

COURSE DESIGNATION

Academic Skills Development
 Accounting
 American Sign Language
 Anthropology
 Art
 Astronomy
 Automotive Technician
 Aviation Science
 Biological Sciences
 Business
 Business Finance
 Business Office Technology
 Chemical Engineering Technology
 Chemistry
 Communications
 Computer-Aided Drafting/Design Technology
 Computer Information Systems
 Computer Science
 Cooperative Education
 Criminal Justice/Public Safety
 Dance
 Drafting
 Drug and Alcohol Rehabilitation Counselor
 Early Childhood Education
 Economics
 Electrical Engineering Technology
 EMT-Basic
 EMT-Paramedic
 Engineering Technology
 English
 English As A Second Language
 Environmental Science
 Fire Technology and Administration
 Foodservice Management
 General Studies
 Geography
 Geology
 History
 Horticulture
 Hospitality Mgt (*Foodservice Mgt and Hotel Mgt*)
 Hotel Management
 Human Services
 Humanities
 Industrial Management & Supervision Technology
 Legal Assistant/Paralegal
 Liberal Arts and Sciences
 Management
 Manufacturing Engineering Technology
 Marketing
 Mathematics
 Mechanical Engineering Technology
 Medical Insurance Specialist
 Meteorology
 Modern Languages
 Multimedia Technology
 Music
 Nursing
 Philosophy
 Photography
 Physical Education
 Physical Therapist Assistant
 Physics
 Plastics and Rubber Engineering Technology
 Political Science
 Portfolio Preparation
 Psychology
 Quality Assurance
 Radiologic Technology
 Respiratory Care
 Sociology
 Theatre
 Wastewater

COURSE PREFIX

ASD-H,ASL-H
 ACCT-H
 ASL-H
 ANTH-H
 ART-H
 ASTR-H
 AT-H
 AVS-H
 BIOL-H
 BUS-H
 FIN-H
 BOT-H, MI-H, OM-H, WP-H
 CHE-H
 CHEM-H
 COMM-H
 CAD-H
 CSC-H
 CS-H
 CWE-H
 CJ-H
 DANC-H
 DFT-H
 DARC-H
 ECE-H
 ECON-H
 EET-H
 EMT-P-H
 EMT-P-H
 ET-H
 ENG-H
 ESL-H
 ENV-H
 FTA-H
 HM-H
 GEOG-H
 GEOL-H
 HIST-H
 HORT-H
 HM-H
 HM-H
 HS-H
 HUM-H
 MGT-H
 LAP-H
 BUS-H
 MFG-H
 BUS-H
 MATH-H
 MEC-H
 MI-H
 METR-H
 FREN-H, GERM-H, ITAL-H, PORT-H, SPAN-H
 MM-H
 MUS-H
 NURS-H
 PHIL-H
 PHOT-H
 PE-H
 PTA*-H
 PHYS-H
 PLA-H
 POLS-H
 CWE-H
 PSY-H
 MFG-H, MGT-H
 RAD-H
 RESP-H
 SOC-H
 TH-H
 WMT-H

DIVISION

Arts and Humanities
 Business
 Arts and Humanities
 Behavioral and Social Sciences
 Arts and Humanities
 Mathematics/Science
 Engineering Technologies
 Mathematics/Science
 Mathematics/Science
 Business
 Business
 Business
 Business
 Engineering Technologies
 Mathematics/Science
 Arts and Humanities
 Engineering Technologies
 Business
 Business
 Cooperative Education
 Behavioral and Social Sciences
 Arts and Humanities
 Engineering Technologies
 Behavioral and Social Sciences
 Behavioral and Social Sciences
 Behavioral and Social Sciences
 Business
 Engineering Technologies
 Allied Health/Nursing/Phys. Ed.
 Allied Health/Nursing/Phys. Ed.
 Engineering Technologies
 Arts and Humanities
 Arts and Humanities
 Mathematics/Science
 Engineering Technologies
 Business
 Business
 Counseling Center
 Behavioral and Social Sciences
 Mathematics/Science
 Behavioral and Social Sciences
 Behavioral and Social Sciences
 Mathematics/Science
 Business
 Business
 Behavioral and Social Sciences
 Arts and Humanities
 Engineering Technologies
 Business
 Counseling Center
 Business
 Engineering Technologies
 Business
 Business
 Mathematics/Science
 Engineering Technologies
 Business
 Mathematics/Science
 Arts and Humanities
 Arts and Humanities
 Arts and Humanities
 Allied Health/Nursing/Phys.Ed.
 Arts and Humanities
 Arts and Humanities
 Allied Health/Nursing/Phys.Ed.
 Allied Health/Nursing/Phys.Ed.
 Mathematics/Science
 Engineering Technologies
 Behavioral and Social Sciences
 Cooperative Education
 Behavioral and Social Sciences
 Behavioral and Social Sciences
 Engineering Technologies
 Allied Health/Nursing/Phys. Ed.
 Allied Health/Nursing/Phys. Ed.
 Behavioral and Social Sciences
 Behavioral and Social Sciences
 Arts and Humanities
 Mathematics/Science

The following are descriptions of courses offered by Naugatuck Valley Community College.

It is the responsibility of the students to check their programs of study, and to carefully check the schedule of course offerings which is provided by the Records Office prior to each semester, in order to ascertain which courses will be offered for a particular semester.

In the following course descriptions, the number of credit hours for each course is indicated. Also included are numbers of lab and lecture hours. Students are urged to consult their counselor for information about transferability of courses to four-year institutions.

WAIVER OF COURSE PREREQUISITES In certain circumstances, course prerequisites may be waived. The student must demonstrate to the program coordinator and/or division director that he/she mastered the basic concepts of the prerequisite course. Permission to waive a prerequisite should not be taken for granted. Waivers are NOT automatic and will be handled and granted on an individual basis.

Note: All courses listed in this catalog may not be offered during the current academic year.

CREDIT COURSES WHICH DO NOT APPLY TO ELECTIVES OR DEGREES

The following courses do not satisfy the elective or degree requirements in any program except where specifically listed.

ASD-H097, 098
CWE-H100 - Portfolio Preparation
EET-H290
ENG-H097, 100
ESL-H071, 072, 073, 074, 081, 082, 083, 084, 090
MATH-H091, 092, 096

DEFINITIONS YOU NEED TO KNOW WHEN SELECTING YOUR PROGRAM AND COURSES

1. **Credit Hours (cr.)** - College work is measured in units called credit hours. A credit-hour value is assigned to each course and is normally equal to the number of hours the course meets each week. Credit hours may also be referred to as semester hours.
2. **Lecture Hours (lec.)** - The number of clock hours in the fall or spring semester the student spends each week in the classroom. This time frame is different for the shorter summer sessions.
3. **Laboratory Hours (lab.)** - The number of clock hours in the fall or spring semester the student spends each week in the laboratory or other learning environment. This time frame is different for the shorter summer sessions.
4. **Prerequisite** - A course that must be successfully completed, or a requirement such as related life experiences that must be met before enrolling in another course.
5. **Corequisite** - A course that must be taken during the same or earlier semester as the course in which one is enrolling.
6. **Common Core** - A term which refers to courses as listed under Groups I, II, III, IV of Naugatuck Valley Community College's Common Core of General Education which the faculty of the College considers essential to its degree programs. Refer to pages 54-55.
7. **Electives** - Courses which may be chosen from items 8, 9, or 10.
8. **Liberal Arts Electives** - All courses listed in the common core under Groups I, II, III, IV and advanced courses with the same designations.
9. **General Electives** - All courses listed in the catalog. Students who have taken restricted courses may apply the courses as general electives if they change programs. Students should consider transferability of courses when choosing general electives.
10. **Directed Electives** - Credit courses that satisfy specific program requirements. These courses are listed with each program area.

11. **Modern Language Equivalencies** - The following equivalencies satisfy the modern language requirements:

- Three years of high school work in a single foreign language, ancient or modern, or
- Two years of high school work and an added year of a college course at a more advanced level in a single foreign language, or
- Two years of a single foreign language in college.

Note: Students may also take CLEP (College Level Examination Program) to satisfy the modern language requirements. Information on these tests is available from the Counseling Center.

This College continues to add and adjust courses, course designations, and course numbers to its offerings. The common core and the definitions will be adjusted accordingly.

SELF-PACED COURSES Some of the courses listed in the description are offered as "self-paced" which means that they are conducted in an alternate way to the regular class scheduled meetings. These courses are offered through the standard text books, and specially prepared materials, and/or video/audio tapes. Students are guided through the courses by a relevant member of the faculty. Students should be aware that self discipline is required for the successful completion of self-paced courses. Permission from a counselor, the relevant faculty member or Division Director is required before students register for self-paced courses. The student may register at any time. The course must be completed by the end of the succeeding semester.

INDEPENDENT STUDY Independent study courses may not be taken if the course is being offered in the same semester.

ACADEMIC SKILLS DEVELOPMENT

Arts and Humanities Division

ASD-H097 Study-Skill Strategies and College Reading 3 cr.
A student-centered thinking and study strategy course intended to improve a student's ability to comprehend and process college text material. ASD is also a study strategy course intended to introduce the student to notetaking, test taking, time management and research techniques. This course teaches, through group and individual processes, effective skills needed for college-level academic success. A computer-aided instructional component is required for all students. This self-paced program is completed outside of regular class time. Students will be screened on the basis of placement exams. Students must meet required competency level. The course does not apply to the degree.

ASD-H098 Applied Critical Thinking 3 cr.
A group and individual process course designed to develop, enhance and monitor a student's critical thinking skills in the areas of problem solving, creative thinking, inferential reasoning, decision-making and conceptualization, as these skills apply to college-level courses. Students will be screened on the basis of placement exams. The course does not apply to the degree.

ASL-H101 American Sign Language I 3 cr.
This course covers the fundamentals of the basic structure of ASL grammar, introduces basic information about the deaf community and the deaf culture. Students will learn basic sign language and the finger-spelled alphabet. The course also presents information about the use of sign language by the deaf, as well as specialized uses with the deaf/blind, mentally retarded, autistic, and mentally ill.

ASL-H102 American Sign Language II 3 cr.
Prerequisite: ASL-H101. American Sign Language is a visual/manual language developed for communication by and with the deaf. This course continues the presentation of American Sign Language as the best and most accepted method of communication

with hearing-impaired people. Students learn more advanced sign language and uses of the finger-spelled alphabet. The course will present the uses of nuance, metaphor, connotative distinctions and syntactic structure. *ASL-H101 and 102 may be used as a substitute for a modern language by students with a documented learning disability. Normal "course substitution process" must be followed. May also be used as a general elective.*

ACCOUNTING

Business Division

ACCT-H101 Financial Accounting 3 cr.
Prerequisites: ACCT-H101 is a rigorous college level course. Students should be taking or have completed ENG-H101, and should have completed all developmental course work. The course offers an introduction to financial accounting with an emphasis on the use and interpretation of financial accounting information. It introduces the student to the balance sheet, income statement, statement of retained earnings, the cash flow statement and the operation of an accounting information system. The course focuses on the fundamental theory and principles of accounting, and utilizes accounting procedures to clarify and demonstrate the underlying concepts. The computer is used in this course.

ACCT-H102 Managerial Accounting 3 cr.
Prerequisite: ACCT-H101. The major objectives of this course are to introduce management tools and models that use accounting information. The use of accounting information for planning, controlling, and decision-making is explored in topics including cost behavior, budgeting and cost accounting. The analysis and interpretation of information are stressed in this rigorous one semester management accounting course. The computer is used in this course.

ACCT-H103 Accounting Computer Applications 3 cr.
Prerequisites: Grade of "C" or better in ACCT-H101, CS-H108, and MATH-H102. Corequisite: ACCT-H102. Recognizing the importance of computer skills in accounting, this course is designed to acquaint the student with techniques and procedures in using microcomputers as a problem-solving tool in accounting and related disciplines. A PC accounting package and a computerized spreadsheet package will be used in the course. The course will be appropriately rigorous, and the spreadsheet usage will be centered around problems typical of a second semester accounting course.

ACCT-H201 Intermediate Accounting I 3 cr.
Prerequisite: Grade of "C" or better in ACCT-H102. This course is designed to develop a high level of technical competence. Beginning with basic accounting issues, the course develops students' skills to the point at which they can handle complex professional level problems requiring not only a knowledge of procedures, but also a keen awareness of the concepts behind them. Consideration is given to analysis and interpretation of financial data.

ACCT-H202 Intermediate Accounting II 3 cr.
Prerequisite: Grade of "C" or better in ACCT-H102. ACCT-H202 is a continuation of the studies begun in CCT-H201. Particular emphasis is on the topics involving financial statement reporting and disclosure. Subjects covered in depth include current and long-term liabilities, long term investments, the accounting for corporate capital, retained earnings and dividends, the preparation of the Cash Flow Statement, and Income Tax Accounting.

ACCT-H203 Income Tax Accounting 3 cr.
 The Federal Income Tax course is a one-semester study of the Internal Revenue Code as it pertains to individuals. Its purpose is to introduce the student to the federal income tax laws and the application of those laws to the preparation of tax returns.

ACCT-H204 Cost Accounting 3 cr.
Prerequisite: ACCT-H102. This rigorous course deals with the study of cost accounting concepts and theories that are used in assisting management in planning future policies and operations. The accounting for job order costing and process costing will be fully developed, as well as cost drivers and activity-based costing.

ACCT-H290 Accounting Cooperative Work Experience I 3 cr.
Prerequisites: 9 credits in Accounting to include ACCT-H101, 102, 201 and CS-H108 or , ACCT-H101, 102, 103 and CS-H108 (grade of "C" or better in all.) This elective course is designed to provide accounting majors with an opportunity to integrate classroom theory with practical, on-the-job training in an appropriate accounting setting. It consists of:

1. two-hour Professional Development Workshop
2. minimum 225-hour Cooperative Work Experience
3. weekly one-hour Co-op Seminar.

ACCT-H291 Accounting Cooperative Work Experience II 3 cr.
Prerequisite: ACCT-H290, "C" or better. This second elective course is available for the more advanced accounting student (not recommended for transfer). It consists of:

1. minimum 225-hour Cooperative Work Experience
2. a special project under the direction of an Accounting faculty member (arranged through Co-op Office).

AMERICAN SIGN LANGUAGE

Refer to Academic Skills Development.

ANTHROPOLOGY

Behavioral and Social Sciences Division

ANTH-H101 Introduction to Anthropology 3 cr.
 This course is an introduction to physical and cultural anthropology. Topics include a study of genetics and evolution, the origins of man and the development of culture, human variation and race, archaeology, language and communication, marriage and family patterns, kinship and descent, religion, the arts, economic and political organization, personality and culture, and cultural change. (Fall)

ART

Arts and Humanities Division

The Division of Arts and Humanities encourages students to register for Art courses in order to develop appreciation of, and skills in, the arts. Some of the courses are required in career programs; others are designed for students' interests and personal development. Consultation with counselors will help determine specific needs. For information, contact the Division of Arts and Humanities at 575-8036.

ART-H101 Discovery in Art 3 cr.
 This course is an introduction to the history and appreciation of the visual arts for the art major or the general student. Emphasis will be on selected examples of painting, sculpture or architecture.

ART-H102 19th and 20th Century Art 3 cr.
 This course covers the history and philosophy of art beginning with Classicism in the early 19th century and proceeding through the diversity of styles seen today. Selected works of painting, sculpture, and architecture will be examined in relation to the social, political, and economic upheavals that helped create them.

ART-H104 Crafts 3 cr.
 This course is an introduction to a variety of crafts, techniques and

materials, with emphasis on individual exploration of areas of specific interest including fiber, paper, and simple printmaking. Other crafts such as enamels, leather, textiles, clay and metals may be included at the discretion of the instructor.

ART-H105 Design I 3 cr.
This is an introduction to color and design in two-dimensional work in various media.

ART-H106 Design II 3 cr.
This is a continuation of ART-H105 with emphasis on three-dimensional work in various media.

ART-H109 Painting I 3 cr.
This is a beginning course in painting in which the student is introduced to the methods and materials of painting and is encouraged to develop some proficiency in the technique of oils, acrylics, or watercolor through exploration and experimentation.

ART-H110 Painting II 3 cr.
Prerequisite: ART-H109 or permission of Division Director. This is a continuation of ART-H109. Emphasis is on the development of skills and individual expression in the use of oils or acrylics.

ART-H112 Sculpture I 3 cr.
This course is an introduction to sculptural form and composition through direct techniques in a variety of materials including wood, plaster, clay and plastics.

ART-H113 Sculpture II 3 cr.
Prerequisite: ART-H112 or permission of the Division Director. This is a continuation and development of techniques introduced in ART-H112 as well as involvement in more advanced processes such as kinetic, metals and large scale work. Independent work will be encouraged.

ART-H114 Pottery I 3 cr.
This is an introduction to the creative possibilities of ceramic clay in pottery and sculpture through basic hand modeling techniques such as oil, slab, drape, and potter's wheel. Firing and kiln procedures will also be covered.

ART-H115 Pottery II 3 cr.
Prerequisite: ART-H114 or permission of Division Director. This course is a continuation of ART-H114. Concentration is on wheel thrown and hand built forms, kiln operation and glaze formation.

ART-H116 Drawing I 3 cr.
Fundamentals of drawing and the use of line as an expressive medium are examined to show structure of form and space in still life, landscape, and the human figure. Work in a variety of media including pencil, pen and ink, wash, charcoal, and pastel is included.

ART-H117 Drawing II 3 cr.
Prerequisite: ART-H116 or permission of the Division Director. This is a continuation of ART-H116. Planned experiments using various media and the development of a personal style in drawing are offered.

ART-H131 Printmaking 3 cr.
Introduction to basic techniques in such graphic processes as silk screen, block printing, offset and dry-point etching.

ART-H150 Graphic Design 3 cr.
This course is an introduction to the basic principles and processes of Graphic Design. Students will learn basic design, layout, and imaging skills through the use of IBM software applications for computer graphics (Quark Xpress and Adobe Illustrator). Previous drawing/design experience and computer skills are helpful.

ART-H290 Art Cooperative Work Experience 3 cr.
Prerequisite: 12 art credits and approval of the Department chair-

person.. This elective course is designed to provide supervised practical experience in approved Art work settings. It consists of:

1. A two-hour Professional Development Workshop
2. A minimum 225-hour Cooperative Work Experience
3. A weekly one-hour Co-op Seminar.

ASTRONOMY

Mathematics/Science Division

ASTR-H101 Introduction to Astronomy 3 cr.
This course explores man's rapidly growing knowledge of the Cosmos. Topics include: the sun as a star; the birth and death of stars; the nature of black holes, pulsars, and quasars; the origins of our solar system and the Universe; the identification of stars and constellations in the night sky; and the nature of time as man's invention. Observatory sessions and projects planned as weather permits.

AUTOMATED MANUFACTURING ENGINEERING TECHNOLOGY

Engineering Technologies Division

Refer to Manufacturing Engineering Technology.

AUTOMOTIVE TECHNICIAN

Engineering Technologies Division

AT-H100 Integrated Automotive Systems: 3 cr.
This is an introductory course for the Automotive Technician providing the theory for a foundation in the field. Emphasis will be on basic automotive service procedures and the inter-relationship of the various automotive systems. Shop safety, proper care and use of tools are included. Two-hour lecture and two and one-half hours laboratory weekly.

AT-H120 Engine Repair 3 cr.
Corequisite: AT-H100 or with permission of the AT Coordinator. Diagnosis of automotive engines and their lubrication and cooling systems. Included is engine construction, operation along with disassembly and assembly techniques. Two-hour lecture and two and one-half hours laboratory weekly.

AT-H130 Brakes 3 cr.
Corequisite: AT-H100 or with permission of the AT Coordinator. Covers the maintenance, diagnosis and repair procedures of disc and/or drum brake systems including ABS (antilock brakes) along with their mechanical, hydraulic and electrical components. Two-hour lecture and two and one-half hours laboratory weekly.

AT-H140 Heating & Air Conditioning 3 cr.
Corequisite: AT-H100 or with permission of the AT Coordinator. Theory-related instruction of the automotive heating and air conditioning systems. Emphasis is placed on basic refrigerant cycles, heat transfer, trouble shooting, and diagnosis of both refrigerant and electronic control systems. Two-hour lecture and two and one-half hours laboratory weekly.

AT-H150 Suspension and Steering 3 cr.
Corequisite: AT-H100 or with permission of the AT Coordinator. The diagnosis and repair of steering and suspension systems and their inter-relationship to wheel alignment. The course includes a thorough knowledge of wheel and tire maintenance. Two-hour lecture and two and one-half hours laboratory weekly.

AT-H160 Transmission and Drive Systems 3 cr.
Corequisite: AT-H100 or with permission of AT Coordinator. A study of automatic transmissions, clutches, standard transmissions,

overdrive, propeller shafts, and drive axles, operation, diagnosis, maintenance and repair. Two-hour lecture and two and one-half hours laboratory weekly.

AT-H161 Manual Drive Train & Axles 2 cr.
Corequisite: AT-H100 or with permission of the AT Coordinator.
 The diagnosis and repair of manual drive transmissions and transaxles. This includes clutches, drive (half) shaft, and universal joints along with rear axle and four wheel drive components. One-hour lecture two hours lab weekly.

AT-H162 Automatic Transmission/Transaxle 2 cr.
Corequisite: AT-H100 or with permission of the AT Coordinator.
 The operation, diagnosis and maintenance of automatic transmission and transaxles to include in-vehicle and off-vehicle adjustments and repair. One hour-lecture and two hours lab weekly.

AT-H170 Introduction to Diesel Mechanics 3 cr.
Prerequisites: AT-H100, 120 or with permission of AT Coordinator.
 The course introduces the diesel engine, its capabilities, operations, and its unique engine fuel delivery systems. Two-hour lecture and two and one-half hours of laboratory weekly.

AT-H185 Automotive Service and Parts Department Management 2 cr.
Prerequisite: AT-H100 or with the permission of AT Coordinator.
 Topics in this course include marketing techniques, financial analysis, personnel management, work scheduling and distribution, and use of pricing manuals. An in-depth study of parts numbering, storage, cataloging, retrieval, ordering, and stocking management techniques will be discussed. Two lecture hours weekly.

AT-H200 Electrical/Electronics Systems 3 cr.
Corequisite: MATH-H96 or satisfactory completion of College placement test or with permission of the AT Coordinator.
 The study of electrical theory and nomenclature along with applications of electrical/electronic systems. To include, but is not limited to: starting, charging, lighting, wiring, accessories, diagnosis and repairs. Two-hour lecture and two and one-half hours laboratory weekly.

AT-H210 Engine Performance 3 cr.
Prerequisite: AT-H200 or with permission of the AT Coordinator.
 Fuel theory and nomenclature necessary to service and repair computerized automotive fuel systems. This includes but is not limited to computer controls, ignition, fuel, exhaust and emission systems and their maintenance, diagnosis, adjustments and repair. Two hours lecture and two and one-half hours laboratory weekly.

AT-H220 Advanced Engine Performance/Emissions 3 cr.
Prerequisite: AT-H210 or with permission of the AT Coordinator.
 This is a continuation of AT-H210, emphasizing practical application on the cause and effect of HC, CO, and NOx emissions. This includes various systems diagnosis, containing but not limited to, general powertrain, computerized powertrain controls, fuel and air induction, emissions control, and I/M failure. Two-hour lecture and two and one-half hours laboratory weekly.

AT-H230 Metallurgy/Welding 2 cr.
 In the automotive field, the use of the oxyacetylene torch and the mig welder is common place. Automotive technicians need to be able to use the processes of welding and brazing, etc. safely and skillfully. This course offers both theory and a practical lab section so students will be both skilled and knowledgeable in all the welding technology covered. One-hour lecture and two hours of laboratory weekly.

AT-H280 Alternative Fuel Vehicle Fundamentals: (Certification Preparation) 2 cr.
 This course is designed to prepare automotive technicians, dealers, and repairers to take the ASE Alternative Fuel Vehicle Certification examinations. It covers fundamental procedures, operations, safety, regulations and inspection of Alternative Fuel Vehicles. One-hour lecture and two hours of laboratory weekly.

AT-H290 Cooperative Work Experience I 3 cr.
Prerequisites: AT-H100, 120, 200, ENG-H101, (2.5 GPA) or with permission of AT Coordinator. This required course is designed to bridge the gap between academic theory and practical work experience. It consists of:

1. A two-hour Professional Development Workshop
2. A minimum 250-hour Cooperative Work Experience

AT-H291 Cooperative Work Experience II 3 cr.
Prerequisites: AT-H290 plus four additional AT courses, CS-H108, COIMM-H101, (2.5 GPA) or with permission of AT Coordinator.
 This course is a cooperative education experience for the more advanced student technician. It consists of:

1. A two-hour Advanced Co-op Seminar
2. A minimum 250-hour Cooperative Work Experience

AVIATION SCIENCE Mathematics/Science Division

AVS-H101 Private Pilot Lecture 3 cr.
 This FAA approved Part 141 ground school includes coverage of basic flight concepts, principles of meteorology, aeronautical charts and publications, pre-flight planning, flight computer and plotter, basic radio navigation, Federal Aviation Regulations, basic aerodynamics, aircraft avionics, and emergency procedures. This course prepares students for the FAA Private Pilot Knowledge Test.

AVS-H103 Instrument Lecture 3 cr.
Prerequisite: AVS-H101, AVS-H201. This FAA approved Part 141 ground school includes coverage of human factors and aviation physiology, the construction, use and interpretation of aircraft instruments used in instrument flight, Federal Aviation Regulations, instrument navigation, the ATC system, aeronautical charts and publications related to instrument flight, instrument approaches, weather analysis for instrument operations, and instrument emergency procedures. This course prepares students for the FAA Instrument Rating Knowledge Test.

AVS-H104 Commercial Pilot Lecture 3 cr.
Prerequisite: AVS-H103, AVS-H203. This FAA approved Part 141 ground school includes coverage of advanced human factors and aeronautical decision making for commercial operations, advanced navigation, advanced aircraft systems, advanced aerodynamics and commercial maneuvers, and emergency procedures for commercial operations. This course prepares students for the FAA Commercial Pilot Knowledge Test.

AVS-H108 Flight Instructor Lecture 3 cr.
Prerequisite: AVS-H104, AVS-H204. This FAA approved Part 141 ground school includes coverage of the fundamentals of instruction, private and commercial ground and flight operations from an instructional viewpoint, Federal Aviation Regulations applicable to recreational, private, and commercial operations, and emergency procedures and stall/spin training. This course prepares students for the Fundamentals of Instruction and Flight Instructor-Airplane FAA Knowledge Tests.

AVS-H201 Private Pilot Flight/Co-op 3 cr.
Corequisite: AVS-H101. **ALL FLIGHT TRAINING COSTS ARE THE RESPONSIBILITY OF THE STUDENT.** Students will receive approximately 50 hours of flight instruction covering topics that include pre-flight operations, aircraft systems, ground operations, basic flight maneuvers, ground reference maneuvers, normal and emergency procedures, cross-country operations, and flight by reference to instruments. Co-op instruction is designed to augment students' flight training and includes the use of a flight simulator as well as classroom discussion of selected topics. This course prepares students for the FAA Private Pilot Practical Test (ASEL).

AVS-H203 Instrument Pilot Flight/Co-op 3 cr.
Corequisite : AVS-H103. **ALL FLIGHT TRAINING COSTS ARE THE RESPONSIBILITY OF THE STUDENT.** Students will receive approximately 50 hours of flight instruction covering topics that include pre-flight operations, full and partial panel procedures, systems and equipment malfunction, instrument navigation techniques, holding and approach procedures, and emergency procedures for instrument flight. Co-op instruction is designed to augment students' flight training and includes the use of a flight simulator as well as classroom discussion of selected topics. This course prepares students for the FAA Instrument Rating Practical Test (ASEL).

AVS-H204 Commercial Pilot Flight/Co-op 3 cr.
Corequisite : AVS-H104. **ALL FLIGHT TRAINING COSTS ARE THE RESPONSIBILITY OF THE STUDENT.** Students will receive approximately 120 hours of flight instruction covering topics that include pre-flight operations, aircraft systems, advanced ground operations, advanced flight maneuvers, normal and emergency procedures, commercial cross-country operations, and complex aircraft operations. Co-op instruction is designed to augment students' flight training and includes the use of a flight simulator as well as classroom discussion of selected topics. This course prepares students for the FAA Commercial Pilot Practical Test (ASEL).

AVS-H208 Flight Instructor Flight/Co-op 3 cr.
Corequisite : AVS-H108. **ALL FLIGHT TRAINING COSTS ARE THE RESPONSIBILITY OF THE STUDENT.** Students will receive approximately 30 hours of flight instruction covering topics that include transition to flying from the right seat, providing instruction on private and commercial pilot ground and flight operations and maneuvers, recovery from stalls/spins, and emergency procedures. Co-op instruction is designed to augment students' flight training and includes the use of a flight simulator as well as classroom discussion of selected topics. This course prepares students for the FAA Flight Instructor Practical Test (ASEL).

BIOLOGICAL SCIENCES

Mathematics/Science Division

BIOL-H103 General Biology 4 cr.
 The general principles of biology are taught using a combination of multimedia lectures, discussion groups, and a laboratory component. Topics covered include cell biology, diversity, biotechnology, basic chemistry, cellular respiration and photosynthesis, ecology, genetics, behavior, and evolution. Three hours of lecture and two hours of laboratory weekly.

BIOL-H105 General Botany 4 cr.
 The focus of this course concerns how plants function. The topics covered include plant growth and development, cells and tissues, cellular and systemic physiology, genetics and biotechnology, hormonal response, soils, pathology, and medicinal and poisonous plants. The laboratory component includes experiments and computer simulations, tissue culture, gel electrophoresis, and work in the campus arboretum. Three hours of lecture and two hours of laboratory weekly.

BIOL-H108 Nutrition Science 3 cr.
Enrollment in BIOL-H108 is restricted to Hospitality Management students or with permission of Hospitality Management Coordinator. A study of food science and nutritional factors that influence nutritive value, flavor, color, appearance, and preservation of food products will be discussed. Quality standards, government and consumer roles will also be discussed as well as applications to food purchasing, preparation, and service.

BIOL-H110 Environmental Science 3 cr.
 This is a survey course of environmental studies. Topics discussed include basic ecology; human populations; water, soil, forests and pollution; renewable and non-renewable energy; legislation; citizens action. Dynamic environmental systems are explored via computer simulations.

BIOL-H115 General Zoology 4 cr.
 This lecture-laboratory is a survey of the animal kingdom. Topics discussed include morphology, anatomy and physiology, life cycles, reproduction, evolution, and ecological relationships of various animal forms. Three hours of lecture and two hours of laboratory weekly.

BIOL-H120 Environmental Science & Lab 4 cr.
Note: Students may not receive credit for both BIOL-H110 and BIOL-H120. This course has the same lecture as BIOL-H110; however, there is an additional laboratory component. Laboratory experiences include water and soil analyses, pond and river studies, computer simulations, field trips to environmental quality facilities and laboratories. Three hours of lecture and two hours of laboratory weekly.

BIOL-H129 Human Biology 3 cr.
Open to students needing a three-credit science course in their program of study including Liberal Arts and Sciences and General Studies. This course is an introduction and survey of human anatomy and function including the digestive, circulatory, respiratory, immunological, urinary, nervous, sensory, muscular, skeletal, endocrine, and reproductive systems of the body. The course will include discussions of the evolution of the human body and its dynamic interaction with the environment. Not open for credit to students who have passed any higher-numbered anatomy and physiology course.

BIOL-H130 Human Biology & Lab 4 cr.
Students may not receive credit for both BIOL-H129 and BIOL-H130. This course has the same lecture as BIOL-H129; however, there is an additional laboratory component. Laboratory experiments include microscopic examination of cells and tissues, physiology of nerves and muscles, blood typing, and the karyotype. Three hours of lecture and two hours of laboratory weekly.

BIOL-H151 Field Biology 4 cr.
 Lecture-laboratory. This is an introduction to ecology with special emphasis on identification of Connecticut plants and animals in the outdoors. A wide range of topics will be presented including map reading, edible wild foods, and collecting. Three hours of lecture and two hours of laboratory weekly.

BIOL-H160 Biotechnology I 4 cr.
 This course focuses upon the fundamental concepts underpinning the expanding field of biotechnology. Within the context of agricultural and environmental biotechnology, students will investigate cell biology, genetics, plant tissue culture and micropropagation, microbial food production, genetically modified crops, gel electrophoresis, allergic immune response, as well as related agricultural, ecological, and societal issues. Students will gain hands-on laboratory skills in media preparation, plant tissue culture and micropropagation, genetic transformation, gel electrophoresis, fermentation, and ELISA testing for plant pathogen diagnosis. Computer simulations and student presentations are also used to facilitate active learning. This course will satisfy a science laboratory core requirement. Three hours of lecture and two hours of laboratory weekly.

BIOL-H206 Genetics 3 cr.
Prerequisite: BIOL-H103 or equivalent. This is an introduction to the principles of genetics. It covers Mendelian analysis, chromosome theory, extensions of Mendelian analysis, molecular genetics, as well as quantitative and population genetics.

BIOL-H212 Survey of Anatomy and Physiology 4 cr.
Prerequisite: BIOL-H103. Lecture-laboratory. Various organ systems and their interrelationships will be studied. Laboratory work involves dissection of a representative mammal and microscopic examination of tissues. Three hours of lecture and two hours of laboratory weekly.

BIOL-H225 Human Anatomy and Physiology I 4 cr.
Prerequisite: Completion of BIOL-H103 with a grade of "C" or better or by permission of the Division Director. Lecture-laboratory. This is the first semester of a two semester comprehensive course designed for those students who plan to continue in the science field or science-related areas. Emphasis is on molecular biology, cells, tissues and the integumentary, skeletal, muscular and nervous system of the human body. Three hours of lecture and two hours of laboratory weekly.

BIOL-H226 Human Anatomy and Physiology II 4 cr.
Prerequisite: Completion of BIOL-H225 with a grade of "C" or better or permission of the Division Director. Lecture-laboratory. Emphasis is on the reproduction, endocrine, cardiovascular, respiratory, digestive, and excretory systems of the human body. Three hours of lecture and two hours of laboratory weekly.

BIOL-H232 Microbiology 4 cr.
Prerequisite: BIOL-H103 or BIOL-H105, or permission of the Division Director. This course introduces the student to bacteria and other microorganisms. Particular emphasis is placed on the biology of bacteria and bacterial diseases. Fungi, viruses, protozoans are also studied. Immunology, microbial genetics and biotechnology are discussed. The emphasis in the laboratory is on the identification, safe handling and cultivation of microbes. Activities include staining techniques, identification of unknowns, electrophoresis, computer simulations and growth experiments with comparative analysis of results. Three hours of lecture and two hours of laboratory weekly.

BIOL-H260 Biotechnology II 4 cr.
Prerequisites: BIOL-H160 and BIOL-H232 or permission of professor. This course builds on principles and practices learned in Biotechnology I (BIOL-H160) and Microbiology (BIOL-H232). Students will develop an understanding of the theoretical basis of this technology as well as develop laboratory skills, through hands-on experiences, that are essential for employment in biotechnology. With an emphasis on molecular biology, students will investigate the following areas of biotechnology: animal cell culture, genetic transformation, DNA isolation, restriction digests including DNA fingerprinting, plasmid transformation, PCR amplification, DNA sequencing, southern blot analysis and separation technology. This course will satisfy a science laboratory core requirement. Three hours of lecture and two hours of laboratory weekly.

BIOL-H252 Genetics & Lab 4 cr.
Prerequisite: BIOL-H103 or equivalent. Credit cannot be given for both BIOL-H206 and BIOL-H252. Same lecture as BIOL-H206 but with a laboratory component. The laboratory investigations include experiments with Drosophila and bacteria. Computer simulations, bacterial transformations, and gel electrophoresis are also carried out. Three hours of lecture and two hours of laboratory weekly.

BUSINESS

Business Division

BUS-H101 Business Organization 3 cr.
 A survey of the fundamental principles of business will be discussed including marketing, management, finance, accounting, and human resource development. This course is required for most students majoring in business.

BUS-H105 Business Law I 3 cr.
 The legal rights, duties, and responsibilities of the business person are examined. Topics include a general introduction to the meaning and nature of the law, and the structure of the American legal system. Emphasis is placed upon the basic principles of the law of contracts, torts, criminal law and procedure, agency, real property, wills, and decedent's estates.

BUS-H108 International Business 3 cr.
 This course provides an introduction to the nature and environment of international business. Topics will include the nature of international business, international organizations and monetary systems, foreign environments and management tools necessary for international business opportunities and operations. Social, political and economic factors which impact on international business interactions are also studied.

BUS-H110 Small Business Management 3 cr.
 This course is designed to assist students with the knowledge and skills needed to operate and/or develop a small business. Emphasis will be placed on the entrepreneurial aspects of creating, managing, and gaining profit from a small business.

BUS-H153 Salesmanship 3 cr.
Prerequisites: BUS-H251, 254. Basic principles underlying the sales process and their practical application to sales situations are studied. Economics and psychological and sociological relationships in the marketplace, as they apply to sales of industrial and consumer goods and intangibles, are examined.

BUS-H210 Business Law II 3 cr.
 This course further develops and examines the American legal system, as well as the international legal system. Topics include the uniform Commercial Code, ethics, consumer protection laws, secured transactions, intellectual property law, corporate law, partnership law, limited liability companies and numerous aspects of international law. It is recommended that Business Law I be taken before Business Law II.

BUS-H213 Principles of Management I 3 cr.
 This course deals with management theory, science, and practice. Consideration is given to management thought and analysis. The external environment, both domestic and international, is reviewed as well as the major functions of planning, organizing, directing, and controlling business. The coordinating function of the business manager is considered. Decision-making processes and techniques are also stressed.

BUS-H214 Organizational Management and Behavior 3 cr.
Prerequisite: BUS-H213. Emphasis on the latest developments in the fields of management. Group discussions of case studies and problem are included. Also, emphasis on group work and the use of the computer as an aid in the decision-making process in a micro-organizational setting is included.

BUS-H216 Human Resources 3 cr.
Prerequisites: BUS-H101 and second year standing. This course deals with personnel management in the process of manpower administration in the business organization. Treatment is given to procurement and human resource utilization and the role of labor unions in the industrial organization. The development of the role of the person and personality amidst the various social sciences and organization structures required to achieve an organization's goals are studied – as in motivation.

BUS-H218 Business Communications 3 cr.
Prerequisites: ENG-H101 and second year standing. This course is an analytical approach to the development of content in business writing with emphasis on the relationship of creative and logical thinking to the solution of business problems through concise, coherent written and oral communications.

BUS-H251 Marketing 3 cr.
This course deals with the marketing function of the firm primarily from the management standpoint. Topics include marketing strategy, new products, channels of distribution, pricing, and promotion. The function of the marketing institution in economic and social context is considered.

BUS-H254 Consumer Behavior 3 cr.
Consumer behavior is a continuation and amplification of basic marketing principles begun in BUS-H251. This course stresses the understanding and application of the behavioral sciences, social sciences, and economic concepts as they affect the consumer's buying decision process and the development of the total marketing mix. The major areas will be consumer decision models, market segmentation, market positioning, hypothesis testing, and decision methodologies for making decisions under uncertainty, and in the creation and implementation of a marketing plan.

BUS-H260 Electronic Commerce Marketing Principles 3 cr.
Develop a working knowledge of the World Wide Web as a marketing vehicle providing fast/efficient electronic commerce and the ability to manage the Internet marketing process for a small to medium-sized business enterprise. Internet is fast becoming the ultimate distribution system to disseminate marketing data, identify/segment customers to provide sales force attention, customer service activity, and ordering. Electronic Commerce Marketing Principles will prepare a student to intelligently apply the Marketing Mix disciplines and concepts to a company's products/services in order to effectively prepare and execute "Marketing Plans" participating in the growing "electronic commerce" segment of business.

BUS-H290 Management/Marketing Cooperative Work Experience 3 cr.
Prerequisites: BUS-H213 or 251, CS-H108, "C" or better. This course is designed to provide management/marketing majors with an opportunity to integrate classroom theory with practical, on-the-job training. Course is mandatory in Marketing Career Focus and elective in other options. The work experience will take place in appropriate management or marketing settings. Course consists of:

1. A two-hour Professional Development Workshop
2. A minimum 225-hour Cooperative Work Experience
3. A weekly one-hour Co-op Seminar

BUSINESS FINANCE Business Division

FIN-H101 Principles of Finance 3 cr.
This introductory course will provide an understanding of the role of finance in the economy, business management, government and consumer financing. Included are the fiscal, monetary and debt management policies of government.

FIN-H201 Principles of Insurance 3 cr.
Prerequisite: FIN-H101 or permission of Division Director. An informative course about the basic concepts in insurance and risk. Included is information on contracts, property, liability, surety, life and health insurance.

FIN-H202 Money and Banking 3 cr.
This course examines monetary theory and policy with special attention to the monetary system, commercial banking, the thrift industry, central banking, and capital markets.

FIN-H203 Financial Management 3 cr.
Prerequisite: FIN-H101 or permission of Division Director. This course is an in-depth study of finance including the mathematics of finance, corporate securities; also included are short, intermediate and long term sources of funds; and liabilities, income administration, mergers and acquisitions, and working capital.

FIN-H204 Principles of Real Estate Finance 3 cr.
Prerequisite: FIN-H101, Real Estate License or permission of Division Director. The topics studied in this course include fundamentals of mortgage, deeds, loan applications, real estate credit, mortgage markets, and current legislation affecting real estate finance.

FIN-H205 Principles of Banking 3 cr.
Prerequisite: FIN-H202 or permission of Division Director. This course provides students with an analysis and study of lending practices, asset and liability management, and the integral relationship between banking, economics, law, finance, and accounting.

FIN-H206 Principles of Investments 3 cr.
This course gives a broad perspective on investment objectives and values, as well as a study of securities, market and values. A study of securities, market procedures, analytical techniques, speculative and institutional markets is also included.

FIN-H207 Real Estate Law 3 cr.
This course examines the legal environment of real estate including contracts, deeds, instruments, easements, estates in land, zoning, tenancy, liens, foreclosure, transfers of titles, leases, and relevant court rulings. (LAP-H102 is a substitution for this course.)

FIN-H208 Financial Analysis 3 cr.
Prerequisites: FIN-H101, 203, or ACCT-H101, 102 – grade of "B" or better or permission of Division Director. This course examines financial reports and involves students in the analysis of these reports. Students will construct financial statements, learn analytical techniques as they apply to real estate development, commercial, industrial and home improvement lending.

FIN-H290 Finance Cooperative Work Experience 3 cr.
Prerequisites: six credits in Finance, "C" or better. This elective course is designed to provide finance majors with an opportunity to integrate classroom theory with practical on-the-job training. The work experience will take place in appropriate finance settings. The course consists of:

1. two-hour Professional Development Workshop
2. Minimum 225-hour Cooperative Work Experience
3. Weekly one-hour Co-op Seminar

BUSINESS OFFICE TECHNOLOGY Business Division

BOT-H121 Introduction to Office Computing 3 cr.
This is a basic course requiring no prerequisite, stressing mastery of the keyboard and application of operative techniques. This course is designed for those students who have not had any keyboard training. Assignments include business letters and envelopes, memos, tabulations, outlines, reports, and resumes. Students are also introduced to the numeric keypad. Students will use computers and are introduced to wordprocessing/Windows. Composition, grammar, and proofreading skills are also developed.

BOT-H122 Information Processing 3 cr.
Prerequisite: "C" grade or better in BOT-H121 or satisfactory completion of proficiency test with a minimum speed of 30 wpm. This course will refine and develop further those keyboarding skills previously learned. Emphasis is placed on developing speed and accuracy. In addition to using computers and word processing/Windows, students will use machine transcribers and calculators to process information.

BOT-H204 Advanced Information Processing 3 cr.
Prerequisite: "C" grade or better in BOT-H122 or successful completion of equivalency test. This course is designed to develop

and refine software applications and machine transcription. Students will process complex information through continued integration of word processing, electronic spreadsheet, database, DOS, Windows, and machine transcription.

BOT-H237 Office Procedures and Administration 3 cr.

Prerequisites: "C" grade or better in BOT-H122 and WP-H201 or successful completion of equivalency test. This course is designed to introduce students to an alphabetic electronic records management system. Instruction concerning the Office Administrator's role includes telephone and telegraph systems, mail handling and shipping, and other office administrative duties. Case studies are used to develop student's ability to handle interpersonal relations and supervisory functions. Guest speakers and field trips are an integral part of the course.

BOT-H243 Legal Terminology, Dictation and Transcription 3 cr.

Prerequisites: "C" grade or better in BOT-H122 or WP-H201 or successful completion of equivalency test. This course is designed as an introduction to, and the development of, basic skills in legal terminology, dictation, and transcription (oral/machine). Materials for transcription include legal terms commonly used in the legal field. Emphasis is also placed on proper format, forms, and documents required by the legal profession. Computers are used in the application of theory.

BOT-H245 Medical Terminology and Transcription 3 cr.

Prerequisites: "C" grade or better in BOT-H122, WP-H201 or successful completion of equivalency test. This course is designed as an introduction to and development of basic skills in medical terminology and machine transcription. Emphasis is placed on pronunciation, spelling, and definition of medical terms. Materials for transcription will be from case histories, hospital records, and medical records. In-depth training in the preparation and keyboarding of a variety of medical documents and forms is also included. Computers are used in the application of theory.

BOT-H271 Legal Office Seminar 3 cr.

Prerequisites: "C" grade or better in BOT-H122 and WP-H201 or successful completion of equivalency tests. This course is designed to provide the Business Office Technology student with:

- in-depth training in the preparation and keyboarding of a variety of legal documents and forms. Emphasis is placed on both accuracy and speed. Legal areas covered are: contracts, negligence, partnerships, corporations, wills and estates, real estate, bankruptcy, litigation, and family law.
- an understanding of basic legal office procedures performed in lawyers' offices and other legal facilities.
- discussion of case topics.

BOT-H273 Medical Office Seminar 3 cr.

Prerequisites: BIOL-H130, "C" grade or better in BOT-H122 or WP-H201 or successful completion of equivalency tests. This course is designed to provide the Medical Business Office Technology student with:

- an understanding of basic patient-care procedures performed in doctors' offices and in health-care facilities. Topics include medical terminology, medical ethics, medical asepsis, and interpersonal relations with patients.
- an orientation to medical records procedure utilized in health-care facilities. Topics include insurance forms, medical record forms, filing systems, nomenclature, statistical data collection, and legal aspects of medical forms.
- training in the preparation and keyboarding of a variety of medical documents.
- training in a computerized account management system.

BOT-H290 Business Office Technology Cooperative Work Experience - Degree Programs: Executive/Legal/Medical Certificate Programs: Clerical/Secretarial and Word Processing 3 cr.

Degree Prerequisites: Executive: BOT-H204, 237, and WP-H201. Legal: BOT-H237, 243, 271, and WP-H201. Medical: BOT-H204, 237, 245, 273 and WP-H201. Certificate Prerequisites: Clerical: BOT-H204, 237, WP-H201, CS-H108. Secretarial: BOT-H204, 237, WP-H201, CS-H108. Word Processing: BOT-H204, 237, WP-H202, CS-H108. ("C" grade or better or permission of Co-op Director and BOT Coordinator). This course is designed to integrate training in all previous courses and to bridge the gap between academic theory and practical work experience. It consists of:

1. A two-hour Professional Development Workshop
2. A minimum 225-hour Cooperative Work Experience
3. A weekly one-hour Co-op Seminar.

WP-H201 Word Processing I 3 cr.

Prerequisite: "C" grade or better in BOT-H122 or completion of equivalency test with a minimum keyboarding speed of 35 wpm. This course is designed for students with little or no prior exposure to word processing. It covers the basic concepts and terminology involved in word processing. Students will have hands-on experience, terminology and concepts, and English skills training.

WP-H202 Word Processing II 3 cr.

Prerequisite: WP-H201 or consent of Business Office Technology faculty. This course is designed to introduce students to managerial and supervisory functions of the automated office. Hands-on experience using advanced functions of word processing will be provided including graphics, macros, and styles.

CHEMICAL ENGINEERING TECHNOLOGY
Engineering Technologies Division

CHE-H1100 Chemical Principles 4 cr.

Corequisite: MATH-H113. This course is a study of the foundations, for non-chemical majors, of chemistry as presented in the topics on matter, atomic structure, bonding, periodic law, chemical equations, gas laws, stoichiometry, solutions, acid/base reactions, pH, chemical equilibrium, oxidation-reduction, radioactivity and representative organic chemistry. This course is for non-chemical engineering technology majors. Three class hours and two laboratory hours weekly.

CHE-H1110 Chemistry I 4 cr.

Prerequisite: CHE-H1100 or one year of high school chemistry. *Corequisite:* MATH-H113. This course is for Chemical Engineering Technology majors, and is a study of the fundamental principles of chemistry including atomic structure, balancing chemical reactions, stoichiometry, thermochemistry, the periodic law, chemical bonding, geometry of molecules, gas laws, liquid and solids, concentration units and reactions in aqueous solutions. Four class hours and two laboratory hours weekly.

CHE-H1120 Chemistry II 4 cr.

Prerequisite: CHE-H1110. A continuation of CHE-H1110, this course is studies ionic equilibria, titration curves, weak electrolytes, hydrolysis, solubility product principle, electrochemistry, reaction rates, qualitative analysis theory, coordination chemistry and nuclear chemistry. Three class hours and three laboratory hours weekly.

CHE-H2100 Analytical Chemistry 4 cr.

Prerequisite: CHE-H1120. This course studies the theory of quantitative, volumetric and gravimetric methods of chemical analysis. Acid-base equilibria, oxidation reduction reactions, precipitation, and complex formation reactions are also studied. Gravimetric theory deals with mechanisms of precipitation, solubility

product, impurities in precipitates, washing, filtering, and ignition of precipitates. Included in the course is the statistical evaluation of analytical data. Proper notebook record keeping is stressed. Two class and four laboratory hours weekly.

CHE-H2104 Instrumental Chemistry 4 cr.
Prerequisites: CHE-H2100, 2110. An introduction to spectral analysis. The basics are presented for interpreting infrared, nmr, uv, and mass spectra. The essentials of atomic absorption, gas chromatography, high pressure liquid chromatography, emission spectroscopy, visible and ultraviolet spectroscopy, nuclear magnetic resonance spectroscopy, and X-ray diffraction are presented. Two class and four laboratory hours weekly.

CHE-H2110 Organic Chemistry I 4 cr.
Prerequisite: CHE-H1120. This course studies the nature, structure, nomenclature and chemistry reactions of carbon containing compounds, alkanes, alkenes, alkynes, cycloalkanes, alcohols, ethers, aromatics, alkyl halide. Stereochemistry and chemical reactivity will be presented. Three class hours and four laboratory hours weekly.

CHE-H2114 Organic Chemistry II 4 cr.
Prerequisite: CHE-H2110. A continuation of CHE-H2110, this course studies the structure, nomenclature and chemical reactions of ethers, epoxides, sulfides, alkenes, alkynes, benzenes, aldehydes, ketones, carboxylic acids and derivatives, amines and carbohydrates. Three class hours and four laboratory hours weekly.

CHE-H2120 Unit Operations I 4 cr.
Prerequisites: PHYS-H111, CHE-H1120, 2122. A study of flow of transportation of fluids. An introduction to heat transfer phenomena and the three modes of heat transfer. Topics covered are equipment for fluid flow and heat transfer, design specifications for the equipment, and total mass and energy balance. Three class hours and three laboratory hours weekly.

CHE-H2122 Stoichiometry 3 cr.
Corequisites: CHE-H1120, MATH-H117. Introduction to techniques of solving basic problems in chemical engineering processes using physical and chemical laws combined with material and energy balances. Emphasis is placed on the development of skill in the analysis and solution of these problems. Three class hours weekly.

CHE-H2124 Unit Operations II 4 cr.
Prerequisites: CHE-H2120, 2122. This course studies heat transfer, evaporation, distillation, filtration, and extraction. Equipment design specifications, heat and material balances and underlying physical principles will be covered. Three class hours and three laboratory hours weekly.

CHEMISTRY

Mathematics/Science Division

CHEM-H101 Introduction to Chemistry 4 cr.
Prerequisite: MATH-H102. Lecture-laboratory. This is a foundation course designed to present chemical concepts including the metric system, scientific measurements, atomic theory, chemical bonding, periodic variation of the elements, nomenclature, equations, gas laws, stoichiometry, basic types of chemical reactions, and a brief survey of organic chemistry. This course is open to students with little or no background in chemistry. Three lecture hours and two laboratory hours weekly.

CHEM-H111 General Chemistry I 4 cr.
Prerequisite: CHEM-H101, its equivalent or permission of instructor. Lecture-laboratory. The fundamental concepts and laws of chemistry are examined. Topics covered include atomic theory,

chemical bonding, periodic table and periodic law, nomenclature, states of matter, solutions, stoichiometry, acid-base theory, oxidation, reduction, and coordination chemistry. Three lecture hours and two laboratory hours weekly.

CHEM-H112 General Chemistry II 4 cr.
Prerequisite: completion of CHEM-H111 with a grade of "C" or better. Lecture-laboratory. This course provides a more specific discussion of major topics within the four major divisions of chemistry. Topics covered include colloids, kinetics, equilibrium, thermodynamics, nuclear chemistry, electro-chemistry, discussion of physical and chemical properties of selected groups on the periodic table, ionic equilibria of weak electrolytes, buffer solutions and titration curves, solubility product, qualitative analysis, and a brief introduction to organic chemistry. Three lecture hours and two laboratory hours weekly.

CHEM-H211 Organic Chemistry I 4 cr.
Prerequisite: CHEM-H111-112 or acceptable one-year college chemistry course at another institution. Lecture-laboratory. This is a fundamental course involving systematic study of the reactions of organic compounds, the relationships between molecular structure and reactivity, and an introduction into spectroscopic analysis. The laboratory has been revised to include the ultra modern microscale technique. This approach includes some of the following advantages: elimination of fire or explosion danger, elimination of chemical waste disposal problems, expansion in variety and sophistication of experiments, and creation of a much healthier laboratory environment. Three lecture hours and two laboratory hours weekly.

CHEM-H212 Organic Chemistry II 4 cr.
Prerequisite: CHEM-H211. Lecture-laboratory. This course is a continuation of CHEM-H211, dealing with more complex classes of carbon compounds including sugars, amino acids and proteins, heterocyclics, and polymers. The laboratory has been revised to include the ultra modern microscale technique. This approach includes some of the following advantages: elimination of fire or explosion danger, elimination of chemical waste disposal problems, expansion in variety and sophistication of experiments, and creation of a much healthier laboratory environment. Three lecture hours and two laboratory hours weekly.

COMMUNICATIONS

Arts and Humanities Division

COMM-H101 Communications 3 cr.
 The analysis, discussion and practice of oral communication principles are the purposes of this course. It will develop skills in perception as they relate to self, small and large group discussion, and public speaking.

COMM-H107 Voice and Diction 3 cr.
 Theory, analysis, and practice in voice and speech patterns are studied. Practical exercises in phonetics and articulation are designed to develop and improve voice and speech.

COMM-H108 Public Speaking 3 cr.
 This course provides students with an understanding, appreciation, and capacity for public speaking. Excellence in public speaking requires mastery of organization, citation of evidence, informative and persuasive techniques of language and organization, and use of introduction and conclusion elements. Exposure to theoretical elements and their application in public speaking will be explored in this class.

COMM-H120 Mass Communications: Theories/Practices 3cr.
 This course acquaints students with the complex nature of the media through which they communicate. The course will introduce the

various forms of communication media; the role of media as it informs, entertains and persuades; and the effects of media on individuals and society.

COMPUTER-AIDED DRAFTING/DESIGN TECHNOLOGY

Engineering Technologies Division

Note: All software used in these courses are subject to change.

CAD-H1202 Architectural Computer-Aided Drafting 3 cr.
Prerequisite: DFT-H1120. Introduction to two-dimensional computer-aided drafting. Included are drawing and editing of elementary geometric entities, dimensioning and plotting. Also, architectural examples such as floor plans, elevations, building structures, site plans and contour maps will be studied. One class hour and four laboratory hours weekly.

CAD-H1203 Two-Dimensional Computer-Aided Drafting 3 cr.
Prerequisite: DFT-H1110. *Co-requisite:* MATH-H102. Introduction to two-dimensional computer-aided drafting using Autocad. Included are drawing and editing of elementary geometric entities, dimensioning and plotting. Also, mechanical drafting problems and examples will be studied. One class hour and four laboratory hours weekly.

CAD-H2220 CAD/D Cooperative Work Experience 3 cr.
Prerequisites: Concurrent enrollment as CAD/D major, CAD-H2210, 2230, "C" or better, and approval of Department Chairperson. *Corequisites:* CAD-H2240, 2250. The CAD/D Co-op is a supervised work experience in a job setting related to the student's major. This fourth semester course is a specialization in architectural, civil, electrical, manufacturing or mechanical CAD/D and consists of:

1. A two-hour Professional Development Workshop
2. A minimum 225-hour Cooperative Work Experience
3. A weekly Co-op Seminar with faculty facilitator

CAD-H2210 Three-Dimensional Computer Modeling 4 cr.
Prerequisite: CAD-H1203. The primary focus of this course is three dimensional geometric computer modeling using AutoCAD. Students will study the geometric construction and development of wireframe, surface, solid, and assembled solid models. They will also develop 2D orthographic drawings including sectional and auxiliary views from solid models. In addition, rendering to produce picture quality images of the various models will be covered. Mass property analysis and an introduction to the descriptive geometry may also be included. Two class hours and four laboratory hours weekly.

CAD-H2230 Computer-Aided Design I 3 cr.
Prerequisite: CAD-H1203 or approval of the instructor. *Corequisite:* MATH-H113 or approval of the instructor. Introduction to the paperless computer based design process using modern parametric 3-D design software (SolidWorks). The course focuses on parametric modeling, and includes topics such as the design process, design engineering, assembly modeling, mechanism analysis, rapid prototyping, team design, geometric dimensioning and tolerancing, and the analysis of tolerance stickups. Students will participate in individual and group design projects as appropriate. One class hour and four lab hours weekly.

CAD-H2240 Computer-Aided Design II 4 cr.
Prerequisite: CAD-H2230 or approval of the instructor. This course is a continuation of Computer-Aided Design I using SolidWorks parametric design software. It focuses on modeling techniques used in advanced applications such as sweeps, lofts, sheet metal applications, along with top-down assembly modeling. Advanced tolerance analysis, beam stresses, and the design model-

ing of molds and dies and advance topics in rapid prototyping are also covered. The course includes a major group design project and presentation. Two class hours and four lab hours weekly.

CAD-H2250 Three Dimensional Computer Animation 4 cr.
Prerequisite: CAD-H2210. This course will guide you through the world of three-dimensional presentation. You will create photo realistic still images, animated assemblies, camera fly-bys, robotic motion, and dynamic life-like animated presentations. At the completion of this course you should have a solid knowledge of the basics in three-dimensional presentation. You should be able to produce 3D models, render scenes, and produce dynamic 3D life-like animations. The concepts covered in this course can be applied to a variety of engineering disciplines. Two class hours and four laboratory hours weekly.

CAD-H2270 Advanced Three Dimensional Parametric Design 4 cr.
Prerequisites: MATH-H113 and CAD-H1203 or approval of instructor. Introduction to parametric design using parametric software (ProEngineer) most widely used for advanced engineering design projects. Topics will include basic modeling approach, advanced sweeps, surface modeling, and advanced fillets and rounds. Use of the software to shorten the product development cycle, including rapid prototyping and paperless product development will be covered. Two class hours and four laboratory hours weekly.

COMPUTER INFORMATION SYSTEMS Business Division

CSC-H1104 Computers I 3 cr.
A course in computer fundamentals for Computer Information Systems majors and others involved with personal computers. Areas of instruction include basic computer concepts, current trends in information technology, computer systems in the business environment, problem solving, and an introduction to programming.

CSC-H1116 Microcomputer Operating Systems 3 cr.
An introduction to the personal computer, hardware, and Operating Systems software. The most popular microcomputer operating systems and graphical interfaces will be discussed in detail. After satisfactorily completing this course, the student will have a thorough understanding of the command structures of the operating systems. Students will receive a brief introduction to local area networks from a user perspective. Laboratory projects will be assigned throughout the course to reinforce course material.

CSC-H1122 Networking Technologies 3 cr.
An in-depth study of communications in a networking environment. Included is the history of networking, OSI model, data types, signaling, multiplexing, signal conversion, data transmission, topologies, channel access method, switching techniques, SDLC, HDLC, IEEE standards, Arcnet, Ethernet, Token Ring, TCP/IP IP, SNA, and the future of networking.

CSC-H1205 Information Systems in Organizations 3 cr.
The focus of this course is on how organizations use information systems for decision making. In particular, the course stresses the role of managers in the analysis, design, development, implementation, maintenance and control of information systems as corporate resources. Course includes a hands-on approach to communications using workgroup software such as Lotus Notes/Domino and/or Microsoft Exchange.

CSC-H2007 Introduction to Client/Server Systems 3 cr.
Prerequisite: CSC-H2102 and 2216. This course introduces client/server application development using VISUAL BASIC, Microsoft Access, and Microsoft SQL Server. Topics include the design of client/server database applications with Access and SQL Server. Data access methods are utilized to present two-tier and three-tier applications.

CSC-H2102 Database Design and Applications 3 cr.
Prerequisite: CSC-H2216. An introduction to relational database design. Included will be topics on the evolution of database design, data structures, designing a database, normalizing a database design and implementation of databases utilizing one or more of the popular PC database packages available such as Microsoft Access.

CSC-H2216 VISUAL BASIC Programming 3 cr.
 This course will be an introduction to BASIC programming, and to graphical user interface programming using the tool VISUAL BASIC by Microsoft. The course will describe and demonstrate how this product can be used to develop working business applications. Students will be shown how to design and manipulate forms and controls to create a working application. Students will be given the opportunity to create structured event driven graphical user interface (GUI) applications using VISUAL BASIC.

CSC-H2220 Computer Information Systems Co-op 3 cr.
Prerequisites: 12 CSC credits to include CSC-H1104 or CS-H108, CSC-H1116 or CSC-H1122, one programming elective, one other CSC course and approval of the Department Chairperson. This elective Co-op entails a supervised work experience in a job related to the student's major. This course provides the student with the opportunity to reinforce the techniques learned in the classroom by applying them in a business/industrial setting.

The course consists of:

1. 2-hour Professional Development Workshop
2. Minimum 225-hour Cooperative Work Experience
3. Weekly Co-op Seminar with faculty facilitator

CSC-H2223 COBOL I 3 cr.
Prerequisite: CSC-H1104. The course studies the COBOL programming language, its syntax, and structured programming techniques. Elements of the language are learned through writing, debugging, and execution of application programs related to the business environment.

CSC-H2226 COBOL II 3 cr.
Prerequisite: CSC-H2223. This course includes advance topics in COBOL programming using business applications. File structures are studied in detail with emphasis on file structures for the sequential, random, and dynamic access to data.

CSC-H2260 Systems Analysis 3 cr.
Prerequisite: CSC-H2223 or any programming language equivalent. This course is an introduction to systems analysis and design concepts and techniques. Using a case study method, students will conduct system surveys, create feasibility studies, and design typical computer systems used in business and industry.

CSC-H2284 Advanced VISUAL BASIC Programming 3 cr.
Prerequisite: CSC-H2216. This course is designed to introduce a wide range of advanced topics in an object-oriented, event driven programming environment using Microsoft VISUAL BASIC 5.0 Professional Edition. Topics include object connectivity with Microsoft Office '97 Professional products such as Word, and Excel using MDI, OLE, and Active X programming techniques. The VISUAL BASIC Data Manager and the Microsoft Access database engine are used to explore relational databases utilizing data bound controls, SQL inquiries.

CSC-H2288 "C" Programming 3 cr.
Prerequisite: One semester of a procedure-oriented language. To give the student a solid introduction to the basics of "C" programming. The course will emphasize development of programming tools, data structures and library functions.

CSC-H2290 Object-Oriented Programming Using C++ 3 cr.
Prerequisite: CSC-H2216, or any programming language equivalent.

This course is designed for a more advanced programming student who wish to learn C++ with object-oriented techniques. The course will contain the basic concepts of an object-oriented programming language. Topics will include classes, constructor and destructor functions, function overloading, operator overloading, class inheritance, polymorphism, stream input/output, manipulator functions, templates and exception handling.

CSC-H2291 Programming in JAVA 3 cr.
Prerequisite: CSC-H2216, or any programming language equivalent. This course will be an introduction to the JAVA programming language. We will develop JAVA applications as well as introduce World Wide Web browser JAVA applets. The student must be proficient in the "C" programming language. We will cover basic control structures and introduce the Object-Oriented (OO) paradigm utilizing classes and objects. We will introduce and develop programs which are event driven. There will be a wide use of the JAVA Abstract Window Toolkit. The OO model will be used in developing object-based and object-oriented programs. Finally, we will explore the toolkit to develop GUI-based, event-driven programs. There will be several programming assignments. Two tests will be given during the semester in addition to a final exam.

CSC-H2293 Programming Using Oracle 3 cr.
Prerequisite: CSC-H2102 and 2007. Oracle is a complex, object-oriented DBMS that enables high-speed transactions, better business decisions and sophisticated applications. An understanding of its internal functions is essential to maintain integrity, enforce security, and improve performance. In this comprehensive introduction to the Oracle environment, you will gain knowledge and skills you need to fully utilize Oracle features and develop robust, high performance databases.

CSC-H2294 Advanced C++ Programming 3 cr.
Prerequisite: CSC-H2288 or 2290. Topics include methods and techniques used in software development cycles. You will learn to move beyond a simple mastery of syntax. You will learn to increase productivity by combining tools, idioms, syntax, and libraries. Numerous hands-on exercises provide real-world experience in developing high quality C++. Throughout the course, you gain extensive hands-on experience with advanced C++ programming techniques. You will be required to develop complete programs from architectural design through to refining the implementation via a series of exercises.

CSC-H2295 Programming Using PowerBuilder 3 cr.
Prerequisites: CSC-H2102 and 2007. With its impressive array of powerful features, PowerBuilder allows developers to quickly and easily build robust client/server applications to meet the rapidly changing information management needs of today's businesses. This course provides you with the in-depth skills and knowledge to effectively utilize the capabilities of PowerBuilder. Through hands-on exercises, you gain practical experience building a working application using PowerBuilder's object-oriented features. This course is valuable for those who want to build applications using PowerBuilder, including application developers, designers, programmers, analysts and power users. Familiarity with Windows and some programming experience is assumed.

CSC-H2303 Local Area Networks 3 cr.
Prerequisite: CSC -H1122, or a basic understanding of computer networks. This course is an in-depth study of networking computers. Included is a brief review of the OSI model, data types, data transmission, topologies, Channel Access Methods, switching techniques, public switched telephone networks, SDLC/HDLC, IEEE standards, Ethernet, Token Ring, TCP/IP, SNA and the future of networking. The course is a hands-on approach to network administration of both Novell Netware and Microsoft NT environments.

CSC-H2305 Advanced Local Area Networks 3 cr.
Prerequisite: CSC-H2303. A detailed study of monitoring and maintaining a Netware Network 4.x and Microsoft NT Network.

The advanced LAN course will cover higher level system management feature of Netware and Microsoft NT. This course will cover network performance management, advance printing, protocol support and preventative maintenance.

CSC-H2307 Servicing & Support of Local Area Networks 3 cr.

Prerequisite: CSC-H2303. A hands-on course allowing students to install, upgrade, maintain and troubleshoot on Netware version 4.x environments and Microsoft NT. Class discussion and laboratory exercises include Network Interface Cards (NIC's), networking cabling, disk expansions, installations, upgrades, troubleshooting techniques, and common network problems.

COMPUTER SCIENCE

Business Division

CS-H108 Microcomputer as a Productivity Tool 3 cr.

Prerequisites: Successful completion of ASD-H97, ENG-H100, and MATH-H96; successful completion of placement tests; or successful completion of BOT-H121. The computer plays a significant role as a productivity tool in many fields of study and in business. This course introduces the student to the basics of how to use computers as a tool rather than how computers work. It offers instruction and practice on the use of personal computers and a variety of application software. Included is work on word processing, spreadsheets, the operating system, and internet browsing. Basic computer science topics are included to the extent that they support the applications approach. A significant amount of lab work outside of class time is required.

CS-H123 Spreadsheet Applications in Business 3 cr.

Prerequisite: CS-H108 with a grade of "C" or better. This course continues the development of spreadsheet skills begun in CS-H108, and is designed for the business student. Topics included will be graphics, macros, data table operations, advanced formulas and functions, and menus. The course will utilize IBM compatible machines in a Windows environment.

CS-H240 Business Data Base Management 3 cr.

Prerequisite: CS-H108 with a grade of "C" or better. This course is designed to extend the skills acquired by students in CS-H108 by providing an understanding of the methods and procedures required to translate a business information system into a personal computer data base. The course content will include principles and practical application of database design methodologies. Students will also learn how to use data base management system software to build a database, create and execute queries, and design and build data entry forms and report layouts. Attention will be paid throughout the course to data validation and to creating a professional and easy-to-use user interface.

CS-H245 Software Productivity Tools 3 cr.

Prerequisite: CS-H108 with a grade of "C" or better. Students will develop an appreciation for the numerous personal computer programs available, their general classification, and their applicability to various aspects of job performance in a business environment. Several specific software productivity programs will give students hands-on experience in work improvement (mail list management, memory resident aids), reporting tools (graphics, accounting systems, communications), decision tools (spreadsheets, outline processors, expert systems), and control tools (project and time management).

CS-H251 Computer Applications in Management & Marketing 3 cr.

Prerequisite: CS-H108 with a grade of "C" or better, BUS-H251 or BUS-H213. Designed for the career track business student, this

course will supply a strong background in the computer skills necessary and useful in business/management and marketing. Specific applications will be based on IBM compatible machines using the Windows environment, and will include work on business presentations, preparation of brochures, project scheduling, workgroup computing, and business on the internet. Additional topics will be considered.

COOPERATIVE EDUCATION

Learner Services

CWE-H100 Portfolio Preparation 2 cr.

This course stresses analysis of prior learning and self-evaluation of this learning. Students will be expected to assess, organize, and communicate their learning experiences in portfolio form for review by a faculty panel of experts. Students must complete this course to be eligible for formal assessment. Credits do not apply toward a degree. Grade reflects success in coursework only; it does not guarantee or even suggest that portfolio credit will be granted or denied by the readers.

COOPERATIVE EDUCATION

Learner Services Division

CWE-H290 Cooperative Work Experience

This generic course blends academic training with career-related employment. It includes a two-hour Professional Development Workshop, a weekly Co-op seminar and a required concurrent work experience. CWE courses convert upon successful completion to a specific course identified in your major. Refer to individual course descriptions in your program of study for prerequisite information.

CRIMINAL JUSTICE/PUBLIC SAFETY

Behavioral and Social Sciences Division

CJ-H101 Introduction to Criminal Justice 3 cr.

This is an introductory course designed to acquaint the student with the fields of law enforcement. Study includes an overview of crime and police problems, as well as organization of local, state, and federal law enforcement agencies. (Fall)

CJ-H102 Computer Security And Data Protection 3 cr.

This course is designed to give the student a working knowledge of computer security and data protection. Topics that will be covered include: types of attacks on computer systems, risk analysis, strategies to counter these attacks and risks, internet security, hacking, and other criminal activity.

CJ-H103 Introduction to Security 3 cr.

The historic, philosophical and legal basis of security, and the role of the security officer and his relationships with the public sector are studied. The functional operation of various specialized areas of security such as theft and risk control, security surveys and loss prevention, management in proprietary and government institutions, safety and fire protection and commercial and retail security is surveyed. (Fall)

CJ-H104 Computer Crimes 3 cr.

This course is designed to give the student an understanding of the various aspects of computer crimes, including hacking, computer break-ins, computer fraud, the introduction of viruses, worms, and trojan horses into computer systems, mail fraud, child pornography, pirated software, sabotage, and espionage.. Study includes an overview of the various types of computer crimes likely to be encountered in today's computer environment, as well as the methods of preventing, investigating, and prosecuting those crimes.

CJ-H105 Police Ethics 3 cr.
This course is designed to give the student an understanding of the necessity for high standards of ethical and moral behavior on the part of the law enforcement officer. Material will include the consequences of unethical and immoral behavior on the part of the law enforcement officer. Topics include gratuities, favoritism, temptations, dishonesty, abuse and misuse of authority. (Fall)

CJ-H106 Information Warfare And Security 3 cr.
This course traces the development of information warfare, terrorism, and espionage as they relate to the computer environment. Topics include the threats to military as well as commercial and economic security. The roles of individuals, corporations, and governments in dealing with information-related attacks will be examined. The problems and remedies associated with the topics will also be examined.

CJ-H107 Introduction to Corrections 3 cr.
An overview of the history and philosophy of the American correctional system, organization and operation of the components of the corrections systems, including correctional centers, prisons, probation, parole and community-based programs, correctional treatment programs ranging from pre-trial diversion to postincarceration procedures. Presentation and discussion of current issues and problems in corrections will be discussed. (Fall)

CJ-H108 Criminal Investigation 3 cr.
This is an introduction to criminal investigation. Study includes: the presentation of rules and procedures of preliminary investigation; art of interrogation and recording of statements and confessions; collection and preservation of physical evidence at the crime scene; methods used in scientific interpretation of evidence; and preparation of cases for trial. (Spring)

CJ-H109 Introduction to Constitutional Law 3 cr.
Prerequisite: CJ-H101 with a grade of "C" or better. This course traces the history and development of the U.S. Constitution. Topics will include the Commerce Clause, procedural due process, states' rights and civil liberties, the concept of federal supremacy, and state constitutions. (Fall)

CJ-H205 American Legal Systems 3 cr.
This course studies the process through which justice is administered and the history of the American legal system. Also examined are the Constitution of the United States as it applies to police forces. Rules of evidence with attention given to judicial notice, presumptions, the nature of real and circumstantial evidence, burden of proof, documentary evidence, hearsay evidence, confessions and admissions will also be studied. Particular emphasis will be given to evidence, arrest procedures, as well as search and seizure. (Fall)

CJ-H206 Criminal Law 3 cr.
This course is an introduction to the history, theory, and practice of substantive criminal law. Major elements of statutory offenses are discussed. Reference to the Connecticut Penal Code is included. (Spring)

CJ-H213 Legal Aspects of Security 3 cr.
This course traces the development of the legal aspects of private security in the United States. Material includes the law as it relates to private security, search and seizure, civil and criminal liability, and evidence. Legal requirements such as licensing, training, and education are also examined. (Fall)

CJ-H214 Industrial and Retail Security 3 cr.
Prerequisites: CJ-H101 with a grade of "C" or better. This course examines the responsibilities of industrial security in preventing security related compromises against the company, individuals, and information. Thefts in companies and retail establishments will also be examined. Among other topics to be discussed are: sabotage, espionage, physical security, theft prevention, internal control, and techniques of detection, apprehension and prevention. (Spring)

CJ-H215 Juvenile Justice and Corrections 3 cr.
Prerequisite: CJ-H101 with a grade of "C" or better. This course presents the correctional aspects of the history, philosophy and development of the juvenile justice system. Topics to be discussed include the rights of juveniles, alternatives to incarceration, incarceration, treatment methods, and current and future trends. (Fall)

CJ-H216 Introduction to Law Enforcement/Community Relations 3 cr.
An introduction course that covers the basics of law enforcement, evolution of the police function, the police in the criminal justice system and the social and psychological stresses and their effects on police work, health and the family. The course also includes the study and analysis of the problems of law enforcement as they relate to the community. (Spring)

CJ-H217 Understanding Correctional Counseling 3 cr.
Prerequisite: CJ-H101 with a grade of "C" or better. This course is an introduction to various concepts, principles, and techniques of counseling as applied by trained professionals in the correctional setting. Group methods, evaluation, and therapeutic environments will be examined as a means of promoting the understanding of the counseling process. Discussions will include the various counseling models and the history of counseling in correctional institutions and the community. (Fall)

CJ-H218 Victim and Offender Mediation 3 cr.
Prerequisite: CJ-H101 with a grade of "C" or better. The process of victim and offender mediation and reconciliation is examined in this course. The effectiveness of the process in the offender rehabilitation will be discussed. Topics to be discussed include: conflict resolution, bringing the victim and offender together, restitution of losses, reconciliation, mediation, and conflict management. (Spring)

CJ-H219 Institutional Security 3 cr.
Prerequisites: CJ-H101 with a grade of "C" or better. This course is designed to give the student an understanding of the role of security as it applies to public and private institutions, such as hospitals, airports, and government agencies. The student will learn how an institution can be compromised by breaches of security. Topics to be discussed include: physical security, internal control, processing clearances, safeguarding classified information, and visitor and area control. (Fall)

CJ-H220 Victimology 3 cr.
Prerequisite: CJ-H101 with a grade of "C" or better. This course is a study of crime, its causes, and effects from the victim's perspective. The course looks at victim precipitation, restitution, and the varied involvement in, and consequences of, crime on the victim. Major perspectives on victimization as well as patterns of victimization will be analyzed. (Spring)

CJ-H222 Community Corrections and Alternatives to Incarceration 3 cr.
Prerequisite: CJ-H101 with a grade of "C" or better. This course will examine alternatives to incarceration as viable sentencing options. Topics will include: the development of community corrections, parole, diversion, halfway houses, community service, house arrest, and electronic monitoring. The role of the victim in the correctional process will also be discussed. (Spring)

CJ-H224 Security Management and Supervision 3 cr.
Prerequisite: CJ-H101 with a grade of "C" or better. This course examines the functions of an integrated security program from a management perspective. Topics to be discussed include how a security organization is managed, actual situations that may be encountered, the duties of the security director, effective management skills, and the day-to-day management of the security function. (Spring)

- CJ-H290 Criminal Justice Cooperative Work Experience** 3 cr.
Prerequisite: 12 credits in CJ-H courses, with grade of “C” or better. Cooperative Work Experience in Criminal Justice is essentially cooperative training between the school and agency. This required course introduces the student to a specific field in the Criminal Justice system. The course consists of:
1. Two-hour Professional Development Workshop
 2. Minimum 145-hour (volunteer) or 225-hour (paid) Cooperative Work Experience
 3. Weekly one-hour Co-op Seminar (Fall/Spring)

DANCE

Arts and Humanities Division

Dance Courses, except for H101, are studio courses with a focus on movement. The history and theories of these dance genres are included experientially in class and through reading and writing assignments outside of class.

DANC-H101 History & Appreciation of World Dance 3 cr.

World Dance is designed to introduce students to dance in its creative, cultural and historical aspects. It will explore “a number of important ways in which dance functions in human societies—always keeping in mind that while dance is a universal human activity, it does not play the same role in every culture.” (*Grauer*) This course includes seminar, video-viewing, and movement activities.

DANC-H102 Ballet I 3 cr.

The History and Technique of Ballet (Renaissance to Romantic) provides students with a basic understanding of the fundamental principles of ballet technique, encourages students to achieve a level of self-discipline and physical control, and instills an appreciation of the historical contributions of ballet to the overall development of dance as an art form. Studio course.

DANC-H103 Jazz Dance I 3 cr.

Afro-Caribbean and American Vernacular Jazz Dance is designed to introduce students to the origins of jazz dance in America. Study emphasizes African and Caribbean, as well as “street” and “ballroom” influences. Basic skills of jazz movement, jazz music, and rhythmic awareness are included. Studio course.

DANC-H104 Ballet II 3 cr.

Prerequisite: DANC-H102. The History and Technique of Ballet (classical to contemporary) is designed to further the student’s study of the technique of classical ballet and its history in the twentieth and twenty-first centuries. Studio course.

DANC-H105 Jazz Dance II 3 cr.

Musical Theatre and Film Dance is designed to segue from American Vernacular Jazz Dance into concert jazz dance and Broadway dance. It continues with the historical (1930’s-2000’s) and cultural perspective particular to this American dance genre as well as its differentiating styles and techniques. Studio course.

DANC-H106 Modern Dance I 3 cr.

Pioneers of American Modern Dance is designed to introduce students not only to the basic techniques of modern dance, but also to the social, historical, and cultural changes of the twentieth century that made America ripe for new dance forms. Important figures in the dance world from the turn of the century to 1940 will be presented, along with their techniques, theories of movement and compositional ideas. Exposure to this study will enable the student to integrate the thought behind the movement with the action. Studio course.

- DANC-H110 Rhythm Tap I** 1 cr.
 This course is designed to introduce students to the rhythm tap genre—a collage of sound produced by using taps and body as an instrument. The cultural and historical perspectives of rhythm tap will be discussed within this studio course.

DANC-H113 Ballroom Dance I 1 cr.

This course is designed to introduce students to the history, evolution, music, steps, and stylings of ballroom dancing. Three standard style dances, Tango or Swing, the Waltz, and the Foxtrot and three Latin style dances, the Rhumba, the Salsa, and the Cha, Cha, Cha, will be covered.

DANC-H207 Modern Dance II 3 cr.

Prerequisite: DANC-H106 or permission of instructor. Second Generation American Modern Dancers encompasses the techniques, theories and philosophies of movement as presented by America’s new avant-garde choreographers—from Cunningham to Mark Morris. Studio course.

DANC-H208 Repertory/Ensemble 3 cr.

Prerequisite: Permission of instructor. Modern, Jazz or Ballet compositions by faculty or renowned choreographers will be taught, rehearsed and presented in concert. Performance skills of projection, clarity, staging, spacing and truth to choreographers’ techniques will be practiced. Works for repertory may include Isadora Duncan’s “Brahm’s Waltzes,” Ted Shawn’s “Tango,” Anna Sokolow’s “Tiger Rag,” Ballanchine’s “Tarantella,” and Humphrey’s fall studies. Studio course. May be repeated for credit.

DANC-H209 Composition/Ensemble 3 cr.

Prerequisite: Permission of instructor. Composition/Performance is designed for students to discover sources of movement and develop the tools for structuring movement in time and space. It includes assigned composition problems and structured movement improvisation. Students may find their own personal statement in movement and develop a solo dance, and/or they may focus on making a group work. Students develop creative decision-making in working with a group. Elements of performance—costume, decor, lighting, staging—will also be explored. The Ensemble is the performing arm of the College. Studio course. May be repeated for credit.

DANC-H290 Dance Cooperative Work Experience 3 cr.

Prerequisite: 12 dance credits and approval of Department Chairperson. This elective course is designed to provide supervised practical experience in approved Dance work settings. It consists of:

1. A 2 hour Professional Development Workshop
2. A minimum 225-hour Cooperative Work Experience
3. A weekly 1-hour Co-op Seminar

DRAFTING

Engineering Technologies Division

DFT-H1108 Building Materials 3 cr.

A lecture course which familiarizes the student with language of construction as it relates to materials, their origins, use and limitations and continuing development. Three class hours weekly.

DFT-H1110 Technical Drafting 3 cr.

Corequisite: MATH-H095 or 096. An introduction to drafting as a technical language. Topics included are: use of the drafting instruments, geometric constructions, orthographic projection, pictorials, sectional views, and descriptive geometry as it relates to auxiliary views and developments. Each student prepares a set of working drawings for a small machine assemble. Two class hours and two laboratory hours weekly.

DFT-H1124 Blueprint Reading 3 cr.
This course presents instruction in how to read and interpret engineering drawings. Material is presented in a sequential manner building on simple concepts and working toward more complex drawings. Some topics covered are: orthographic projection, working drawings, dimensioning, machining symbols, tolerances, sectional views, auxiliary views and assembly drawings. Participants will use a detailed workbook to reinforce course concepts. Three class hours weekly.

DFT-H2217 Building Systems 3 cr.
In lecture format, this course offers the student a broad overview of the individual systems that constitute a building. The student will gain basic understanding of the principles of Mechanical systems: plumbing, heating, cooling, electrical; Structural systems: floors, walls, roof, foundations; and Finish systems: interior and exterior. Three class hours weekly.

DRUG AND ALCOHOL REHABILITATION COUNSELOR Behavioral and Social Sciences Division

Instruction in the technical course area of the Drug and Alcohol Rehabilitation Counselor Program can be taken at Manchester Community College, Gateway Community College and Tunxis Community College. Manchester Community College is the coordinating college. (Refer to page 81.)

**DARC-H101 Public Health Issues in
Alcohol and Drug Abuse** 3 cr.
This course discusses key issues of the alcohol and drug abuse treatment field from the standpoint of the unique sociological and public health aspects involved. See description of Drug and Alcohol Rehabilitation Counselor Program for restrictions. (Fall)

DARC-H111 Introduction to Counseling 3 cr.
This course discusses theory and skills of therapeutic counseling. Relevant theory, as well as development of such skills as attending behavior, reflection of feelings, direct mutual communication and interpretation will be discussed. The focus of this course is issues in substance abuse. See the Drug and Alcohol Rehabilitation Counselor Program for restrictions. (Fall)

DARC-H112 Group Therapy and Techniques 3 cr.
Prerequisite: DARC-H111. Emphasis will be placed on an understanding of the theory of group dynamics. An organized overview will be presented of the different modalities within the generic term "group counseling" and of various guidelines for the appropriate use of these modalities with different client populations. The focus of this course is issues in substance abuse. See the Drug and Alcohol Rehabilitation Counselor Program for restrictions. (Spring)

DARC-H158 Alcohol and Drug Abuse 3 cr.
This course studies drug abuse in current times, including the pharmacology and pathology of chronic drug abuse with respect to the individual, as well as society and the law is presented. (Spring)

DARC-H251 Counseling Internship I 3 cr.
(15 hrs. clinical practice)
Prerequisites: DARC-H101, 111, 112, and 158. Prospective drug and alcohol counselors are expected to demonstrate their counseling skills for a minimum of 15 hours per week in a clinical setting under the joint supervision of the College and qualified clinical personnel of the treatment agency. Open only to students in the Drug and Alcohol Rehabilitation Counselor Program. (Fall)

DARC-H252 Counseling Internship II 3 cr.
(15 hrs. clinical practice)
Prerequisite: DARC-H251. A continuation of DARC-H251. Open only to students in the Drug and Alcohol Rehabilitation Counselor Program. (Spring)

EARLY CHILDHOOD EDUCATION Behavioral and Social Sciences Division

**ECE-H101 Introduction to
Early Childhood Education** 3 cr.
A study of the historical, philosophical and social perspectives of early care and education. Emphasis will be on modern development and trends, along with an understanding of the organization and composition of early childhood education settings, which include curriculum materials, learning environments and the teacher's role. Eight three-hour observations of various types of early childhood programs, individual child observations and field trips are required.

ECE-H102 Early Literacy Development 3 cr.
Prerequisites: ECE-H101. An introduction to language and literacy development in the young child. Exploration of the early childhood language arts curriculum which includes speaking, listening, writing and reading skills. Emphasis on the influence of a child's cultural background and experiences on emerging literacy development will be explored. Creation of a literacy-rich environment that engages children in developmentally appropriate language arts experiences will be included. Field trips are required.

**ECE-H106 Music and Movement Education
for Young Children** 3 cr.
Prerequisites: ECE-H101. This course is designed to have students acquire skills in order to plan and implement creative music and movement education experiences for children from infancy through age eight. Areas of exploration will include singing, listening to music, rhythmic activities, chants, creating music, using instruments with children, multi-cultural music, creative dance and movement, musical games, music for children with special needs, and using music spontaneously in the classroom. The main goals of the course are to develop an understanding of the importance of music and movement education experiences in an early childhood environment, the role that music plays in the growth and development of young children and how these experiences can be creatively planned, implemented and integrated throughout the daily curriculum. All students should be able to play one accompaniment instrument well enough to build a repertoire of music and movement education experiences. (Fall/Spring)

**ECE-H109 Science and Math Experiences
for Young Children** 3 cr.
The focus of this course will be on acquiring an understanding of the materials and methods of working with young children in the areas of science, math and social studies and their integration into the curriculum. Emphasis will be placed on understanding these areas from a child development perspective.

ECE-H112 Creative Experiences in Art and Play 3 cr.
The exploration of the relationship of creative art to the total educational program of the young child. Experimentation with the use of various media techniques and methods will be included. The concept of play as it relates to creativity will also be explored. Field trips are required.

ECE-H114 Infant and Toddler Development 3 cr.
Prerequisites: ECE-H101. An introduction to the care and teaching of infants and toddlers, which emphasizes the interrelationship between social, emotional, cognitive, physical and language development. Age appropriate curriculum strategies will be based on developmental theories. Components of a high quality program will be explored. Students will be required to fulfill 15 weeks (4 hours per week) of field placement work with infant and toddlers. Placement is determined by the coordinator.

ECE-H122 Health, Safety and Nutrition 3 cr.
The relationship between health, safety and nutrition and child development will be explored. Emphasis will be on the strategies

needed to implement a safe, healthy and nutritionally sound program. Integration of these areas into the total curriculum will be explored.

ECE-H206 Administration and Supervision of Early Childhood Programs 3 cr.

Prerequisites: ECE-H101 or permission of the Early Childhood Education Coordinator. An examination of the multi-dimensional role of the early childhood program director/administrator. Administrative styles, management tools and interpersonal skills that contribute to effective leadership will be explored. Topics such as CT State licensing regulations, NAEYC accreditation, director certification, public policies and professionalism will be discussed.

ECE-H210 The Exceptional Child 3 cr.

Prerequisites: ECE-H101, 102 or permission of the Early Childhood Education Coordinator. The study of the "exceptional child" with emphasis on the history, laws, concepts, practices and terminology used by professionals in the field. Accommodations and techniques used by teachers in an inclusive classroom will be covered.

ECE-H222 Methods and Techniques in Early Childhood Education 3 cr.

Prerequisites: ECE-H101, 102, 106, 112, and 122, ENG-H101, PSY-H101, SOC-H101, should be taken concurrently with ECE-H290. The study of the knowledge and skills needed to plan, implement, and evaluate a developmentally and culturally appropriate curriculum. Experiences will focus on the design of the learning environment, the interaction between teacher, child and family, classroom management and the fostering of opportunities to enhance the development of the whole child. Guidance of children's behavior will be explored.

ECE-H290 Student Teaching I: Observation and Participation 3 cr.

Prerequisites: ECE-H101, 102, 106, 112, and 122, ENG-H101, PSY-H101, SOC-H101. A physical examination by a doctor is required before starting ECE-H290. This course is designed to develop specific skills needed by the student in order to assume the responsibilities in a classroom. Through guided supervision in the classroom and seminars, the student will gain the needed experience by putting theory into practice. The coordinator will place students in the College's Child Development Center. Written permission is required before enrollment. Topics to be explored will include classroom management, daily schedules, curriculum and developmentally appropriate planning. The student is required to fulfill 180 hours of work experience during the semester. (12 hours per week minimum) (Fall)

ECE-H291 Student Teaching II: Practicum 3 cr.

Prerequisites: ECE-H101, 102, 106, 112, 122, and 290, ENG-H101, PSY-H101, 201, SOC-H101. This is a continuation of ECE-H290. During this phase of the work experience, the student will concentrate on working directly with young children. The overall objectives are for the student to be able to manage a classroom independently, plan, organize, execute and evaluate classroom activities on a weekly basis, and be able to critique effectively in one's role classroom instruction. The student will be under the supervision of an on-site supervisor and the College instructor. Individual placements are under the direction of the Coordinator. Eight hours in the Child Development Center and four hours in another setting. Written permission is required before enrollment. The student is required to fulfill 192 hours of work experience for the semester. (12 hours per week minimum) (Spring)

ECONOMICS

Business Division

ECON-H204 Consumer Economics 3 cr.
Study concerns the proper management of personal income and expenditures. Topics include: a study of inflation and business cycles, commercial and savings accounts, budgets, charge accounts, installment buying use of credit, home ownership, insurance and taxes.

ECON-H205 Macroeconomics 3 cr.
An introduction to the basic structure of the United States economic system is presented. Topics include: types of economic systems, characteristics of capitalism, supply and demand, inflation and unemployment, the federal reserve system, and economic policy.

ECON-H206 Microeconomics 3 cr.
Prerequisite: ECON-H205. An introduction to the problems of scarcity and resource allocation as it pertains to households and firms. The course centers on production and cost analysis in the four major types of industry models. Topics include supply and demand, elasticity, consumer choice, government in the microeconomy and price determination under various market conditions.

ELECTRICAL ENGINEERING TECHNOLOGY

Engineering Technologies Division

EET-H1010 Electrical Applications 3 cr.
Corequisite: MATH-H102 for non-EET majors. An introduction to the fundamental concepts of electricity and electronic technology. A study of DC and AC electrical circuits with the emphasis on instrumentation, measurements, devices, and application of theory to practical systems. Topics covered include electrical circuits, applied electrical technology, transformers, motors and generators, electronic fundamentals and devices. Two class and two laboratory hours weekly.

EET-H1100 Electric Circuits I 4 cr.
Corequisite: Math H-102 or 113. The fundamentals or direct current circuits are established. Emphasis is placed on the characteristic description of circuit behavior. Ohm's law and Kirchhoff's law are used to determine circuit characteristics. Circuit rules, methods and theorem are covered extensively. Resistance, capacitance and transient responses are introduced. Included is a weekly problem solving session. Formal laboratory report writing is required. Four class hours and four laboratory hours weekly.

EET-H1103 Electrical CAD and Fabrication 1 cr.
Prerequisite or Corequisite: Some experience with WINDOW operating system. Introduction to the basics of double sided Printed Circuit Board construction and soldering components to these boards. Completion of a small fabrication kit including PC Board, leading to better physical understanding of PCB's as a prerequisite to using OrCAD Layout software. The CAD then moves into the CAD laboratory to study the concepts of schematic capture (OrCAD CAPTURE) into a NETLIST and on to PCB layout. Three laboratory hours weekly.

EET-H1110 Electric Circuits II 4 cr.
Prerequisites: EET-H1100, 1200. *Corequisite:* MATH-H113. The application of circuit analysis techniques acquired in Electric Circuits I are extended to circuits excited by AC sources. Emphasis is placed on solving circuit problems using complex numbers and phase diagrams. Topics include: inductance, transients, filter theory, mutual inductance, transformer theory, and an introduction to polyphase circuits. Formal report writing is required. Three class and two laboratory hours weekly

EET-H1120 Electronics I 4 cr.
Prerequisites: EET-H1100, 1200, MATH-H102. *Corequisites:* EET-H1110, MATH-H113. Semiconductor physical concepts and P-N junction theory is established and applied to basic devices such as diodes, bipolar junction transistors, and field effect transistors. Circuit applications of these and other special devices are studied, with an emphasis on operating principles and analysis techniques. Three class and two laboratory hours weekly.

EET-H2100 Electronics II 4 cr.
Prerequisite: EET-H1120. *Corequisite:* MATH-H117. Characteristics of small signal amplifiers using BJT's and FET's are examined, and followed up with a study of linear op-amp circuits. Comparators and Schmitt Triggers using op-amps are also explored. Basic characteristics of power amplifiers and oscillators are studied, and the operation of the thyristor family of devices is introduced. Three class and three laboratory hours weekly.

EET-H2108 Applied Circuit Analysis 3 cr.
Prerequisites: EET-H1110, MATH-H117. The analysis of RLC circuits using classical calculus for inputs which are both sinusoidal and non-sinusoidal are examined. Resulting first and order differential equations are solved using classical methods and by use of Laplace transforms. Basic derivatives and integration are taught as they apply to RLC circuitry. Three class and three laboratory hours weekly. This course may be substituted for MATH120 for Electrical students only.

EET-H2110 Digital Electronics 4 cr.
Prerequisites: EET-H1120. The study of number systems, Boolean algebra, logic gates and circuits. This study provides the basis for investigating the operation of sequential circuits such as flip-flops, asynchronous counters, and shift registers. Design of arithmetic circuits adders and subtractors and BCD are studied. Decoders, encoders, multiplexers and demultiplexers are included as an application of the basic gates. Use of Electronic Work Bench software to solve logic problems. Three class and three laboratory hours weekly.

EET-H2112 Advanced Digital Electronics 3 cr.
Prerequisite: EET-H2110. A continuation of digital circuit design. Includes counters (synchronous type, multi-bit shift registers), logic families and code converters. Static and dynamic RAM memory circuits used in computers are studied along with ROMs, masked PROMs and erasable PROMs. The control sequence and data processing tasks of practical systems are specified by algorithms. Algorithms are used to design digital circuits to meet various specifications. PDL shell design software is used to meet a wide variety of problems. Three class and three laboratory hours weekly.

EET-H2125 Projects 2 cr.
Prerequisites: EET-H1103, 2100, 2110. Provides the opportunity to construct a project of interest to the student with the approval of the instructor. The course involves research, preparation, and a written report for the project, as well as full implementation, testing, fabrication, troubleshooting, and final demonstration of the project. Schematics and PCB layouts will be prepared using OrCAD SDT and OrCAD PCB tools. Four laboratory hours weekly.

EET-H2132 Control Systems 3 cr.
Prerequisites: EET-H1110, 2110, MATH-H117. An introductory course which investigates primarily electro-mechanical control systems. Discrete control systems using relay logic and programmable controllers (PLC's) are studied. Open and closed loop analog speed control systems are closely investigated. Motion, work envelope, axis of movement and programming lead up to a project with a working robot. Three class and three laboratory hours weekly.

EET-H2142 Fiber Optics 3 cr.
Prerequisites: EET-H1110, 1120. *Corequisites:* EET-H1110. The course will cover the basics of fiber optics, how it is manufactured, its applications and fiber performance. The different types of construction of fiber optic cabling will be discussed and illustrated,

with the advantages and disadvantages of each. Different types of connectors will be covered in both the classroom and the laboratory with the student making many of the actual connections. Measurement of the transmission characteristics of cables will be measured in the laboratory using a Time Domain Reflectometer. The use of single mode and multimode cabling relative to the type of transmission will be discussed. Three class and three lab hours weekly.

EET-H2145 Fundamentals of Communication Systems 3 cr.

Prerequisites: EET-H1120, 2110, *Corequisites:* EET-H2100
 Introduction to the circuit process and basic theories essential to the understanding of communications systems. Included in the course are noise characteristics and limitations, filter theory, amplitude, frequency, and pulse modulation, both radio transmitters/receivers and some transmission line (both cable and air) characteristics. How these systems are used to transmit different information forms such as audio, video and digital data signals is studied in detail. Also included is wireless telephone communication. Three class hours and three lab hours weekly.

EET-H2120 Microprocessors 4 cr.

Prerequisite: EET-H2110. A study of the basic principles of microprocessor architecture and assembly language programming of the 8088 processor and architecture up to the 80586. Included is programming involving looping, decisions, time delays, interrupts and screen presentations. The hardware involved for input/output devices of the microprocessor is studied. Serial and parallel data transfer is stressed both with hardware and software. Three class and three laboratory hours weekly.

EET-H2150 Wireless Communication 3 cr.

Prerequisites: EET-H2145. This course is a continuation of EET-H2145. It consists of a comprehensive study of theory relative to the operation of various electronic communication systems. First, theory applying to transmission lines, Smith Charts usage, antennas, and electromagnetic propagation relative to broadband cable systems. Digital modulation systems and broadband communication systems are explored in detail. Both photonic in communication and wireless communication are studied. Three class hours and three lab hours weekly.

EET-H2155 Broadband Communication 4 cr.

Prerequisites: EET-H2145. *Corequisites:* EET-H2150. Topics covered in this course will include fiber/coaxial (HFC) networks, wireless technologies such as DSL, ISDN, ATM and Frame relay, and fiber optic networks. Also included are modern digital modulation schemes, wavelength division multiplexing, systems testing and measurements. Three class hours and three lab hours weekly.

EET-H2515 Electronic Instrumentation 3 cr.

Prerequisite: EET-H1110. *Corequisites:* EET-H2100, 2110. A study of the operating principles of electronic and electrical instruments. Both analog and digital instruments are covered. Sources of instrument errors and standards of measurement are included, along with the design of VOM circuits and basic electronic instruments. Also included is an introduction to LABVIEW (Basic Virtual Instrument Programming) and data acquisition. Three class and three laboratory hours weekly.

EET-H2220 Electrical Engineering Technology Co-op 3 cr.

Prerequisites: EET-H1200, 2100, 2110 with a “B” or better. *Concurrent enrollment as an EET major, minimum 3.0 GPA, senior status and pre-approval of the Department Chair.* This technical elective Co-op entails a supervised work experience in a job related to the student’s major. This fourth semester course provides the student with the opportunity to reinforce the techniques learned in the classroom by applying them in a business/industrial setting.

This course can be used to fulfill an EET technical elective. See Department Chair for details. The course consists of:

1. A two-hour Professional Development Workshop
2. A minimum 225-hour Cooperative Work Experience
3. A weekly Co-op Seminar with faculty facilitator
4. Submission of a Field Report to EET Department Chair
5. An oral and written presentation to the department faculty of job related experience is required.

EET-H290 Electrical Engineering Technology Co-op 3 cr.

Prerequisites: EET-H1200, 2100, 2110 with a “B” or better. *Concurrent enrollment as an EET major, minimum 3.0 GPA, senior status and pre-approval of the Department Chair.* This elective Co-op entails a supervised work experience in a job related to the student’s major. This fourth semester course provides the student with the opportunity to reinforce the business/industrial setting.

This course does not require a field report, and does not fulfill the requirement of an EET elective. See Department Chair for details. The course consists of:

1. A two 2-hour Professional Development Workshop
2. A minimum 225-hour Cooperative Work Experience
3. A weekly Co-op Seminar with faculty facilitator

EMT-PARAMEDIC**Allied Health/Nursing/Physical Education Division****EMT-H100 EMT Basic** 6 cr.

Note: This course is designed for students with a Fire Service Background, although any student may apply. This course is consistent with the U.S. Department of Transportation (DOT) EMT-Basic National Standard Curriculum. This curriculum prepares students for certification as an Emergency Medical Technician-Basic (EMT-B). The emphasis is on patient assessment, clinical signs and symptoms, pathophysiology, and the essentials of prehospital care. The student will learn CPR, airway essentials, assessment and care of medical and trauma patients, special needs of infants, children, adults and the elderly, ambulance and rescue operations, multiple-casualty and hazardous materials incidents, pharmacological interventions, scene assessment, and mass casualty situations.

EMT-P-H101 Advanced Pre-Hospital Care 10 cr.

This course is a first semester course designed for the paramedic student. The student will learn about patient assessment, clinical signs and symptoms, pathophysiology, and how they pertain to the prehospital care of people. This is provided through didactic lectures, college laboratory, and clinical experiences. The modules studied are: Introduction to EMT-Paramedic, Patient Assessment, General Pharmacology, Preparatory, Airway Management, Respiratory and Cardiology. Students must maintain a “C” average in coursework.

EMT-P-H102 Advanced Pre-Hospital Care II 10 cr.

This course is a continuation of EMT-P-H101. The modules studied in this course are: Medical Trauma, Obstetrics and Gynecological Emergencies, Management of Emotional Crisis and special considerations. A clinical practicum is correlated with the classroom instruction. Students must maintain a “C” average in coursework, a Satisfactory (S) level in the clinical practicum and pass the Advanced Cardiac Life Support course (ACLS) and Pediatric Advanced Life Support (PALS) course.

EMT-P-H191 Instructional Lab 2 cr.

This lab is offered during the first semester. This course has been designed to meet the student’s practical skill needs. The student is afforded the opportunity to practice and refine techniques and skills required in the paramedic profession. This course is an extension of the didactic portion of EMT-P-H101.

EMT-P-H192 Instructional Lab 2 cr.

This lab is offered during the second semester. This course is a continuation of EMT-P-H101 instructional lab. The student is afforded the opportunity to practice and refine the techniques and skills required in the paramedic profession.

EMT-P-H201 Advanced Pre-Hospital Care III 4 cr.

This course will prepare students in: Emergency Operations, Crime Scene, CISO, Communications, Assessment Based Management, HAZMAT, Rescue, and PHTLS. A college laboratory is correlated with the lecture. Students must maintain a “C” average in the course and pass PHTLS.

EMT-P-H202 Fall Internship/Lab 2 cr.

This course provides for the integration of material presented in the EMT-P program during field practice. Lab will include Basic Life Support (BLS) laboratory and final EMT-P testing. A minimum of 250 hours of ride time is required.

ENGINEERING TECHNOLOGY**Engineering Technologies Division****ET-H101 Introduction to Technology** 3 cr.

In this course students will increase their awareness of the past developments in American technology and prepare for the impact of future changes. For engineering technology majors, it will also provide an opportunity to confirm their choice of specialty. Students will be expected to use regional resources (museums, industrial sites, newspapers, historical societies, personal interviews, etc.) to augment the readings in the text. The course will include presentations, group discussions, and laboratory demonstrations. Three class hours weekly.

ENGLISH**Arts and Humanities Division**

The English faculty is well aware that individuals enter college with different reading and writing skills. Because of this, courses have been designed to meet special needs and to help develop the skills necessary for success in college or a chosen career. Testing and consultation with counselors and instructors help in planning a program. The College’s Arts and Humanities Division is available for further assistance when choosing coursework in English.

ENG-H097 Basic English 3 cr.

Does not apply to degree. This course provides a strong basis in the mechanics of writing and promotes confidence in the expression of ideas. **Emphasis is placed on practicing the writing process beginning with a focus on the paragraph and moving to the writing of the essay.** Basic library and research techniques are introduced. This course is a prerequisite for other writing courses unless placement exams indicate a readiness otherwise, ENG-H097 may not be taken concurrently with, or after completing, ENG-H100 or 101. This course requires a minimum of six (6) hours of outside work per week.

ENG-H100 Fundamentals of Writing 3 cr.

Does not apply to degree. Prerequisite: “C” or better in ENG-H097 or successful completion of placement tests or recommendation of Division Director and instructor. This course will enhance the student’s confidence in expressing ideas and provide practice with

sound writing mechanics. **Emphasis is placed on practicing the writing process with a focus on rhetorical methods; skills are taught within the context of essay writing. In addition, students will read, critically assess and write as a response to readings.** Library and research techniques are practiced. This is a prerequisite for ENG-H101 unless placement exams indicate a readiness otherwise. ENH-H100 may not be taken concurrently with, or after completing, ENG-H101. This course requires a minimum of six (6) hours of outside work per week.

ENG-H101 Composition 3 cr.
Prerequisite: "C" or better in ENG-H100 or successful completion of placement tests or recommendation of Division Director and instructor. May not be taken concurrently with ENG-H100 or ENG-H102. This course is designed to introduce students to the importance of writing and to develop their critical thinking, reading, and writing skills. The class will focus on the writing of expository essays, often in response to complex readings. This course will emphasize the necessity of revision as a means of producing college-level writing. Conventional use of citation, quotation, and paraphrase (using MLA style) is a necessary component of ENG-H101.

ENG-H102 Literature 3 cr.
Prerequisite: ENG-H101. Students develop skills in understanding and appreciating genres such as fiction, poetry, and drama. Additionally, students apply critical methodologies and investigate relationships between literature and society, thus confirming their skills of analysis and writing. ENG-H102 is an academic core course.

ENG-H117 History of the American Motion Picture 3 cr.
 Students survey American film from its beginnings to the present. The course will include the silent era, birth of sound, and typical genres.

ENG-H118 International Cinema 3 cr.
 A study of the origin and development of film as an art form, including the summation of outstanding films produced in France, Italy, Sweden, Denmark, India, and Japan. Discussions of documentary and short subject contributions toward this development are included.

ENG-H119 Audiovisual Media Use 3 cr.
 A practical approach to audio-visual materials and written/oral presentation. Students will create media, evaluate and analyze the uses of media, and familiarize themselves with materials such as transparencies, slides, film, and video.

ENG-H201 American Literature I 3 cr.
Prerequisites: ENG-H101,102. Students read and discuss leading writers of America to the Civil War. Included are works of the Puritans, Jefferson, Franklin, Cooper, Emerson, Melville, and Whitman. Critical and historical analysis is included. The period covered by this course corresponds to the period covered by HIST-H201, American Life to 1865.

ENG-H202 American Literature II 3 cr.
Prerequisites: ENG-H101,102. Students read and discuss leading writers of America from 1865 through World War II. Critical and historical analysis is included. The period covered by this course corresponds to HIST-H202, American Life Since 1865. Authors such as Twain, James, Crane, Frost, Dreiser, Fitzgerald, Hemingway, and Faulkner are included.

ENG-H203 Contemporary Literature 3 cr.
Prerequisites: ENG-H101, 102. This course investigates trends in literary writing since the end of World War II. The course will focus on American writers such as Bellow, Mailer, Updike, Nabokov, Hall, Morrison, Rich, Lowell, and Wilbur. It may also include a few significant writers from other countries as we relate to increased social and economic involvement on a global level.

ENG-H204 African-American Drama 3 cr.
Prerequisite: ENG-H102. This course is a survey of African-American drama. It analyzes and discusses African-American and other diverse theatrical experiences through the study of dramatic presentation.

ENG-H207 African-American Literature 3 cr.
Prerequisite: ENG-H101. This survey of African-American literature will analyze and discuss the Black experience through literature. It will begin with the eighteenth century and continue to the present. Because this body of work is of great social import, and because there are several "Black Experiences," a generous selection of works will be included.

ENG-H211 English Literature I 3 cr.
Prerequisites: ENG-H101,102. Students read and discuss representative writers of British poetry and prose to the eighteenth century including the works of Chaucer, Shakespeare, Milton, Pope, Swift, and Johnson. Offered subject to enrollment.

ENG-H212 English Literature II 3 cr.
Prerequisites: ENG-H101, 102. Students make an intensive critical and historical study of British writers beginning with Blake and the Romantics and ending with twentieth century writers. Offered subject to enrollment.

ENG-H214 Literature for Children 3 cr.
Prerequisite: ENG-H101. This course covers selection, evaluation and critical study of books and materials available for children. Included are folklore, poetry, fiction, and non-fiction, as well as discussion of outstanding writers and illustrators, past and present.

ENG-H221 World Literature I 3 cr.
Prerequisites: ENG-H101, 102. Students read and discuss significant works in Western and European literary thought to 1715. Classical and oriental literature will be studied in translation.

ENG-H222 World Literature II 3 cr.
Prerequisites: ENG-H101, 102. This course covers World Literature from the Renaissance through the twentieth century and includes works of Montaigne, Cervantes, Moliere, Ibsen, Dostoevsky, and Camus.

ENG-H231 Journalism I 3 cr.
Prerequisite: ENG-H101. Students explore methods and techniques of news gathering, news writing, and news analysis. By covering campus and community events, they make practical application of theory.

ENG-H232 Journalism II 3 cr.
 Students will apply knowledge learned in ENG-H231 to gather and write complex news stories. They will also be taught editing, layout, and some photography skills.

ENG-H234 Advanced Prose 3 cr.
Prerequisite: ENG-H101. Students will study audiences, research, and write material for those audiences. Students will be encouraged to freelance some writing during the semester.

ENG-H235 Public Relations Writing 3 cr.
Prerequisite: ENG-H101. In a positive format, students learn to communicate information an employer wants disseminated. This includes statements to the press, news releases, and in-house newsletters.

ENG-H236 Technical Writing 3 cr.
Prerequisite: ENG-H101. This course involves the student in the study and practice of the basic skills and principles of technical writing for business and industry. The practice of writing is emphasized; graphic and design elements including designing visuals formats are given secondary emphasis. The course focuses on the fundamental skills and formats of letter/memos, instructions, pro-

posals, reports, and layperson writing (communicating difficult subjects to general audiences). Individual instructors may add other subjects.

ENG-H237 Creative Writing 3 cr.
Prerequisite: ENG-H101. This course gives students practical experience in writing various forms of prose and verse. The emphasis will be on individual creative methods, creative reading and listening, editorial techniques, and the production of finished work, including possible preparation of manuscripts for publication.

ENG-H247 Poetry Workshop 3 cr.
Prerequisite: ENG-H101. Students experience the craft of poetry through actual writing, through criticism of fellow student-poets, and through the study of various poetic forms.

ENG-H250 Introduction to Desktop Publishing 3 cr.
Prerequisites: ENG-H101, MGT-H1200. An introduction to desktop publishing capabilities for the modern workplace. Exposure is offered in page layout formats, text layouts, type styles, page designs, advanced word processing capabilities, basic drawing and painting tools, importing files, and graphic importing and editing. Instruction consists of a combination of lecture and “hands-on” computer experience with leading desktop publishing programs.

ENG-H290 Communications Cooperative Work Experience 3 cr.
Prerequisites: ENG-H101, COMM-H101, “C” or better. Other background courses considered in placement: Journalism, Public Relations, Technical or Creative Writing, Public Speaking, ENG-H102. This elective course is designed to integrate training in all previous courses, and to bridge the gap between academic theory and practical work experience. The student in the communications co-op will work in an environment where he/she will be expected to research, write, publish or broadcast material. Such placements could be with local newspapers, agencies requiring researching, writing or speeches, and radio stations. Course consists of:

1. 2-hour Professional Development Workshop
2. Minimum 225-hour Cooperative Work Experience
3. Weekly 1-hour Co-op Seminar

ENGLISH AS A SECOND LANGUAGE

Arts and Humanities Division

The ESL courses are designed for students whose native language is not English. The sequence endeavors to help students attain a level of proficiency in English that will permit them to succeed in the academic or career programs of the college.

The ESL sequence has four levels. The core of the sequence is the six-credit reading/writing courses which integrate discussion and grammar into the content. There are grammar courses at levels one, two, and three and communications courses at levels one and three. Student eligibility for the grammar and communications courses depends upon their reading/writing level. Entry into the multilevel ESL sequence is determined by a writing sample and the Levels of English Proficiency (LOEP) Exam. Entering students must have attained a specified level of proficiency in reading and writing in English.

To be promoted to the next level, students must demonstrate mastery in listening, speaking, reading, and especially, writing skills. In all six-credit courses, mastery is determined by a grade of C or better and completion of all class work. After successful completion of the ESL sequence, students progress to ENG-H101. In some circumstances students progress to ENG-H097 or ENG-H100.

ESL-H074 Grammar I 3 cr.
Prerequisite: Specified score on ESL Placement exam. Does not apply to degree. In this low intermediate course, patterns and rules of grammar structures will be introduced, practiced, and applied in a meaningful context. Formal exercises, short writings, and communicative activities will be used to promote mastery of essential language structures. This course requires a minimum of six hours of outside work per week. (Fall, Spring)

ESL-H075 Reading & Writing I 6 cr.
Prerequisite: Specified score on ESL placement exam. Does not apply to degree. In this low intermediate course, entering students must have fundamental skills in English as determined by the ESL Placement Exam. The goal is to develop reading and writing skills. Assigned readings (including whole works) inspire individual writing assignments as well as discussions in small and large groups. In addition to learning grammatical principles, students work on effective sentence structures, paragraph development and organizational skills in writing compositions. This course requires a minimum of twelve hours of outside work per week. (Fall, Spring)

ESL-H076 Communications I 3 cr.
Prerequisite: Specified score on ESL placement exam. Does not apply to degree. In this low intermediate course, communication skills and fluency will be developed using authentic language. Students will develop increased self-confidence and competency through a variety of activities that address oral communication, pronunciation, listening and reading comprehension, and vocabulary development. Activities will include role-playing, interviewing, class and small group discussions, oral reports, and written exercises. This course requires a minimum of six hours of outside work per week. (Fall, Spring)

ESL-H079 Grammar II 3 cr.
Prerequisite: Successful completion of ESL 075 or specified score on ESL placement exam. Does not apply to degree. In this high intermediate course, students will further develop proficiency in the use of grammar structures through group discussions, oral practice, written exercises, and short writings. Use of grammar structures in authentic contexts will be emphasized. This course requires a minimum of six hours of outside work per week. (Fall, Spring)

ESL-H080 Reading & Writing II 6 cr.
Prerequisite: Successful completion of ESL 075 or specified score on ESL placement exam. Does not apply to degree. In this high intermediate course, students continue to strengthen reading and writing skills. Assigned readings (including whole works) as well as student writing form the basis for small group and class discussions. Students focus on writing and rewriting essays to develop ideas, organization, clarity and accuracy in their writing. This course requires a minimum of twelve hours of outside work per week. (Fall, Spring)

ESL-H084 Grammar III 3 cr.
Prerequisite: Successful completion of ESL 080 or specified score on ESL placement exam. Does not apply to degree. In this low advanced course, key grammar structures will be learned and practiced through group discussions, oral and written exercises, and short writings. Use of grammar structures in authentic contexts will be emphasized. This course requires a minimum of six hours of outside work per week. (Fall, Spring)

ESL-H085 Reading & Writing III 6 cr.
Prerequisite: Successful completion of ESL 080 or specified score on ESL placement exam. Does not apply to degree. In this low advanced course, students continue to refine reading comprehension and writing proficiency. Assigned readings (including whole works) as well as student writing provide the text for small group and class discussions. Through writing and rewriting essays, students work on organizational skills, development of ideas, clarity and the mechanics of effective writing. This course requires a minimum of twelve hours of outside work per week. (Fall, Spring)

ESL-H086 Communications III 3 cr.
Prerequisite: Successful completion of ESL 080 or specified score on ESL placement exam. Does not apply to degree. In this low advanced course, fluency in oral communication and listening skills will be further developed. Communicative competency will be addressed in an authentic and meaningful setting. Taped lectures and conversations, oral presentations, interviewing, class and small group discussions, role playing and vocabulary development activities will enhance proficiency in English. This course requires a minimum of six hours of outside work per week. (Fall, Spring)

ESL-H090 Reading & Writing IV 6 cr.
Prerequisite: Successful completion of ESL 085 or specified score on ESL placement exam. Does not apply to degree. In this high advanced course, students continue to develop fluency, clarity, organizational skills and the mechanics of effective writing with a focus on the linguistic and rhetorical requirements of second language learners. Course content and writing assignments are based on reading selections, complete works, and student texts. Students write, revise, and edit drafts, participate in group work, and confer with teachers and peers. This course requires a minimum of twelve hours of outside work per week. (Fall, Spring)

ENVIRONMENTAL SCIENCE

Mathematics/Science Division

ENV-H1104 Environmental Chemistry 3 cr.
Prerequisite: CHEM-H101 or 111. The objective of the course is to study the chemical reactions in natural systems. The fate and transport of contaminants introduced into the environment by humans will be examined. Ways of analyzing for contaminants in the atmosphere, hydrosphere, and lithosphere will be identified and students will obtain practical experience with some of these techniques. Written lab reports will be required. Two class and two laboratory hours weekly.

ENV-H1403 Safe Handling of Hazardous Materials 3 cr.
 Hazardous materials are associated with virtually all industrial activities. This course is designed for people who routinely come in contact with hazardous materials in the workplace. OSHA regulations, Material Safety Data Sheets (MSDS), toxicology, selection of protection equipment, ventilation and storage of hazardous materials will be covered. Fire, electrical, radiation and noise hazards will also be discussed. Students will use industrial supply catalogs, computers and the Internet to identify appropriate protective equipment for a range of hazardous materials.

ENV-H1408 Environmental Regulations 3 cr.
 A broad view of federal, state and municipal environmental regulations as they apply to industry, commercial establishments, local governmental facilities and the individual citizen. Provides a practical approach to regulatory understanding to enable one to plan an effective and economically sound management system. Course topics include the Clean Air Act (CAA), Clean Water Act (CWA), Toxic Substance Control Act (TSCA), SARA Title III (Community Right-to-Know), Resource Conservation and Recovery Act (RCRA) CT Transfer of Establishment Act (TASA) and federal, state and local regulations covering such topics as hazardous material transportation, in-ground tank storage and specific hazardous materials such as asbestos and PCBs. ISO 14,000 requirements will be discussed.

ENV-H1410 Environmental Measurement Techniques 3 cr.
 Theory and discussion of techniques for making environmental measurements necessary for implementing environmental management systems. Field measurements and sampling procedures will be emphasized as opposed to laboratory analytical techniques. Air,

surface water and groundwater measurement techniques will be covered. Students will have the opportunity to practice using a variety of field instruments. Evaluating potential sources of error when using these instruments and the use of statistics are important parts of this course.

ENV-H1414 Waste Minimization & Treatment 3 cr.
Prerequisite: CHEM-H101 or 111. A study of the methods and procedures used to minimize solid and hazardous wastes. These include substitution of less hazardous materials in the manufacturing process, modifying the manufacturing process, recycling and re-use. Treatment of wastes will be covered, including incineration, bioremediation, solidification, stabilization, and landfill disposal. Students will be responsible for preparing a written report on a specific waste problem or treatment process.

ENV-H1417 Environmental Control Processes 3 cr.
Prerequisite: CHEM-H101 or 111. Water pollution control procedures are studied including sedimentation, flocculation, ion exchange, membrane processes, filtration, disinfection, and biological approaches. Both municipal and industrial wastes are addressed. Air pollution control is also covered. The causes of smog, acid rain, ozone depletion, and the greenhouse effect are examined, followed by a look at air pollution control processes that reduce these problems.

ENV-H2220 Environmental Science Co-op (Wastewater Option excluded) 3 cr.
Prerequisites: Students must have a minimum of 9 ENV-H credits prior to the co-op semester, a minimum 2.0 GPA, senior status and approval of the Environmental Science Coordinator. This elective Co-op entails a supervised work experience in a job related to the student's major. This senior-level course provides the student with the opportunity to reinforce the techniques learned in the classroom by applying them in a business/industrial setting. The course consists of:

1. two-hour Professional Development Workshop
2. Minimum 225-hour Cooperative Work Experience
3. Weekly Co-op Seminar with faculty facilitator

ENV-H2400 Principles of Soil and Water Resources 3 cr.
 The study of soil structure and various methods to reduce soil erosion. Discussion of soil chemical structure and its relationship to nutrient availability. Depletion of soil nutrients by leaching and excessive crop harvesting, and soil restoration will also be considered. The hydrologic cycle will be studied in detail, including surface water body and ground water characteristics. Soil chemical cycles for major plant nutrients and contaminants will also be investigated. A research paper is required. Three hours weekly.

ENV-H2404 Environmental Project 2 cr.
Prerequisites: ENV-H1104, 1403, 1408, 1410, 1417, 2400. A course to provide students with experience in design, research, and completion of an environmentally related project. Knowledge and application of regulations, sampling methods, waste minimization, hazardous materials, wastewater treatment, and pollution control techniques are required for successful completion of the project. An extensive research paper and oral presentation of the project are required. Four hours weekly.

FINANCE

Refer to the Business Finance section.

FIRE TECHNOLOGY AND ADMINISTRATION

Engineering Technologies Division

FTA-H102 Introduction to Fire Technology 3 cr.
Corequisite: MATH-H095 or 096. This introductory course reviews the nature and extent of the fire problem in the U.S., the characteristics and behavior of fire, the state, regional, national and international organizations having responsibility for fire control and suppression, extinguishing agents, fire protection equipment and other basic aspects of fire protection technology. Three class hours weekly.

FTA-H106 Building Construction 3 cr.
Prerequisite: FTA-H102. The study of major types of building construction and their related problems under fire conditions; fire resistance and flame spread ratings; fire walls and partitions; protection of openings; and fire test methods. Three class hours weekly.

FTA-H108 Fire Prevention and Inspection 3 cr.
Prerequisite: FTA-H102. History and philosophy of fire prevention, organization for fire prevention and inspection, training inspectors, methods of inspection, reports and record keeping, fire prevention education, public relations in inspection work, coordination with government agencies, and code administration. Three class hours weekly.

FTA-H130 Fire Technology and Administration Tech-Prep Internship 3 cr.
 This course is a directed study and service opportunity for those in a Tech-Prep program. It is designed to allow the participant to develop an awareness of the fire service and provide a service opportunity benefiting both the student and the community. To participate, a student, at a minimum, must be part of a Junior/Cadet/Apprenticeship/Probationary program sponsored by a fire, rescue, emergency medical service or fire marshal's office. To obtain college credit for this program, the student must participate in the Tech-Prep program as prescribed for his/her high school. Credit for this course will not be granted separately. The student will be assigned a mentor from his/her sponsor and the Fire Technology and Administration program of Naugatuck Valley Community College. The student will be required to complete a project designed by the Department and agreeable to the mentor from Naugatuck Valley Community College. In addition, the student will be required to complete at least two assignments one of which will be in support of the major project. Prior to the start of the program the student will be assisted in developing his/her program and what specifically will be required to obtain credit.

FTA-H201 Water Supply & Hydraulics 3 cr.
Prerequisites: MATH-H113, PHYS-H111. Basic properties of incompressible fluids, static and velocity pressures, flow through orifices, Bernoulli's Theorem, Venturi principle, flow of water in pipes, Reynolds number, Hazen-Williams formula, head calculations, water distribution systems, and pumping problems will be discussed. Other concepts taught will be use of Pitot tubes and other flow meters, measurement of pressure losses in various pipe and hose line configurations, pumping problems, and measurement of flow in water distribution systems. Three class hours weekly.

FTA-H203 Codes and Standards 3 cr.
Corequisite: MATH-H095 or 096. This course studies fire and building codes as a means for providing reasonable public safety; the code development and adoption process; code administration; major code producing organizations; national standards with particular concentration on the Life Safety Code of the NFPA and its referenced standards. Three class hours weekly.

FTA-H205 Municipal Fire Administration 3 cr.
Prerequisite: FTA-H102. Organization of municipal fire prevention and control services, analyzing needs, master planning, building the organization, distribution of a fire department's personnel requirements, hiring practices, training, records, work schedules, staff

development, labor problems, physical equipment and facilities, and budget preparation will be discussed. Three class hours weekly.

FTA-H207 Sprinkler and Fixed Extinguishing Systems 3 cr.
Prerequisite: FTA-H201. This course studies wet and dry-pipe automatic sprinklers, both commercial and residential; pre-action and deluge systems; water spray and foam systems; standpipes; carbon dioxide, dry chemical, and halon extinguishing and explosion suppression systems; use of appropriate NFPA Standards. Three class hours weekly.

FTA-H209 Fire Investigation 3 cr.
Prerequisites: FTA-H106, CHE-H1110 or CHEM101, PHYS-H112. This course studies determination of points of origin and causes of fires, discriminating between fire of accidental and incendiary origin, managing operations at the fire scene, collecting and preserving evidence, recording information, and scientific aids to investigation. Three class hours weekly.

FTA -H230 Fire Technology and Administration Cooperative Work Experience 3 cr.
Prerequisites: FTA-H102, six (6) additional FTA -H credits, "C" or better and approval of Fire Education and Training Coordinator. The Fire Technology and Administration Co-op Work Experience is a supervised internship in an approved work environment in the fire and life safety field directly related to the student's major. The course is a technical elective open to students who have satisfactorily completed all first and second semester coursework. This course involves a minimum of 15 contact hours weekly. The course consists of:

1. two-hour Professional Development Workshop
2. Minimum 225-hour Cooperative Work Experience
3. Weekly one-hour Co-op Seminar with faculty facilitator

FOODSERVICE MANAGEMENT

Refer to Hospitality Management.

FRENCH

Refer to Modern Languages.

GENERAL STUDIES

Refer to page 95 for course information.

GEOGRAPHY

Behavioral and Social Sciences Division

GEOG-H101 Human Geography 3 cr.
 This course is a study of interrelationships between the physical environment and human activity with special emphasis on geographic factors which underlie current political, social and economic problems. (Fall)

GEOG-H102 World Regional Geography 3 cr.
 The interaction of the physical environment with the social, cultural, political and economic conditions in various regions of the world, and the diverse patterns of human activity which emerge from the interplay of these forces are examined. The course is organized on natural regions such as: Anglo-America, Latin America, Europe, the Middle East, Africa and the Pacific World. (Spring)

GEOLOGY

Mathematics/Science Division

GEOL-H101 Physical Geology 4 cr.
This course will be devoted to the study of the processes involved in the formation of the earth's crust. A study of earthquakes, volcanoes, mountain building, minerals, oceans, continental drift, and erosion by wind, water, and ice will be explored. Laboratories are required. Some field trips may be included.

GERMAN

Refer to Modern Languages.

HISTORY

Behavioral and Social Sciences Division

HIST-H101 Western Civilization to 1715 3 cr.
Students may not receive credit for HIST-H104 or 105 in addition to HIST-H101. This course is an issue-oriented course of Western Civilization from the Ancient World to 1715 from a contemporary perspective. Topics selected on the basis of significance and relevance will include oriental despotism, the origins of political democracy, concepts and codes of justice, the first federal empire, feudalism and the emergence of secular nation – states and the Renaissance and Reformation – as seen through the eyes of statesmen, philosophers, religious leaders, writers, artists, scientists, etc. of their day. (Fall/Spring)

HIST-H102 Western Civilization since 1715 3 cr.
Students may not receive credit for HIST-H104 or 106 in addition to HIST-H102. This course is an issue-oriented study of Western Civilization from 1715 to the present from a contemporary perspective. Topics, selected on the basis of significance and relevance, will include change through revolution and evolution, industrialization and class conflict, individualism and collectivism, nationalism and imperialism, war and peace, totalitarianism, and the ecumenical spirit – as seen through the eyes of statesmen, philosophers, religious leaders, writers, artists, scientists, etc. of their day. (Fall/Spring)

HIST-H103 Contemporary Issues in the World Civilization 3 cr.
In-depth studies of some of the major problems that confront the world today are presented. Course content is likely to vary from one semester to another in order to keep up with the changing complexion of the world's problems. (Fall)

HIST-H104 Milestones in Western Civilization 3 cr.
Students may not receive credit for HIST-H101, 102, 105, or HIST-H106 in addition to HIST-H104. A one-semester course in Western Civilization. The course is issue-oriented and focuses on such topics as order and justice under law, the distribution of wealth and power, class structures and social mobility, church and state, the impact of inventions and technology, industrialization and urbanization, nationalism and imperialism, reform and/or revolution, the state and the individual, and war and peace. (Fall/Spring)

HIST-H105 World Civilization to 1600 3 cr.
Students may not receive credit for HIST-H101 or 104 in addition to HIST-H105. A study and appreciation of African, European, and American civilizations, and their interaction with each other up to 1600. (Fall)

HIST-H106 World Civilization since 1600 3 cr.
Students may not receive credit for HIST-H102 or 104 in addition to HIST-H106. A study and appreciation of African, European, and American civilizations, and the increasing interdependence from 1600 to the present. (Spring)

HIST-H107 African Civilization 3 cr.
This course is a survey of African civilization through a critical study of the cultural, political, and socioeconomic trends in the African continent from the earliest to contemporary times. Among the topics to be examined are the development of agriculture, the rise of the great empires, the movement of men and ideas – Islam and Christianity and new gods, the continent in ferment, the triple forces of – European exploration, exploitation, and colonization, the triple heritage of lifestyles, regaining of independence, the problems of nation building, Africa and the world, and the remnants of colonialism in Africa and South Africa. (Fall)

HIST-H110 Great Lives: A Study of Interesting People 3 cr.
The lives and impact of several major figures will be studied. The people will be from the fields of art, music, literature, the military, social philosophy, religion, politics, science, and business, and will include subjects such as Mao Tse-Tung, Frederick Douglass, Elizabeth I, Charles Darwin, Martin Luther King, Jesus, Helen Keller, Napoleon Bonaparte, Leonardo DaVinci, Dwight D. Eisenhower, Albert Einstein, Pablo Picasso, Edgar Alan Poe, Thomas Edison, Eleanor Roosevelt, Jennie Jerome Churchill, David Livingstone, Winston Churchill, Abraham Lincoln, Edith Wharton, Marie Curie, Vincent Van Gogh, Victor Hugo and Georgia O'Keefe. (Spring)

HIST-H111 Women in American Life: Past and Present 3 cr.
This course will examine the position of women in the United States from the late nineteenth century to the present. Topics of study will include the origins and issues of the women's movement in the nineteenth century, women's suffrage, the women's movement in the 1960's and 1970's, women and the law, women and patterns of work, women and business, women and religion, women and athletics, women and homemaking, women and assertiveness, women and sexuality, women and aging, women and divorce, and women and affirmative action. (Fall)

HIST-H112 Women of the World 3 cr.
This course is a study of women as driving forces in history and women driven by historical forces. Portraits of outstanding historical and contemporary female personalities – pagan priestesses and goddesses, women poets, scientists, educators, healers and reformers are presented. (Spring)

HIST-H201 American Life to 1865 3 cr.
This course is essentially a chronological treatment of the social, economic, political and cultural development of the American people to 1865. Certain topics such as colonial life, the Revolution, the political thought of Hamilton and Jefferson, reform, slavery, abolition, and the Civil War are studied in depth. (Fall)

HIST-H202 American Life Since 1865 3 cr.
The course is essentially chronological in its treatment of the period from 1865 to the present. Certain topics in the social, economic, political, and cultural development of the American nation, such as the Age of Industrialization, International Relations and World War I, the Depression and New Deal, World War II and postwar period including the Cold War, the Eisenhower Era, the Sixties and Vietnam are studied in depth. (Spring)

HIST-H205 The African-American Experience in American Society 3 cr.
This course will utilize historical, sociological, and cultural perspectives in the analysis of the current status of African-Americans in the United States. The quest for equality, problems and prospects, and the role of African-Americans in the development of American and world cultures will be explored. (Spring)

HIST-H208 The United States – 1920 to Present: Modern United States 3 cr.
This course addresses the social, economic, political and cultural development of the United States between 1920 and the present.

Topics covered in this course will include the culture and economy of the 1920s, the Great Depression and the New Deal, World War II, the Cold War, the Korean War, American society in the 1950s, the Civil Rights Movement, the Women's Rights Movement, the war in Vietnam, the Counterculture of the 1960s and '70s, the Reagan and Bush eras, the end of the Cold War, and the Clinton era.

HIST-H210 Colonial American History to 1783 3 cr.

This course addresses the social, economic, political and cultural development of the people of the British North American Colonies to 1783. Topics covered in this course will include the Americas prior to European colonization, early European exploration and settlement in the Americas, relations between Great Britain and the American colonies, the background and causes for the American Revolution, the development and operation of the American national government, and development of an American society/culture

HIST-H224 North American Indian History 3 cr.

This course provides an overview of American Indian History from the pre-colonial era through the present, with a primary focus on those tribes living in the region of the present-day United States. The course examines cultures, tribal structures, environments and economies, and worldviews of various Indian tribes. Topics involved include Anglo-Indian relations, the role of Indians in the fur trade, life on the reservation, the changing objective of, and Indian resistance to, federal "Indian Policy" by various tribal nations in their effort to preserve their culture, tribal knowledge, language and belief systems and how the struggle for economic and cultural survival has carried on into the 21st century.

HIST-H292 Cooperative Work Experience II 3 cr.

Work/field experience in a Human Services agency is a major component of this required course. The student will have the opportunity to apply the values, skills and concepts acquired in HS-H203, Principles, Methods & Techniques of Counseling and Interviewing. To relate better field practice to theory, the course also offers an examination of the current approaches to counseling individuals, families and groups. The course offers a more in-depth examination of the concepts, therapeutic processes, and techniques of the various types of counseling that were introduced in HS-H101, Introduction to Human Services. The theories addressed include: Psychoanalytic, Adlerian, Existential, Person-Centered, Gestalt, Reality, Cognitive-Behavioral and Family Systems Therapy. Particular emphasis will be placed on enhancing the students' skills of data gathering, case planning, counseling and documentation. This course will cover information that students will need to begin developing their own philosophy of human services counseling. The course consists of: A minimum of 125-hours of Cooperative Work Experience and two, one hour and twenty minute classes per week. One class period will consist of a seminar format that directly relates the students' work/field experience to a theory of counseling and one class will have a traditional class format. (Spring)

HIST-H299 Independent Study by Arrangement
(Fall/Spring)

HORTICULTURE
Mathematics/Science Division

HORT-H101 Landscape Mechanics and Construction 4 cr.

This course provides applied experiences in assorted construction techniques necessary in the development of landscapes and the selection and maintenance of small engines. Included are a survey of construction materials, deck design and construction, patio and walkway installation, stone wall construction, fencing, retaining wall design and construction. Earthwork calculations, measuring and materials estimating are included. Actual field exercises will be provided.

HORT-H150 Woody Plants 3 cr.
A detailed study of deciduous and evergreen trees, shrubs and vines, their identification, growth habits, cultural needs and landscape use. The course also surveys unique aspects of tree biology, problem diagnosis and management and is a good preparation for arborist certification particularly if taken with HORT-H205.

HORT-H154 Herbaceous Plants 3 cr.
The characteristics, identification, selection, ornamental value and culture of the main herbaceous plants used in landscaping are examined and evaluated.

HORT-H162 Turf Management 3 cr.
The establishment and maintenance of turf grass are studied in the course. Lawn, golf course, and athletic field care are emphasized. Students will also learn to identify the turf grasses, identify and control weeds, insects, pests and diseases.

HORT-H164 Landscaping Small Properties 3 cr.
This course complements and enhances HORT-H206, Landscape Design. It covers the evolution of garden design, an analysis of color relationships in design, and how to plan different kinds of gardens.

HORT-H183 Flower Arranging and Floral Design I 3 cr.
The basic principles of design as applied to the art of floral arranging are examined and flower shop management operation..

HORT-H184 Flower Arranging and Floral Design II 3 cr.
This is a continuation of HORT-H183. Emphasis will be placed on commercial floral design.

HORT-H205 Pest Control in Ornamentals and Turf 3 cr.
This course teaches students how to control pests in trees, shrubs, gardens and greenhouses. Detailed studies of the life histories of the pests are a background to learning some of the techniques of integrated pest management. However, the responsible and safe use of pesticides is emphasized throughout the course. This is a useful preparation for the certification of commercial pesticide applicators and arborists.

HORT-H206 Landscape Design 3 cr.
Prerequisite: HORT-H150. This course deals with the selection and placement of trees, shrubs, flowers, walks, drives, steps, lighting and other landscape features for both residential and commercial properties.

HORT-H207 Landscape Maintenance 3 cr.
This course is designed to assist the professional and amateur landscape gardener to maintain their gardens through an understanding of plant growth, pruning, nutrition, propagation, etc. The course also includes landscape estimating.

HORT-H208 Landscape Design II 3 cr.
Prerequisite: HORT-H206 or permission of instructor. This course is designed as a continuation of HORT-H206. This course will aid students in developing skills in perceptual design, job bidding, as well as give an introduction to computer aided drafting, as related to horticulture landscaping.

HORT-H209 Arboriculture 3 cr.
This course is designed to prepare landscapers for the State Arborist Exam. Topics include the biology, identification, selection, planting, management, preservation of trees and diagnosis of tree problems. It is recommended that if students lack extensive work experience they should have taken HORT-H150 (Woody Plants) and HORT-H205 (Pest Control) before taking the State Arborist Exam.

HORT-H212 Greenhouse Management 4 cr.
This course focuses on the selection, production and management of greenhouse and bedding plants, interior plantscape management and

design, management of annuals and perennials. Plant physiology is related to the environmental effects on plant growth.

HORT-H213 Greenhouse Management II 4 cr.
Prerequisite: HORT-H212 or permission of instructor. This course is a continued in-depth study of the commercial greenhouse industry. It is a complement to HORT-H212. Included in the course is an in-depth look at the production of greenhouse crops, disease, and insect control. Interior plant maintenance, soils testing, and development of production programs with the use of computer aided programs will be used to better understand plant growth.

HORT-H215 Plant Propagation & Hybridization 4 cr.
Prerequisite: HORT-H212 or BIOL-H105 or permission of instructor. This course is an in-depth study of the world of plant reproduction and genetics. This course is a complement to other courses offered in the Horticulture degree and certificate program. This course will give students the theoretical and practical skills needed to reproduce plants asexually, and through micropropagation. Included will be the use of the college propagation facilities to facilitate learning.

HORT-H290 Cooperative Work Experience 3 cr.
Prerequisite: 12 credits in Horticulture, "C" or better for degree program; 6 Horticulture credits, "C" or better for Certificate. This program involves a work experience which will vary according to students' needs and interests and regional cooperating personnel. A written report will be required from the student upon completion of the Cooperative Work Experience. Conferences among students, agency personnel, and faculty facilitator will be held during the semester. Course consists of:

1. A two-hour Professional Development Workshop
2. Minimum 145-hour (volunteer in an appropriate setting)
or
225-hour (paid) Cooperative Work Experience
3. A weekly 1one-hour Co-op Seminar in an appropriate setting

HOSPITALITY MANAGEMENT: FOODSERVICE MANAGEMENT HOTEL MANAGEMENT

Business Division

HM-H100 Food Protection Certification (8 wks) 1 cr.
Not open for credit for students who have successfully completed HM-H103. Designed for the non-degree students employed in the food service industry. Aspects of applied commercial food service sanitation resulting in nationally recognized certification as required by Connecticut law. Prevention of food-borne illness, sanitary procedures in the protection and service of food to the public, laws and regulations, sanitary design and employee training will be discussed. Eight weeks.

HM-H101 Introduction to the Hospitality Industry 3 cr.
 An orientation to the business of hospitality and its various systems including restaurants, hotels, and institutions. The course surveys the hospitality industry's history, current business and career trends, operations management and organization, and forces shaping the future of the industry and its place in the economy.

HM-H103 Foodservice Sanitation and Hotel Housekeeping 3 cr.
 An in-depth coverage of commercial food service sanitation resulting in certification as required by Connecticut law. Included are proper food handling procedures in receiving, storage, preparation, purchasing and service, as well as staff training and quality control.

Housekeeping systems, procedures and facility maintenance in lodging are examined.

HM-H105 Food Preparation I & Lab 3 cr.
 A laboratory course which teaches the theory and develops skills in basic cooking methods and culinary techniques in the production of soups, salads, vegetables, stocks, and sauces. Meats, poultry, and seafood are prepared employing standard techniques with special attention to commercial and quality production. Tool and equipment use, weights, measures, and recipe conversion are discussed and practiced.

HM-H106 Food Production & Purchasing & Lab 3 cr.
Prerequisite: HM-H105. A continuation and application of the culinary techniques and knowledge acquired in HM-H105 through the planning and preparation and group service of advanced menus. Discussion of meat, poultry, and fish identification, fabrication, and purchasing specifications, as well as food costing and menu pricing.

HM-H110 Hotel Operations 3 cr.
Prerequisite: HM-H101. A study of hotel and motel front office systems and procedures, including organization, business flow, reservations and rooming, guest accounting, and security. Management functions and operating statistics are discussed and practiced.

HM-H120 Service Management 3 cr.
Prerequisite: HM-H105. An exploration of "front of the house" hospitality operations, including styles and standards of dining room, lounge, and concierge services as well as dining room organization, customer relations, merchandising and sales promotion. Special emphasis is placed on manager/supervisor functions such as training, motivation, cashiering, revenue control and wine stewardship.

HM-H125 Introduction to Wine and Viticulture 3 cr.
 Botanical description of the grape (*vitis*) and the principles of viticulture (grape growing) and enology (wine making) are studied. Students also explore various viticultural techniques used throughout the world. Wine tasting sessions are included. *Per Connecticut State Law, persons under the age of twenty-one (21) are not allowed to consume alcoholic beverages.*

HM-H202 Laws of Innkeeping 3 cr.
Prerequisites: HM-H101 and second year standing. A treatment of the basic laws relating to merchants in general, including a study of the Uniform Commercial Code, contracts and negotiable instruments, liability, and property rights. Special laws of the hotel and food service industry are explored as well as case studies of the legal and moral responsibilities of the restaurateur/hotelier to his employees and guests.

HM-H203 Catering and Event Management 3 cr.
Prerequisites: HM-H105, 106, 120. A lecture/laboratory practicum emphasizing the management and planning of catering, banquet and conference service with in-depth discussion of the meetings market and technology. Advanced culinary preparations will be practiced, stressing group service.

HM-H204 Hospitality Marketing and Sales 3 cr.
Prerequisites: HM-H101, 110. An analysis of the services market with regard to hotel and restaurant marketing and methods of advertising, promotion, public relations, pricing, and discussion of strategic planning and positioning.

HM-H205 Travel and Tourism 3 cr.
 A survey of today's travel industry and its primary segments, including recreation and leisure systems, the transportation and accommodation industries, destination development and characteristics of the travel market. The role and function of the travel agency and career opportunities will be explored.

HM-H207 Food and Beverage Cost Control 3 cr.
Prerequisites: HM-H101, 105, MATH-H109 or equivalent, or con-

sent of Program Coordinator. An in-depth study of the control function of the hospitality manager and its various applications in the purchasing, receiving, storing, issuing, production and sale of food and beverage. Operational planning and analysis, labor and labor cost control, and cost/volume/profit relationships are explored. This course may result in nationally recognized certification upon successful performance on certification examination.

HM-H290 Hospitality Management Cooperative Work Experience 3 cr.

Prerequisites: "C" or better in major courses. For *Foodservices Management: HM-H101, 103, 106, 207. For Hotel Management HM-H101, 106, 110, 207.* A required program component intended to reinforce the techniques and procedures presented in the classroom. The student develops a greater sensitivity to his/her position within the hospitality industry by working in an approved hospitality establishment. The student is not placed in or guaranteed a position, but works with the Cooperative Education Department staff in seeking employment based upon his/her own merits. Students are evaluated by their employers and by the Seminar Instructor based upon visits to the worksite and quality of written assignments. Course consists of:

1. A two-hour Professional Development Workshop
2. A minimum 225-hour Cooperative Work Experience
3. A weekly Co-op Seminar

HOTEL MANAGEMENT

Refer to Hospitality Management.

HUMAN SERVICES

Behavioral and Social Sciences Division

HS-H101 Introduction to Human Services 3 cr.

This course offers an introduction to the Human Services field, including the history of the various service professions, information about a variety of mental health and social service agencies, and a discussion of successful treatment methods. The fundamentals of interviewing are studied extensively. This is the foundation course leading to all four options within the Human Services Program of the College. (Fall/Spring)

HS-H103 Death and Dying 3 cr.

An exploration of the stages of death and dying. Special emphasis will be placed on understanding grief and loss. The course will focus on the following: the dying person, sudden death and the effect on the family, cultural and economic issues, the broad moral aspects of death, and other related problems. (Spring)

HS-H106 Child Advocacy and Services 3 cr.

Prerequisite: HS-H101 with a grade of "C" or better. The course presents concepts, policies and practice in the broad field of child and family services and advocacy. Among the topics to be examined are the needs of children and families, the major policies and programs of social services designed for children and families, and the policy issues that emerge for planning for children and families. The intent of the course is to provide the student with a substantive base of knowledge about policies and practice in family and child services. Students will be helped to develop an overall orientation to family - as a unit of attention, as well as to the emerging service concerns of family support, family preservation, the need for continuity of family relationships, and to the various culturally competent approaches. (Spring)

HS-H203 Principles, Methods and Techniques of Counseling and Interviewing 3 cr.

Prerequisite: HS-H101 with a grade of "C" or better. This is a

systematic study of the basic principles, methods, and current techniques employed in assessment, planning, interviewing, counseling, contracting, and interventions. The course develops student self-awareness of personal values and professional ethics. Students are expected to learn through theory and classroom application of interactional skills. (Fall/Spring)

HS-H204 Disabilities and Mental Health 3 cr.

Prerequisite: HS-H101 with a grade of "C" or better. This is a required course for all Human Services students wishing to pursue the Disabilities Specialist/Mental Health Option. This is an introductory course in disabilities and mental health. Its primary purpose is to familiarize students with both developmental and mental disabilities from childhood to adulthood. It examines the impact of physical and mental disabilities, major legislation, ethics, advocacy, medical and psychological concerns, rehabilitation, employment, social planning, and living and working in society for children and adults with disabilities and mental illness. The physical and psychosocial aspects of developmental disability and mental health also are studied through a focus on education, family life, community and values. (Fall)

HS-H207 Theories of Counseling 3 cr.

Prerequisite: HS-H101 with a grade of "C" or better. This course offers an examination of the current approaches to counseling individuals, families and groups. The course offers a more in-depth examination of the concepts, therapeutic processes and techniques of the various types of counseling that were introduced in HS-H101, Introduction to Human Services. The theories addressed will include: Psychoanalytic, Alderian, Existential, Person-Centered, Gestalt, Reality, Cognitive-Behavioral and Family Systems Therapy. Particular emphasis will be placed on enhancing the students' skills of data gathering, case planning, counseling and documentation. This course will cover information that students will need to begin developing their own philosophy of human services counseling. (Fall/Spring)

HS-H208 Creative Methods & Activities for the Elderly 3 cr.

This course will focus on the methods and skills needed to effectively provide services for elders in a variety of settings. A review of literature and research surrounding caregiving and recreation programs for the elderly will be explored. Current issues and problems associated with providing leisure and recreation services for elders are topics to be covered. Students will be involved in developing and implementing leisure and recreational activities for the elderly. (Spring)

HS-H209 Gerontology 3 CR.

Prerequisite: HS-H101 with a grade of "C" or better. The course examines the biological, social and psychological aspects of aging and the problems that are experienced by the aged in America. It explores the local, state and federal programs and services available to the elderly and the caregiver. Topics covered include Alzheimer's Disease, Medicare, Social Security, living wills, and Hospice vs. home care issues. (Fall)

HS-H291 Human Services Cooperative Work Experience 3 cr.

Prerequisites: HS-H101, 203, 207 with a grade of "C" or better. Successful completion of 6 credit hours in Behavioral Sciences, ENG-H101, or permission of the Human Services Coordinator or Division Director. Work experience in a human service agency is a major component of this required course. The student will have the opportunity to apply the values, concepts and skills acquired in the introductory and other HS courses. This activity will be conducted under the supervision of the faculty coordinator and the professionals in the agencies in which the students are placed. The course consists of:

1. A two-hour Professional Development Workshop
2. 225-hour Cooperative Work Experience
3. Weekly Co-Op Seminar (Fall/Spring)

HUMANITIES

Arts and Humanities Division

HUM-H120 Field Study in Fine Arts Appreciation 3 cr.
The discovery and appreciation of the historical and contemporary arts of the area under study. This may include architecture, painting, theatre or music. Student will observe, investigate and report under the supervision of a faculty member.

HUM-H200 Seminar 3 cr.
This course will focus on a specific area of humanistic study, to be identified at the time of offering. Such topics may include a particular literary genre (such as science fiction), linguistic development (such as transformational grammar), a writer (such as Ernest Hemingway), a literary period (such as metaphysical poetry), specific art forms (such as dance), or the like. This is intended for upper-level students who work with the instructor in an identified area of interest or expertise. It may be repeated once for credit. Prerequisites are to be determined at the time of scheduling.

INDUSTRIAL MANAGEMENT AND SUPERVISION TECHNOLOGY

Engineering Technologies Division

MGT-H1205 Team Building 3 cr.
Students will learn how to function on teams, which are now widely utilized, as a response to challenges. Several simulation exercises are available and will be used to reinforce classroom concepts. Basic negotiation techniques will be covered to understand responses to conflict and managing group problems. Three class hours weekly.

MGT-H2105 Total Quality 3 cr.
A study of the concepts and implementation of Total Quality as a necessary survival tool. Topics include the evolution of quality, management by objective/management by exception, setting quality goals, six sigma capability, PPM, cycle time, total employee involvement/empowerment/training, quality costs and TQ tools. Three class hours weekly.

MGT-H2107 Principles of Supervision 3 cr.
Provides for the development of supervisory ability and judgement through a presentation of the principles and techniques of effective supervision. Topics range from communication, motivating, training, personnel selection, disciplining, counseling, and controlling performance. Both case and incident study methods are utilized which encourages student participation. Three class hours weekly.

MGT-H2109 Industrial Safety 3 cr.
This course studies industrial accident prevention and industrial hygiene covering such topics as management's responsibilities and functions in accident prevention; OSHA regulations; machine guarding techniques and personal protective equipment; fire prevention and control; electrical and hand tool hazards; employee training and communications; injury data, hazards, and accident analysis; and hygiene problems caused by industrial environments. Three class hours weekly.

MGT-H2208 Production Planning and Control 3 cr.
Introduction to the fundamentals of production planning, forecasting, analysis, and control. Included are such topics as forecasting and master production schedules, procurement, routing, scheduling and dispatching, recording and reporting. Three class hours weekly.

MGT-H2209 Plant Layout & Materials Handling 3 cr.
Prerequisite: MFG-H1100. Study of factory planning and materials handling with emphasis on efficient arrangements of work areas to achieve lower manufacturing costs. Includes the study of sample layouts, layout fundamentals, the fundamentals of materials handling, storage, and inventory, and materials handling equipment. Three class hours weekly.

ITALIAN

Refer to Modern Languages.

LANDSCAPING

Refer to Horticulture.

LEGAL ASSISTANT/PARALEGAL

Business Division

LAP-H101 Introduction to Law and the Legal Assistant Profession 3 cr.
This course is an introduction to various aspects of the law, including but not limited to torts, contracts, criminal law and procedure and constitutional law. The course also surveys the structure and procedure of a number of court systems in the United States, and includes discussions of some topics of concern to the paralegal, including legal ethics, the rights of the elderly, the poor, the young and other disadvantaged minorities.

LAP-H102 Real Estate Practice 3 cr.
Prerequisites: LAP-H101, 104. This course is an introduction to the law of real property, and includes the preparation and recording of deeds, easements, leases and other public documents, in addition to a large variety of other documents, forms and procedures that a paralegal will encounter in real estate practice.

LAP-H104 Legal Research and Writing 3 cr.
Prerequisite: LAP-H101. Selected topics to develop skills in the use of legal encyclopedias, digests, reports, statutes, restatements, law reviews, and other research materials used by the legal profession are presented as an introduction to the uses of the law library. It is necessary that students do much of their legal research assignments in one of the many state or university law libraries located at various places throughout Connecticut. Students who are unable to devote several hours of research per week in one of the law libraries are advised not to enroll in LAP-H104.

LAP-H105 Advanced Legal Research and Writing 3 cr.
Prerequisites: LAP-H101, 104. This course further solidifies the student's ability to master the functions of the law library and provides a theoretical and practical forum in the use of traditional legal research and writing.

LAP-H201 Estate Planning 3 cr.
Prerequisites: LAP-H101, 104. This course is an introduction to the law of wills, trusts and estates, and includes the law of intestate succession as well as a survey of the probate system. This course will help to prepare the paralegal to become familiar with the various forms and documents associated with probate and estate practice.

LAP-H202 Family Law 3 cr.
Prerequisites: LAP-H101, 104. This course will provide a strong background in the area of family law, with special emphasis on family law practice, including litigation. Other family law topics such as adoption, custody, community property, and child support are thoroughly investigated.

LAP-H203 Litigation 3 cr.
Prerequisites: LAP-H101, 104. As an introduction to civil and criminal procedures, this course includes a survey of the functions of the federal and state court systems. The preparation of documents relative to the trial and appellate process is examined.

LAP-H204 Criminal Procedure and Constitutional Law Seminar 3 cr.
Prerequisites: LAP-H101, 104. This course enables the student to utilize the classroom as a learning law laboratory since it will explore

the Bill of Rights and the Fourteenth Amendment in detail as well as the entire United States Constitution. Constitutional law cases will be studied in the context of criminal procedure issues evolving from the precedents set by the United States Supreme Court.

LAP-H205 Advanced Legal Issues Seminar 3 cr.
Prerequisites: LAP-H101, 104. This course will be taught as a seminar and through a series of lectures. A guest speaker is also likely to participate. The problem-solving method will be used to examine critical issues in the wake of current legal events and new trends in the law.

LAP-H206 Bankruptcy Practice 3 cr.
Prerequisites: LAP-H101, 104. This course will provide students with a thorough review of the United States Bankruptcy Code. The course is tailored to explore the general functions of the Bankruptcy Court. The applicable rules and proceedings for various types of bankruptcy cases will be thoroughly discussed.

LAP-H290 Legal Assistant Cooperative Work Experience 3 cr.
Prerequisites: LAP-H101, 102, and 104, "C" or better. Paralegal concepts are applied through work experience with law firms, banks, government, private agencies, and other institutions. Course consists of:

1. A two-hour Professional Development Workshop
2. Minimum 145-hour (volunteer)
or
225-hour (paid) Cooperative Work Experience
3. A weekly one-hour Co-op Seminar

MANAGEMENT

Refer to the Business section.

MARKETING

Refer to the Business section.

MATHEMATICS

Mathematics/Science Division

MATH-H091 Pre-Algebra 4 cr.
Prerequisite: Placement in this course is determined by a college placement exam. Material is chosen to provide the student with current mathematical concepts and topics needed to continue work in algebra, the mathematics of business, science and basic technology. Topics covered include computation with whole numbers, fractions, decimals, ratios, proportions, percents, and measures. Geometry topics are integrated throughout. Signed number computation, algebraic expressions, and equation solving appear regularly, thus familiarizing the student with algebraic concepts. Emphasis is on understanding of mathematical concepts and problem solving techniques. Instruction in calculator use is emphasized along with related applications. This will not fulfill a mathematics requirement in any degree program.

MATH-H092 Pre-Algebra 3 cr.
Prerequisite: Placement in this course is determined by a college placement exam. Material is chosen to provide the student with current mathematical concepts and topics needed to continue work in algebra, the mathematics of business, science and basic technology. Topics covered include computation with whole numbers, fractions, decimals, ratios, proportions, percents, and measures. Geometry topics are integrated throughout. Signed number computation, algebraic expressions, and equation solving appear regularly, thus familiarizing the student with algebraic con-

cepts. Emphasis is on understanding of mathematical concepts and problem solving techniques. Instruction in calculator use is emphasized along with related applications. This will not fulfill a mathematics requirement in any degree program.

MATH-H096 Elementary Algebra 3 cr.
Prerequisite: Grade of "C" or better in MATH-H091 or MATH-H092 (Prealgebra) or an appropriate score on a college placement exam. The course begins with a brief review of basic computational skills and operations with signed numbers. Algebraic order of operations and evaluation and simplification of algebraic expressions is followed by techniques for solving first degree equations and inequalities in one unknown. Also included in this course are algebraic methods for solving applications involving one and two unknowns. Basic rules of exponents are presented and scientific notation is discussed. This is followed by the basic polynomial operations and graphing linear equations in two unknowns, finding slopes of lines, x- and y- intercepts, and writing the equations of lines. This will not fulfill a mathematics requirement in any degree program.

MATH-H102 Intermediate Algebra 3 cr.
Prerequisite: Grade of "C" or better in MATH-H096 (Elementary Algebra) or an appropriate score on a college placement exam. The main themes of Intermediate Algebra are functions, represented by tables, graphs, and rules, and problem solving. The study of polynomial functions is extended via applications involving linear functions, linear systems, and quadratic functions. Students also study rational functions, radical functions, and absolute value functions. Exponential functions are included as time allows. A graphing calculator is strongly recommended. This may be used as a general elective; this will not fulfill a mathematics requirement in any degree program.

MATH-H106 Number Systems 3 cr.
Prerequisite: Grade of "C" or better in MATH-H096 (Elementary Algebra) or an appropriate score on a college placement exam. The number systems (Whole Number, Integer, Rational, Real) are developed with their properties with respect to the operations of addition, subtraction, multiplication, and division. Additional topics include theory of sets, symbolic logic, various number bases, and number theory.

MATH-H108 Statistics 3 cr.
Prerequisite: Grade of "C" or better in MATH-H102 (Intermediate Algebra) or an appropriate score on a college placement exam. This technology-based course begins with an introduction to data analysis including techniques in the presentation of data and in the determination of statistical measures for central tendency and variation. The topics of linear correlation and regression are explored in the analysis of bivariate data. The basics of probability are presented prior to a thorough examination of discrete and continuous probability distributions. Emphasis is placed on the binomial and normal distributions. Estimation and hypothesis testing for population means is introduced. As time permits, statistical inference techniques for proportion, variance and the difference of means will be presented.

MATH-H109 Applied Mathematics 3 cr.
Prerequisite: Grade of "C" or better in MATH-H096 (Elementary Algebra) or an appropriate score on a college placement exam. Enrollment in MATH-H109 is restricted to Automotive Technician, Office Administrative Careers, Early Childhood Education, Hospitality Management, Landscaping and Horticulture. Topics covered include arithmetic, the metric system, ratio and percent, business mathematics, statistics, graphs, and variation. This course emphasizes specific mathematical applications for each discipline.

MATH-H111 Geometry 3 cr.
Prerequisite: Grade of "C" or better in MATH-H102 (Intermediate Algebra) or an appropriate score on a college placement exam. A foundation in Euclidean geometry using an axiomatic as well as an inquiry approach. Topics include inductive and deductive rea-

soning, logic, polygons, parallelism, congruence, similarity, coordinate geometry, direct, indirect and coordinate proof, and three-dimensional space. A brief introduction to non-Euclidean geometry will be presented if time permits. As appropriate, computer software is used to encourage exploration.

MATH-H113 College Algebra 3 cr.
Prerequisite: Grade of "C" or better in MATH-H102 (Intermediate Algebra) or an appropriate score on a college placement exam. This course offers the student the development of numeric, algebraic, and graphic problem solving techniques beyond the intermediate level. Techniques are developed to solve equations and inequalities involving polynomials, radicals and rational expressions. Polynomial, inverse, rational, exponential, and logarithmic functions are studied and their applications are explored both algebraically and graphically.

MATH-H117 Trigonometry 3 cr.
Prerequisite: Grade of "C" or better in MATH-H113 (College Algebra) or an appropriate score on a college placement exam. This course offers the student a development of trigonometry through a functional approach. The trigonometric functions are considered as circular functions with applications of these to the solution of triangulation problems. Topics include trigonometric identities, inverse trigonometric functions, oblique triangle trigonometry and the graphs of the trigonometric functions. Vectors will be introduced and the polar coordinate system will also be considered.

MATH-H120 Applied Calculus 3 cr.
Prerequisite: Grade of "C" or better in Math-H113 (College Algebra) or an appropriate score on a college placement exam. The purpose of this course is to acquaint students not majoring in mathematics or science with a body of mathematical knowledge that may well demand investigation in view of their various academic goals. Topics covered include function theory, inequalities, tangent problems, continuity, limits, derivatives, and integrals.

MATH-H205 Calculus I 4 cr.
Prerequisite: Grade of "C" or better in Math-H117 (Trigonometry) or an appropriate score on a college placement exam. A four semester hour course intended to provide the necessary preparation for advanced mathematics and science courses as requirements for all mathematics/science majors. The course begins with a review of the properties of absolute value and inequalities and other algebraic topics. Functions, limits, and continuity are thoroughly covered along with the derivatives. Formulas for calculating derivatives are presented, along with geometrical and physical applications. The antiderivative is introduced along with the definition of the differential and some applications. The course concludes with an introduction to the definite integral and its geometric meaning.

MATH-H206 Calculus II 4 cr.
Prerequisite: Grade of "C" or better in MATH-H205 (Calculus I) A second course in calculus for mathematics or science majors. Topics include the definite integral and applications of the definite integral to areas, volumes, and length of arc of a plane curve. Also considered are logarithmic and exponential functions, trigonometric functions, inverse trigonometric functions and various techniques of integration. Limits involving indeterminate forms and improper integrals are also discussed. The course concludes with an introduction to infinite series.

MATH-H207 Calculus III 4 cr.
Prerequisite: Grade of "C" or better in MATH-H206 (Calculus II) A course in multivariable calculus for mathematics or science majors. Topics include plane curves and polar coordinates, vectors and solid analytic geometry, vector-valued functions, partial functions, multiple integrals, and differential equations.

MECHANICAL ENGINEERING TECHNOLOGY

Engineering Technologies Division

MEC-H1108 Statics 5 cr.
Prerequisites: MATH-H113, PHYS-H111. *Corequisite:* MATH-H117. Analysis of the forces which act upon rigid bodies at rest is the subject of this course. Balances of forces and moments on an object provide the basis for equilibrium calculations involving points, rigid bodies, frames and machines with a variety of supports (including frictional). The use of free-body diagrams and neat, professional level presentation of work is stressed. Five class hours weekly.

MEC-H1200 Introduction to Computers 3 cr.
 This course introduces the fundamental components common to all computer systems, including a comprehensive overview of modern computer terminology and concepts. Topics studied include an operating system, word processing, and spreadsheets. Most time is spent in one of the College's microcomputer laboratories where students practice fundamental operating system commands, build spreadsheets to solve technical problems and use a wordprocessor to document their work. Four hours weekly.

MEC-H2120 Strength of Materials 4 cr.
Prerequisite: MEC-H1108. *Corequisite:* MATH-H117. Covers the principles involved in the analysis of stresses which occur within machine and structural elements subjected to various types of loads. Analysis of these stresses are made as applied to thin-walled cylinders and spheres, riveted and welded joints, beams, columns, couplings and shafts. Mechanical properties of common materials are determined using equipment such as the Universal Testing Machine, Torsion Testing Machine, and Impact Testing Machine. Experiments involving stress and strain analysis are included. Microcomputers are used in the analysis of experimental data and preparation of laboratory reports. Three class and two laboratory hours weekly.

MEC-H2124 Fluid Mechanics 4 cr.
Prerequisite: MEC-H1108, *Corequisite:* MATH-H117. An introductory survey of the principles and methods involved in the analysis of fluid systems. Included are common fluid properties, hydrostatics, the kinematics of fluid flow and energy relationships. The use of standard empirical information to reflect the departure of actual hardware performance from the theoretical is reflected in many of the applications considered. This course also provides laboratory experience with the common instruments used in experiments involving properties of fluids. To verify the general analytical methods studied in class, wind tunnel testing, hydraulics, pneumatics and pressure loss measurements may be included. Three class and two laboratory hours weekly.

MEC-H2128 Thermodynamics 4 cr.
Prerequisites: CHE-H1100, MEC-H2124. A study of the relationships between work, heat, and energy as they are used to analyze energy conversion equipment. The various thermodynamic properties of fluids and the use of standardized tables of values are discussed. Both open and closed system models are studied as they relate to performance predictions in such areas as power generation plants, refrigeration systems and internal combustion engines. Laboratory experiments involve primarily heat transfer apparatus which supplement the theoretical class room work. Three class hours and two lab hours weekly.

MEC-H2130 Machine Design 5 cr.
Prerequisites: CAD-H1203, MEC-H1200, 2120, MFG-H2110. Deals with the concept of mechanical design from concept to specifications. Covers the procedures, data, and techniques necessary to design/select mechanical components such as gears, springs, bearings, belt and chain drives, clutches, brakes, fasteners, shafts and screws. The use of microcomputers in the design process is emphasized. A design project is also included. Three class and four laboratory hours weekly.

MEC-H2168 Dynamics 4 cr.
Prerequisites: MEC-H1200, 1108, MATH-H117. This course covers the fundamental techniques used for analyzing the motion of particles and rigid bodies and the forces which cause that motion. Translation and rotation as fundamental components of rectilinear, curvilinear and constrained plane motion are explained. Relative and absolute velocities and accelerations are treated with both graphical and computational techniques. Laboratory practice is used to verify and reinforce the theoretical concepts. Three class and two laboratory hours weekly.

MANUFACTURING ENGINEERING TECHNOLOGY

Engineering Technologies Division

MFG-H1100 Manufacturing Processes 4 cr.
Corequisite: MATH-H102. Students study the theoretical concepts involved in the process of manufacturing parts as well as the development of the knowledge and skills required in the manufacturing process. Laboratory study emphasizes metal cutting, joining, molding and casting utilizing ferrous, non-ferrous and non-metallic materials. Laboratories will involve setup and procedures for various manufacturing processes. Three class and two laboratory hours weekly.

MFG-H1104 Computer-Aided Manufacturing I 3 cr.
Prerequisites: MFG-H1100, MEC-H1200. Basic and advanced manual CNC programming, introduction to robotics and robot programming, ladder logic and digital programmable logic control programming, and tooling for CNC applications will be discussed. Laboratory will include practice in programming CNC lathes and milling machines, robots, and digital programmable logic controllers. Two class hours and two laboratory hours weekly.

MFG-H1120 Metrology 3 cr.
 A study of the application and use of measuring instruments and interpretation of gathered data. Through classroom instruction and exercises, students will study the use of micrometers, verniers, dial indicators, force gauges, air gauges, attribute measurement gauging, visual inspection, environmental testing, tool and gauge control, and the use of electronic measuring equipment. Three class hours weekly.

MFG-H1122 Quality Assurance Organization and Management 3 cr.
 Develops the concepts of a Total Quality System (TQS), including policies, objectives and organization. Examine such topics as: cost of quality, planning, improvement techniques, reliability, supplier relations and evaluations, inspection, measurement and process control techniques, and customer relations. Three class hours weekly.

MFG-H1144 Hydraulics & Pneumatics 3 cr.
Prerequisites: PHY-H111, MATH-H113. This course will cover hydraulic and pneumatic systems as a means of transmitting and controlling power. This course discusses fluid power fundamentals, component identification and operation, fluid power graphic symbols, circuits, application and diagnostics. Three class hours per week.

MFG-H2000 Manufacturing Management 3 cr.
 This course introduces the student to the structure and organization of manufacturing management in an industrial society. The role of various management functions including strategic planning, cost control, inventory management, and quality control will be studied. Three class hours weekly.

MFG-H2010 Computer-Aided Manufacturing II 3 cr.
Prerequisites: CAD-H1203, MFG-H1104. This course discusses computer generated CNC programming, robot programming, ana-

log programmable logic control programming, and interfacing of robots, controllers, and machine tools. CAD/CAM and Postprocessor Development Manufacturing Systems are also discussed. Laboratory practice in writing computer generated CNC programs, robotics programming and interfacing, and analog programmable logic controller programming will be studied. Two class and two laboratory hours weekly.

MFG-H2110 Materials of Engineering 4 cr.
Prerequisites: MFG-H1100, CHE-H1100. Study of the structure and properties of engineering materials. Materials selection, processing and heat treatment are studied. The changes in structure and properties during forming, machining, and heat treating operations are discussed. Selected experiments to demonstrate the effects of processing, including heat treatment on the properties of engineering materials. Standard materials tests are also performed. Three class and two laboratory hours weekly.

MFG-H2124 Tool Design 5 cr.
Prerequisites: CAD-H1203, MFG-H1100, 2110, MATH-H117. The course is designed to teach the theoretical principles, commercial standards and techniques for the design of metal cutting tools, jigs, fixtures, gages and dies. Application of the theory and principles learned in the classroom to design problems. The design problems will include metal cutting tools, jigs, fixtures, gages and dies. Three class and four laboratory hours weekly.

MFG-H2202 Reliability 3 cr.
Prerequisites: MFG-H2230, MATH-H114. Develops the fundamentals of the reliability system in an orderly fashion so that the student can understand reliability problems and their technical solutions. Subject matter includes: system effectiveness, statistical and mathematical applications, reliability, systems maintainability, human factors, specifications, acceptance testing, organization and costs. Three class hours weekly.

MFG-H2230 Statistical Process Control 3 cr.
Prerequisites: MEC-H1200, MATH-H114. Presents a modern approach to quality adapted from the science of statistics. The scope of study ranges from basic statistical concepts, through the history of statistical quality control and the contributions of pioneers like Deming, Juran and Taguchi. Traditional methods of control charts for both variables and attributes and acceptance sampling are presented, as well as the more modern methods. Simple, effective graphical problem-solving tools, histograms, run charts, stem and leaf displays, pareto charts, cause and effect diagrams and capability ratios (CP & CPK) are covered. The computer is utilized as an aid in calculation and control chart preparation. Two class and two laboratory hours weekly.

MFG-H2232 Geometric Dimensioning and Tolerancing 3 cr.
Prerequisite: DFT-H1110 or DFT-H1124. A study of the industrial accepted ANSI Specification Y14.5-1973 and ANSI Y14.5M-1982. The ANSI Y14.5 specification creates a unified language through which engineering requirements are specified with respect to actual function and relationship of parts features. Subject matter includes the application of form, profile, orientation, runout, and location types of geometric characteristics, including the application of the feature control frame and tolerance and datum modifiers. Three class hours weekly.

MFG-H2233 Statistical Process Improvement 3 cr.
Prerequisites: MFG-H2230, MATH-H114. A study of the application of intermediate statistical quality control methods. Included in the statistical techniques presented are continued study of probability including an introduction to Bayes' Theorem, statistical problem-solving through statistical tests of significance, correlation and regression methods, and an introduction to the analysis of variance. Three class hours weekly.

MFG-H2234 Physical Testing 3 cr.
An introduction to the techniques of the physical testing of materials and components. The course includes a survey of engineering materials, including metals, polymers, and ceramics, metallographic procedures, mechanical procedures, mechanical testing, X-ray diffraction, and spectrography. Two class and two laboratory hours weekly.

MFG-H2236 Nondestructive Testing 3 cr.
Develops an understanding of the application and practice of modern nondestructive test techniques. Students are instructed in radiography, ultrasonic, magnetic particle, liquid penetrant and eddy current methods of nondestructive testing. Three class hours weekly.

MFG-H2240 Design of Experiments 3 cr.
Prerequisites: MFG-H2230, 2233, MATH-H114. Studies the use of designed experiments aimed at product/process improvement as evidenced by lower cost, high quality and improved productivity. This course will teach the student to design, perform and analyze experiments. Included subjects are randomized design, factorial design, blocked experiments, Latin Square Designs and Taguchi methods. Two class and two laboratory hours weekly.

MFG-H2248 Computer-Integrated Manufacturing (CIM) 3 cr.
Prerequisites: MFG-H2010, 2110. The study of flexible manufacturing systems, part families, computers in manufacturing, manufacturing information management, interfacing various machine tools with material handling equipment and vision systems. Two class and two laboratory hours weekly.

MFG-H2275 Mechanics of Materials 3 cr.
Prerequisites: MEC-H1108, MATH-H117. The study and explanation of the relationships existing between externally applied forces and resulting stresses in deformations. From our study of Mechanics of Materials, we will be able to determine if a body is capable of fulfilling its intended purpose. Limited computer applications of beam theory and a computer demonstration of FEA. Three class hours weekly.

MEDICAL INSURANCE SPECIALIST

Business Division

MI-H102 Medical Terminology and Procedures 4 cr.
This is a basic study of the professional language of medicine. It includes word construction, pronunciation, spelling, definition, and use of terms related to all areas of medical science, hospital service, and health-related professions. This course is designed to give the student a basic overview of anatomy, pathology, surgical procedures, diagnostic procedures, and symptomatology.

MI-H230 Claims Processing Applications 3 cr.
Prerequisite: Successful completion of MI-H102 - Medical Terminology and Procedures and BOT-H121 - Introduction to Office Computing. *Co-requisite:* MI-H1044 - Foundation and Management of Medical Insurance. The applications course provides an overview of the medical insurance claim process from the perspective of the insurance company. This course introduces the student to an in-depth look at the claim processor's role with emphasis on quality and customer service. Topics covered will include eligibility, provider types, managing medical costs, benefit coding, determining benefits, finalizing claims, coordination of benefits, medicare and adjustments.

MI-H1011 Technical Applications of Medical Insurance Management Systems I 3 cr.
Prerequisite: MI-H102. *Corequisite:* MI-H1022. This course is an in-depth study of basic ICD-9-CM coding. Diagnoses, procedures, signs and symptoms will be studied and coded by students using the necessary textbooks. The flow of medical records from doctor's

office to hospital discharge will be tracked for insurance, risk management, and case study purposes.

MI-H1022 Technical Applications of Medical Insurance Management Systems II 3 cr.
Prerequisites: BOT-H121, MI-H102. *Corequisite:* MI-H1011. This course is an in-depth study of basic CPT-4 coding. Students will utilize medical records, case histories, and code the diagnoses and procedures according to the level of care.

MI-H1023 Technical Applications of Medical Insurance Management Systems II Lab 2 cr.
Prerequisites: BOT-H121, MI-H102, 1011, 1022. *Corequisite:* MI-H1044. Using hands-on approach, the student will be taught to analyze data found in a patient's medical record. This data will be entered into a computer that is similar to ones found in a medical office or hospital.

MI-H1044 Foundation and Management of Medical Insurance 3 cr.
Prerequisite: MI-H102. *Corequisite:* MI-H1023. This course is designed to develop those abilities and skills which would let students define and explain the types of health insurance policies and contracts available. Comparison of Anthem-Blue Cross, Blue Shield, and commercial health policies are included, as well as analysis of insurance forms and application of information to the forms. Emphasis would be placed on legal issues and medical record confidentiality.

MI-H290 Medical Insurance Specialist Cooperative Work Experience 3 cr.
Prerequisites: BOT-H122, MI-H102, 1011, 1022/1023, 1044, "C" grade or better. This course is designed to provide Medical Insurance Specialists with an opportunity to reinforce the techniques learned in the classroom and to bridge the gap between academic theory and practical on-the-job training. It consists of:

1. A two-hour Professional Development Workshop
2. A minimum 225-hour Cooperative Work Experience
3. A weekly one-hour Co-op seminar

METEOROLOGY

Mathematics/Science Division

METR-H101 Meteorology 3 cr.
An introductory course on weather and climate. Through lecture, Internet access and other media, this course will cover atmospheric motion, severe weather, global and local climate, and forecasting.

MODERN LANGUAGES

Arts and Humanities Division

FREN-H101 Elementary French I 3 cr.
This course focuses on the basic acquisition of the four skill areas (speaking, listening, reading, writing) for survival communication. There is constant exposure to the cultural diversity of the French world using audio and video tapes. Knowledge of the language and culture is further enhanced by the technological component which requires students to use the Internet for various class activities.

FREN-H101 is not open to students who have successfully completed three years of French courses in high school or who are native speakers except by consent of the Division Director.

FREN-H102 Elementary French II 3 cr.
Prerequisite: FREN-H101 or permission of instructor. FREN-H102 is a continuation of the skills taught in FREN-H101. Emphasis is placed on a more fluid style of communication at all skill levels.

GERM-H101 Elementary German I 3 cr.
This course deals with the basic syntax and sentence patterns of German. The stress is on spoken German and imitation of overall structures in simple reading exercises. Grammar is studied in the context of structural patterns and writing exercises are based on readings and oral presentation.

GERM-H102 Elementary German II 3 cr.
Prerequisite: GERM-H101 or permission of instructor. This course is a continuation of GERM-H101. It includes intensive practice in the development of skills in writing, listening and speaking about everyday situations.

ITAL-H101 Elementary Italian I 3 cr.
This course focuses on the basic acquisition of the four skill areas (speaking, listening, reading, writing) for survival communication. There is constant exposure to the cultural diversity of the Italian world using audio and video tapes. Knowledge of the language and culture is further enhanced by the technological component which requires students to use the Internet for various class activities.
ITAL-H101 is not open to students who have successfully completed three years of Italian courses in high school or who are native speakers except by consent of the Division Director.

ITAL-H102 Elementary Italian II 3 cr.
Prerequisite: ITAL-H101 or permission of the Division Director. ITAL-H102 is a continuation of the skills taught in ITAL-H101. Emphasis is placed on a more fluid style of communication at all skill levels.

PORT-H101 Elementary Portuguese I 3cr.
This course focuses on the basic acquisition of the four skill areas (speaking, listening, reading, writing) for survival communication. There is constant exposure to the cultural diversity of the Portuguese world using audio and video tapes. Knowledge of the language and culture is further enhanced by the technological component which requires students to use the Internet for various class activities.
PORT-H101 is not open to students who have successfully completed three years of Portuguese courses in high school or who are native speakers except by consent of the Division Director.

PORT-H102 Elementary Portuguese II 3cr.
Prerequisite: PORT-H101 or permission of the Division Director. PORT-H102 is a continuation of the skills taught in PORT-H101. Emphasis is placed on a more fluid style of communication at all skill levels.

SPAN-H101 Elementary Spanish I 3 cr.
This course focuses on the basic acquisition of the four skill areas (speaking, listening, reading, writing) for survival communication. There is constant exposure to the cultural diversity of the Hispanic world using audio and video tapes. Knowledge of the language and culture is further enhanced by the technological component which requires students to use the Internet for various class activities.
SPAN-H101 is not open to students who have successfully completed three years of Spanish courses in high school or who are native speakers except by consent of the Division Director.

SPAN-H102 Elementary Spanish II 3 cr.
Prerequisite: SPAN-H101 or permission of the Division Director. SPAN-H102 is a continuation of the skills taught in SPAN-H101. Emphasis is placed on a more fluid style of communication at all skill levels.

SPAN-H201 Intermediate Spanish I 3 cr.
Prerequisite: SPAN-H102 or permission of the Division Director. This course is an intermediate Spanish course on the college level. Non-native and native speakers may enroll for credit in this course. The natural approach will be used in developing the four communication skills (listening, speaking, reading and writing). Students will study structure and grammar, read, converse, discuss and write in Spanish. A broad survey of Hispanic culture and custom will be presented.

SPAN-H202 Intermediate Spanish II 3 cr.
Prerequisite: SPAN-H201. This course is a continuation of the skills taught in SPAN-H201. The natural approach will be used. Grammar and structural studies will continue, but emphasis will be placed on reading, writing, speaking and listening with content based on civilization and cultural topics. Practice on oral tapes is required.

MULTIMEDIA TECHNOLOGY

Arts and Humanities Division

MM-H101 Introduction to Multimedia 3 cr.
Prerequisite: CS-H108 or equivalent experience. This course is an introduction and overview of multimedia. The basic elements, components and skills of multimedia will be defined and explored. Topics will include: presentation software, Web page design, introduction to HTML, digital graphics and audio, multimedia development, applications of multimedia, multimedia standards, multimedia computer hardware and software, configuring a multimedia system, multimedia components, and emerging technologies.

MM-H104 Multimedia Authoring I 3 cr.
Prerequisite: MM-H101. Multimedia Authoring I is an introduction to planning, developing and managing multimedia projects. The learner will study and work with the various phases of project development: from conception to delivery. Topics will include: multimedia for computer based training, objects and events, programming and scripting, variables, logic and repetition structures, arrays, subroutines and functions.

MM-H106 Electronic Publishing 3 cr.
Prerequisite: MM-H101, Eng-H101. This course will focus on the software and the techniques used to create layouts for text, graphics, photographs and other visual images used in print and Web publishing.

MM-H108 Digital Imaging 3 cr.
Prerequisite: MM-H101. MM-H108 provides an in-depth study of digital image files and their uses in the realm of digital graphics, imaging and video. Topics will include: video display formats, data compression, color theory, composition and lighting, painting tools, image editing, filters, masks, layering, gradients, and special effects.

MM-H110 Digital Video Production 3 cr.
Prerequisite: MM-H101. Digital Video production is a complete course in the application of digital video production techniques. Students will learn to shoot, edit, apply special effects and print to video. Topics will include: composition, transitions, compositing, filters, titles, clip superimposing, alpha channels, audio, capturing and compression, rotoscoping, rolling credits, and project management.

MM-H116 Digital Media Production 3 cr.
Prerequisite: MM-H101. This course is a practical and theoretical approach to the acquisition of digital media content. Learners will utilize digital cameras and camcorders, scanners, projection systems, and other technologies to acquire, develop, author and present digital media content.

MM-H205 Multimedia Authoring II 3 cr.
Prerequisite: MM-H104. MM-H205 provides a study of advanced project development tools used for the creation of multimedia for the edutainment, entertainment and Web industries. The student will learn the uses of, and create multimedia for, television, film, video games, WWW, and other media. The management of large projects will be emphasized. Topics will include: timeline-based authoring, animation, interactivity, keyframes, tweening and layers, sprites, color cycling and blends, navigation, Lingo script optimization, object states, multiple casts, and Shockwave.

MM-H212 3D Graphics and Animation 3 cr.
Prerequisite: MM-H108. The 3D Graphics and Animation course concentrates on the design, creation and application of computer graphics. Students will learn to create and apply two-dimensional and three-dimensional graphics. Topics will include: vector drawing, polygons and primitives, surfaces, lighting, camera and rendering, texture maps, animation, terrains, modeling, transforms, and extrusions.

MM-H215 Multimedia Web Authoring 3 cr.
Prerequisite: MM-H205. Multimedia Web Authoring will explore the delivery of multimedia for the World Wide Web. The latest software technologies and methodologies will be utilized to develop and design interactive Web sites.

MM-H290 Multimedia Cooperative Work Experience 3 cr.
Prerequisite: 12 multimedia credits and permission of the Department Chairperson. This elective course is designed to provide supervised practical experience in approved Multimedia work settings. It consists of:

1. A two hour Professional Development Workshop
2. A minimum 225-hour Cooperative Work Experience
3. A weekly one-hour Co-op Seminar.

MUSIC

Arts and Humanities Division

MUS-H100 Introduction to Music 3 cr.
 A beginning study of notation and forms that musicians use to arrange, compose and perform music. Topics include musical instruments, clefs, key signatures, time signatures, scales, musical styles and forms.

MUS-H101 History and Appreciation of Music 3 cr.
 The course surveys historically significant music from the medieval period to the 20th century, emphasizing stylistic characteristics found in great music, art, and architecture.

MUS-H104 Class Instruction in Beginning Voice 1 cr.
 Principles of voice placement and development, breathing, diction and production are practiced. Solo and duet repertoire are explored. The course may be repeated for credit.

MUS-H105 Class Instruction in Beginning Piano 1 cr.
 This course is a study in basic keyboard techniques and sight reading. It requires one class period a week with daily practice. The course may be repeated for credit.

MUS-H106 Class Instruction in Beginning Guitar 1 cr.
 This course provides a study of basic folk guitar chords and picking techniques. Emphasis is on singing with the guitar. This course may be repeated for credit.

MUS-H112 History of American Music 3 cr.
 The history and music of American colonial times to the present. Historical and cultural developments are examined as well as folk music, maritime music, church music, pop music, jazz music, and concert music.

MUS-H113 History and Appreciation of Jazz 3 cr.
 This course covers musical terminology, familiarization with musical instruments, keys, basic chords and scales, form and structure of musical composition, and improvisation. The selections and examples are taken from jazz, rather than classical music. The course includes the history and appreciation of jazz, a study of major jazz artists, and an analysis of the cultural and social significance of jazz.

MUS-H114 Music Theory I 3 cr.
Prerequisite: Grade of "C" or better in MUS-H100 or Permission of Instructor. A study of melodic writing leading to four-part diatonic harmony. Topics include four-part writing, non-chord tones, cadences, and seventh chords. Music analysis, reading, and aural skills are reinforced together with the Theoretical material presented.

MUS-H115 Music Theory II 3 cr.
Prerequisite: Grade of "C" or better in MUS-H114 or Permission of Instructor. A continuation of MUS-H114 with a study of secondary functions, modulation, form and counterpoint. Music analysis, reading, and aural skills are developed together with the theoretical material presented.

MUS-H116 Music of the Theatre 3 cr.
 This course provides a study of opera, ballet, the Broadway musical, and other types of music for the theater.

MUS-H120 Electronic Music/Audio Technology 3 cr.
 This course is an introduction to the art and techniques of electronic music and audio production. The history, elements, and tools of electronic music and audio will be defined and explored. Topics will include: acoustics theory, analog and digital audio principles, recording engineering techniques, sound sampling, electronic synthesis, MIDI, and audio for multimedia and the World Wide Web.

MUS-H199 Applied Lessons 1 cr.

MUS-H299 Applied Lessons 2 cr.

These courses provide for private vocal or instrumental lessons. Fees for lessons are in addition to regular tuition and arranged between student and the teacher, who must be approved by the Music Director.

MUS-H203 History/Appreciation of 20th Century Music 3 cr.

An historical survey of concert, symphonic and theater music of the 20th century. Styles such as Impressionism, Expressionism, Serialism, Neo-Classicism, Avant-garde, Musique Concrete, Minimalism, Jazz, and Rock will be explored.

MUS-H3501 Jazz Singers 1 cr.
 Students perform as a small ensemble. Performances occur at the College and within the community. The course is open to all students with the consent of the instructor, and may be repeated for credit.

MUS-H3502 Chamber Singers 1 cr.
 Students perform as small ensemble of chamber singers. Performances occur at the College and in the community. The course is open to all students with the consent of the instructor, and may be repeated for credit.

MUS-H3503 Folk Singers 1 cr.
 Students perform as small ensemble of folk singers. Performances occur at the College and in the community. The course is open to all students with the consent of the instructor, and may be repeated for credit.

MUS-H3504 Chamber Orchestra 1 cr.
 Students perform as small ensemble chamber orchestra. Performances occur at the College and in the community. The course is open to all students with the consent of the instructor, and may be repeated for credit.

MUS-H3505 Jazz Band 1 cr.
 Students and community members will perform in a small instrumental group jazz and contemporary charts from the Big Band Era to Fusion Rock. Instruments featured are percussion, bass, key board, guitar, saxophone, trumpet, and trombone. The course is open to all students with the consent of the instructor, and may be repeated for credit.

MUS-H3510 Chorus 2 cr.
Performance of choral repertoire from all stylistic periods is studied. Performances occur at the College and in the community. The course is open to all students as well as members of the community, and may be repeated for credit with the consent of the instructor.

MUS-H3511 Symphonic Wind Ensemble 2 cr.
Performance of orchestral repertoire from all stylistic periods is studied. This ensemble will perform at the College and in the community. The course is open to all students with the consent of the instructor and may be repeated for credit.

MUS-H290 Music Cooperative Work Experience 3 cr.

Prerequisite: 12 music credits and permission of the Department Chairperson. This elective course is designed to provide supervised practical experience in approved Music work settings. It consists of:

1. A two hour Professional Development Workshop
2. A minimum 225-hour Cooperative Work Experience
3. A weekly one-hour Co-op Seminar.

NURSING

Allied Health/Nursing/Physical Education Division

NURS-H101 Fundamentals of Nursing 6 cr.
(4.5 hrs. clinical practice)

Prerequisites: Admission to the College and Program in Nursing. Knowledge, skills, and concepts which are basic to the care of all patients are developed. Emphasis is placed on maintenance of health and well-being. The social, cultural, psychological, economic and educational attitudes which affect health are introduced. General hospitals and extended health facilities serve as laboratories to implement skills and nursing care.

NURS-H102 Concepts of Family Care 6 cr.
(6.5 hrs. clinical practice)

Prerequisites: "C" grade or better in NURS-H101; "Satisfactory" in Clinical Practice. This course expands on the concepts and skills presented in NURS-H101 with emphasis on the nurse's role in the care of childbearing families and clients experiencing illness. Section A focuses on high-level wellness and nursing interventions that facilitate adaptation to changing roles within families of varying cultures. Section B introduces students to individual responses to illness across the lifespan. Concepts from physical and social sciences and pharmacology are integrated throughout. Clinical experiences are provided in comprehensive maternal-newborn settings and a variety of ambulatory and acute care facilities.

NURS-H110 Physical and Emotional Illness I 4 cr.
(15 hrs. clinical practice)

Prerequisites: Completion of NURS-H102 and BIOL-H226, BIOL-H232 with a grade of "C" or better; "Satisfactory" in Clinical Practice; PSY-H201. The concepts of nursing care required for the physically and emotionally ill of all ages are introduced. Mental health and interpersonal relationships are integrated throughout. Students are assigned to patients with major health problems. (Summer term - six weeks)

NURS-H211 Physical and Emotional Illness II 9 cr.
(15 hrs. clinical practice)

Prerequisite: Completion of NURS-H110 with a grade of "C" or better; "Satisfactory" in Clinical Practice. This course continues and extends the study of patients with physical and emotional illness begun in the previous semester. Major focus is on the commonalities and specific differences in the nursing care of all age groups. Concepts from physical and social sciences, diet therapy and pharmacology are integrated throughout. All nursing experiences will be graduated in complexity.

NURS-H212 Physical and Emotional Illness III 9 cr.
(15 hrs. clinical practice)

Prerequisites: Completion of NURS-H211 with a grade of "C" or better; "Satisfactory" in Clinical Practice; SOC-H101. This course prepares and extends the study begun in NURS-H211. Altered mental processes and abnormal behavior patterns will be studied in a psychiatric setting.

NURS-H310 Physical and Emotional Illness IV 4 cr.
(16 hrs. clinical practice)

Prerequisites: Completion of NURS-H212 with a grade of "C" or better; "Satisfactory" in Clinical Practice. All electives as listed. The student is provided with the opportunity to synthesize knowledge and apply skills in complex nursing situations. Principles of leadership and management are introduced.

NURS-H315 Perioperative Nursing 6 cr.

Prerequisite: Current Connecticut Registered Nurse Licensure
A model curriculum consisting of the standards, recommended practices and guidelines developed by the Association of Perioperative Registered Nurses, serves as a basis for this course which prepares registered nurses to provide nursing care in the perioperative setting by incorporating the nursing process into all phases of pre, intra and postoperative patient care. Classroom and skill laboratory provide opportunity for learning knowledge and competency skills needed to begin an entry-level perioperative nursing position. Offered in cooperation with the Continuing Education, Community and Economic Development Unit of the College.

PHILOSOPHY

Arts and Humanities Division

PHIL-H101 Introduction to Philosophy 3 cr.

Prerequisite: Eng-H101. Various philosophical views and philosophical figures will be studied. Students will begin to think in a philosophical way about reality, truth and values. They will use logical reasoning to apply the various philosophies to current times and to their own lives.

PHIL-H102 Ethics 3 cr.

Prerequisite: ENG-H101. This course studies the approaches to ethics, ethical language, and interpretations of "Who am I?" and "What am I to do?" Morality as it relates to freedom, religion, medicine, business, mass media, technology, environment and personal commitment are among the topics covered. Using logical reasoning, students demonstrate an understanding of ethical behavior in both oral and written form.

PHIL-H103 Living World Religions 3 cr.

Prerequisite: ENG-H101. This course studies various living Eastern and Western religions and their beliefs about the meaning of life, God, reality, truth, morality and worship.

PHIL-H104 Philosophy of Religion 3 cr.

Prerequisite: ENG-H101. The nature of religion, the reality and existence of God, religious knowledge and values, the soul, life after death, the problem of evil, mysticism, miracles, and the relationship of religion to science and history are explored.

PHIL-H105 Medical Ethics 3 cr.

Prerequisite: ENG-H101. This course is an introduction to moral issues and options in medicine, with particular attention to those most directly affecting the public and general medical personnel. Topics include the meaning of "life," birth control, artificial insemination, genetic engineering, abortion, human experimentation, behavior control, organ transplantation, truth and the physician, care of the dying, and public health care.

PHIL-H106 Philosophy of Art 3 cr.
(formerly HUM-H102, *Working with Ideas*)
Prerequisite: ENG-H101. Introduction to central issues and major works in the philosophy of art. The class will also study the nature of art interpretation, imagination and creativity, style and artistic truth. Theories of art experience in painting, sculpture, photography, architecture, music and dance will be considered in historical context.

PHIL-H107 Business and Professional Ethics 3 cr.
Prerequisite: ENG-H101. This course focuses on moral issues that can arise in business and the professions. The discussion of a number of ethical concepts (including Kantian Formalism, Utilitarianism, Virtue Ethics, Justice) provides a framework for rational philosophical analysis. Topics covered include whistle blowing, privacy, workplace safety, discrimination, affirmative action, product safety. The methodology used in this course is case based. Timely and relevant cases form the basis for discussion, debate and writing.

PHIL-H110 The Bible 3 cr.
Prerequisite: ENG-H101. This course is an examination of the historical and philosophical content, circumstances, and problems of the Old and New Testaments.

PHOTOGRAPHY

Arts and Humanities Division

PHOT-H101 Introduction to Photography 3 cr.
Fundamentals of photography concentrating on the use of the camera as a form of expression and communication will be studied. Camera techniques and basic darkroom procedures will be covered. NOTE: Students enrolled in PHOT-H101 are responsible for purchasing:

- A manually controlled 35mm single lens reflex (SLR) camera with a 50mm lens (no automatics);
- Paterson University Film Developing Tank (preferred unit); and
- Photographic paper and film as needed.

PHOT-H102 Intermediate Photography 3 cr.
Prerequisite: PHOT-H101. See PHOT-H101 for equipment requirements. An advanced course emphasizing photography as art. In addition to field trips, scene pre-visualization, the zone system, film and print manipulation, and print presentation will be covered.

PHYSICAL EDUCATION

Allied Health/Nursing/Physical Education Division

The Physical Education and Health Fitness Program at Naugatuck Valley Community College is designed to meet the life-time needs of the individual as teacher and person. Courses develop the basic skills and methodologies required for good physical and mental health. Courses have been recognized for transfer credit by four-year institutions. Activity course descriptions appear at the end of this section.

PE-H100 Weight Control and Exercise 2 cr.
Designed to help students realize the importance of healthy diet and exercise behaviors in permanent weight control. Behavior modification techniques are used to help students achieve a healthy lifestyle that will result in either a gradual reduction in body weight, and/or the maintenance of a healthy body weight.

PE-H101 Orientation to Physical Education 2 cr.
Provides the student with the opportunity to explore the various

options of the profession, and to experience different levels of activity. The course will explore the history and the foundations of physical education.

PE-H102 Personal Health 3 cr.
An analysis of health problems facing the individual. Health information is provided which will be of value in assisting the individual to cope more effectively with problems related to the patterns of life, identify and prevent illnesses and environmental problems affecting health, evaluate medical advice and health services competently, and make sound decisions about health and life style. Self-paced.

PE-H103 Archery 1 cr.
This course deals with the development of archery skills and the methodologies in teaching of those skills. It includes the history, values, selection and care of equipment related to the sport of archery.

PE-H104 Basketball 1 cr.
Introduction in fundamental skills of shooting, passing, ball handling, footwork, basic strategy of offensive and defensive play and interpretation of rules.

PE-H105 Bowling 1 cr.
This course deals with the development of bowling skills and the methodologies in teaching of those skills. A knowledge of the equipment, its care and bowling etiquette are included.

PE-H106 Power Walking 2 cr.
This course is designed to introduce students to the values and purposes of power walking through brief lecture and practical experience. The course will also introduce aerobics as an alternative program.

PE-H107 Fencing 1 cr.
The history, equipment weapons and terms of modern fencing are introduced. The principles of movement and the development of fundamental skill and teaching methodologies are also presented.

PE-H108 Concepts in Fitness 2 cr.
Physical fitness and exercise is designed to provide the background information concerning exercise prescription development and follow through. Participants will be trained in exercise testing theory and ethics, and practical exercise prescription. Students will participate in lecture and laboratories to develop their own exercise prescription.

PE-H109 Golf 1 cr.
This course introduces the students to the fundamental knowledge and teaching methodologies of the various clubs, swings, shots, rules of the game and conduct, and etiquette of golf course play.

PE-H110 Physical Fitness Through Physical Education I 2 cr.
This course will allow the student to explore several types of life-time and recreational sports. Students will rotate activities every three weeks throughout the semester. The physical education activities will be selected by the instructor.

PE-H111 Gymnastics 1 cr.
This course is designed to increase the student's performance skills and methodologies in apparatus work including the trampoline, side horse, parallel bars, horizontal bars, rings, long horse and free exercise. The importance of safety is stressed.

PE-H112 Coaching Young Adults 3 cr.
This course consists of three modules: sports management, biomechanics studies, and principles of coaching. It is intended for those who do not hold a teaching degree and need to meet the State of Connecticut requirements for a coaching permit.

higher, PTA*-H220 with a grade of "P". This course develops the student's competence with problem-solving and application of physical therapy interventions using physical agents, including therapeutic applications of heat, cold, water, electricity, light and mechanical forces or devices.

PTA*-H235 Kinesiology for Rehabilitation 4 cr.
Prerequisites: PTA*-H120 and PTA*-H125 with a grade of "C" or higher, PTA*-H220 with a grade of "P". This course fosters learning of the anatomical and biomechanical principles of human movement through the study of the musculoskeletal and nervous systems. Competencies attained include accurate data collection by goniometry, manual muscle testing, posture and gait analysis including the effects of biomechanical forces on the human body.

PTA*-H250 Therapeutic Exercise 5 cr.
Prerequisites: PTA*-H230 and PTA*-H235 with a grade of "C" or higher. Learning includes the theory and techniques to safely and effectively implement therapeutic exercise interventions based on a plan of care established by a physical therapist. Students also develop competence to measure a patient's response to interventions and respond accordingly and to provide effective instruction to patients and caregivers.

PTA*-H253 Pathophysiology for Rehabilitation 3 cr.
Prerequisites: PTA*-H230 and PTA*-H235 with a grade of "C" or higher. This course develops comprehension about abnormalities and the physical, physiological and psychological changes that occur throughout the human lifespan. The student learns the effects of pathology on the rehabilitation of patients with orthopedic, neurological, and general medical conditions.

PTA*-H258 PTA in the Healthcare Arena 2 cr.
Prerequisites: PTA*-H230 and 235 with a grade of "C" or higher. This course develops the student's ability to apply physical therapy interventions and data collection techniques within the clinic environment and advances the student's abilities with communication, conduct and problem-solving within the structure of the health care system.

PTA*-H260 Physical Therapy Seminar 2 cr.
Prerequisites: PTA*-H250, 253 and 258 with a grade of "C" or higher. In this course students demonstrate the ability to apply principles of problem solving to selected professional issues, industry trends, and special populations that may be encountered as a physical therapist assistant. Learning opportunities assist in the transition from student to clinician and identification of interest areas for lifelong learning.

PTA*-H262 PTA Internship II 5 cr.
Prerequisites: PTA*-H250, 253 and 258 with a grade of "C" or higher. Within this clinic-based course students learn to integrate and apply physical therapy concepts and to effectively perform physical therapy interventions as a physical therapist assistant. Students develop their abilities for daily organization and management of a patient caseload and effectively contribute to the health care team.

PTA*-H265 PTA Internship III 5 cr.
Prerequisites: PTA*-H250, 253 and 258 with a grade of "C" or higher. Within this clinic-based course students learn to problem-solve and competently function in the clinic environment as a physical therapist assistant. Students develop competence with time management, clinical prioritization and the entry-level abilities of the physical therapist assistant prior to course completion.

PHYSICS

Mathematics/Science Division

PHYS-H101 Introduction to Physics 4 cr.
Prerequisite: MATH-H95 or 96 or equivalent. *MATH-H102 is recommended.* The course is designed for the student seeking basic introduction to the principles of physics, and offers firsthand experience in a laboratory situation. Specific topics covered include: a review of essential arithmetic operations and systems of measurements, linear motion, conservation of energy and linear momentum, Newton's three laws of motion, gas laws, heat, light, electricity, magnetism and atomic theory.

PHYS-H111 General Physics I 4 cr.
Prerequisite: MATH-H102 or equivalent. *Co-requisite:* MATH-H113. This course designed for students in the technical fields or physical sciences, and pre-medicine programs begins with a review of essential arithmetic operations, dimensional analysis, systems of measurements and vectors. Specific topics covered include: several types of motion Newton's three laws of motion, equilibrium, work and energy, impulse and momentum moments, angular motion and rotation.

PHYS-H112 General Physics II 4 cr.
Prerequisite: PHYS-H111. This course is a continuation of PHYS-H111. Basic concepts in heat wave motion, sound, light, electricity and magnetism are developed. Specific topics covered include: heat, temperature, kinetic theory, wave motion, sound, electrostatics, direct current circuits, magnetism, properties of light, reflection, refraction, interference and diffraction.

PLASTICS AND RUBBER ENGINEERING TECHNOLOGY

Engineering Technologies Division

PLA-H1100 Introduction to Polymers 3 cr.
 Provides the student with a basic background in the various types of polymer used in manufacturing, the characteristics and properties of each type of polymer, and the process and procedures utilized in the fabrication of polymer parts and products. Extrusion, injection, compression, transfer, and blow molding are discussed in addition to casting and thermoforming. Three class hours weekly.

PLA-H1105 Injection Molding 3 cr.
Prerequisite: PLA-H1100. A detailed course in the specifics of injection molding as a polymer manufacturing process. Topics include types of molding machines, machine functions, viscoelastic behavior of plastics, theory and practice of injection molding, mold design in relation to flow characteristics, designing for polymers, and correcting molding defects. Two class and two laboratory hours weekly.

PLA-H1110 Polymer Product Design 3 cr.
Prerequisite: PLA-H1100. Covers the design of polymer products while considering the physical properties of polymer and techniques for achieving pleasing aesthetics, dimensional capabilities, and performance results. In addition, the course covers tolerance capabilities, ASTM tests, product design rules for the various polymer manufacturing methods, structural performance, and joining and decorating polymer products. Three class hours weekly.

PLA-H1115 Mold Design 3 cr.
Prerequisite: PLA-H1105. A course in the principles and practices employed in designing the molds used by the widely diversified polymer molding industry. Some topics include types of molds, steel selection and heat treating, ejection systems, venting and cooling, shrinkage, draft, fits and tolerances, cam actions, undercuts and threads, deflection, design flaws, and quoting mold cost and delivery. Three class hours weekly.

PLA-H1120 Polymer Process Engineering 3 cr.
Prerequisites: PLA-H1100, 1105. Comprehensive coverage of process engineering discipline associated with the engineering and manufacturing of plastic components and assemblies. Emphasis is placed on cause-and-effect relationships among material composition, product end-use requirements, and associated processing concerns. Discussion of the interpretation of material specification sheets, material selection, machine capability analysis, molding for end-use, and case studies. Two class and two laboratory hours weekly.

PLA-H1125 Polymer Manufacturing Management 3 cr.
Prerequisite: PLA-H1100. This course addresses the day-to-day and long-range management activities for a polymer company or molding department within a diversified manufacturer. Topics include plant layout, material control, personnel, efficiency, productivity, reporting, quality control, utilities costs, estimating, inventory and labor overhead consideration. Three class hours weekly.

PLA-H1130 Rubber Process Engineering 3 cr.
Prerequisites: PLA-H1100, 1105. Comprehensive coverage of process engineering discipline associated with the engineering and manufacturing of rubber components and assemblies. Emphasis is placed on cause-and-effect relationships among material composition, product end-use requirements, and associated processing concerns. Discussion of the interpretation of material specification sheets, material selection, machine capability analysis, molding for end-use, and case studies. Two class and two laboratory hours weekly.

PLA-H290 Plastics and Rubber Engineering Technology Co-op 3 cr.
Prerequisites: PLA-H1100, 1105, 1110 and 1115. *Corequisites:* PLA-H1120 or 1130. Concurrent enrollment as a Plastics & Rubber Engineering Technology major, minimum 3.0 GPA and pre-approval of the Department Chair. The Plastic/Rubber Co-op is a supervised work experience in a job setting, related to the students major-option. This fourth semester course is a specialization in the plastics/rubber field consisting of:

1. A two-hour Professional Development Workshop
2. A minimum 225-hour Cooperative Work Experience
3. A weekly Co-op Seminar with a faculty facilitator

Suitable work experience or an appropriate course can be substituted for the Co-op with the approval of the Department Chair.

POLITICAL SCIENCE

Behavioral and Social Sciences Division

POLS-H101 American National Government 3 cr.
 Students are acquainted with the organization, structure, and functions of the American national government and of the American political parties. Attention is paid to the Constitution, the congress, the courts and the presidency and administration. (Fall)

POLS-H102 State and Local Political Issues 3 cr.
 The structure and functions of the various state and local governments in the United States are studied. Special emphasis is placed on the state government in Connecticut and on the various types of local government in the state. (Spring)

POLS-H105 Public Administration 3 cr.
 The field of public administration with emphasis on careers is surveyed. Study topics will include major theoretical concepts in public administration and case studies from both the national and sub-national levels of government. (Fall)

POLS-H203 Contemporary World Governments 3 cr.
Prerequisite: 3 credit hours in any history or political science

course. A survey of the structure and functioning of the governments is presented. Such contemporary nation states as Russia, Great Britain, France, and Germany are analyzed. A brief history of each government is included. (Fall)

POLS-H204 International Relations 3 cr.
Prerequisite: 3 credit hours in any history or political science *course.* This course is an introduction to the present nation state system with an analysis of the political, social and economic pressures that produce international tensions and crises. Consideration of the traditional balance of power approach to world peace will be contrasted to the regional and global organizations that have appeared since World War II. (Spring)

POLS-H250-251 Government Service Internship 6 cr.
Prerequisite: At least 15 credit hours of college work and a 2.6 average, plus a "B" grade in either ENG-H101 or BUS-H218. Practical experience as a staff assistant to a member or committee of the Connecticut General Assembly or to a municipal government executive or agency is provided. At least 200 hours of practical work plus a biweekly seminar meeting of all student interns of NVCTC are required. A 10-15 page term paper report will also be required at the end of the semester. (Spring)

PORTUGUESE

Refer to Modern Languages.

PSYCHOLOGY

Behavioral and Social Sciences Division

PSY-H101 General Psychology I 3 cr.
 A general study of psychology in which the important basic principles of scientific methodology will be presented. Topics such as theories of psychology, learning, memory, personality, adjustment, behavioral disorders and therapies will be presented. (Fall/Spring)

PSY-H102 General Psychology II 3 cr.
Prerequisite: PSY-H101. This is a continuation of PSY-H101 with emphasis upon the study of sensation, perception, thinking motivation, emotion and frustration reactions. Present trends in mental health and therapies, plus a study of group psychology are reviewed. (Fall/Spring)

PSY-H201 Developmental Psychology 3 cr.
Prerequisite: PSY-H101. A study of the changes in the individual from infancy through adolescence will be examined. Methodology and the physical, cognitive, and social development of the individual will be studied. (Fall/Spring)

PSY-H202 Social Psychology 3 cr.
Prerequisite: PSY-H101 or equivalent. Dynamics of individual motivation in social situations, the theoretical bases for social behavior, applications of principle of behavior to attitude change, prejudice, public opinion, and individual reactions in mass behavior are examined. (Spring)

PSY-H206 Psychology of Adult Development and Aging 3 cr.
Prerequisite: PSY-H101 or by permission of the instructor. This course addresses the period from mid-life through advanced maturity, and presents both theories and research data on personal relations, life tasks, personality development, intellectual development, and biological factors that affect psychology in adulthood. (Spring)

- PSY-H210 Psychology of Adolescence and Adulthood** 3 cr.
Prerequisite: PSY-H101. This is a continuation of PSY-H201 with the emphasis on the period from adolescence through aging. Effective and intellectual functions from both the physiological and environmental view are examined. (Fall)
- PSY-H211 Behavior Modification Skills** 3 cr.
Prerequisite: PSY-H101. Learning theories and how they can be applied in the modification of human behavior are studied. (Fall/Spring)
- PSY-H212 Abnormal Psychology** 3 cr.
Prerequisite: PSY-H101 or by permission of the instructor. The varieties of abnormal behavior found in man are studied. Such disorders as the neuroses, psychotic conditions, alcoholism, drug addiction, the personality disorders, and sexual deviations are considered. (Fall/Spring)
- PSY-H214 Psychology of Exceptional Children** 3 cr.
Prerequisites: PSY-H101 and PSY-H201. The psychology of children with disabilities including mental retardation, learning disabled, physically challenged, autism, communication, health disabilities and emotional/behavioral disorders is presented. (Fall/Spring)
- PSY-H216 Organizational Psychology** 3 cr.
Prerequisite: PSY-H101 or by permission of instructor. This course surveys the scientific methodology of work behavior as applied to selection, training, evaluation, and organizational factors such as leadership, communication, social environment, group dynamics and norms, stress, motivation, job design and satisfaction, supervision, conflict resolution and technological change. (Fall)
- PSY-H217 Forensic Psychology** 3 cr.
Prerequisite: PSY-H101. This course presents a study of the psychological aspects and correlates of human behavior. Models are presented for predicting, understanding and responding to criminal behavior. (Fall)
- PSY-H243 Theories of Personality** 3 cr.
Prerequisite: PSY-H101. This course presents a study of the underlying causes of individual behavior and experience. A wide range of theories is considered, including those from the psychoanalytic perspective, the trait perspective, the learning perspective and the humanistic perspective.
- PSY-H246 Psycho-Social Perspectives of Religious Behavior** 3 cr.
Prerequisite: PSY-H101. This course discusses the theoretical and historical background of religious behavior from the psychological perspectives of James, Freud, Allport, Jung and others. Students learn about the psychological methods of research employed in the study of religious behavior and the implications of this research on religious behavior, practices, health and well being. Students gain a basic knowledge and appreciation other's religious beliefs and practices throughout the context of this course.

QUALITY ASSURANCE

Refer to Automated Manufacturing Engineering Technology and Industrial Management & Supervision Technology.

RADIOLOGIC TECHNOLOGY

Allied Health/Nursing/Physical Education Division

- RAD-H112 Orientation to Radiology** 3 cr.
Prerequisite: Admission into the program. This course provides an orientation to radiology, basic radiation protection, ethics, medical terminology, communication, and patient care.
- RAD-H113 Radiologic Physics I and Radiographic Quality I** 3 cr.
Prerequisite RAD-H112. The course content includes the production of x-rays, the x-ray circuit, radiographic equipment, and the interaction of x-rays with matter. Once learned, the student will utilize the preceding content, applying it to how the x-ray produces the image. The subject material includes introductory principles of radiographic quality, setting technical factors, and performing technical conversions.
- RAD-H114 Contrast Media Procedures and Radiographic Quality II** 3 cr.
Prerequisite RAD-H113. The course content is divided between two main topics. The first half of the summer session will cover radiologic procedures involving the use of contrast media. Also discussed will be the hazards, complications, and risk factors of contrast media. The second half of the session is a continuation of Radiographic Quality I. Topics include radiographic film, intensifying screens, film processing, technical conversions, and critiquing the radiograph.
- RAD-H215 Radiographic Pathology** 3 cr.
Prerequisite: RAD-H114. This course provides an overview of pathological conditions that are demonstrated with diagnostic imaging. Lecture material will include the cause and treatment of the disease. Pediatric radiology is also presented.
- RAD-H222 Radiobiology/Protection** 3 cr.
Prerequisite: RAD-H114. Includes radiobiology, health physics, and requirements governing radiology equipment.
- RAD-H216 Radiologic Physics II and Diagnostic Imaging Modalities** 3 cr.
Prerequisite: RAD-H222. This course provides advanced study of radiation, physics, quality assurance and other diagnostic imaging techniques.
- RAD-H217 Seminar in Radiology** 3 cr.
Prerequisite: RAD-H216. A case study approach provides a comprehensive investigation of patient care, emphasizing radiologic procedures.
- This practicum (clinical practice) in the Radiologic Technologist Program involves a series of learning experiences and developed skills in hospitals, offices and imaging centers. Students are periodically assigned to all sections within the department. Experiences are in diagnostic radiology, CT scanning, MRI, Ultrasound, and Nuclear Medicine. (These experiences are offered in RAD-H197 through RAD-H299 in sequence.)
- RAD-H197 Clinical Practice (Fall)** 2 cr.
RAD-H198 Clinical Practice (Spring) 2 cr.
RAD-H199 Clinical Practice (Summer) 2 cr.
RAD-H297 Clinical Practice (Fall) 3 cr.
RAD-H298 Clinical Practice (Spring) 3 cr.
RAD-H299 Clinical Practice (Summer) 2 cr.

RESPIRATORY CARE

Allied Health/Nursing/Physical Education Division

- RT-H101 Physics for Respiratory Care** 3 cr.
Prerequisite: Admission to the Program. The student is given an overview of physical science and math. The course will include an introduction to chemistry and physics. The course will also review the function of medical gas therapy, gas diffusion, acid base balance, storage and delivery of medical gases.
- RT-H103 Pharmacology for Respiratory Care** 3 cr.
Prerequisite: Admission to the Program. The general principles of pharmacology are covered. This class will encompass drug types, dispensing dosages, mode of action, effects, drug groups related to the pulmonary system are emphasized. Overview of cardiac, renal, and neurological systems are also covered.
- RT-H104 CardioPulmonary Anatomy and Physiology** 3 cr.
Prerequisite: Admission to the Program. The student is given an indepth study of the anatomy and physiology of the pulmonary and cardiac system including: the circulatory system, applied physiology gas laws, physical principles of gas found in the respiratory system and how they are related. Medical terminology will also be covered for the cardiac and pulmonary system.
- RT-H105 Principles of Respiratory Care** 4 cr.
Prerequisite: Admission to the Program. The student is introduced to how they will function in the clinical environment. Topics covered include: Aerosol and humidity therapy, hyperinflation therapy, medical gas therapy, bronchial hygiene, infection control, chest X-ray interpretation and clinical laboratory evaluations. This will also have a laboratory to increase exposure to RT equipment. OSHA standards and universal precaution guidelines will be covered as well.
- RT-H106 CardioPulmonary Pathophysiology and Diagnostics** 3 cr.
Prerequisite: Admission to the Program. The student is provided instruction on diagnostic, monitoring, interpretation and treatment of pulmonary, cardiovascular and neurological pathologies. Pathophysiology and laboratory assessment is stressed. Case studies will be included in this course.
- RT-H180 Introduction to Patient Care** 1 cr.
Prerequisite: Admission to the Program. The student is introduced to how they will function in a clinical environment. Topics covered will include: Abbreviations, documentation, patient assessment skills, ethics, therapeutics and practical knowledge on how to function in the hospital environment.
- RT-H201 Hemodynamic and Critical Care Monitoring** 3 cr.
Prerequisite: RT-H106 and RT-H210 with a grade of "C" or better. Basic cardiac electrophysiology, lead placement and recognition of cardiac dysrhythmias will be covered. How to set up and maintain pressure transducers, insertion techniques, monitoring of pulmonary artery, central venous catheters and intracranial catheters will be covered. Indications, use, complication, interventions and ACLS techniques will also be covered. Case application will be used as well.
- RT-H202 Advanced Principles of Respiratory Care Practice.** 4 cr.
Prerequisite: RT-H106 and RT-H210 with a grade of "C" or better. This course will focus on conventional forms of mechanical ventilation and non-conventional modes of mechanical ventilation. Indications, application, physical affects, complications of conventional mechanical ventilation, home care and pediatric ventilation will be covered. Designed to prepare the student to comprehend and proficiently manipulate ventilators used in all clinical environments. A laboratory will also accompany this class to allow

students to use ventilators and apply principles prior to the clinical environment.

- RT-H203 Pulmonary and Cardiovascular Diagnostics** 3 cr.
Prerequisite: RT-H106 and RT-H210 with a grade of "C" or better. The student will learn assessment of bedside spirometry and detailed pulmonary function studies. The student will also master techniques of calculation and maintenance of pulmonary function equipment. Bronchial challenge testing, homecare equipment, therapeutic modalities, patient selection, discharge planning and potential problems will be covered. The student will receive instruction on the concept of developing a pulmonary rehabilitation program, exercise testing and research in respiratory care. A patient care plan is due at the end of the semester.
- RT-H204 Perinatal and Pediatric Respiratory Care** 2 cr.
Prerequisite: RT-H106 and RT-H210 with a grade of "C" or better. The student will study the principles of fetal and neonatal lung development, anatomical and physiological changes that occur with fetal to neonatal transition, and physical assessment of the newborn. Students are instructed on interpretation, monitoring and treatment of breathing disorders of pulmonary and cardiovascular systems of the newborn, infant, and pediatric patients. Cardiac and pulmonary pathology is stressed.
- RT-H205 Current Issues in Respiratory Care** 1 cr.
Prerequisite: RT-H106 and RT-H210 with a grade of "C" or better. The student will receive instruction on issues affecting respiratory care. Topics to be covered include but are not limited to: leadership, communication, management, ethics and legal aspects.
- RT-H210 Clinical Practicum I** 2 cr.
Supervised clinical application of oxygen, humidity and aerosol therapy, positive pressure breathing, bronchial hygiene, hyperinflation therapy. This course is designed to allow the student to apply skills learned previously.
- RT-H211 Clinical Practicum II** 2 cr.
Supervised clinical application of principles learned in Practicum I. In addition general critical care skills and procedures, chest radiographs, weaning procedures, and mechanical ventilation will be examined. Reinforcement of didactic instruction are integrated and encouraged.
- RT-H212 Clinical Practicum III** 3 cr.
Supervised clinical application of principles and therapeutic procedures of continuous mechanical ventilation in an intensive care setting and critical care procedures.

SOCIOLOGY

Behavioral and Social Sciences Division

- SOC-H101 General Sociology** 3 cr.
An introductory survey of the major principles and methods of sociology is provided by this course. The following topics will be covered: the sociological perspective, the concept of culture, the individual as a social product, social groups, and basic social institutions such as the family, belief systems, education, the economy, and the polity. (Fall/Spring)
- SOC-H102 Contemporary Sociological Issues** 3 cr.
Prerequisite: SOC-H101. This course presents an analysis of current sociological issues with emphasis on social stratification, inequality and sociocultural dynamics. Topics include ageism, sexism, population growth and decline, racism, modernization, and technology. (Fall/Spring)

SOC-H201 Marriage and the Family 3 cr.
Prerequisite: SOC-H101 or equivalent. Students will examine marriage and family relationships from a sociological perspective, concentrating on first meetings through marriage, having and rearing a family, divorce, and remarriage. Topics considered include: gender roles, love relationships, sexual fulfillment, communication, dual-income marriages, and step-families. (Fall/Spring)

SOC-H203 Problems of Urban Society 3 cr.
Prerequisite: SOC-H101. This course examines the process and consequences of urbanization. Utilizing the ecological, functional, and conflict perspectives, attention is given to such issues as alienation, poverty, housing, crime, education, and health. (Fall)

SOC-H202 Sociology of Family Dysfunction 3cr.
Prerequisite: SOC-H101. This course is a comprehensive look at family dysfunction, including but not limited to family violence. We will explore the historical context, theoretical explanations, social character, causes, consequences of and possible solutions to family dysfunction, including intimate partner violence, substance abuse, and child abuse. We also will consider methodological and ethical issues in family dysfunction research and treatment.

SOC-H204 Minorities in American Society 3 cr.
Prerequisite: SOC-H101. This course addresses the causes and consequences of inequality based on race, gender, ethnicity, age, religion, and disability through an examination of the social structure, culture, history, and social institutions of American society. (Spring)

SOC-H205 Sociology of Deviance 3cr.
Prerequisite: SOC-H101. This course is a comprehensive look at deviance. The course will explore the historical context, theoretical explanations, social character, causes, consequences of and possible solutions to deviance, including crime, family violence, mental disorder, substance abuse, and sexuality. This course also will consider methodological and ethical issues in deviance research and treatment.

SOC-H206 Juvenile Delinquency 3 cr.
Prerequisite: SOC-H101 or permission of the instructor. Students will examine the nature of juvenile delinquency. Consideration will be given to major theories attempting to explain delinquent behavior. The history, philosophy, and current practices of the juvenile justice system in America will be presented. (Spring)

SOC-H208 Criminology 3 cr.
Prerequisite: SOC-H101 or by permission of instructor. Students will examine problems of law and order from a sociological perspective. The formation of laws, the causes of crime, and societal responses to crime will be considered. Topics to be considered include law-making as a social process, social and psychological explanations of criminal behavior, courts, punishment, imprisonment, and rehabilitation. (Fall)

SOC-H210 Sociology of Gender 3 cr.
Prerequisite: SOC-H101. This course is an introduction to understanding gender as a social phenomenon. Topics will include gender roles; the political, socioeconomic and legal implications of gender; rape and sexual harassment; and the future of gender roles. The overall goal in this course is to deepen awareness and understanding of gender as a social phenomenon, to increase ability to think in a sociological way, to acquire a clear sense of the varieties of feminist thought and analysis as well as the male perspective, and to understand how gender acts as an organizing principle in our society. (Spring)

SOC-H299 Independent Study by Arrangement
 (Fall/Spring)

SPANISH

Refer to Modern Languages.

THEATRE ARTS

Arts and Humanities Division

TH-H101 Introduction to Theatre 3 cr.
 A survey of the historical development of Western dramatic literature from the Greeks to the present. This course also explores the essential hands-on components of the theatre, including playwriting, acting, design, and crew, utilizing both creative and analytical projects.

TH-H102 Theatre Practicum I 3 cr.
 This course involves students in play production. Such areas as playwriting, set construction, lighting, box office, stage managing, and acting (by audition) will be explored through the process of rehearsing and mounting a play for performance. Three lab hours required.

TH-H103 Theatre Practicum II 3 cr.
 This course provides a continuation of the activities as described in TH-H102, with an emphasis on selected styles, methods, or playwrights. Three lab hours required.

TH-H104 Acting Techniques I 3 cr.
 A practical approach to the art of acting, with special attention to the development of the actor's instrument, including voice, body, the senses, creativity, and interpretation. The course combines individual and group exercises and assignments.

TH-H106 Acting Techniques II 3 cr.
 A continuation of the practical approach to the art of acting as outlined in Acting Techniques I. Emphasis on scene study and character development. Three laboratory hours required.

TH-H202 Stagecraft 3 cr.
 This course will examine the basic components of stagecraft and production techniques, with a focus on set construction and painting, lighting, properties, costumes, and production management. The course involves classroom study but includes hands-on application on stage productions. Three laboratory hours required.

TH-H203 Directing 3 cr.
Prerequisite: TH-H101 and TH-H104. Basic methods and techniques in directing a play, with special emphasis on script analysis, methods of rehearsing, and working with actors. Assignment directing short scenes. Three laboratory hours required.

TH-H290 Theatre Cooperative Work Experience 3 cr.
Prerequisite: 12 theatre credits and approval of Department Chairperson. This elective course is designed to provide supervised practical experience in approved theatre work settings. It consists of:

1. A two hour Professional Development Workshop
2. A minimum 225-hour Cooperative Work Experience
3. A weekly one-hour Co-op Seminar.

WASTEWATER

Mathematics/Science Division

WMT-H110 Wastewater I 3 cr.
Prerequisite: MATH-H102 or the successful completion of a college placement test. This course will introduce students to the safe and effective operation and maintenance of wastewater treatment plants. Basic operational aspects will be covered including grit removal,

sedimentation, flotation, trickling filters, biological contactors, activated sludge, waste treatment ponds, and disinfection and chlorination. Upon successful completion, students will be prepared for the State of Connecticut Wastewater Operator Class I examination.

WMT-H112 Wastewater II 3 cr.
Prerequisite: MATH-H102 or the successful completion of a college placement test. *Corequisite:* WMT-H110. Applications of the theoretical principles of wastewater treatment processes will be investigated and reinforced using specific examples from wastewater treatment laboratories. Students will participate in site visits to municipal wastewater treatment facilities and prepare a comprehensive study of a wastewater treatment plant.

WMT-H114 Wastewater III 3 cr.
Prerequisites: MATH-H113, WMT-H110, 112. *Corequisite:* WMT-H116. The safe and effective operation and maintenance of wastewater treatment facilities will be further investigated, with an emphasis on larger, conventional treatment plants. Topics include activated sludge, sludge digestion and handling, effluent disposal, plant maintenance safety and housekeeping, and laboratory procedures. Computer use and application in the laboratory for data acquisition will also be introduced and used for studying report writing. Upon completion, students will be prepared for the State of Connecticut Wastewater Operator Class II examination.

WMT-H116 Wastewater IV 3 cr.
Prerequisites: MATH-H113, WMT-H110, 112. *Corequisite:* WMT-H114. Students will participate in an internship at an operating wastewater treatment facility. A comprehensive report of the project will be required for successful completion of the course.

WMT-H210 Advanced Wastewater I 3 cr.
Prerequisites: WMT-H110, 112, 114, 116 or State of Connecticut Wastewater Certification, Level I and II. This course will address advanced wastewater topics including odor control using chemical and biological treatments, scrubbers, and activated carbon adsorption. The treatment of activated sludge in municipal and industrial waste will also be investigated as well as the processes used for the management of residual solids. The use of chemicals and filtration systems for the removal of solids from effluents will be addressed.

WMT-H212 Advanced Wastewater II 3 cr.
Prerequisite: WMT-H210. A continuation of WMT-H210, this course will cover phosphorus removal using biological systems, lime precipitation, and alum flocculation. The use of biological systems, ammonia stripping, chlorination and water hyacinth cultures for nitrogen removal will be investigated. Additional topics will include enhanced biological-nutrient control, wastewater reclamation and wastewater instrumentation.

WORDPROCESSING

Refer to the Business Office Technology.