

DES-2934**Advanced Clinical Procedures**

1 Credit

Advanced Clinical Procedures is a lecture course that is a continuation of concepts and clinical procedures introduced in previous clinical courses. This course provides discussion of case-based studies and the application of specialized care treatment procedures. Students develop critical thinking skills based on the application of theory and advanced dental hygiene procedures. Topics include dietary surveys, recall systems and applied techniques with an emphasis on patients having specialized needs and unusual case factors that may complicate routine care.

Prerequisites: DEH-1820C, DEH-2400

Corequisites: DEH-2300, DEH-2804C

Credit for this course does NOT apply to the Associate in Arts degree

DIE-2000**Introduction to Dietetics**

3 Credits

This course provides an in-depth introductory study of dietetics, the normal nutritional principles and the application of these principles, the professional opportunities for registered dietitians, and the role of the American Dietetic Association in dietetics education and practice.

DIE-2129**Quality Control in Food and Nutrition**

3 Credits

Students will be introduced to quality assessment and control in foods and nutrition. Topics will include review of laws, regulations and standards relating to the practice of dietetics.

DIE-2401**Nutrition Education and Interviewing**

3 Credits

Provides information on the nutritional habits of various cultural groups, educational methods which have an impact on food purchases and interviewing techniques.

DIE-2419**Nutrition Education and Counseling Practicum**

2 Credits

Provides the student with a practical application of nutrition education counseling. Actual interviews and customer needs records will reinforce the theories taught and the development and planning of menus.

DSC-1002**Introduction to Terrorism**

3 Credits

This course teaches the foundations of national security as it relates to international and domestic terrorism and the United States engagement in the war against terrorism. This course is a survey of the history and development of terrorist organizations and extreme political militancy both in the United States and the world.

DSC-1003**Intro to Homeland Security**

3 Credits

This course provides an introspective review of the history of the U.S. Homeland Defense Initiative and will explore the evolution of homeland security in the United States, including an overview of the government agencies and laws involved.

DSC-2033**Weapons of Mass Destruction**

3 Credits

This course introduces students to various types of weapons of mass destruction. The student will be introduced to basic principles of weapons of mass destruction, recognition, identification, decontamination, and treatment protocols. The student will understand the importance of personal protective equipment and its proper uses and understand the toxicology, physical and chemical properties associated with weapons of mass destruction.

EAP-0100**Speech/Listening I**

3 Credits

An introductory level listening and speaking course in which students develop the ability to understand and participate in brief conversations on familiar topics and begin to develop their pronunciation. Students must obtain a grade of C or better in order to advance to the next level of EAP coursework.

EAP-0120**Reading I**

3 Credits

Introductory course for EAP students with emphasis on comprehension of limited written materials. Students must obtain a grade of C or better in order to advance to the next level of EAP coursework.

EAP-0140**Writing I**

3 Credits

An introductory level writing course in which students develop the ability to write grammatically correct sentences and learn basic organizational skills for paragraph writing. Students must obtain a grade of C or better in order to advance to the next level of EAP coursework.

EAP-0160**Grammar I**

3 Credits

Introductory grammar course for EAP students with emphasis on basic verb tenses and simple sentence patterns. Students must obtain a grade of C or better in order to advance to the next level of EAP coursework.

EAP-0200**Speech/Listening II**

3 Credits

A high-beginning/low-intermediate level listening and speaking course in which students continue to develop their ability to understand and participate in conversations and further develop their pronunciation skills. Students must obtain a grade of C or better in order to advance to the next level of EAP coursework.

Prerequisite: EAP-0100

EAP-0220**Reading II**

3 Credits

A high introductory level reading course for EAP students with emphasis on developing reading skills and vocabulary. Students must obtain a grade of C or better in order to advance to the next level of EAP coursework.

Prerequisite: EAP-0120

EAP-0240**Writing II**

3 Credits

A high beginning to low intermediate level writing course in which students continue to develop writing skills in the context of guided discourse with an emphasis on logical organization and mechanics. Students must obtain a grade of C or better in order to advance to the next level of EAP coursework.

Prerequisite: EAP-0140

EAP-0260**Grammar II**

3 Credits

A high introductory grammar course for EAP students with emphasis on basic grammatical structures and statement/question patterns. Students must obtain a grade of C or better in order to advance to the next level of EAP coursework.

Prerequisite: EAP-0160

EAP-0300**Speech/Listening III**

3 Credits

An intermediate level listening/speaking course in which students continue to develop their ability to understand and participate in conversations and discussions, and further improve their pronunciation. Students must obtain a grade of C or better in order to advance to the next level of EAP coursework.

Prerequisite: EAP-0200

EAP-0320**Reading III**

3 Credits

An intermediate level reading course for EAP students with emphasis on vocabulary expansion and application of critical reading skills. Students must obtain a grade of C or better in order to advance to the next level of EAP coursework.

Prerequisite: EAP-0220

EAP-0340**Writing III**

3 Credits

An intermediate level writing course in which students continue to develop the writing skills necessary to produce organized paragraphs on a variety of academic topics. Students must obtain a grade of C or better in order to advance to the next level of EAP coursework.

Prerequisite: EAP-0240

EAP-0360**Grammar III**

3 Credits

Intermediate grammar course for EAP students with an emphasis on increasing the accuracy of grammatical structures appropriate to classroom discussion and the writing of academic paragraphs. Students must obtain a grade of C or better in order to advance to the next level of EAP coursework.

Prerequisite: EAP-0260

EAP-0400**Speech/Listening IV**

3 Credits

A high-intermediate level listening/speaking course in which students continue to develop their ability to understand and participate in more complex classroom discussions. Students must obtain a grade of C or better in order to advance to the next level of EAP coursework.

Prerequisite: EAP-0300

EAP-0420**Reading IV**

3 Credits

A high intermediate reading course for EAP students with emphasis on extensive reading and the enhancement of critical reading skills. Students must obtain a grade of C or better in order to advance to the next level of EAP coursework.

Prerequisite: EAP-0320

EAP-0440**Writing IV**

3 Credits

A high intermediate writing course in which students further develop their writing skills by acquiring the ability to write more sophisticated structured academic paragraphs and essays. Students must obtain a grade of C or better in order to advance to the next level of EAP coursework.

Prerequisite: EAP-0340

EAP-0460**Grammar IV**

3 Credits

A high intermediate grammar course for EAP students with emphasis on verb tenses and complex syntactic structures. Students must obtain a grade of C or better in order to advance to the next level of EAP coursework.

Prerequisite: EAP-0360

EAP-1500**Speech/Listening V**

3 Credits

Students develop communication, organization, and pronunciation skills necessary for effective academic presentation and discussion with an introduction to lecture note-taking.

Corequisite: EAP-1500L

Prerequisite: EAP-0400

EAP-1500L**Speech/Listening Lab V**

1 Credit

Students develop communication, organization, and pronunciation skills necessary for effective academic presentation and discussion with an introduction to lecture note-taking.

Corequisite: EAP-1500

Prerequisite: EAP-0400

EAP-1520**Reading V**

3 Credits

A high intermediate College level reading skills course in which students will be equipped with the skills necessary for the efficient processing of general academic texts.

Prerequisite: EAP-0420

Corequisite: EAP-1520L

EAP-1520L**Reading Lab V**

1 Credit

A high intermediate College level reading skills lab designed to increase students' active and passive vocabulary.

Prerequisite: EAP-0420

Corequisite: EAP-1520

**EAP-1540
Writing V**

3 Credits

Advanced writing course for EAP students in which students begin to write basic, structured academic essays with an emphasis on accuracy and cohesiveness. Students also learn to execute other related writing tasks.

Prerequisites: EAP-0440 and EAP-0460

Corequisite: EAP-1540L

**EAP-1540L
Writing Lab V**

1 Credit

Advanced grammar lab for EAP students designed to comprehensively review and expand the grammatical structures necessary to write academic English.

Prerequisite: EAP-0440 and EAP-0460

Corequisite: EAP-1540

**EAP-1600
Speech/Listening VI**

3 Credits

Students further develop communication skills necessary for full participation in mainstream college classrooms including comprehension of extensive discourse.

Prerequisite: EAP-1500 and EAP-1500L

Corequisite: EAP-1600L

**EAP-1600L
Speech/Listening Lab VI**

1 Credit

Students further develop communication skills necessary for full participation in mainstream college classrooms, including comprehension of extensive discourse.

Prerequisite: EAP-1500 and EAP-1500L

Corequisite: EAP-1600

**EAP-1620
Reading VI**

3 Credits

An advanced level reading skills course in which students will further develop the skills necessary for the efficient processing of general academic texts.

Prerequisite: EAP-1520 and EAP-1520L

Corequisite: EAP-1620L

**EAP-1620L
Reading Lab VI**

1 Credit

An advanced College level reading skills lab designed to further increase the active and passive vocabulary of the student.

Prerequisite: EAP-1520 and EAP-1520L

Corequisite: EAP-1620

**EAP-1640
Writing VI**

3 Credits

Advanced writing course for EAP students in which students develop the ability to write a variety of college-level essays with sophistication, fluency, and accuracy and execute other academic writing tasks.

Prerequisite: EAP-1540 and EAP-1540L

Corequisite: EAP-1640L

**EAP-1640L
Writing Lab VI**

1 Credit

Advanced grammar lab for EAP students designed to comprehensively review and expand the grammatical structures necessary to write academic English.

Prerequisite: EAP-1540 EAP-1540L

Corequisite: EAP-1640

**ECO-1000
Introduction to Economics**

3 Credits

Survey of economic principles including the analysis of production, costs, national income accounting, money and banking, supply and demand and market structures.

Prerequisites: College level reading and writing skills are required.

Credit for this course does NOT apply to the Associate in Arts degree.

**ECO-2013
Principles of Macroeconomics**

3 Credits

Introduction to the theory of national income determination with emphasis on fiscal and monetary policies. This course includes analysis of full employment, price stability and economic growth.

Prerequisites: College level reading, writing and math skills are required.

**ECO-2023
Principles of Microeconomics**

3 Credits

Offers a theoretical analysis of price determination of the product and factor markets.

Prerequisites: College level math skills are required.

**EDF-1005
Introduction to Education**

3 Credits

Students will develop an understanding of the methodology, structure and operation of educational systems and will be exposed to many of the issues facing American Education today. The course includes 37 hours of instruction and 15 hours of observation.

Prerequisites: College level reading and writing skills are required.

**EDG-2701
Teaching Diverse Populations**

3 Credits

A broad spectrum of the different ethnic groups in America and how their contributions to the American society will be presented. How multicultural content fits into a variety of subjects will also be analyzed. A 15 hour observation component in a multicultural school setting or community agency is required of each student.

Prerequisites: College level reading and writing skills are required.

**EDP-2200
Educational Psychology**

3 Credits

Focuses on the teaching-learning process, including the conditions and determinants necessary for efficiency and the application of related psychological principles.

Prerequisites: PSY-2012. College level reading and writing skills are required.

EEC-1300**Planning Early Childhood Program**

3 Credits

Introduces planning strategies for creating significant learning experiences for children 3 to 5 years of age. Emphasis is on maturity levels, daily activities, assessment and development of personal teaching techniques.

EEC-1308**Enhancing Intellectual Development in Early Childhood**

3 Credits

Covers the theory of specific teaching skills in languages, mathematics, social studies and problem solving.

EEC-1311**Crafts in Early Childhood**

3 Credits

Focuses on using crafts to promote physical and mental development, with an emphasis on clay, paint, chalk and crayons.

EEC-1401**The Family & Early Childhood Education**

3 Credits

Addresses professional responsibilities in working with parents, with an emphasis on sharing information, joint problem solving, home visits and parents meetings.

EEC-1521**Operation of the Early Childhood Management**

3 Credits

Covers the management and delivery of educational services, with an emphasis on planning, equipment, space, security, and educational goals.

EEC-1721**Physical Development/Early Childhood Setting**

3 Credits

Focuses on teaching techniques for helping students develop large and small motor coordination, and improve balance. Topics include maturational changes and growth patterns.

EEC-1941**Child Care Practicum I**

3 Credits

Presents the opportunity to practice skills and translate theoretical knowledge into developmentally appropriate early childhood education experiences (240 clock hours).

Prerequisite: EEC-1521 or permission of instructor

Corequisite: EEC-1260

EEC-1943**Child Care Practicum II**

3 Credits

A continuation of EEC 1941; presents the opportunity to practice skills and translate theoretical knowledge into developmentally appropriate early childhood education experiences (240 clock hours).

Prerequisite: EEC-1941

EEC-2270**Meeting Special Needs of Children in Groups**

3 Credits

Focuses on the special language and cultural needs of preschool disadvantaged students. Emphasis is on the strategies for increasing communication between children and adults, communication as part of the socialization process, and the pros and cons of English as a second language.

EEC-2271**Children With Special Needs**

3 Credits

Focuses on identifying and understanding the needs of children with cultural differences, the handicapped, gifted and talented. Emphasis is on mainstreaming in the classroom setting.

EET-1036C**Basic AC and DC**

3 Credits

This course is for the student who has previously taken EET-1083C, Electronic Orientation, or is taking both classes in the same semester. It covers voltage, current, resistance, and power concepts in DC and AC circuits. It also includes problem solving in AC and DC circuits using Ohm's Law with an emphasis on constructing, measuring performance, troubleshooting, and repairing circuits. Laboratory exercises are included.

EET-1037C**Circuit Analysis**

3 Credits

Covers electronic filters, resonance, and RC and RL time constants concepts. Also covers AC and DC theorems used to analyze complex circuits. Laboratory activities such as constructing AC and DC circuits, verifying calculated circuit performance, and identifying and repairing circuit faults are included.

Prerequisite: EET-1036C and MTB-1327

EET-1083C**Electronics Orientation**

3 Credits

Provides an introduction to computer operating systems, and to computer programs used in the analysis of electronic circuits. Also covers the use of electronics laboratory equipment such as digital multi-meters, oscilloscopes, function generators, breadboards and trainers used in the program. Basic soldering skills included. Laboratory exercises are included.

EET-1141C**Solid State Devices**

3 Credits

Covers the basic concepts of solid state devices used in electronics with an emphasis on semiconductor materials, diodes, transistors, (bipolar and FET), thyristors, basic operational amplifiers and related test equipment. Laboratory exercises are included.

Prerequisite: EET-1036C

EET-1142C**Solid State Circuits**

3 Credits

Covers the basic concepts of analog circuits. topics include multistage amplifiers, linear integrated circuits, basic power supplies and filters, audio amplifiers, oscillators, motor controls, cathode ray tubes, optoelectronic devices and related test equipment.

Prerequisite: EET-1141C

EET-1525C**Industrial Controls I**

3 Credits

This course is for the student who is working in the industrial control field or has completed EET-1141C. It covers the basic theory and operation of electromechanical and industrial electronic devices. Topics such as relays, switches, transducers, SCRs, and ladder diagrams are included. Laboratory exercises are included.

Prerequisite: EET-1141C

EET-1949**Electronics Internship**

3 Credits

A coordinated work-study course involving classwork and field experience. Objectives determined by the student and teacher-coordinator will be used to evaluate the student.

EET-2155C**Linear Integrated Circuits**

3 Credits

Covers analog integrated circuits, operational amplifiers, power supply regulator feedback, wave-form generators, special amplifiers and frequency response. Laboratory exercises are included.

A special fee will be charged for this course.

Prerequisite: EET-1142C

EET-2215L**Electronics Instruments**

3 Credits

Covers basic concepts and theory concerning electronic instruments used in testing situations, with an emphasis on practical applications of electronic measuring devices.

A special fee will be charged for this course.

Prerequisite: CET-2113C EET-1142C or permission of instructor

EET-2326C**Communications Systems I**

3 Credits

Provides an introduction to the communications field. Topics include AM, FM, television and single sideband multiplexing. Laboratory exercises are included.

A special fee will be charged for this course

Prerequisite: EET-2155C

EET-2355C**Data Communications**

3 Credits

Covers the basics of analog and digital telephone communication systems and the operation of modems. Also covered are the LAN and WAN layers with emphasis on the physical layer. Topics include equipment, devices, and interconnecting hardware and software requirements. Laboratory exercises are included.

Prerequisites: EET-1155C and EET-2326C or permission of instructor.

EET-2526C**Industrial Controls II**

3 Credits

Covers the theory and operation of programmable logic controllers (PLC) and variable speed AC and DC motor drives. Laboratory exercises are included.

Prerequisite: EET-1525C or permission of instructor

EET-2939**Electronics Engineering Tech Capstone**

3 Credits

The capstone course is designed for the student to demonstrate his/her knowledge and skills applicable to the degree core competencies and outcomes. The course is designed as a project-based experience. The student's project requirements will be designed in concert with his/her area of curriculum emphasis.

Credit for this course does NOT apply to the Associate in Arts degree.

EGS-2122C**Geometric Dimensioning and Tolerancing**

3 Credits

This course provides the fundamentals of geometric dimensioning and tolerancing (gd & t) as based on the American Society of Mechanical Engineers standard ASME Y14.5m-1994. The coverage of topics includes geometric tolerancing symbols and terms, the rules of geometric dimensioning and tolerancing, datums, material condition symbols, tolerances of form, profile, orientation and runout, and location tolerances.

Prerequisite: ETI 1403

EHD-1941**Interpreting Practicum**

2 Credits

Provides the intermediate level interpreting student with an opportunity to observe the process of interpreting in various professional work situations and to gain knowledge of community agencies and resources which serve the deaf and hard-of-hearing population. Students will schedule regular observation hours, and according to their level of interpreting skill, assist agency staff in normal duties.

A special fee will be charged for this course.

Prerequisite: SPA-2614. College level reading and writing skills are required.

Credit for this course does NOT apply to the Associate in Arts degree

EHD-2060**Introduction to Interpreting Ethics**

3 Credits

Provides an introduction to the role of an interpreter; highlighting the application of the National Registry of Interpreters for the Deaf Code of Ethics in daily interaction with Deaf and Hearing consumers. Identifies alternative ethical behavior utilized in specific settings, such as Educational Interpreting.

Prerequisite: SPA-1631. College level reading and writing skills are required.

EHD-2402**Educational Interpreting**

2 Credits

Focuses on sign systems and processes used in secondary and post-secondary settings, with an emphasis on the role and ethics of the institutional interpreter, related vocabulary, use of transliteration and interpreting in various situations.

Prerequisites: College level reading and writing skills are required.

Corequisite: EHD-2402L

EHD-2402L**Educational Interpreting Laboratory**

1 Credit

Accompanies EHD 2402. Live models, video tapes and interaction with the deaf community will be used to improve expressive and receptive interpreting skills in specific settings.

Prerequisites: College level reading and writing skills are required.

Corequisite: EHD-2402

EHD-2407L**American Sign Language to Spoken English Interpreting**

3 Credits

Focuses on advanced skills in interpreting from a signed message to a voiced translation using videotapes and live voice, with an emphasis on more complex constructions in signed stories and dialogues.

Prerequisites: College level reading and writing skills are required.

EHD-2410**Interactive Interpreting I**

3 Credits

Provides an introduction to the basic theories, guidelines, principles, and practices of interpreting, including the role of the interpreter, professional behavior and the ethics of interpreting, and environmental considerations of interpreting situation.

Prerequisite: SPA-2614. College level reading and writing skills are required.

Corequisite: EHD-2410L

Credit for this course does NOT apply to the Associate in Arts degree.

EHD-2410L**Interactive Interpreting Laboratory I**

2 Credits

Focuses on introductory cognitive, linguistic and motor skill development. Utilization of audio tape, video tape and CD-ROM materials will reinforce skill development. Live role play and modeling techniques permit students to experience a variety of interactive interpreting settings.

Prerequisites: SPA-2614. College level reading and writing skills are required.

Corequisite: EHD-2410

Credit for this course does NOT apply to the Associate in Arts degree.

EHD-2411L**Interactive Interpreting Laboratory II**

3 Credits

A continuation of Interactive Interpreting I, this course focuses on advanced cognitive, linguistic, and motor skill development. Utilization of audio tape, video tape and CD-ROM materials will reinforce skill development. Live role play and modeling techniques permit students to experience a variety of interactive interpreting settings.

Prerequisites: EHD-2410L. College level reading and writing skills are required.

Credit for this course does NOT apply to the Associate in Arts degree

EHD-2412L**Interactive Transliterating Laboratory**

2 Credits

Focuses on manually coded sign systems used primarily in educational settings with a focus on the unique role and ethics of an educational interpreter/transliterating techniques.

Prerequisites: SPA-2614. College level reading and writing skills are required.

Credit for this course does NOT apply to the Associate in Arts degree.

EHD-2930**Interpreting Topics**

2 Credits

Designed to be taken as an advanced level interpreting course during the second year of training. Special topics including business practices, marketing/entrepreneurship and interpreting in specialized situations (education, legal, medical, and mental health) will be taught. This course may be repeated for a total of six credits.

Prerequisite: EHD-2410

Credit for this course does NOT apply to the Associate in Arts degree.

EHD-2942**Interpreting Internship**

3 Credits

Provides an opportunity to participate in the interpreting process in work situations and to assist with agency duties. Requires a minimum of 24 hours per week.

A special fee will be charged for this course.

Prerequisite: EHD-1941. College level reading and writing skills are required.

EME-2040**Introduction to Educational Technology**

3 Credits

A survey course designed to introduce the use of microcomputer technology and telecommunications in augmenting the teaching and learning process. Upon completion of the course, students will be able to telecommunicate, critically evaluate educational software, conceptualize the uses of computers in the classroom in terms of computer-directed instruction, computer-enhanced instruction, and computer-managed instruction, learn the purpose of and acquire basic skills for using commercial courseware, generic applications software, disk operating systems and hardware.

Prerequisite: EDF-1005. College level reading and writing skills are required.

EMS-1119**Emergency Medical Technician**

7 Credits

Provides the lecture, theory and discussion in compliance with the U.S. Department of Transportation (D.O.T.) curriculum for the EMT-Basic (1994). Also includes additional content related to esophageal intubation, intravenous fluid maintenance, automated defibrillation, and pneumatic anti-shock garments.

Prerequisite: EMS-1431 and CPR certification

Corequisite: EMS-1119L

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-1119L**Emergency Medical Technician Practicum**

2 Credits

Provides the competency-based practice and testing of skills presented in the companion lecture course. Those skills include all the required skills of the EMT basic national curriculum plus the additional skills of esophageal intubation, intravenous maintenance, automated defibrillation and pneumatic anti-shock garments. Includes strenuous skills such as lifting and patient carrying.

A special fee will be charged for this course.

Prerequisite: EMS-1431 and CPR certification

Corequisite: EMS-1119

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-1431**Emergency Medical Technician Clinical**

1 Credit

Provides the field experience and hospital clinical portions of the U.S. Dept. of Transportation curriculum (1994) for the EMT-Basic. Includes strenuous skills such as lifting and carrying techniques in actual patient care situations. Exposure to blood and bloodborne pathogens is possible in patient care situations.

A special fee will be charged for this course.

Prerequisite: EMS-1119L and CPR certification

Corequisite: EMS-1119

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2311**Introduction to EMS Management**

3 Credits

Cover basic supervision, management and operations of an EMS service, with an emphasis on regulations budget, safety, inventory control, billing, and employee relations.

Prerequisite recommendation: EMT or paramedic certification

Credit for this course does NOT apply to the Associate in Arts degree

EMS-2331**Emergency Care in Flight**

3 Credits

A study of the physiology of flight, effects of flight on persons with medical problems and emergency medical care during air transportation of patients.

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2375**Paramedic Proficiency Examination**

1 Credit

Provides a review of the didactic and practical skills of the Paramedic certificate program followed by written and practical examinations.

Prerequisite: Completion of all required Paramedic College Credit Certification courses with a grade of C or better.

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2381C**Emergency Medical Technician Refresher**

2 Credits

Reviews the basic life support training and skills needed by the EMT-B personnel who have successfully completed the basic training program. These skills and knowledge are used in the immediate pre-hospital care of the acutely ill or injured patient.

A special fee will be charged for this course. This course may be taken unlimited times for credit.

Prerequisite: Florida EMT-B certification

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2522**Emergency Pharmacology**

3 Credits

Provides instruction concerning intravenous fluids, electrolytes and emergency intravenous therapy. Includes pharmacology of drugs used in management of persons suffering both acute and chronic medical, behavioral and toxicological emergencies.

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2525**Electrocardiography**

3 Credits

Provides instruction on the interpretation of the electrocardiograph, the basic components of the cardiac cycle and their relationship to the electrocardiograph. Emphasis is on the basic skills in dysrhythmia interpretation and advanced skills such as the 12-lead interpretation, infarct location determination, axis deviation and conduction defects.

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2551C**Advanced Cardiac Life Support**

2 Credits

The American Heart Association's Advanced Cardiac Life Support Provider course is designed to provide instruction and skill testing of specific therapies for various cardiac emergencies. The target population for this course is the practicing physician, paramedic or critical care nurse. Includes strenuous skills such as lifting and carrying techniques in actual patient care situations.

Prerequisite: Current CPR certification required on the first class day

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2611**Preparatory**

3 Credits

Provides knowledge and skills contained in Module-1, EMS systems/roles and responsibilities, well-being, injury and illness prevention, medical and legal issues, ethical issues, general principles of pathophysiology, pharmacology, venous access and medication administration, therapeutic communications and life span development in compliance with the U.S. D.O.T. curriculum (1998).

Corequisite: EMS-2611L

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2611L**Preparatory Practicum**

1 Credit

Provides skill development related to the theory of Module 1 of the U.S. D.O.T. paramedic curriculum (1998). Includes strenuous skills such as lifting and carrying techniques in actual patient care situations. Laboratory fees assessment is made for professional liability insurance.

A special fee will be charged for this course.

Corequisite: EMS-2611

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2612**Airway Management and Ventilations**

1 Credit

Provides theory and skills of Module 2 of the U.S. D.O.T. Curriculum (1998). Includes a review of the anatomy and physiology of the respiratory system and pathophysiology of the airway obstruction. Airway management includes assessment, manual maneuvers, adjunctive equipment, and procedures. Other topics include translaryngeal cannula ventilation, cricothyrotomy, extubation, and considerations for special considerations for special situations.

Corequisite: EMS-2612L

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2612L**Airway Management & Ventilation Practicum**

1 Credit

Provides skill development related to the theory of Module 2 of the U.S. D.O.T. paramedic curriculum (1998). Airway management includes assessment, manual maneuvers, adjunctive equipment, and advanced airway procedures.

Corequisite: EMS-2612

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2613**Patient Assessment**

1 Credit

Provides the theory and skills of Module 3 of the D.O.T. Curriculum (1998). This module teaches a comprehensive approach to history taking and techniques of the physical exam with a review of specific anatomy and physiology. In addition, it provides a conceptual approach and process to conducting a patient assessment, the process of clinical decision-making, various components of the communications system and various uses of documentation.

Corequisite: EMS-2613L

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2613L**Patient Assessment Practicum**

1 Credit

Provides skill development related to the theory of Module 3 of the U.S. D.O.T. paramedic curriculum (1998). Includes techniques and skills for history taking, the physical exam, patient assessment, communications, and documentation.

Corequisite: EMS-2613

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2614**Trauma Emergencies**

2 Credits

Provide the theory and skills of Module 4 of the U.S. D.O.T. curriculum (1998), to include trauma systems & mechanism of injury, hemorrhage and shock, burns, head and facial trauma, spinal trauma, thoracic trauma, abdominal trauma, and musculoskeletal trauma.

Corequisite: EMS-2614L

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2614L**Trauma Practicum**

1 Credit

Provide skills of Module 4 of the U.S. D.O.T. curriculum (1998), to include trauma systems & mechanism of injury, hemorrhage and shock, burns, head and facial trauma, spinal trauma, thoracic trauma, abdominal trauma, and musculoskeletal trauma.

A special fee will be charged that will cover the cost of Trauma Life Support certification.

Credit for this course does NOT apply to the Associate in Arts degree.

Corequisite: EMS-2614

EMS-2616**Patients with Special Needs**

3 Credits

Provides the theory and skills of Module 6 of the D.O.T. curriculum (1998), neonatology, pediatrics, geriatrics, abuse & assault, patients with special challenges and acute interventions for the chronic care patient. This course includes expanded curriculum for pediatric advanced life support emergencies.

Corequisite: EMS-2616L

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2616L**Patients With Special Considerations Practicum**

1 Credit

Provides skill development related to theory of Module 6 of the U.S.D.O.T. curriculum (1998), neonatology, pediatrics, geriatrics, abuse and assault, patients with special challenges, and interventions for the chronic care patient.

A special fee will be charged for this course.

Corequisite: EMS-2616

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2617C**Assessment-Based Management and Proficiency**

2 Credits

Provides a review of the didactic and practical skills of the paramedic certificate program followed by written and practical examinations.

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2618**Ambulance and Rescue Operations**

1 Credit

Provides the theory and skills of Module 8 of the U.S. D.O.T. paramedic curriculum, for medical incident command, rescue operations and awareness, basic water rescue, highway/vehicle rescue operations, hazardous materials awareness and operations, and crime scene awareness.

Corequisite: EMS-2618L

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2618L**Operations and Rescue Practicum**

1 Credit

Provides skill development related to theory of Module 8 of the U.S. D.O.T. curriculum (1998), Medical Incident Command, Rescue Operations and Awareness, Basic rescue Operations, Hazardous Materials Awareness and operations, Crime Scene Awareness. Includes strenuous skills related to extrication of patients, disentanglement and lifting and carrying techniques in actual patient care situations.

A special fee will be charged for this course.

Corequisite: EMS-2618

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2621**Paramedic Phase I**

7 Credits

Provides knowledge and skills contained in division 1, of the 1998 DOT curriculum, module 1 - preparatory, module 2 - airway, module 3 - patient assessment, module 8 - ambulance operations, in compliance with the most current DOT curriculum.

Corequisite: EMS-2621L

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2621L**Paramedic Phase I Practicum**

4 Credits

Provides knowledge and skills contained in division 1, of the 1998 DOT curriculum, module 1 - preparatory, module 2 - airway, module 3 - patient assessment, module 8 - ambulance operations, in compliance with the most current DOT curriculum.

Credit for this course does NOT apply to the Associate in Arts degree.

Corequisite: EMS-2621

EMS-2622**Paramedic Phase II**

8 Credits

Provides knowledge and skills contained in the most current department of transportation curriculum. Specific modules include module 4 - trauma, module 5 - medical emergencies.

Prerequisites: EMS-2621 and EMS-2621L

Corequisite: EMS-2622L

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2622L**Paramedic Phase II Practicum**

4 Credits

Provides knowledge and skills contained in the most current department of transportation curriculum. Specific modules include module 4 - trauma, module 5 - medical emergencies.

Prerequisite: EMS-2621 and EMS-2621L

Corequisite: EMS-2622

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2623**Paramedic Phase III**

6 Credits

Provides knowledge and skills contained in the most current department of transportation curriculum for paramedic. Specific modules include module 6 - special considerations, module 5 - medical emergencies (cardiac emergencies management and advanced life support).

Prerequisite: EMS-2622 and EMS-2622L

Corequisite: EMS-2623L

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2623L**Paramedic Phase III Practicum**

2 Credits

Provides knowledge and skills contained in the most current department of transportation curriculum for paramedic. Specific modules include module 6 - special considerations, module 5 - medical emergencies (cardiac emergencies management and advanced life support).

Prerequisites: EMS-2622 and EMS-2622L

Corequisite: EMS-2623

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2625**Cardiac Emergencies I**

3 Credits

Part I of a two part sequence based on the theory and skills of the U.S. D.O.T. (1998) paramedic curriculum, Module 5, section B, cardiology. The course focuses on cardiac electrophysiology, EKG interpretation, and also includes 12 lead interpretation, infarct determination, axis deviation and includes clinical case presentations.

Corequisite: EMS-2625L

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2625L**Cardiac Emergencies Practicum I**

1 Credit

Part I of a two-part sequence based on the theory and skills of U.S. D.O.T. (1998) paramedic curriculum, Module 5 Section 5. The course focuses on cardiac electrophysiology, EKG interpretation, and also includes fundamentals of 12 lead interpretation, infarct determination, and axis deviation.

Corequisite: EMS-2625

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2626**Cardiac Emergencies II**

3 Credits

Part two of a two-part sequence based on theory and skills of the U.S. D.O.T. 1998 paramedic curriculum, Module 5, Section B, cardiovascular emergencies and EKG interpretation. This course focuses on cardiac anatomy and physiology, assessment and management of cardiac emergencies. Additional content includes external cardiac pacemakers, automatic defibrillators, thrombolytic agents and application of advanced EKG interpretation.

Prerequisite: EMS-2625

Corequisite: EMS-2626L

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2626L**Cardiac Emergencies II Practicum**

1 Credit

Part 2 of a two-part sequence based on the theory and skills of U.S. D.O.T. 1986 paramedic curriculum, Module 5 Section 5. This course focuses on demonstration of skills of the primary provider of patient care in actual situations. Topics include advanced assessment and evaluation, EKG monitoring and rhythm interpretation, defibrillation and cardioversion, chest compressions, and advanced airway management. Involves physically strenuous activity.

A special fee will be charged for this course.

Corequisite: EMS-2626

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2627**Medical Emergencies**

3 Credits

Provides the theory and skills of the U.S. D.O.T. curriculum (1998) Module 5, pulmonary, neurology, endocrinology, allergic reactions, gastroenterology, toxicology, environmental conditions, infectious diseases, and behavioral and psychiatric disorders.

Corequisite: EMS-2627L

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2627L**Medical Emergencies Practicum**

1 Credit

Provides skills development related to the theory of Module 5, Sections 1, 3-12 of the U.S. D.O.T. curriculum (1998). Includes strenuous skills such as lifting and carrying techniques in actual patient care situations. Laboratory fee assessment is made for professional liability insurance.

A special fee will be charged for this course.

Corequisite: EMS-2627

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2628**OB/GYN Emergencies**

1 Credit

Provides theory and skills of the D.O.T. curriculum (1985), obstetric, gynecological, and neonatal emergencies, Module 5 section 13 and 14.

Corequisite: EMS-2628L

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2628L**OB/GYN Emergencies Practicum**

1 Credit

Provides skill development related to the theory of Module 5 Section 13, 14, obstetrics, gynecological, and neonatal emergencies.

A special lab fee will be charged for this course.

Corequisite: EMS-2628

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2666**Paramedic Clinical I**

3 Credits

Focuses on the demonstration of EMT and basic paramedic skills in actual patient care situations, with an emphasis on initial assessment and management of airway management, intravenous and medication administration, and patient and stretcher handling in field and hospital settings. Includes physically strenuous activity. Laboratory fee assessment is made for professional liability insurance.

A special fee will be charged for this course.

Prerequisite: Admission to Paramedic program

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2667**Paramedic Clinical II**

3 Credits

Focuses on the demonstration of skills of the primary provider of patient care in actual situations. Topics include advanced assessment and evaluation, EKG monitoring and rhythm interpretation, defibrillation and cardioversion, chest decompression, and advanced airway management. Involves physically strenuous activity.

A special fee will be charged for this course.

Prerequisite: EMS-2666

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2668**Paramedic Clinical III**

3 Credits

An advanced clinical experience focusing on decision-making and direct patient care that stresses the completion of competencies introduced in previous courses and includes a field-preceptor transition program.

Prerequisite: EMS-2667

Credit for this course does NOT apply to the Associate in Arts degree.

EMS-2761**Introduction to EMS Instruction**

3 Credits

An introductory course for EMS instructors or training officers focusing on program design, teaching methods, student objectives and basic testing/measurement techniques as they apply to EMS training. Simulated patient care and use of Modern EMS equipment are emphasized. Experiences as an EMT, paramedic, registered nurse or physician is mandatory.

Credit for this course does NOT apply to the Associate in Arts degree

EMS-2930**EMS Seminar**

1 Credit

Focuses on the discussion of current topics in the EMS field. Content may vary by section. This course may be taken five times for credit.

Credit for this course does NOT apply to the Associate in Arts degree.

ENC-0010**College Preparatory Writing I**

4 Credits

Designed to provide additional training in written communication skills. The CLAST skills of basic sentence structure, mechanics, and paragraph development are also introduced. Emphasis is also placed on how to express ideas in clear and logical standard English. This class does not satisfy General Education requirements and generates compensatory credit only.

ENC-0010C**College Preparatory Writing I**

4 Credits

Designed to provide additional training in written communication skills. The CLAST skills of basic sentence structure, mechanics, and paragraph development are also introduced. Emphasis is also placed on how to express ideas in clear and logical standard English. This class does not satisfy General Education requirements and generates compensatory credit only.

ENC-0020**College Preparatory Writing II**

4 Credits

Emphasizes CLAST skills, including modifiers, parallel structure, and embedding features of compound and complex sentences, advanced mechanics, and word use. Paragraphs and the basic essay structure are also addressed. This class does not satisfy General Education requirements and generates compensatory credit only.

Prerequisite: ENC-0010C

ENC-0020C**College Prep Writing II**

4 Credits

Emphasizes CLAST skills, including modifiers, parallel structure, and embedding features of compound and complex sentences, mechanics, and word use. Paragraphs and the basic essay structure are also addressed. This course does not satisfy General Education requirements and generates compensatory credit only.

Prerequisite: ENC-0010C

ENC-0090**CLAST Grammar Review**

1 Credit

CLAST review emphasizing grammar. Previous number for this course was ENC 2090

Prerequisites: ENC-0020C, REA-0002C or ENC-1101. College level reading and writing skills are required.

ENC-0091**CLAST Essay Review**

1 Credit

CLAST review emphasizing essay.

Prerequisites: ENC-0020C, REA-0002C or ENC-1101. College level reading and writing skills are required.

ENC-1101**Freshman English I**

3 Credits

Focuses on the writing process of various expository methods with consideration of the writer's purpose, limitations of time, and audience. Students must write unified, coherent essays that include theses and introduction, body, and conclusion paragraphs. Students must demonstrate effective sentence structure, and observe conventions of standard English grammar and usage.

Prerequisites: A satisfactory score on the HCC placement test or ENC 0020C with a minimum grade of C. College level reading and writing skills are required.

ENC-1101H**Honors Freshman English I**

3 Credits

Same as ENC 1101 with honors content. Honors Institute permission required.

Prerequisites: College level reading and writing skills are required.

ENC-1102
Freshman English II

3 Credits

A continuation of ENC 1101. Instruction is persuasive and literary based critical and evaluative skills in English composition. Documented research paper required.

Prerequisites: ENC 1101 with a minimum grade of C. College level reading and writing skills are required.

ENC-1102H
Honors Freshman English II

3 Credits

Same as ENC 1102 with honors content. Honors Institute permission required.

Prerequisite: ENC 1101 with a minimum grade of C.

ENC-1151
Technical English I

3 Credits

Designed to help vocational-oriented students improve writing, reading and speaking skills focuses on basic English skills such as dictionary work, developing paragraphs and writing themes.

Prerequisites: ENC 0020C with a minimum grade of C or better, or satisfactory score on the HCC placement test. College level reading and writing skills are required.

Credit for this course does NOT apply to the Associate in Arts degree.

ENC-2210
Technical Writing

3 Credits

Focuses on writing and designing documents in technical and professional discourse communities. Students produce a number of technical genres - correspondence, reports, a proposal, and instructions - for various technical and lay audiences. Assignments are intended to create a real-world situation and present a set of rhetorical considerations and restraints.

Prerequisite: ENC-1101

ENG-2100
Introduction to Film

3 Credits

Presents film as an art form, with an emphasis on analysis and evaluation. Topics include vocabulary, techniques, story, script, cinematography, sound, directing, acting, historical perspective, cultural settings and comparative status among other films.

Prerequisite: ENC-1101

ENL-2012
British Literature to 1800

3 Credits

Focuses on selected British writers, with an emphasis on major periods and trends, such as Anglo-Saxon, Middle Ages, neo-classicism and pre-romanticism.

Prerequisites: College level reading and writing skills are required.

ENL-2012H
Honors British Literature to 1800

3 Credits

Same as ENL-2012 with honors content. Honors Institute permission required.

Prerequisites: College level reading and writing skills are required.

ENL-2022
British Literature: 1800 to Present

3 Credits

Focuses on 19th and 20th century writers from the romantics to the present.

Prerequisites: College level reading and writing skills are required.

ENL-2022H
Honors British Literature: 1800 to Present

3 Credits

Same as ENL-2022 with honors content. Honors Institute permission required.

Prerequisites: College level reading and writing skills are required.

EPI-0001
Classroom Management

3 Credits

This course prepares the student to set up a classroom; employ classroom management techniques; express an understanding of school safety; integrate sunshine state standards into lesson development; create lesson plans; establish and maintain cooperative relations with parents; develop and administer various forms of assessment; describe the implications of FCAT and other standardized tests; and demonstrate an understanding of the ethical and legal obligations of the teaching profession.

EPI-0002
Instructional Strategies

3 Credits

This course prepares the student to identify different learning styles, recognize Bloom's Taxonomy, prepare lesson plans, use various styles on presentations, employ varied teaching strategies, explain cooperative, group, contextual, and project-based learning, apply behavioral management strategies, and discuss accommodations for exceptional students.

Prerequisite: EPI 0001

EPI-0003
Technology

3 Credits

This course prepares the student to develop computer-based record keeping, to identify additional application software productivity tools, prepare multimedia presentations, describe content area instructional strategies, identify Internet resources, describe WebQuests, demonstrate knowledge of webpage development and computer-aided instruction, integrate technology into the learning process, and describe copyright and fair use guidelines.

Prerequisite: EPI 0002

EPI-0004
The Teaching and Learning Process

3 Credits

This course prepares the student to research professional literature to seek best practices in teaching and to hone the craft of effective instruction.

Prerequisite: EPI 0003

EPI-0010
The Foundations of Research-Based Practices in Reading

3 Credits

This course prepares the student to describe language structure and function, cognition of phonemic awareness, phonics, fluency, vocabulary, and comprehension. The student will learn the integration of the reading components. Instruction is grounded in scientifically-based reading research as a mechanism to inform instructional practice.

Prerequisite: EPI 0004

EPI-0020
Professional Foundations

3 Credits

This course provides the foundation for the student to become a productive member of the teaching profession. Students will gain an understanding of the organization and administration of the public school, the laws governing teachers, the code of ethics, and the purpose of schools. Students will attain a professional perspective as well as a sense of grounding in the profession of teaching.

Prerequisite: EPI 0010

EPI-0030
Diversity

2 Credits

This course provides the student with an understanding of the variety of backgrounds and cultures that may be found in a typical classroom.

Corequisite: EPI 0020

EPI-0940
Field Experience – Module 3

Participants will complete a field experience in a public, charter, or private school. These field experiences will provide the opportunity to gain insight into the instructional process. Those participants who are teaching will be required to complete the field experiences in the schools where they are assigned.

Corequisite: EPI 0020

EPI-0945
Field Experience – Module 4

This course provides the student with a field experience in the classroom to give a broader view of the social aspects of diversity and cause the participant to re-evaluate personal beliefs and prejudices that may adversely affect the learning process.

Corequisite: EPI 0030

ESC-1000
Earth Science

3 Credits

Focuses on geology, meteorology, and astronomy. topics include the earth's atmosphere and weather systems, earthquakes, volcanoes, plate tectonics, the solar system and the universe; intended for non-science majors.

Prerequisite: College level reading, writing and math skills are required.

Corequisite: ESC-1000L

ESC-1000H
Honors Earth Science

3 Credits

Same as ESC 1000 with honors content. Honors Institute permission required.

Prerequisite: College level reading and writing skills are required.

Corequisite: ESC-1000L

ESC-1000L
Earth Science Laboratory

1 Credit

The focus of this course is to familiarize the student with science laboratory techniques and procedures including collecting and recording data, performing calculations, analyzing data, and interpreting results. This is accomplished through experiments and exercises related to topics in earth science.

A special fee will be charged for this course.

Prerequisite: College level reading, writing and math skills are required.

Corequisite: ESC-1000

EST-1436C
Biomedical Electronic Systems I

3 Credits

Designed to cover selected topics as outlined by the Florida Curriculum Frameworks for Biomedical Equipment Engineering Technology. Topics covered include: pneumatic systems, optical systems and treatment devices. Lab work will be assigned for all major topics.

Prerequisites: EET-1141C and CET-2113C

Credit for this course does NOT apply to the Associate in Arts degree.

EST-1603C
Introduction to Robotics

3 Credits

Covers robotic terminology, basic features of the manipulator, different types of mechanical drives, AC/DC motor controls and stepper motor theory and operation as related to robotics. Also covered are the operational aides used in teaching the robot to work independently and in a work station. Laboratory exercises are included.

Prerequisites: EET-1141, CET-1122C and CET-2113C

EST-1607C
Advanced Robotics

3 Credits

Covers servo mechanism control, gears and linkages, interfacing to computers, end effectors, sensors, applications, growth and cost, cost justification and problems with worker displacement.

Prerequisite: EST-1603C

EST-2438C
Biomedical Electronics Systems II

3 Credits

Covers topics from the Florida Curriculum Frameworks for Biomedical Equipment Engineering Technology that are not covered by previous course. Topics include: electrosurgical generators and equipment, and electrical device hazards.

Prerequisite: EST-1436C

Credit for this course does NOT apply to the Associate in Arts degree.

EST-2439C
Biomedical Electronics Systems III

3 Credits

Covers topics from the Florida Curriculum Frameworks for Biomedical Equipment Engineering Technology that are not covered by previous courses. topics include diagnostic devices and equipment, testers and analyzers, electrosurgical generators and equipment, and electrical device hazards.

Prerequisite: EST-2438C

Credit for this course does NOT apply to the Associate in Arts degree.

EST-2440C
Biomedical Electronics Systems IV

3 Credits

Covers topics from the Florida Curriculum Frameworks for Biomedical Equipment Engineering Technology that are not covered by previous courses. Continuation of Biomedical Electronics Systems III topics include electrosurgical generators and equipment and electrical device hazards.

Prerequisite: EST-2439C

Credit for this course does NOT apply to the Associate in Arts degree.

EST-2939
Biomedical Equipment Engineering Capstone

3 Credits

The capstone course is designed for the student to demonstrate his/her knowledge and skills applicable to the degree core competencies and outcomes. The course is designed as a project based experience. The student's project requirements will be designed in concert with his/her area of curriculum emphasis.

Credit for this course does NOT apply to the Associate in Arts degree.

ETD-1030C
Drafting Technology

3 Credits

Focuses on drafting technology, with an emphasis on instruments, processes and technical skills. topics include orthographic, pictorial, auxiliary, sectional and computer aided design drawings.

Prerequisites: College level reading skills are required.

ETI-1100
Statistical Quality Control

3 Credits

A comprehensive study of the practical application of statistical methods to monitor and continuously improve individual manufacturing processes and equipment performance.

ETI-1181
Quality Systems and Work Place Dynamics

2 Credits

Provides the basic concepts and protocols of modern quality systems found in advanced manufacturing facilities. topics include relevant total Quality Management (TQM) and the International Standards Organization (ISO) standards for system quality and environmental quality management such as control, statistical process control, manufacturing methodologies.

ETI-1403
Introduction to Advanced Manufacturing Technology

1 Credit

Presents an overview of various advanced manufacturing industries and typical career opportunities of these industries to include circuit board manufacturing, semiconductor manufacturing, thin film and optical component production as well as others. Additionally, this course will orientate the student to the college advance manufacturing facilities and the course of study.

ETI-1411C
Advanced Manufacturing Processes

3 Credits

Explores a variety of advanced manufacturing processes including thin film deposition, chemical vapor deposition, photolithography, diode processing, and metal depositions.

Completion of ETI-1840 is strongly recommended.

ETI-1701
Process Safety and HazMat

2 Credits

Covers practical and operational health and safety procedures and practices as defined by OSHA regulations that are applicable to advanced manufacturing facilities. Handling and disposal of hazardous materials will also be emphasized.

ETI-1810C
Electronics & Electricity Technology I

3 Credits

Focuses on electronics technology, with an emphasis on AC and DC circuits, and circuits using magnetism, the structure of matter, functions of transformers and inductors, Ohm's law and Watt's law. Laboratory assignments are included.

Prerequisites: College level reading and math skills are required.

ETI-1815
Introduction to Electronics for Advanced Manufacturing Technology

3 Credits

Provides students with the basic concepts of AC and DC circuits and the essentials of electronic circuits and discrete logic concepts needed to deal with industrial process sensors, control elements, and motor interfaces as typically found in the advanced manufacturing systems. Completion of PHY-1025 is strongly recommended.

ETI-1840
Vacuum Science

3 Credits

This course covers the fundamental concepts of vacuum science especially gas behavior necessary to understand and operate vacuum pumps, gages and vacuum related simple devices that are commonly found in manufacturing environments. Completion of PHY-1025 is strongly recommended. Taking ETI-1840L concurrently is strongly recommended.

ETI-1840L
Vacuum Science Laboratory

1 Credit

Provides hands-on experience with vacuum equipment and systems to reinforce the fundamental concepts of vacuum environments. Completion of PHY-1025 is strongly recommended. Completion of or taking ETI-1840 concurrently is strongly recommended.

ETI-1844
Vacuum Technology and Systems

3 Credits

Provides an introduction to complex vacuum systems, how gasses behave therein, and how the systems are monitored. Additionally, this course explores some advanced manufacturing applications for vacuum systems including chemical vapor deposition, plasma etching, etc. Completion of ETI-1840 and ETI-1840L are strongly recommended. Taking ETI-1844L concurrently is strongly recommended.

ETI-1844L
Vacuum Technology Lab

1 Credit

Provides hands-on exercises to reinforce basic principles of vacuum technology including the operation of pumps and gauges for simple but fundamental equipment and configurations. Completion of PHY-1025 is strongly recommended. Taking ETI-1844 concurrently is strongly recommended.

ETI-1949
Manufacturing Internship

2 Credits

This course is a structured and supervised internship for students in the Manufacturing Technology program of study. On the job experience will be integrated with regular biweekly class meetings to review and compare experiences with respect to workplace skills and technical expectations.

ETI-2151C
Process Metrology
Advanced Manufacturing Technology

3 Credits

This course covers the principles, techniques, and devices of metrology as applied to the procedures and concepts of the quality process. The uses and applications of measurement with various types of instruments and measuring machines are also covered in the laboratory.

Prerequisite: ETI-1403

ETM-2315
Hydraulic and Pneumatic Systems

3 Credits

Introduces the students to the basic hydraulic and pneumatic systems and devices commonly found in advanced manufacturing facilities. The underlying scientific principles will be covered and their practical applications. Completion of PHY-1025 is strongly recommended. Taking ETM-2315L concurrently is strongly recommended.

ETM-2315L**Hydraulic and Pneumatic Laboratory**

1 Credit

Provides hands-on experiences to reinforce the basic principles of hydraulics and pneumatic systems and the operation of pumps and flow monitoring devices for simple but fundamental systems. Completion of PHY-1025 is strongly recommended. Taking ETM-2315 concurrently is strongly recommended.

EUH-1000**Western World: Origins to Early Modern Europe**

3 Credits

Presents a study of cultural, economic and political developments of Western civilization from prehistoric times through the Reformation and the European Renaissance, with an emphasis on geographic references.

Prerequisite: College level reading and writing skills are required.

EUH-1000H**Honors The Western World: Origins to Early Modern Europe**

3 Credits

Same as EUH 1000 with honors content. Honors Institute permission required.

Prerequisite: College level reading and writing skills are required.

EUH-1001**The Western World: Modern Europe**

3 Credits

Presents a study of the economic, social and political development of the world from 1648 to the present, with an emphasis on geographic references.

Prerequisite: College level reading and writing skills are required.

EUH-1001H**Honors The Western World: Modern Europe**

3 Credits

Same as EUH 1001 with honors content. Honors Institute permission required.

Prerequisite: College level reading and writing skills are required.

EVR-1041**Natural Resource Management With Applications in GIS**

4 Credits

An introduction to the appropriate use and potential applications of geographic information systems (GIS) in natural resource management with emphasis on forest management and operations planning. Students will be presented with lectures and exercises that cover a wide range of GIS and GIS-related topics and issues.

EVR-1328**Natural Resource Conservation**

3 Credits

An introduction to the ecology and conservation of natural resources of native lands, concentrating on Florida ecosystems. Emphasis will be given toward interactive networks and ecosystems on which species depend, techniques for insuring biological diversity and human-conservation interactions. Topics include: ecosystems, diversity, threats to habitat, the value of natural resources, conservation practices and conservation and human society.

Prerequisite: BSC-1005C and EVS-1001. College level reading and math skills are required.

EVR-2040**Advanced GIS with Environmental Applications**

4 Credits

This course provides advanced instruction using GIS software. Special emphasis will be given to environmental applications. Designed for students who have taken GEO 2150 or who have had previous experience with GIS software.

Prerequisite: GEO-2150

EVS-1001**Introduction to Environmental Science**

3 Credits

Provides the student with an overview of current environmental concerns and their management. Emphasis is on the application of biological, physical and chemical methods to the understanding of and solutions to environmental problems. The student will gain insight into the natural interactions among living things and physical aspects of the environment.

Prerequisite: College level reading and math skills are required.

EVS-1026**Chemistry & Biology of Natural Waters**

4 Credits

Provides an introduction to the chemistry of water treatment systems of natural water. Emphasizes the unit operations and analysis of water treatment. Attention is also given on assessing local bodies of water with regard to water quality and appropriate assessment techniques.

Prerequisite: CHM-1025 and MET-2010C

EVS-1042**Water Resource with Applications in GIS**

4 Credits

This course is an introduction to water resources with applications in geographic information systems software. Prior GIS experience is not required, but familiarity with Windows is. In this course students will learn the basics of water resource science and management as well as the basics of GIS software. Topics to be studied include the basics of: GIS software; hydrologic science; and global, regional, and local water resource management issues. Special emphasis will be placed on the water resources of Florida.

EVS-1161**Conventional & Pretreatment Water Technologies**

3 Credits

This course covers the technologies required to produce safe drinking water as well as the pretreated water required for advanced technologies. Technologies covered include clarification, media filtration, cartridge filtration, bag filtration, membrane filtration, silt dispersants, biocides, acids, scale inhibitors, sulfite compounds, ultraviolet irradiation, and softening.

Corequisites: EVS-1163 and EVS-1165

Credit for this course does NOT apply to the Associate in Arts degree.

EVS-1163**Intro to Water Treatment Systems**

3 Credits

This course serves to introduce the student to a career field in advanced water treatment and prepares students to work safely in an advanced water treatment laboratory and water plant.

Corequisites: EVS-1161 and EVS-1175

Credit for this course does NOT apply to the Associate in Arts degree.

EVS-1165**Membrane Technologies**

3 Credits

This course covers the theory, process and equipment of common membrane water treatment technologies. This course covers the microfiltration, ultrafiltration, electro dialysis, and electrodeionization membrane technologies. Some system design consideration and integration into water treatment systems are provided.

Prerequisite: EVS-1163, EVS-1175 and EVS-1161

Corequisites: EVS-1166 and EVS-2167

Credit for this course does NOT apply to the Associate in Arts degree.

EVS-1166**Membrane Tech II: Nanofilters/Reverse Osmosis**

3 Credits

This course covers the theory, process and equipment of common membrane water treatment technologies. This course covers the nonfiltration and reverse osmosis membrane water treatment. Some system design consideration and integration into water considerations and integration into water treatment systems are provided.

Prerequisites: EVS-1163, EVS-1175 and EVS-1161

Corequisites: EVS-1166 and EVS-2167

Credit for this course does NOT apply to the Associate in Arts degree.

EVS-1175**Water Treatment Plant Equipment**

3 Credits

This course covers basic hand tools, equipment, chemical injections, safety and troubleshooting of water treatment systems. Students will also gain an understanding of piping and instrumentation diagrams. Hands-on experience with pumps, valves, gauges and meters is provided.

Corequisites: EVS-1163 and EVS-2170

Credit for this course does NOT apply to the Associate in Arts degree.

EVS-1893**Comparative Sampling & Analysis Methods**

3 Credits

Provides an overview of sampling and analysis techniques which are commonly used in the environmental and materials testing fields. The course deals with the skills and knowledge necessary to understand sampling and analysis concepts and to conduct basic sampling procedures.

EVS-2005C**Treatment of Water & Wastewater**

4 Credits

Examines the chemical, physical and biological treatment of water and wastewater. Emphasizes unit operations analysis of water treatment systems, and field evaluation of their operation.

Prerequisites: CHM-1025 and CHM-1025L

EVS-2160**Advanced Membrane Monitoring**

3 Credits

This course covers the advanced troubleshooting procedures and techniques required for identifying and correcting common membrane unit problems, including probing, profiling, element replacements, element autopsies, chemical cleaning, and using mathematical calculations and/or computer software programs for trend analysis.

Prerequisites: EVS-1165, EVS-1166 and EVS-2167

Corequisites: EVS-2170 and EVS-2171

Credit for this course does NOT apply to the Associate in Arts degree.

EVS-2162**High Purity Water Technologies**

3 Credits

This course covers the principles and operation of post ion-exchange equipment including ultraviolet irradiation units, distillation units, final filters, and storage and distribution, as well as the minimization of dead legs and periodic disinfection of high purity water piping.

Prerequisites: EVS-2171, EVS-2170 and EVS-2160

Corequisites: EVS-2164 EVS-2939

Credit for this course does NOT apply to the Associate in Arts degree.

EVS-2164**Ion Exchange Technology**

3 Credits

This course covers the characteristics of feed water contaminants and the fundamental principles of water purification using ion exchange technology. Strong acid cation, strong base anion, weak acid cation, and weak base anion resins are covered as well as single-bed units, dual-bed units, mixed-bed exchange units, full-train units and electrodeionization.

Prerequisites: EVS-2170, EVS-2171 and EVS-2160

Corequisites: EVS-2162 and EVS-2939

Credit for this course does NOT apply to the Associate in Arts degree.

EVS-2167**Membrane Unit Monitor & Troubleshooting**

3 Credits

This course covers the initial monitoring and troubleshooting skills required to effectively operate and maintain a membrane water treatment system and to identify when scaling, fouling, chemical attack or other problem is occurring. Monitoring and troubleshooting of microfiltration, ultrafiltration, nonofiltration, reverse osmosis, and electrodeionization units are covered.

Prerequisites: EVS-1163, EVS-1175 and EVS-1161

Corequisites: EVS-1165 and EVS-1166

Credit for this course does NOT apply to the Associate in Arts degree.

EVS-2170**Pretreatment Troubleshooting**

3 Credits

This course covers the operation, monitoring and troubleshooting of membrane pretreatment equipment including multimedia filters and activated carbon beds, as well as how to prevent the common scaling, fouling, and chemical attack problems which membrane units may experience. This advanced pretreatment course builds on information previously learned.

Prerequisites: EVS-1165, EVS-1166 and EVS-2167

Corequisites: EVS-2160 and EVS-2171

Credit for this course does NOT apply to the Associate in Arts degree.

EVS-2171**Water Analysis & Monitoring**

3 Credits

This course covers the standard laboratory procedures and on-stream analysis for the measurement of silica, organic compounds, ions, particles, and microorganisms.

Prerequisites: EVS-1165, EVS-1166 and EVS-2167

Corequisites: EVS-2160 and EVS-2170

Credit for this course does NOT apply to the Associate in Arts degree.

EVS-2793

Sources & Effects of Air Pollution

4 Credits

Examines the common sources of air pollution and the effect of this pollution on human and ecosystem health, with an emphasis on how pollutants are produced and transported. The engineering aspects of combustion and transportation related emissions and the basic principles of air pollution meteorology will also be examined.

Prerequisite: EVS-1001

EVS-2891

Hydrology & Quality of Water Resources

4 Credits

A comprehensive survey of water resources considering both quantity and quality. Emphasis is on the standard techniques of sampling and monitoring especially for ground water. The hydraulic characteristics of water are also discussed. Analytical procedures used in field investigations and modeling studies are covered. A separate laboratory time is provided for on-campus and field activities.

Prerequisites: CHM-1025, CHM-1025L and MAC-1102

EVS-2893C

Environmental Sampling & Analysis I

5 Credits

Introduces the theory and methods of analysis of certain inorganic chemical substance and physical properties of soil. Techniques of sampling preparation for testing, and testing and analysis will be covered. Approved standards for analysis will be examined and utilized for laboratory testing. Laboratory exercises will include sample collection, testing and analysis.

EVS-2894C

Environmental Sampling & Analysis II

5 Credits

Introduces the theory and methods of analysis of inorganic chemical substances of water. Techniques of sampling, preparation for testing, testing and analysis will be covered. Federal and state approved standards for analysis will be examined and utilized for laboratory testing. Laboratory exercises will include sample collection, testing and analysis.

EVS-2895C

Environmental Sampling & Analysis III

5 Credits

Introduces the theory and methods of analysis of metals, organic load and biological test methods associated with water and wastewater. Techniques of sampling, preparation for testing and analysis will be covered. Quality control methods are also covered. Laboratory exercises will include sample collection, testing and analysis.

Prerequisite: EVS-2894C

EVS-2939

Water Treatment Capstone Course

3 Credits

This course is the final preparation for students to pass state certification exams if the student chooses to work at a municipal drinking water facility. Drinking water laws are covered as well as all of the reviews necessary to prepare the student for obtaining a job in the industrial or municipal sectors. Many case studies, process flows and problem solving workshops are provided.

Prerequisites: EVS-2171, EVS-2170 and EVS-2160

Corequisites: EVS-2164 and EVS-2162

Credit for this course does NOT apply to the Associate in Arts degree.

EVS-2942L

Environmental Technology Practicum

3 Credits

Focuses on hands-on experience in environmental sampling and analysis methods by assigning students to agencies or businesses for 24 hours per week. Emphasis will be to gain practical experience in protocols, methods

and use of equipment in an applied setting; includes the possibility of outdoor work and mildly strenuous skills such as carrying and lifting.

Prerequisite: EVS-2893C

FAS-1012C

Aquacultural Organisms

3 Credits

The field of aquaculture uses a variety of organisms to culture from fresh water fish, to marine fish, plants, shrimp, lobster, and many others. In this course, the students will learn about the variety of organisms that can be cultured and the methods learned to do so.

Prerequisites: College level reading and writing skills are required.

FAS-1401L

Aquacultural Laboratory Techniques

3 Credits

The field of aquaculture uses a number of laboratory techniques to assist the technician in the treatment of fish, identification of fish, breeding techniques, raising of fish, feeding, and a whole host of controls on the artificial environment of the aquarium. This laboratory teaches the techniques used in the field.

A special fee will be charged for this course.

Prerequisites: College level reading and writing skills are required.

FAS-1404C

Aquacultural Field Techniques

3 Credits

Focuses on the practical aspects of establishing a fish farm, setting up the ponds, maintaining environmental conditions, and harvesting the fish.

A special fee will be charged for this course.

Prerequisites: College level reading and writing skills are required.

FAS-2240C

Aquacultural Nutritional Techniques

3 Credits

Focuses on the nutritional aspects of fish. Fish digestive anatomy, nutrition requirements, metabolic rates, diets, and available food sources will be covered.

Prerequisites: College level reading and writing skills are required.

FAS-2253

Aquacultural Disease Processes

3 Credits

Studies the disease processes that affect fish that includes bacterial diseases, infections, viruses, fungi, parasites, immune diseases, nutritional diseases and environmental diseases.

Prerequisites: College level reading and writing skills are required

Corequisite: FAS-2253L

FAS-2253L

Aquacultural Disease Processes Lab

1 Credit

Designed to teach laboratory techniques to identify disease causing organisms and to use some of the treatment methodologies.

A special fee will be charged for this course.

Prerequisites: College level reading and writing skills are required

Corequisite: FAS-2253

FAS-2263C

Aquacultural Reproductive Techniques

3 Credits

Focuses on the principles of reproductive biology for the aquaculture industry. The primary emphasis will be on freshwater fish reproduction, however, other aquaculture organisms will be discussed.

Prerequisites: College level reading and writing skills are required