramedic. A total of 224 hospital hours. All students enrolled in PEM 194C will be charged a \$500 per semester clinical surcharge. (Prerequisites: all first year PEM courses; corequisite: PEM 190C.)

PEM 201C Special Populations 2-0-2

This advanced level course includes assessment, paramedic diagnosis and treatment for all special populations including OB, Pedi, Geriatrics, Psych, Chronic Disease and patients with special needs. (Prerequisites: all first year PEM courses; corequisite: PEM 163C.)

PEM 210C Field Operations 2-0-2

An overview course covering all aspects of field practice including roles and responsibilities, medical control, written/oral communications, occupational stress, safety and legal considerations. Protocol interpretation and introduction to research design are covered. (Corequisites: PEM 164C and PEM 278C.)

PEM 244C Advanced Cardiology 2-0-2

This comprehensive course includes the pathophysiology, clinical manifestations, and treatment of cardiovascular emergencies. Advanced Cardiac Life Support certification (ACLS) is an integral part of the course. (Prerequisites: all fall PEM courses; corequisites: PEM 126C, PEM 135C, and PEM 162C) **Any failure in PEM 126C, PEM 135C or PEM 244C will trigger a failure in PEM 162C (even if a passing grade in PEM 162C has been achieved).**

PEM 278C Advanced Paramedic Practice 2-0-2

The course is designed to integrate paramedic knowledge, skills and behaviors through practice and lecture. An emphasis is placed on detailed paramedic assessment, diagnosis and priorities in treatment. Students will develop leadership skills in the management of medical, traumatic, and psychological problems. This course will also lead to National Registry written exam preparation. Career opportunities, affective behaviors and preparation for entry

into the EMS job market will also be discussed. (Corequisites: PEM 210C and PEM 164C.)

PEM 290C Field Clinic Primer 0-6-2

An optional/assigned field experience where the students will ride 100 hours and serve as team lead in 10 calls with an ALS unit. This can be utilized at any time the student needs additional field experience. This clinic may not be taken more than twice. Students may be assigned this clinic if faculty determine need. They may also elect this experience. Students enrolled in PEM 290C must successfully complete to continue in the program. Successful completion includes 100 hours, preceptor endorsements to continue this clinic, completed documentation, a successful mid semester performance appraisal and completed end semester evaluation. (Prerequisites: successful completion of all previous PEM courses and PEM 194C.)

PEM 292C 12 Lead EKG Interpretation/Difficult Airway Seminar 2-0-2

Primary certification in the interpretation of 12 lead EKG's including injury and ischemia patterns, normal and abnormal findings, and the 12 lead as a diagnostic tool will be covered. Principles of ACS diagnosis/management will be an integral part of the course. The difficult airway portion of the course will include: RSI, adjunctive airways, difficult and failed airways and the airway decision process. (Corequisites: PEM 163C, PEM 196C, PEM 201C and BIOL 222C.)

PEM 296C Field Clinical I 0-9-3

A progressive and formative field experience where the student will ride 150 hours with an Advanced Life Support Service. The student will be required to serve as a team leader on 18 calls. Successful completion will include 150 hours, preceptor endorsement to continue, completed documentation, a successful mid-semester performance appraisal, a completed end-semester clinic evaluation, and 18 team leader experiences. (Prerequisites: All previous PEM courses and PEM 194C; corequisites: All senior fall semester courses.)

PEM 297C Field Clinical II 0-7-2

A progressive and formative field experience where the student will ride a total of 120 hours with an Advanced Life Support Service. The student will be required to serve as a Team Leader on 20 calls. Successful completion will include 120 hours, preceptor endorsement to continue, completed documentation, a successful mid-semester performance appraisal, and a completed end-semester clinic evaluation, and 20 team leader experiences. (Prerequisite: All previous PEM courses, PEM 194C, PEM 296C; corequisites: All senior spring semester courses.)

PEM 298C Field Clinical III 0-2-1

A summative and integrative field experience as a capstone for all program activities (lecture, lab, and previous clinicals) where the student will ride 50 hours (April 1-May 10) and will act as team lead on a minimum of 15 calls with an ALS unit. Successful completion will include 50 hours, at least 12 of 15 successful team leads, preceptor endorsement as a competent entry level paramedic, completed documentation and a successfully completed end semester summative evaluation. (Prerequisite: All previous PEM Courses, PEM

194C, PEM 296C, PEM 297C; corequisite: All senior spring PEM Courses.)

Peer Mentoring

PRMT 101C Peer Mentoring Seminar 2-0-2

A seminar for peer mentors working the NHTI departments and programs. This seminar includes readings, presentations, activities, and projects which help students develop as peer mentors. Students are expected to participate in reflection on and planning of their peer mentoring work. (Prerequisite: Faculty recommendation.) Two institutional credits awarded for this course do not count toward graduation but are calculated into GPA.

Philosophy

PHIL 110C Introduction to Philosophy 3-0-3

This course is an introduction to the methods, problems, and theories of the main branches of philosophy and the indestructible questions raised in regard to reality, truth, morality, power, meaning, purpose, and valid reasoning. Topics to be considered include the basis for beliefs concerning the nature and existence of God, experience and reason in the development of knowledge, the mind and its place in nature, freedom and determinism, and the basis and nature of morality.

Special topics courses listed under PHIL 226C Special Topics in Philosophy

Courses under this heading will provide the opportunity to focus on topical issues in the field of philosophy and will be presented with an interdisciplinary approach. Faculty present material not normally covered in regular course offerings.

PHIL 226AC Comparative World Religions 3-0-3

This course examines major "questions" or "issues" addressed by religion in general. It also examines major representative systems of religious beliefs including the practices, historical development, and sociological development and context. The religious systems will be analyzed via specific doctrines and writings of each. Different aspects of religious beliefs and practice such as the Absolute, the Human Problem, the Human Solution, Rituals, and the Meaning of History, Life after Death, Community and Ethics, and Attitudes Toward other Religions will be explored.

PHIL 242C Contemporary Ethical Issues 3-0-3

This course is a philosophical examination of major contemporary ethical issues. Topics may include biomedical ethics, business ethics, environmental ethics, human sexuality, and ethics related to life and death decisions. The emphasis is on acquiring the philosophical skills necessary to guide self and others in the process of ethical decision making. Cases are used for study and discussion.

Physics

PHYS 100C Pre-Engineering Technology Physics 4-2-5

This course covers the fundamentals of mechanics. Topics included: velocity; acceleration; vectors; motion in two dimensions; Newton's Laws of Motion; work; energy; momentum and collisions. A graphing calculator will be required.* The institutional credits awarded for this course do not count toward graduation requirements but are calculated into GPA. (Prerequisite or corequisite: MATH 092C.)

PHYS 133C Physics I (Algebra-Based) 3-2-4

A study of classical physics. Topics include: linear and projectile motion; vectors; Newton's Laws of Motion; work; energy; momentum and collisions; rotational kinematics and dynamics; translational and rotational equilibrium; gravity. A graphing calculator will be required.* (Prerequisite or corequisite: MATH 124C.)

PHYS 135C Physics II (Algebra-Based) 3-2-4

A study of classical physics. Topics include: oscillations; mechanical waves and sound; fluids; heat; electrostatics; Ohm's law; D.C. circuits; electromagnetism; geometrical optics. A graphing calculator will be required.* (Prerequisites: PHYS 133C and MATH 124C.)

PHYS 231C Physics I (Calculus-Based) 3-3-4

A study of classical mechanics. Topics include: linear and rotational motion; forces; momentum; energy; gravitation; oscillations. A graphing calculator will be required.* (Prerequisite or corequisite: MATH 205C.)

PHYS 232C Physics II (Calculus-Based) 3-3-4

The second course studying classical physics. Topics include: fluids; elasticity; thermodynamics; electricity; magnetism. A graphing calculator will be required.* (Prerequisite: PHYS 231C and MATH 205C.)

PHYS 233C Physics III (Calculus-Based) 3-3-4

Topics include: sound; optics; electromagnetic waves; relativity; introduction to quantum mechanics; atomic physics; nuclear physics. A graphing calculator is required.* (Prerequisite: PHYS 232C.)

* *Texas Instruments model TI-83 or TI-84.*

Political Science

POLS 110C American Government 3-0-3

This course is an introduction to the basic structures of the political process in the United States. It combines attention to political activity at both the national (Federal) and the State and local levels. The topics covered include analyses of the Federal and States' Constitutions, the American political economy, State/Federal relationships, inter-branch matters between the Executive, Legislature and Judiciary branches, the elective process, activities of the public and interest groups, and the governments' handling of the public purse.

POLS 150C The New Hampshire Primary 3-0-3

This course is a survey of the changing role and nature of the Presidential Primary election held in the State of New

Hampshire from its first implementation in 1916 to the present. Through a combination of readings, taped and live streamed presentations, archival footage, classroom presentations and interviews, and group activities, students will “experience” the primary as it takes shape throughout the fall. The goal of the course is not merely to help students understand the nature of the New Hampshire Presidential Primary, but to engage students in the process. Just as the Presidential Primary is an example of direct democracy, this course is an exercise in civic engagement. Course content will cover, but not be limited to, an understanding of the origins of primary elections in American politics, the laws governing the New Hampshire primary, the role of media in the process, the changing demographics of New Hampshire, the evolving nature of the New Hampshire electorate, and the impact of the “first-in-the-nation” primary.

POLS 210C State and Local Government 3-0-3

A survey of state and local government concentrating on their origins and development in the United States. The course includes the forms of government; executive, legislative and judicial organization and procedures; distribution of power between the levels of government; and the problems of metropolitan government.

POLS 220C Public Administration 3-0-3

This course discusses the growth of the public sector and the methods by which this sector can be managed. Topics include public management techniques, effective decision-making, civil service, budgeting, public organizations, and the politics of public sector administration.

Psychology

PSYC 105C Introduction to Psychology 3-0-3

An introductory college course in psychology which focuses on the fundamental facts and principles of psychology within the broader context of contemporary personal and social concerns. Topics may include the historical development of the discipline, scientific methodology, human development, motivational theory, consciousness, sensation and perception, learning, thinking, memory, emotions, biological basis of behavior, personality theory, psychopathology, sexuality, and measurements and statistics. **Available in Honors format.**

PSYC 205C Crisis Intervention 3-0-3

This course focuses on the emotional aspects of individuals involved in a crisis situation. Coverage is given to the theory and management of specific situations such as stress, death and dying, drug abuse, suicide, sexual assault, disasters and violence. Consideration is also given to the functions and legalities of the mental health system. (Prerequisite: PSYC 105C.)

PSYC 209C Educational Psychology 3-0-3

Psychological principles are applied to the educational environment. Theories of learning, memory, cognition, and behavior management are used to help the student find an optimal instructional approach. While this course is a distribution requirement for the Associate of Science in Education program it may also be applied to a concentration

of courses in Psychology or Social Sciences. (Prerequisite: PSYC 105C.)

PSYC 210C Abnormal Psychology 3-0-3

An overview of abnormal behavior using the *Diagnostic and Statistical Manual of Mental Disorders, 5th ed. (DSM-5)*. Research and issues relating to the nomenclature, incidence, etiology, and treatment of the disorders will be covered. Consideration will be given to physiological, behavioral, social, cultural and cognitive variables that contribute to each condition. (Prerequisite: PSYC 105C.)

PSYC 220C Human Growth and Development: The Life Span 3-0-3

A study of the psychological implications of the growth and development of the human person with a special emphasis on the physical, cognitive, social, emotional and ethical dimension in infancy, childhood, adolescence, and adulthood. **Available in Honors format.** (Prerequisite: PSYC 105C.)

PSYC 225C Social Psychology 3-0-3

This course offers an overview to the field of social psychology, a branch of psychology that focuses on how an individual's thoughts, feelings, and behavior are influenced by and influence other people. These reciprocal influences include attention to the social and cultural environment. Predominant themes for the course include individual interpretation and social cognition, the influence and power of situations on individuals, and social relationships. Gender and cultural influences are examined from a variety of perspectives as well. Specific topics that will be studied include social cognition and perception, self-knowledge and self-esteem, attitudes, social influence, conformity, obedience, aggression, prejudice, interpersonal attraction, and prosocial behavior. (Prerequisite: PSYC 105C.)

PSYC 226C Special topics courses listed under PSYC 226C Special Topics in Psychology

Courses under this heading will provide the opportunity to focus on topical issues in the field of psychology that will be presented with an interdisciplinary approach. Faculty present material not normally covered in regular course offerings. (Prerequisites: PSYC 105C or SOCI 105C or other social science course with a grade of “C” or higher.)

PSYC 226AC Sport and Exercise Psychology 3-0-3

This course examines theory and research of psychology as applied to athletics. It reviews the history of sport psychology as well as its application in both individual and team sports. Concepts to be discussed include individual philosophies of sports, motivation, personality of coaches and athletes, training and learning principles, mind-body relationships, and the effects anxiety, motivation, arousal and relaxation have on performance of athletes at the professional, amateur and youth levels. The sport psychology techniques used by elite athletes to improve sport performance will also be explored. Students will be asked to apply their psychological knowledge and critical thinking abilities through class participation and open discussions on professional, amateur and youth sports. Outside observations of sports from youth to

professional levels will also be required. (Prerequisites: PSYC 105C or SOCI 105C or other social science course with a grade of "C" or higher.)

PSYC 250C Traumatic Brain Injury in Veterans Populations 3-0-3

This course provides an overview of traumatic brain injury and the specialized area of traumatic brain injury of veterans. Understanding the neurological, physical, psychological effects of TBI and how these areas are assessed and brought forth to treatment. Effects of TBI on the veteran's family, employment and social life will be discussed. (Prerequisites: HSV 195C, HSV 242C, and ACLD 235C, or permission of the Department Head of Human Service.)

PSYC 255C Assessment and Treatment of Psychological Counseling in Veterans 3-0-3

Early assessment and treatment are essential in the management of the various psychological traumas facing veterans. Psychological trauma will be reviewed and specialized traumas such as PTSD and TBI and the stressors aligned with them will be discussed. Developing a therapeutic relationship, the review of various assessment tools, and researching treatment modalities for the various types of psychological trauma will be reviewed. Evidence-based treatment approaches will be aligned to the various types of psychological trauma. (Prerequisites: HSV 242C, ADCL 235C, and PSYC 250C, or permission of the Department Head of Human Service.)

PSYC 280C Individual Counseling: Theory and Practice 3-0-3

Discussion of the most widely used theories of counseling offering students the opportunity to integrate the theories within their own value systems. Counseling practice will consist of peer counseling process, audio and video recording critiques, and role-playing in a seminar setting. (Prerequisites: MHTH 187C and PSYC 105C.)

PSYC 283C Group Counseling 3-0-3

A study of therapeutic intervention as carried out in and through a group. The course design includes academic discussion of group processes and participation in a concomitant laboratory experience. (Prerequisites: MHTH 187C and PSYC 105C.)

Radiation Therapy

RDTH 101C Introduction to Radiation Therapy 3-0-3

Content is designed to provide the student with an overview of the foundations of radiation therapy and the practitioner's role in the health care delivery system. Principles, practices and policies of the educational program, health care organizations, principles of radiation and health safety and professional responsibilities, as well as ethics, law and medical terminology of the radiation therapist will be discussed and examined.

RDTH 110C Principles and Practice of Radiation Therapy I 3-2-4

Content is designed to provide an overview of cancer and the specialty of radiation therapy. The medical, biological and pathological aspects as well as the physical and technical

aspects will be discussed. The roles and responsibilities of the radiation therapist, the treatment prescription, the documentation of treatment parameters and delivery will also be discussed.

RDTH 115C Patient Care 1-0-1

Content is designed to provide the student with foundation concepts and competencies in assessment and evaluation of the patient for service delivery. Psychological and physical needs and factors affecting treatment outcome will be presented and examined. Routine and emergency care procedures will be presented.

RDTH 150C Medical Imaging and Processing 2-0-2

Content is designed to establish a knowledge base in factors that govern and influence the production and recording of radiographic images for patient simulation, treatment planning and treatment verification in radiation oncology. Radiation oncology imaging equipment and related devices will be emphasized. Content will also include quality management programs and continuing quality improvements in radiation oncology. (Prerequisites: RDTH 101C and RDTH 110C.)

RDTH 180C Radiation Physics for the Radiation Therapist 2-0-2

Discussion is designed to establish a basic knowledge of physics pertinent to developing an understanding of radiation use in the clinical setting. Fundamental physical units, measurements, principles, atomic structure and types of radiation are emphasized. Also presented are the fundamentals of x-ray generating equipment, x-ray production and interaction with matter.

RDTH 190C Clinical Practice I 0-16-3

Content is designed to provide sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in radiation therapy. Through structured sequential assignments in clinical facilities, concepts of team practice, patient-centered clinical practice and professional development will be discussed, examined and evaluated. All students enrolled in RDTH 190C will be charged a \$500 per semester clinical surcharge. (Prerequisites: RDTH 101C and RDTH 110C.)

RDTH 195C Clinical Practice II 0-18-3

A continuation of Clinical Practice I requiring two 8-hour days of clinical over 11 weeks designed to provide sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in radiation therapy. Through structured sequential assignments in clinical facilities, concepts of team practice, patient-centered clinical practice and professional development will be discussed, examined and evaluated. All students enrolled in RDTH 195C will be charged a \$500 per semester clinical surcharge. (Prerequisite: RDTH 190C.)

RDTH 200C Radiation Protection and Biology 3-0-3

Content is designed to present basic principles of radiation protection and safety for the radiation therapist. Radiation health and safety requirements of federal and state regulatory agencies, accreditation agencies and health care

organizations are incorporated. Specific responsibilities of the radiation therapist are discussed, examined, performed and evaluated. Content also includes basic concepts and principles of radiation biology. The interactions of radiation with cells, tissues and the body as a whole, and resultant biophysical events, will be presented. Discussion of the theories and principles of tolerance dose, time dose relationships, fractionation schemes and the relationship to the clinical practice of radiation therapy will be discussed, examined and evaluated. (Prerequisites: RDTH 101C, RADT 180C and RDTH 150C.)

RDTH 205C Treatment Planning 3-0-3

Content is designed to establish factors that influence and govern clinical planning of patient treatment. Encompassed are isodose descriptions, patient contouring, radiobiologic considerations, dosimetric calculations, compensation and clinical application of treatment beams. Optimal treatment planning is emphasized along with particle beams. Stereotactic and emerging technologies are presented. (Prerequisites: RDTH 101C and RDTH 110C.)

RDTH 210C Principles and Practice of Radiation Therapy II 3-2-4

Content is designed to examine and evaluate the management of neoplastic disease using knowledge in arts and sciences, while promoting critical thinking and the basis of ethical clinical decision making. The epidemiology, etiology, detection, diagnosis, patient condition, treatment and prognosis of neoplastic disease will be presented, discussed and evaluated in relationship to histology, anatomical site and patterns of spread. The radiation therapist's responsibility in the management of neoplastic disease will be examined and linked to the skills required to analyze complex issues and make informed decisions while appreciating the character of the profession. (Prerequisites: RDTH 101C and RDTH 110C; corequisite: RDTH 290C.)

RDTH 215C Sectional Anatomy and Pathology 3-0-3

Content is designed to study normal sectional anatomy via diagrams and radiologic images. The pathology content is broken into two parts: general pathology and neoplasia. General pathology introduces basic disease concepts, theories of disease causation and system-by-system pathophysiologic disorders most frequently encountered in clinical practice. Neoplasia provides an in-depth study of new and abnormal development of cells. The processes involved in the development and classification of both benign and malignant tumors and site-specific information on malignant tumors is presented. (Prerequisites: BIOL 195C with a grade of "C" or higher; corequisite: BIOL 196C.)

RDTH 220C Radiation Therapy Physics 3-0-3

Content is designed to review and expand concepts and theories in the radiation physics course. Detailed analysis of the structure of matter, properties of radiation, nuclear transformations, x-ray production and interactions of ionizing radiation are emphasized. Also presented are treatment units used in external radiation therapy, measurement and quality of ionizing radiation produced, absorbed dose measurement, dose distribution and scatter analysis. (Prerequisites: RADT 180C and RDTH 150C; corequisite: RDTH 293C.)

RDTH 280C Registry Review 1-0-1

This course is designed to prepare the radiation therapy student to take the national certification examination through the American Registry of Radiologic Technologists (ARRT). Various topics will be addressed each week with a practice registry exam given to complete the program. (Prerequisites: RDTH 220C and RDTH 210C.)

RDTH 290C Clinical Practice III 0-24-4

A continuation of Clinical Practice I and II, and the beginning clinical assignment for Radiation Therapy Certificate students, content is designed to provide sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in radiation therapy. Through structured sequential assignments in clinical facilities, concepts of team practice, patient-centered clinical practice and professional development will be discussed, examined and evaluated. (Prerequisites: RDTH 190C and RDTH 195C; or admission to the Radiation Therapy Certificate program.)

RDTH 293C Clinical Practice IV 0-24-4

The fourth clinical course continues to build on the sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in radiation therapy. Through structured sequential assignments in clinical facilities, concepts of team practice, patient-centered clinical practice and professional development will be discussed, examined and evaluated. All students enrolled in RDTH 293C will be charged a \$500 per semester clinical surcharge. (Prerequisite: RDTH 290C.)

RDTH 295C Clinical Practice V 0-23-4

The fifth clinical course requires 32 hours per week over 11 weeks and continues to build on the sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in radiation therapy. Through structured sequential assignments in clinical facilities, concepts of team practice, patient-centered clinical practice and professional development will be discussed, examined and evaluated. All students enrolled in RDTH 295C will be charged a \$500 per semester clinical surcharge. (Prerequisite: RDTH 293C.)

RDTH 296C Clinical Practice VI 0-32-6

The final clinical course is designed to perfect the content of the previous didactic and clinical courses. The content is designed to provide sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in radiation therapy. Through structured sequential assignments in clinical facilities, concepts of team practice, patient-centered clinical practice and professional development will be discussed, examined and evaluated. All students enrolled in RDTH 296C will be charged a \$500 per semester clinical surcharge. (Prerequisite: RDTH 295C.)

Radiologic Technology

RADT 103C Radiographic Positioning I 1-2-2

This course introduces the student to the principles of radiography, radiographic terminology, and radiation protection. This course covers the anatomy and radiographic

positioning of the thoracic and abdominal viscera. (Corequisite: RADT 109C and RADT 180C.)

RADT 109C Introduction to Health Care in Radiologic Technology 1-0-1

This course is a series of continuous focused lectures pertinent to each clinical semester. Radiologic science, patient care, image critiques and imaging methods will be presented and discussed. (Corequisites: RADT 103C, RADT 180C.)

RADT 116C Radiographic Imaging Technology I 2-2-3

A discussion of the principles leading to the production of the manifest image. The general design of the x-ray tube as well as x-ray production and emission. Tube rating charts, factors affecting radiographic quality, grids and accessories as well as fluoroscopy will be covered. (Prerequisites: RADT 103C, RADT 109C, RADT 180C; corequisites: RADT 159C, RADT 151C.)

RADT 123C Radiation Protection 3-0-3

Topics covered in this course include: radiation quantities and units; interaction of radiation with the body tissues; molecular and cellular radiation biology; dose limits; equipment design for radiation protection; early and late effects of radiation; management of patient and imaging personnel doses during diagnostic x-ray procedures and methods of monitoring. (Prerequisites: RADT 180C, RADT 151C, RADT 116C and RADT 203C; corequisite: RADT 294C.)

RADT 151C Patient Care for the Radiographer 2-0-2

Discussion of the proper handling of sick, injured and infectious patients along with the proper care and use of medical equipment and supplies. Pharmacology, medical ethics and the medicolegal aspects of radiologic technology will be discussed. (Prerequisites: RADT 109C, RADT 103C; corequisites: RADT 159C.)

RADT 159C Radiographic Positioning II and Clinical Procedures I 3-26-8

This course is an examination of the radiographic positioning of the osseous system. Topics in this course include: positioning, radiographic exposure factors, medical terminology, pathology, radiographic anatomy, radiation protection, and special considerations for the pediatric and geriatric patients. The clinical experience is an extension of the classroom where the student will develop the theory into practical skills through instruction, application, critique and evaluation on common procedures. All students enrolled in RADT 159C will be charged a \$500 per semester clinical surcharge. (Prerequisites: RADT 151C, RADT 180C; corequisite: RADT 116C.)

[Explanatory note re hours allocation: 3 hours of lecture (3 credits) + 2 hours of lab (1 credit) + 24 hours of clinic (@ 5 hours per credit = 4 credits) = 8 credits]

RADT 164C Radiographic Positioning III and Clinical Procedures II 3-26-8

This is a continuation of RADT 159C and examines the radiographic positioning of the cervical, thoracic and lumbar spine along with routine positioning of the biliary tract, upper and lower gastrointestinal system, urinary system and the

study of radiographic contrast media. Topics in this course include: positioning, radiographic exposure factors, medical terminology, radiation protection, and special considerations for the pediatric and geriatric patients. Clinical experience is continued in this course. All students enrolled in RADT 164C will be charged a \$500 per semester clinical surcharge. (Prerequisites: RADT 109C, RADT 103C, RADT116C, RADT 180C, RADT 151C, and RADT 159C; corequisite: RADT 220C.)

[Explanatory note re hours allocation: 3 hours of lecture (3 credits) + 2 hours of lab (1 credit) + 24 hours of clinic (@ 5 hours per credit = 4 credits) = 8 credits]

RADT 165C Radiographic Clinical Procedures III 0-23-4

This course is a continuation of the clinical component of RADT 164C. Students will complete their first clinical assignment and build on the procedures taught in RADT 103C, RADT 159C and RADT 164C. Four 8-hour clinical days per week over 11 weeks is required. All students enrolled in RADT 165C will be charged a \$500 per semester clinical surcharge. (Prerequisite: RADT 109C, RADT 103C, RADT 116C, RADT 151C, RADT 159C, RADT 164C and RADT 180C; corequisite: RADT 203C.)

RADT 180C Radiographic Physics 3-0-3

A basic review of the physical principles of matter, leading to tube production of electricity with its ramifications pertinent to the field of radiologic technology. Basic radiation producing circuitry is discussed including closed circuit television along with digital radiography. (Corequisites: RADT 103C, RADT 109C.)

RADT 203C Advanced Radiographic Procedures 3-0-3

This course is a continuation of RADT 159C and examines the radiographic positioning of the cranium, facial bones, and paranasal sinuses. Other topics include trauma, mobile and surgical radiography, pediatric radiography, venipuncture, arthrography, biliary duct procedures, hysterosalpingography, myelography, orthoroentgenography, and conventional tomography. (Prerequisites: RADT 103C, RADT 109C, RADT 159C, RADT 164C; corequisites: RADT 165C.)

RADT 209C Pathology and Cross-Sectional Anatomy 3-0-3

This course introduces concepts related to disease with etiological considerations. Included in this course is the understanding of how the disease process works and recognizing the radiographic appearance of specific diseases. Gross anatomical structures will be located and identified in axial (transverse), sagittal, coronal and orthogonal (oblique) planes. (Prerequisites: successful completion of all previous RADT courses in the curriculum; corequisite: RADT 295C.)

RADT 220C Digital Processing and Computerized Tomography 2-2-3

An understanding of the components, principles and operation of digital imaging systems found in diagnostic radiology. Factors that impact image acquisition, display, archiving and retrieval are discussed as well as quality assurance and maintenance. Also included in this course are concepts designed to provide entry-level radiography students with a basic understanding of the operation of a

computed tomography device. (Prerequisite: RADT 116C, RADT 180C; corequisite: RADT 164C.)

RADT 294C Radiographic Clinical Procedures IV 0-16-3

Students will be required to rotate through a second clinical affiliate for the purpose of learning other procedures, protocols and technology. All students enrolled in RADT 294C will be charged a \$500 per semester clinical surcharge. (Prerequisites: RADT 109C, RADT 103C, RADT 164C, RADT 165C and RADT 203C; corequisite: RADT 123C.)

RADT 295C Radiographic Clinical Procedures V 0-16-3

Students will refine their skills in preparation for the workplace and complete all required clinical competencies for the program. All students enrolled in RADT 295C will be charged a \$500 per semester clinical surcharge. (Prerequisite: RADT 294C; corequisite: RADT 209C.)

Reading

RDNG 100C Critical Reading 3-0-3

Students will use active reading strategies to comprehend and retain both literal and implied meaning in college content areas and other genres. Course emphasizes critical thinking, vocabulary development, and confidence building. **Students may enroll in this course only in consultation with an academic advisor who recommends the course based on assessment test scores. The three institutional credits awarded for this course do not count toward graduation requirements but are calculated into GPA.**

Recreation and Wellness

RECR 100AC Basic Weight Training 0-2-1

This physical activity skills course provides instruction in basic muscle strength and muscle endurance training using free weights, machines, and body weight (core). Safe and effective exercise techniques, programming (progression), and goal development are addressed in a carefully supervised setting.

RECR 100BC Introduction to Golf 0-2-1

This course teaches the basic rules of golf, instructs students on the fundamental skills (putting, short-game and full swing), and discusses the etiquette that governs behavior on the course.

RECR 101C Introduction to Recreation and Leisure Studies 3-0-3

This course discusses the theories of leisure, play, and recreation, emphasizing the role leisure plays in modern society. Students will concentrate on psychological aspects of recreation and how it impacts one's quality of life. Cultural, economic, and social factors about leisure participation will be explored. Community leisure services will be addressed. Career opportunities in a variety of settings will be explored.

RECR 110AC Introduction to Recreational Activities 0-2-1

The recreational activities course is an array of different types of sporting activities used in park and recreation facilities. The student will be exposed to various outdoor and indoor

activities such as running, soccer, softball and badminton, determined at the beginning of the class.

RECR 120C Recreation Program and Planning 3-0-3

Students will plan, develop, implement and evaluate recreation and leisure programs. Topics include programming principles, types of programs, publicity, budgeting, supervision, evaluation, facilities and equipment management.

RECR 125C Risk Management in Recreation 3-0-3

This course provides a proactive approach to addressing the planning, logistics, and risk management involved in conducting recreation programs. Students will create a risk assessment plan and develop emergency protocols with the goal of planning for a safe environment.

RECR 220C Outdoor Recreation 3-0-3

This is an introductory course on the fundamental concepts of leisure and outdoor recreation. Students will look at how leisure is used to experience nature and its influence on the human condition. An examination of the philosophy, principles, and practices underlying outdoor recreation management by examining agency land management.

RECR 230C Leadership for Recreation, Parks and Leisure Services 3-0-3

Leadership is a key cornerstone for a successful recreation, parks and leisure program. Students will learn the basic concepts, principles, character, techniques, strategies, and problems of leading in the recreation setting. Understanding the common roles of leaders is addressed and students will review effective leadership practices. Students will apply their leadership skill in an organized group setting.

RECR 250C Principles of Therapeutic Recreation 3-0-3

This course provides an overview of the Therapeutic Recreation. Students will examine the history and professional opportunities with an emphasis on understanding the people who are served, their disabilities and the community in which they reside. (Prerequisite: RECR 101C with a grade of "C" or better; PYSC 105C recommended.)

RECR 290C Recreation and Leisure Internship 0-9-3

The internship offers the opportunity to put learned theory to practical application in a supervised work environment. Students are required to complete a minimum of 90 hours and complete a portfolio on the internship. Periodic conferences between the site supervisor and NHTI internship coordinators are scheduled to monitor and evaluate student progress. This course is limited to seniors and requires the approval of the Program Coordinator of Sport, Recreation and Tourism Studies. (Prerequisite: 2.5 GPA in major field courses and permission of the Program Coordinator of Sport, Recreation and Tourism Studies.)

Robotics and Automation Engineering Technology

RAET 205C PLC Programming 2-3-3

Students will develop a thorough understanding of modern, industry-standard PLC hardware and software to enable them to use PLCs effectively. Topics include the PLC as a task specific computer; program scan; relay ladder logic; digital and analog; sequencers/drums; functions and function blocks; RLL, SCL, FBD; Human Machine Interface (HMI); and other industry related topics. Numerous industry examples will be explored and discussed. Labs will emphasize program organization, documentation, audience awareness, maintainability, robustness, fault tolerance, and debugging. (Prerequisites: MATH 124C with a grade of "C" or higher and CPET 107C and ELET 101C, each with a grade of "C-" or higher or permission of the Department Head of Robotics and Automation Engineering Technology.)

RAET 210C Robotics and Automation I 3-3-4

This course is an introduction to fixed and flexible automation equipment. An emphasis is placed upon flexible equipment components such as the industrial robot. Robot topics include history, geometric configuration, component subsystems, robot safety, basic programming and operation, and end effector design. Laboratory work includes the use of industrial robot arms to perform various independent functions such as assembly and material handling processes. Other equipment studied includes motion control devices, such as motors and sensors, conveyors and parts feeder mechanisms, use of vision systems as well as other automation equipment used in manufacturing (Prerequisites: MATH 140C and MFET 111C, each with a grade of "C" or higher and CPET 107C with a grade of "C-" or higher or permission of the Department Head of Robotics and Automation Engineering Technology.)

RAET 220C Robotics and Automation II 3-3-4

A continuation of the Robotics and Automation I course covering advanced topics which include the integration of robots and CNC machines into manufacturing cells. The integration of automation equipment such as PLCs, motion control devices, and vision systems is also covered. The laboratory work includes the use of PLCs, robots, CNC machines, and other automation equipment. (Prerequisites: RAET 205C and RAET 210C each with a grade of "C" or higher.)

Science

SCI 104C Astronomy and Space 3-2-4

This is an introductory course designed to acquaint students with the complexities of the universe. The theoretical portion of the course is divided into four topics: The history of astronomy and telescopes; the planets and moons of our solar system; the birth, life, and death of stars; and galaxies and the large scale structure of the universe. The lab portion of the course consists of in-class activities, outdoor observations during class, and independent labs in which the student makes observations of objects in the night sky. (High school Algebra I or equivalent highly recommended.)

SCI 107C Introduction to Meteorology 3-2-4

This course is an introduction to the fundamentals of weather and climate. Topics include: observing weather; physical properties and processes of the atmosphere; weather systems; hazardous weather (thunderstorms, tornadoes, and hurricanes); basics of forecasting; clouds; air pollution;

climate change. The lab component consists of group exercises, hands-on experiments, and use of the Internet to explore the topics of weather. This course requires regular student access to the Internet.

SCI 110C Alternative Energy Fundamentals 3-2-4

Energy systems play a critical role in everyday life. This lab-based course will serve as an introduction to alternative energy systems. Students will study key concepts, terminology, and definitions used by all energy systems, as well as typical energy consumption patterns and their environmental and economic consequences. In addition, alternative energy sources will be studied along with their benefits and challenges. Laboratory exercises will include power and energy measurements, power conversions, and investigations into various energy sources such as wood, bio-fuels, wind, solar, water, and fuel cells. (High school Algebra I or equivalent recommended.)

Sociology

SOCI 105C Introduction to Sociology 3-0-3

An introductory study of the concepts, principles, and applications of the social science method in general and of sociology in particular. A review of some of the crucial sociological problems of today, involving the relationship of the individual to society and groups of individuals to one another. Some topics included are culture, race, class, social mobility, and social change. Reference is made to the historical and economic forces in the U.S. that are responsible for some of these problems. **Available in Honors format.**

SOCI 180C Environment and Society 3-0-3

Society and the natural environment are vitally linked in a number of ways. In this course, we will explore these connections at various levels from the local to the global, but with a focus upon your life and your local community as important case studies. What social forces drive environmental degradation and our responses to environmental issues? How do the distribution of environmental resources and vulnerability to environmental risk intersect with patterns of institutional power and structured inequality? This course will address these questions by focusing on the social causes of environmental problems, the social consequences of environmental degradation, and social responses to environmental issues. The course is designed to provide you with the sociological tools and hands-on experiences that will help gain a better understanding of local and global earth systems related to food, energy transportation housing, waste and water, as well as the qualities of ecological integrity, social and racial justice, resilient communities, and economic well-being.

SOCI 205C The Individual and Society 3-0-3

This course examines the relationship between individuals and their social context. Specific emphasis is on the social experience stemming from an individual's participation in social groups, interactions with others, and the emergence of social structures from these interactions. From this perspective, several major theories are discussed such as socialization, identities and the self in social construction, attitudes and attitude change, social perception, social order and conformity, language and social communication, and social behavior in groups. (Prerequisite: SOCI 105C or PSYC 105C or permission of the instructor.)

SOCI 214C Race and Ethnic Relations 3-0-3

This course will examine social and historical experiences of the major minority groups in order to better understand their social, cultural, and economic status, and group relations in the United States. Contemporary topics will include: diversity, assimilation, ethnic identity, prejudice, discrimination, racism, class, gender, immigration, inequality, and poverty. This course provides an opportunity to examine ideas relating to such diverse issues as the relationship between attitudes and behaviors, the complexity of class, power, and conflict, and the interplay between economic and political systems. (Prerequisite: SOCI 105C recommended.)

Special topics courses listed under SOCI 226C Special Topics in Sociology

Courses under this heading will provide the opportunity to focus on topical issues in the field of sociology and will be presented with an interdisciplinary approach. Faculty present material not normally covered in regular course offerings. (Prerequisite: PSYC 105C or SOCI 105C or other social science course appropriate to the topic)

SOCI 226AC Service, Citizenship and Community (SRV) 3-0-3

This course introduces students to the interdisciplinary study of community and the particular role citizen participation plays in constructing communities and accomplishing public goals. Students will engage in various ideas, debates and strategies regarding the development of communities while engaging in 20 hours of community service in area agencies or grassroots nonprofit community organizations. The promises and challenges of civic life will be examined by focusing on such topics as: the history and philosophy of community service; processes, structures and collaboration in community service; the power of local associations and organizations to maintain or improve the quality of life in their communities; the use of public and private resources for community services; the education of real-world problem solvers; energy, technology and transportation; housing, food and garbage; health and healing; mass media and the arts. **Service Learning is a component of this course.** (Prerequisite: at least one course in the social sciences or permission of the Department Head of Social and Behavioral Sciences.)

SOCI 240C Marriage, Family and Personal Relationships 3-0-3

This course will examine concepts and issues associated with family life and personal relationships. A variety of social problems that impact personal relationships, marriage, and the family will be addressed that have resulted from social, cultural, political and economic changes in society. Such issues as gender role socialization, diversity of family forms, men and women in cross-cultural perspective, men and women in the work place, poverty and families, reproductive and parenting rights, sexuality, mate selection, the internal dynamics of relationships, domestic violence, marital dissolution, and future family trends will be examined throughout the semester. Altogether, such changes in the world outside the family have profound impact on what happens inside the family. Such changes have profound consequences on how individuals conduct their personal and social lives together. The questions that this course will raise and attempt to answer will hopefully enable us to live together in adulthood with considerably more ease than most currently experience. (Prerequisite: An introductory sociology or psychology course is recommended.)

SOCI 250C Conflict Resolution in Modern Society 3-0-3

This course provides an overview of theories and research concerning the nature of conflict and methods for resolving conflict. The foundation of the course is social systems theory; the course examines conflicts among social institutions and conflicts among diverse populations. The

effects of conflict upon the individual are considered. The course provides the student/practitioner with the theoretical framework for analyzing and resolving conflict. (This course does not meet the minimum Social Science requirement for the NHTI's Associate degrees or Professional Certificate programs.)

SOCI 298C Travel/Study Abroad Experience 3-0-3

Students will learn about another country through on-site study that may include visitation to historic sites, libraries, archives, cultural events, and museums. The history, culture, economy, and politics of the host country will be examined. Students will increase their cultural awareness and cross-cultural sensitivity through exposure to people from different countries and cultures.

As a school-sponsored travel abroad experience (**at student expense**), this course combines the equivalent of three credits of classroom and field experience. A project is required to document the learning experience. (Prerequisite: PSYC 105C, SOCI 105C, or permission of the Department Head of Social and Behavioral Sciences.) (May be repeated for credit with permission of the Department Head of Social and Behavioral Sciences.)

Sports Management

SPTS 101C Introduction to Sports Management 3-0-3

This introductory course emphasizes basic management principles as they relate to the sports-related enterprises. A variety of marketing techniques and approaches are analyzed to broaden students' background in this area and to better allow them to develop effective and comprehensive sports marketing plans.

SPTS 170C Sports and Recreation Marketing 3-0-3

This course focuses on marketing issues as they relate to sports-related enterprises. A variety of marketing techniques and approaches are analyzed to broaden students' backgrounds in this area and to better allow them to develop effective and comprehensive sports marketing plans.

SPTS 180C Public Relations and Advertising for the Sports Industry 3-0-3

This course provides a cross-disciplinary approach to a variety of promotional issues that sport managers routinely confront. Public relations and advertising professionals offer insights into how sports-related endeavors and businesses can raise public awareness about products and services. (Prerequisites: SPTS 101C and ENGL 101C.)

SPTS 195C/HSTM 195C Sports Tourism 3-0-3

This course examines the relationship between sport travel and the tourism industry. As more people choose to travel to attend or participate in sporting events, a branch of the hospitality and tourism industry has developed to focus on the needs of these clients. Youth sport tourism, for example, has become a \$7 billion industry in the United States alone. The study of sports tourism draws upon the disciplines of management, finance, economics, event planning and marketing.

SPTS 210C Sports and Fitness Facilities Management 3-0-3

This course exposes students to the many elements and dynamics associated with managing a sports or fitness facility. Students will visit a variety of structures, arenas, and facilities and will gain an understanding of what is required to develop and successfully administer and market such facilities.

SPTS 220C Sports Communications 3-0-3

This course seeks to provide the student with an appreciation of the unique dynamics associated with the sports communication field. Students will better understand the expectations associated with developing a sports story, a sports news release, and/or a sports opinion piece, via traditional print media or electronic media - radio, television, and/or the Internet. A review of journalistic ethics will be included. Students will gain first-hand experience with regard to producing television and radio broadcasts of live sporting events. (Prerequisites: ENGL 101C and ENGL 120C; SPTS 101C strongly recommended)

SPTS 225C Sports and Recreation Law 3-0-3

This course focuses on the legal issues unique to the sports world and to sport managers. Numerous case studies and precedents are examined, as well as how they relate to current situations involving professional, intercollegiate, interscholastic and community sports and athletic activities.

SPTS 250C Sports and Society 4-0-4

This course is designed to raise awareness with regard to the sociology of sport and how cultural practices in the world of sport can have significant social, economic, and political consequences. Discussion and research should give future sport managers a broader understanding of how sport impacts different groups of people in different ways throughout this country and beyond.

SPTS 270C Introduction to Sport Analytics 3-0-3

Data analytics can be applied to every functional area of sport business, from marketing to event management to player performance. Using research spanning the sport industry, students will develop a working knowledge of data analysis as it applies to business decisions across the sport industry. (Prerequisites: SPTS 101C and MATH 251C with grades of "C" or higher.)

SPTS 290C Sports Management Internship 0-9-3

This course allows students opportunities to experience real-life sports management situations "in the field." Internships are cooperatively sponsored by participating partners. The course approach and content can be designed to match the needs of the sponsor with the desires of the student, as the student gets hands-on opportunities to participate in the practical application of the sports management concepts and principles studied in the classroom. Students have completed successful internships with the Whittemore Center, Verizon Center, Planet Fitness, New Hampshire International Speedway, Concord Boys and Girls Club, Concord YMCA and many other local or regional facilities or organizations that are sports businesses.

Student Leadership

LEAP 101C Exploring Student Leadership 1-0-0

Through a series of lectures, guided interaction, and group exercises, students will explore the principles of relational leadership and learn to develop individual and group leadership skills to impact their lives and their communities. Content areas include decision-making, goal setting, effective communication, servant leadership, organization and time management skills, and concrete strategies to implement change. This course will meet biweekly for eight sessions throughout the semester and is graded Pass/Non-Pass. (Prerequisite: minimum 2.5 cumulative grade point average or permission of instructor.)

Visual Arts

Courses will be offered at Smokestack Center on North State Street in Concord.

VRTS 101C Introduction to Drawing 2-4-4

Students in this course will gain the basic skills and insights necessary to create drawings that are both accurate and expressive. Explorations of line, value and form will engage the eye and the hand as well as the heart. Students will gain confidence in their own vision and their ability to draw what they see.

VRTS 102C Introduction to the Visual Arts 3-0-3

The purpose of this course is to introduce students to the languages, concepts, and practices of art through visual and art historical perspectives. Students will be engaged in discussion about the elements of art, such as content, composition, style, method and materials. Students will also be introduced to all of the visual art practices, including drawing and painting, sculpture, printmaking, photography, conceptual and installation art, video art, earthworks, and performance art, as well as craft and graphic design.

VRTS 103C Two-Dimensional Design 2-3-3

This course is designed to provide students with a solid foundation in two-dimensional design and color theory. Students will learn the basic elements needed to form visual patterns and proceed to explore a variety of approaches relating to visual organization and pictorial composition. A section of the course will be dedicated to the fundamentals of color theory, its function and application.

VRTS 104C Three-Dimensional Design 2-3-3

This is a foundation course introducing the student to the technical and conceptual elements for the organization and development of three-dimensional structures. Beginning projects will address the basic elements needed to explore a variety of approaches relating to form and space, then move to more complex issues involving the relationships between form and function.

VRTS 111C Survey of Western Art History I 3-0-3

This course examines the history of western civilization through the study of objects created by people from various western cultures - from the cave paintings of the pre-historic

era to the great cathedrals of Europe during the 12th and 13th centuries. Students will study the artifacts, architecture, painting and sculpture that inform understanding of a culture's way of life, beliefs, and priorities. In turn, students will gain a deeper understanding of today's culture and society. Students will also develop the basic skills and vocabulary necessary to critique a work of art.

VRTS 112C Survey of Western Art History II 3-0-3

This course examines the history of painting sculpture and architecture created by Western Europeans from the early 14th century through the 19th century (and beyond if time permits). These works of art will be studied as a way to understand the way of life, beliefs and priorities of these societies, as well as contemporary culture. Students will also continue to develop the basic skills and vocabulary necessary to critique a work of art.

VRTS 115C History of Modern Art 3-0-3

This course examines the origins and development of Modern Art from the French Revolution in 1789 to the outbreak of World War II in 1939. Late 20th Century Art, including Postmodernism, and trends in Contemporary Art are introduced. Emphasis is placed on two-dimensional art, sculpture and architecture, and the creative processes employed by modern artists. Students explore individual works of art within their cultural and historical context.

VRTS 120C Introduction to Oil Painting 2-4-4

An introduction to the basic techniques of oil painting, concentrating on the principles of color and light. Using a variety of subject matter, students will explore the problems of pictorial composition, color theory, oil-related mediums and techniques.

VRTS 121C Introduction to Watercolor 2-4-4

This course introduces the student to the basic watercolor techniques and use of materials. It is a sequential program of study, applying the elements and principles of Two-Dimensional design to the watercolor discipline. Students will study still life, landscape, and the human form. Reference will be made to past and contemporary masters of the watercolor medium. (Prerequisite: VRTS 101C with a grade of "C" or higher.)

Special topics courses listed under VRTS 125C Introduction to the Traditional Arts

Courses under this heading allow students to work with established artists to develop skills using tools and methods used to create functional artwork throughout history.

VRTS 125AC Woodworking in the Hand Tool Tradition 2-4-4

This course will focus on the skills and insights necessary to find beautifully functional spoons in the tree and to extract them by techniques traditional to the New England farm shed. Students must attend all of the first six classes, after which no more than two absences will be allowed without penalty.

VRTS 126C Introduction to Printmaking 2-4-4

This course introduces the student to the basic printmaking

intaglio and relief techniques and use of materials. It is a sequential program of study, applying the elements and principles of two-dimensional design to the printmaking discipline. The course is designed to give the student in-depth experimentation in creating single and multi-plate prints while encouraging creative ideas and content. Technical areas addressed include color registration, edition printing, presentation and image development, ink and paper selection. Reference will be made to past and contemporary masters of the printmaking medium (Prerequisite: VRTS 101C with a grade of "C" or higher.)

VRTS 130C Introduction to Photography 2-4-4

This introductory photography course is designed to familiarize students with basic film photography and beginner darkroom techniques. Students are instructed in the use and care of a 35mm manual film camera, film developing and darkroom printing techniques. Assignments are designed to cover a variety of shooting situations and the expectation is that students will apply the elements of composition, capture expressive content and demonstrate proficient technical ability in the making of photographs. *Students should expect to provide their own 35mm film camera with full manual controls.* A \$20 fee will be assessed for all students taking VRTS 130C to cover the cost of chemicals used in this class and the disposal of these chemicals.

VRTS 133C Introduction to Figural Sculpture 2-4-4

This course is an introduction to basic human figural sculpture, designed to develop the student's understanding of the anatomical structures of the human figure, gestural forms, constructive methods, and then applying this knowledge to create unique character and figural sculptures in traditional sculpting media, such as wire, wax, plaster, and clay. The emphasis in imagery will be: direct live model observations, translating 2-D sources into form, developing hand-eye coordination, technical discipline, and evolving a personal expressive use of materials, technique, and subject matter. All projects are designed to combine related technical, visual, and historical components. (Prerequisites: VRTS 101C or VRTS 104C with a grade of "C" or higher.) A \$20 fee will be assessed for all students taking VRTS 133C to cover the cost of live modeling.

VRTS 135C Introduction to Ceramics 2-4-4

This introduction to ceramics will focus on studio work leading to the completion of five projects. Students will learn the basics of handbuilding, the potter's wheel, kiln firing, glazing, and surface embellishment. Class time will be made up of instructor's demonstrations, group critiques, and individual studio work. Projects will stress the sculptural potential of clay with a visit into the aesthetic merit of functional vessel making. A research project, introducing students to the work of historical clay artists, will provide inspiration and direction. A \$50 ceramic studio fee will be assessed for all students taking VRTS 135C.

VRTS 140C Digital Photography 3-0-3

This course addresses digital camera operation, a variety of file types, digital photo editing and printing procedures. Digital camera capabilities will be learned through a series of project-based assignments, lectures, demonstrations, and critiques. Formal emphasis is placed on the creative use of

camera controls, composition, exposure, digital imaging software (including Lightroom and Adobe Photoshop®) and an awareness of critical issues in contemporary photography. Scanning and printing techniques will also be included. Students are required to provide their own digital camera and media cards for storing image files. *The camera must be capable of full manual control and capturing RAW files.* Although all work can be accomplished on campus computers, a laptop computer suitable for viewing/editing images and Adobe Photoshop software will facilitate additional work outside of the scheduled lab time (but is not required).

VRTS 193C Introduction to Photoshop 3-0-3

This course is structured to introduce students to the powerful tools of Photoshop for manipulating digital images, photomontage and page layout applications. The course topics cover Photoshop tools, photo corrections, working with selections, and layer basics. The use of masks and channels, typographic design, and vector drawing techniques are also covered. In addition, assignments will include advanced compositing, basic video editing, digital painting and working with 3D images/text. *Textbook and portable media storage device required.* (Prerequisite: working knowledge of Microsoft Windows environment.)

VRTS 195C Introduction to Illustrator CC 3-0-3

This course is structured to introduce students to the powerful tools of Adobe Illustrator (Ai) for manipulating images, building multimedia online graphics, and creating page layout applications. Students learn skills and techniques for editing images and creating effective digital graphics for a variety of online and print applications. The course topics cover Illustrator tools, layers, typography, digital painting, symbols/shapes, brushes, and graphic styles/effects. (Prerequisite: Working knowledge of Microsoft Windows environment)

VRTS 201C Drawing II 2-4-4

This advanced drawing class builds upon the aesthetic, technical, and conceptual foundation established in VRTS 101C (Introduction to Drawing). This observational drawing course will develop greater technical facility with materials and explore methods for translating and interpreting one's environment onto a drawing. As conceptual options and skill with materials increase, drawing will become a stronger outlet for personal and creative expression. Students will expand their understanding and use of color and work more extensively from the human figure. The historical foundation of drawing will be explored, as well as contemporary and historical trends. (Prerequisite: VRTS 101C.)

VRTS 210C Life Drawing 2-4-4

This advanced drawing class builds upon the aesthetic, technical, and conceptual foundation established in Introduction to Drawing (VRTS 101C) with an emphasis on the human form. The student will aim to develop a knowledge of and a sensitivity to the structure, anatomy, and expressive qualities of the human form in a variety of ways including line, place, value, mass, and shape. Composition will be a consideration at all times. (Prerequisite: VRTS 101C with a grade of "C" or higher.) A \$20 fee will be assessed for all students taking VRTS 210C to cover the cost live modeling.

VRTS 220C Painting II 2-4-4

This course involves further development of skills and concepts covered in FA 120 (Introduction to Oil Painting) while emphasizing individual expression within the parameters of structured studio projects. This course is intended to advance the student's understanding of visual organization and design through the development of a personal painting vocabulary. (Prerequisite: VRTS 120C.)

VRTS 230C Photography II 2-4-4

This course is designed to help the student who has basic darkroom and exposure/development skills further her/his understanding of the principles and techniques of black and white photography. Assignments will focus on both technical and aesthetic concerns. Class topics include still life composition, the use of fiber paper, toning, studio lighting, portraiture, street photography, photojournalism, medium format film and low light photography. In-class critiques provide feedback on students' work. *Students should expect to provide their own 35mm film camera with full manual controls, and be able to independently operate studio lighting equipment.* (Prerequisite: VRTS 130C with a grade of "C" or higher.) A \$20 fee will be assessed for all students taking VRTS 230C to cover the cost of chemicals used in this class and the disposal of these chemicals

VRTS 235C Ceramics II 2-4-4

In this second level of ceramics, students will be asked to develop a body of artwork that reflects a growing understanding of building techniques and surface treatment. The development of personal direction and an individual artistic voice will be stressed. Projects will be concept driven, expecting students to be able to visually and verbally demonstrate the intent of the work. Focused time on the potter's wheel will open up a new creative tool, and begin a dialogue on design and function. Students will have the opportunity to explore work and techniques of contemporary clay artists. (Prerequisite: VRTS 135C with a grade of "C" or higher.) A \$20 fee will be assessed for all students taking VRTS 235C to cover the cost of clay used in these classes.

VRTS 290C Visual Arts Capstone Practicum 1-0-1

A capstone experience in which students will create an independent body of work and demonstrate their ability, present it in a professional manner, document the artwork photographically, curate their exhibition, and write their Artist Statement. The work from the Capstone Exhibition will also be included in the student's Program Exit Portfolio. The student will select a member of the Visual Arts faculty to oversee the student's capstone progress through weekly scheduled critiques, demonstrations, and discussions. Emphasis will be on the marriage of conceptual content with technical competence in the selected mediums. (Prerequisite: Successful completion of 52 credit hours in the Visual Arts degree program and permission of the Department Head of the Visual Arts program.)