

# Chapter 6

## COURSE DESCRIPTIONS



## Course Descriptions

The following pages contain descriptions of all the courses offered at Lee College. The four letter rubric for a course identifies the subject area, for example HIST is History. The courses are listed in alphabetical order based on this rubric. Important information is contained within each course description: Semester Credit Hours (SCH), title, prerequisites and corequisites, lecture/laboratory/practicum/other hourly breakdown, and other course specific requirements or information.

## Course Numbering System

Lee College participates in the Texas Common Course Numbering System which designates equivalent course content among many public and some private colleges and universities in the state of Texas. Its purpose is to assist students in making a smooth transfer from one postsecondary institution to another. However, the fact that a course is not part of the numbering system does not necessarily mean that it will not transfer or meet degree requirements.

Each course has an individual alphanumeric code (such as ENGL 1302). The alphabetic part of the code indicates the subject area.

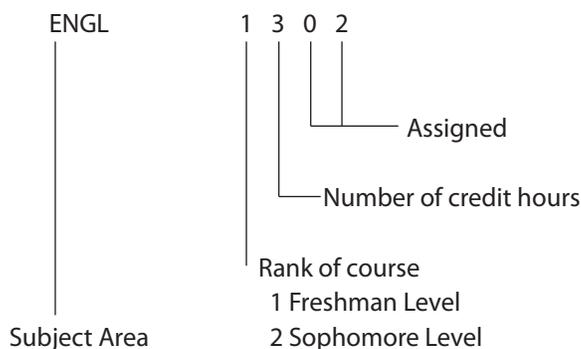
The first number (of the four digit numbers) generally indicates the rank of the course:

1 – Freshman level or Beginning.

2 – Sophomore level or Advanced.

The second number indicates the number of SCH.

The third and fourth numbers are assigned to each course with some designating a required sequence of completion. See prerequisites for required order.



## Prerequisite and Corequisite

A prerequisite is a course that students are required to master before entering the described course. Students are expected to pass prerequisite courses with a C or better in order to enroll in the course. Some prerequisite courses (developmental courses) have placement score equivalences that allow students to demonstrate competency at the level expected by the prerequisite course. Prerequisites are an important feature of student preparation for success. A corequisite course is taken simultaneously. The condition of corequisite enrollment requires completion of both courses. If for any reason a student is unable to complete the corequisite, the student must withdraw from the course as well. For this reason, it is best to enroll and complete corequisites in advance when possible, unless a program specifically calls for co-enrollment.

## Developmental Courses

Students often require preparatory courses before enrolling in college level courses. At Lee College developmental courses are offered in English, Reading, and Mathematics.

All three subject areas have several levels of curriculum designed to provide students progression from current abilities to college readiness. Developmental courses do not transfer nor are they part of degree or certificate plans. Developmental course numbers begin with a zero and are displayed as a rubric followed by a three digit number (e.g., MATH 0310 is listed as MATH 310).

### Notes:

Ω Indicates courses taught with optional honors contracts.

Σ Indicates honors courses (see page 17 for more information on the honors program).

## **ACCT 2401**

### **Principles of Accounting I – Financial**

This course introduces accounting concepts, principles, and procedures with an emphasis on financial accounting statements for corporations and accounting processes for a service and merchandise enterprise. The course focuses on elements of the balance sheet and income statement including current, plant and intangible assets, deferrals, accruals, current and long-term liabilities, and stock transaction. In addition, ethics, accounting systems and control, and short- and long-term securities are also studied. This course has a computerized lab utilizing interactive financial accounting software. Note: Students who have not had high school accounting or have not worked in accounting may wish to take ACNT 1303 Introduction to Accounting I, before taking this course.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 401 or equivalent*

## **ACCT 2402Ω**

### **Principles of Accounting II – Managerial**

This course emphasizes managerial accounting concepts, including a study of cost behavior, budgeting, cost-volume profit analysis, manufacturing cost accounting, variance analysis, and cost controls. Tax and management decisions, cash flow, responsibility accounting, ethics, and corporate structure analysis are also studied. A research component is required for honors credit. This course has a computerized lab utilizing interactive managerial accounting software.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ACCT 2401*

## **ACNT 1303**

### **Introduction to Accounting I**

A study of analyzing, classifying, and recording business transactions in a manual and computerized environment. Emphasis on understanding the complete accounting cycle and preparing financial statements, bank reconciliations, and payroll.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **ACNT 1311**

### **Introduction to Computerized Accounting**

Introduction to utilizing the computer in maintaining accounting records, making management decisions, and processing common business applications with primary emphasis on a general ledger package. Students will utilize an integrated general ledger software package, including accounts receivable, account payable, inventories, and payroll systems.

(Offered in the Fall only)

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: ACCT 2401 and ENRD 401 or equivalent*

## **ACNT 1313**

### **Computerized Accounting Applications**

Use of the computer to develop and maintain accounting records and to process common business applications for managerial decision making.

(Offered in the Spring only)

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: ACCT 2401 and ENRD 401 or equivalent*

## **ACNT 1329**

### **Payroll and Business Tax Accounting**

A study of payroll procedures, taxing entities, and reporting requirements of local, state, and federal taxing authorities in a manual and computerized environment. Students will learn to process payroll and maintain personnel and payroll information required by current laws. Course will also include accounting for franchise taxes, sales tax, and an overview of taxes relating to partnerships and corporations.

(Offered in the Spring only)

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ACCT 2401, ENRD 401 or equivalent*

## **ACNT 1331**

### **Federal Income Tax: Individual**

A study of the federal tax law for preparation of individual income tax returns.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **ACNT 2302**

### **Accounting Capstone**

A learning experience that allows students to apply broad knowledge of the accounting profession through discipline, specific projects involving the integration of individuals, and teams performing activities to simulate workplace situations. This course is designed to be a capstone experience for the Accounting Certificate and AAS Degree in Accounting Technology. This course must be taken in the student's last semester of study.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ACCT 2303*

## **ACNT 2303**

### **Intermediate Accounting I**

Analysis of generally accepted accounting principles, concepts, and theory underlying the preparation of financial statements.

(Offered in the Fall only)

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ACCT 2402*

## **ACNT 2304**

### **Intermediate Accounting II**

Continued in-depth analysis of generally accepted accounting principles underlying the preparation of financial statements including comparative analysis and statement of cash flow. In addition, special emphasis on corporation accounting, stockholder's equity, retaining earnings, current and long-term liabilities, pensions, statement of cash flows, and other financial topics.

*(Offered in the Spring only)*

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ACCT 2303*

## **ACNT 2309**

### **Cost Accounting**

A study of budgeting, cost analysis and cost control systems using traditional and contemporary costing methods and theories in decision making.

*(Offered in the Fall only)*

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ACCT 2402*

## **ACNT 2386**

### **Internship: Accounting**

#### **Technology/Technician and Bookkeeping**

A work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the college and the employer. Mentored and supervised by a workplace employee, the student achieves objectives that are developed and documented by the college. The experience may be paid or unpaid and MUST be in an accounting related job for a minimum of 13 hours per week. Students must have an approved job site by the second class of the semester. As a capstone elective, this class must be taken in the student's last semester of the Accounting Technician Certificate.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 13*

*Prerequisite: ACCT 2401*

## **ACNT 2387**

### **Internship: Accounting**

#### **Technology/Technician and Bookkeeping**

A work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the college and the employer. Mentored and supervised by a workplace employee, the student achieves objectives that are developed and documented by the college. The experience may be paid or unpaid and MUST be in an accounting-related job for a minimum of 13 hours per week. Students must have an approved job site by the second class of the semester. As a capstone elective, this class must be taken in the student's last semester of the Advanced Accounting Technician Certificate.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 13*

*Prerequisite: ACCT 2402*

## **ACNT 2389**

### **Internship: Accounting**

A work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the college and the employer. Mentored and supervised by a workplace employee, the student achieves objectives that are developed and documented by the college. The experience may be paid or unpaid and MUST be in an accounting related job for a minimum of 13 hours per week. Students must have an approved job site by the second class of the semester. As a capstone elective, this class must be taken in the student's last semester of the AAS Accounting Technology Degree.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 13*

*Prerequisite: ACCT 2303*

## **ARCE 1403**

### **Architectural Materials and Methods of Construction**

Properties, specifications, vendors references, and uses of materials as related to architectural systems of structures.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: READ 300 or equivalent*

## **ARCE 1442**

### **Codes, Specifications, and Contract Documents**

Study of ordinances, codes, and legal documents as they relate to specifications and drawing. Discussion of owner architect contractor responsibilities, duties, and legal relationship.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: READ 300 or equivalent*

## **ARCE 1452**

### **Structural Drafting**

A study of structural systems including concrete foundations and frames, wood framing and trusses, and structural steel framing systems. Includes detailing of concrete, wood, and steel to meet industry standards including the American Institute of Steel Construction and The American Concrete Institute.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: DFTG 2419 and ENRD 401 or equivalent*

## **ARCE 2444**

### **Statics and Strength of Material**

Internal effects of forces acting upon elastic bodies and the resulting changes in form and dimensions. Includes stress, shear, bending moments, and simple beam design.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: TECM 1349*

*Prerequisite: ENRD 401 or equivalent*

## **ARCH 1301**

### **Architectural History I**

This course is a survey of the history of architecture and the built environment from prehistoric times to the middle of the 15th century, along with their relationship to the cultural heritage of the Western World.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent, MATH 320 or equivalent*

## **ARCH 1302**

### **Architectural History II**

This course follows ARCH 1301 (Architectural History I) with a survey of the history of architecture and the built environment from the Renaissance to the present.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent, MATH 320 or equivalent*

## **ARCH 1307**

### **Architectural Graphics I**

Architecture drafting techniques including orthographic and axonometric studies. Principles of shades and shadows, and perspective drawing. This course teaches the use of drafting tools and materials and their application to graphic representation of architectural subject matter. Design and graphic concepts are introduced through design problems, modeling, and analysis.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisite: ENRD 401 or equivalent, MATH 310 or equivalent*

## **ARCH 1308**

### **Architectural Graphics II**

This course is a continuation of ARCH 1307 (Architectural Graphics I), with emphasis on more complex architectural graphic problems. Continued study of architectural drafting and modeling techniques including orthographic and axonometric studies. Design and graphic concepts are further studied through design problems, modeling, and analysis.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisite: ARCH 1307, ENRD 401 or equivalent*

## **ARCH 1311**

### **Introduction to Architecture**

An introduction to the elements of the architectural profession. Introduction to architecture theory, history, technology, and practice. A survey study of the interrelationships between society, culture, and architecture.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **ARCH 1315**

### **Architectural Computer Graphics**

Introduction to computer graphics systems with emphasis on architectural applications. This is an introductory course devoted to the creation of architectural drawings using computer software. Instruction will include the use of computer software to create two and three dimensional drawings of various types including plans, elevations, sections, and others. Procedures for creating and organizing a set of presentation and construction drawings are also presented.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Pre/Corequisite: ARCH 1311*

## **ARCH 1403**

### **Architectural Design I**

Introduction to architectural concepts. The visual characteristics of two and three dimensional forms and spaces. Concepts are studied through the use of form, color, texture, and material. Emphasis is placed on three-dimensional form and the development of graphic communication skills.

*Lecture Hrs. = 2, Lab Hrs. = 7*

*Prerequisite: ENRD 401 or equivalent*

*Pre/Corequisite: ARCH 1311*

## **ARCH 1404**

### **Architectural Design II**

This course is a continuation of ARCH 1403 (Architectural Design I), with emphasis on more complex three dimensional design problems.

*Lecture Hrs. = 2, Lab Hrs. = 7*

*Prerequisite: ARCH 1403, ENRD 401 or equivalent*

## **ARCH 2301**

### **Architectural Freehand Drawing I**

Representational drawing using various media. Emphasis on principles of light, shade, scale, proportion, line, and tonal quality. This course involves the study and application of freehand drawing and other basic communication skills using various media. Use of computer software and its relationship to drawing are studied.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisites: ENRD 401 or equivalent, MATH 310 or equivalent*

## **ARCH 2302**

### **Architectural Freehand Drawing II**

This course is a continuation of ARCH 2301 (Architectural Freehand Drawing I). Representational drawing using various media. Emphasis on principles of light, shade, scale, proportion, line, and tonal quality. This course involves a more advanced study and application of freehand drawing and other basic communication skills using various media. Sketches and renderings of architectural subjects are produced with pencil, ink, colored pencil, and other media. Use of computer software and its relationship to drawing are studied.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisites: ENRD 401 or equivalent, MATH 310 or equivalent*

*Requisite: ARCH 2301*

## **ARTC 1413**

### **Digital Publishing I**

The fundamentals of using digital layout as a primary publishing tool and the basic concepts and terminology associated with typography and page layout.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 401 or equivalent*

*Pre/Corequisite: ITSC 1309 or BCIS 1405*

## **ARTC 1453**

### **Computer Illustration**

Use of the tools and transformation options of an industry standard vector drawing program to create complex illustrations or drawing.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 401 or equivalent*

*Pre/Corequisite: COSC 1301 or ITSC 1309 or BCIS 1405*

## **ARTC 2440**

### **Computer Illustration II**

Advanced use of software applications and/or various media with emphasis on output procedures, the resolution of complex design issues, and concept development.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 401 or equivalent*

*Pre/Corequisite: ITSC 1309 or BCIS 1405*

## **ARTS 1301Ω**

### **Art Appreciation**

A general education course open to all – design principles from the layman's point-of-view. Critical evaluation of selected works of painting, sculpture, and architecture.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: ENRD 401 or equivalent*

## **ARTS 1303**

### **Art History I**

A survey of painting, sculpture, and architecture from prehistoric times through the 13th century. Alternatively, the course may be presented topically.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: ENRD 401 or equivalent*

## **ARTS 1304**

### **Art History II**

A survey of painting, sculpture, and architecture from the 14th century to the present. Alternatively, the course may be presented topically.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: ENRD 401 or equivalent*

## **ARTS 1311**

### **Design I**

Emphasis upon two-dimensional design; includes the fundamentals of line, shape, value, texture, color, and consideration of arrangement and space.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTS 1312**

### **Design II**

Continuation of ARTS 1311 with emphasis on three dimensional concepts.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisite: ARTS 1311*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTS 1316Ω**

### **Drawing I**

A beginning course investigating a variety of media, techniques, and subjects exploring perceptual and descriptive possibilities with consideration of drawing as a developmental process, as well as an end in itself.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTS 1317**

### **Drawing II**

Expansion of ARTS 1316 stressing the expressive and conceptual aspects of drawing including the human figure within a spatial environment.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisite: ARTS 1316*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTS 2313**

### **Design Communications I**

A course introducing the communication of ideas through processes and techniques of graphic design and illustration. This course will also introduce digital multimedia exploring elements of design and digital imagery.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTS 2314**

### **Design Communications II**

This course continues to explore the communication of ideas through processes and techniques of graphic design and illustration. Emphasis will be placed on the use of computer applications for creative expressions. Course projects and methods of instruction emphasize the element of fine art design and conceptual development.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisite: ARTS 1311 or ARTS 2313*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTS 2316**

### **Painting I**

Exploring the potentials of painting media with emphasis on color and composition.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTS 2317Ω**

### **Painting II**

Continuation of ARTS 2316 with emphasis on individual expression.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisite: ARTS 2316*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTS 2323Ω**

### **Life Drawing I**

Continuation of student exploration of various techniques and materials of drawing as applied to the human form. Portfolio review required.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisite: ARTS 1316, ARTS 1317*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTS 2324Ω**

### **Life Drawing II**

Continuation of student exploration of the media and techniques of drawing as applied to the human form and the development of a portfolio of completed drawings with emphasis on stylistic development. Portfolio presentation required.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisite: ARTS 2323*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTS 2326Ω**

### **Sculpture I**

An exploration of various approaches in a variety of media including additive and subtractive techniques.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTS 2327Ω**

### **Sculpture II**

A continuation of ARTS 2326 with emphasis on individual expression.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisite: ARTS 2326*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTS 2333Ω**

### **Printmaking I**

A beginning course investigating a number of printmaking approaches, techniques, and principles.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTS 2334Ω**

### **Printmaking II**

The advanced printmaking course expands on the beginning printmaking course investigating each printmaking techniques more intensely. Ideas will be further developed into complete drawings to produce editions of prints through the various processes as well as unique presentations.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisite: ARTS 2326*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTS 2346Ω**

### **Ceramics I**

An introduction to basic ceramic processes.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTS 2347Ω**

### **Ceramics II**

Opportunities for specialization in ceramic processes.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisite: ARTS 2346*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTS 2348Ω**

### **Digital Art I**

Studio art course that explores the potential of the computer hardware and software medium for their visual, conceptual, and practical uses in the visual arts.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisite: ARTS 1311 or ARTS 2313 or ARTS 2314*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTS 2349Ω**

### **Digital Art II**

Studio art course that continues to explore the potential of the computer hardware and software medium for their visual, conceptual, and practical uses in the visual arts. This course also investigates the use of 3-D animation and its relationship to the fine arts.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisite: ARTS 1311 or ARTS 2313 or ARTS 2314*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTS 2356Ω**

### **Introduction to photography**

Fundamentals of photography. Covers cameras, lenses, shutters, and filters; exposure time and apertures; light meters and lighting; developing, fixing, contact and projection printing, emulsions, solutions; characteristics of photographic papers; elements of composition.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTS 2357Ω**

### **Advanced Photographic Practices**

A continuation of ARTS 2356 designed to give additional laboratory experience and advanced training to develop professional ability.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisite: ARTS 2356*

*Pre/Corequisite: READ 300 or equivalent*

## **ARTV 1341**

### **3-D Animation I**

Intermediate level 3-D course introducing animation tools and techniques used to create movement. Emphasis on using the principles of animation.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Pre/Corequisite: GAME 1336*

## **AVIM 1341**

### **Transportation, Traffic and Air Cargo**

A study of the interaction of transportation modes to provide efficient transport of passengers and cargo. Emphasis on managerial definition and solution of problems involved at transition/transfer terminals where compatibly scheduled traffic movement is critical.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENDR 401 or equivalent*

*Pre/Corequisite: LMGT 1319*

## **BCIS 1405**

### **Business Computer Applications**

Computer terminology, hardware, software, operating systems, and information systems relating to the business environment. The main focus of this course is on business applications of software, including word processing, spread sheets, databases, presentation graphics, and business-oriented utilization of the Internet. (This course is part of the Business Field of Study Curriculum.)

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: READ 300 or equivalent*

## **BIOL 1322**

### **Nutrition**

A study of the basic biological principles of human nutrition in health and disease. Includes the chemical nature of essential nutrients; the biology of their functions in the human body; survey of nutrition in the life cycles; introduction of computer use in diet analysis and diet adequacy; and modification of diets for therapeutic purposes. (May be offered as an Internet course.) Either BIOL 1406 and 1407 or BIOL 1411 and 1413 may be taken to meet the 8 hours of required laboratory science for most universities. Students should check with the university they plan to attend.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: ENRD 401 or equivalent and MATH 310 or equivalent*

## **BIOL 1406Ω**

### **General Biology I**

Fundamental principles of living organisms will be studied, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Concepts of cytology, reproduction, genetics, and scientific reasoning are included. Laboratory activities will reinforce the fundamental principles of living organisms, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Study and examination of the concepts of cytology, reproduction, genetics, and scientific reasoning are included.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: ENRD 401 or equivalent and MATH 310 or equivalent*

## **BIOL 1407Ω**

### **General Biology II**

The diversity and classification of life will be studied, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals. Laboratory activities will reinforce study of the diversity and classification of life, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: BIOL 1406 (C or better)*

*Pre/Corequisite: ENRD 401 or equivalent and MATH 310 or equivalent*

## **BIOL 1411Ω**

### **General Botany**

Fundamental biological concepts relevant to plant physiology, life cycle, growth and development, structure and function, and cellular and molecular metabolism. The role of plants in the environment, evolution, and phylogeny of major plant groups, algae, and fungi. Laboratory activities will reinforce fundamental biological concepts relevant to plant physiology, life cycle, growth and development, structure and function, and cellular and molecular metabolism. The role of plants in the environment, evolution, and phylogeny of major plant groups, algae, and fungi.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: ENRD 401 or equivalent and MATH 310 or equivalent*

## **BIOL 1413**

### **General Zoology**

Fundamental biological concepts relevant to animals, including systematics, evolution, structure and function, cellular and molecular metabolism, reproduction, development, diversity, phylogeny, and ecology. Laboratory activities will reinforce fundamental biological concepts relevant to animals, including systematics, evolution, structure and function, cellular and molecular metabolism, reproduction, development, diversity, phylogeny, and ecology.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: ENRD 401 or equivalent and MATH 310 or equivalent*

## **BIOL 1424**

### **Plant Taxonomy**

Taxonomy of flowering plants and principles of identification and classification of plants, nomenclature, characteristics, and field identification of the different plant groups.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: ENRD 401 or equivalent and MATH 310 or equivalent*

## **BIOL 2289**

### **Academic Cooperative**

An instructional program designed to integrate on-campus study with practical hands-on work experience in the biological sciences/life sciences. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of living organisms and their systems. Students will work in conjunction with the faculty coordinator and the sponsor in the development of their goals and objectives.

*Lecture Hrs. = 1, Lab Hrs. = 2*

*Prerequisite: ENRD 402 or equivalent; Instructor's consent required to register for this course.*

## **BIOL 2305**

### **Pathophysiology**

A study of impact of disease on human body, including general principles and concepts of pathophysiology, as well as pathophysiologic processes within systems. Emphasis is made on etiological and pathogenetic mechanisms, and their reflection on clinical presentation of a disease, as well as on compensatory mechanisms maintaining homeostasis. Students will develop critical thinking in application of this knowledge to clinical cases.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: BIOL 2401 or BIOL 2404 (with C or better)*

*Pre/Corequisite: BIOL 2402*

## **BIOL 2389**

### **Academic Cooperative**

An instructional program designed to integrate on-campus study with practical hands-on work experience in the biological sciences/life sciences. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of living organisms and their systems. Students will work in conjunction with the faculty coordinator and the sponsor in the development of their goals and objectives.

*Lecture Hrs. = 1, Lab Hrs. = 4*

*Prerequisite: ENRD 402 or equivalent; Instructor's consent required to register for this course.*

## **BIOL 2401**

### **Human Anatomy and Physiology I**

This course consists of the fundamentals of human anatomy and physiology with the emphasis on etiology and functions of anatomical systems. Laboratory includes dissection of a mammal, study of selected mammalian organs, histological studies, and physiological experiments.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 402 or equivalent*

## **BIOL 2402**

### **Human Anatomy and Physiology II**

A continuation of BIOL 2401.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: BIOL 2401 (C or better)*

## **BIOL 2404**

### **The Human Body**

The study of the structure and function of the human body, includes integrated topics on nutrition, disease conditions, and hygiene.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisites: ENRD 401 or equivalent*

## **BIOL 2416**

### **Genetics**

The study of the principles of molecular and classical genetics and the function and transmission of hereditary material. May include population genetics and genetic engineering.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: Any BIOL course (C or better)*

*Pre/Corequisite: ENRD 401 or equivalent and MATH 310 or equivalent*

## **BIOL 2421**

### **Microbiology**

Principles of microbiology, including metabolism, structure, function, genetics, and phylogeny of microbes. The course will also examine the interactions of microbes with each other, hosts, and the environment. Laboratory activities will reinforce principles of microbiology, including metabolism, structure, function, genetics, and phylogeny of microbes. The course will also examine the interactions of microbes with each other, hosts, and the environment.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: ENRD 401 or equivalent and MATH 310 or equivalent*

## **BMGT 1301**

### **Supervision**

The role of the supervisor. Includes managerial functions as applied to leadership, counseling, motivation, and human relations skills.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **BMGT 1307**

### **Team Building**

Principles of building and sustaining teams in organizations. Includes team dynamics, process improvement, trust and collaboration, conflict resolution, and the role of the individual in the team.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **BMGT 1313**

### **Principles of Purchasing**

The purchasing process as it relates to such topics as inventory control, price determination, vendor selection, supply chain management, negotiation techniques, and ethical issues in purchasing.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **BMGT 1325**

### **Office Management**

Systems, procedures, and practices related to organizing and planning office work, supervising employee performance, and exercising leadership skills.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **BMGT 1327**

### **Principles of Management**

Concepts, terminology, principles, theories, and issues in the field of management.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

### **BMGT 1331**

#### **Production and Operations Management**

Fundamentals of the various techniques used in the practice of production and operations management. Includes location, design, and resource allocation.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

### **BMGT 1341**

#### **Business Ethics**

Discussion of ethical issues, the development of a moral frame of reference, and the need for an awareness of social responsibility in management practices and business activities. Includes ethical corporate responsibility.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

### **BMGT 2388**

#### **Internship – Business Administration and Management, General**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 9*

*Prerequisite: ENRD 401 or equivalent*

### **BUSG 2309**

#### **Small Business Management/Entrepreneurship**

Starting, operating, and growing a small business. Includes essential management skills, how to prepare a business plan, accounting, financial needs, staffing, marketing strategies, and legal issues.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

### **BUSI 1301**

#### **Business Principles**

Introduction to the role of business in modern society. Includes overview of business operations, analysis of the specialized fields within the business organization, and development of a business vocabulary.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

### **BUSI 1304**

#### **Business Report Writing and Correspondence**

Theory and applications for technical reports and correspondence in business.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

### **BUSI 1307**

#### **Personal Finance**

Personal and family accounts, budgets and budgetary control, bank accounts, charge accounts, borrowing, investing, insurance, standards of living, renting or home ownership, and wills and trust plans.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: ENRD 401 or equivalent*

### **BUSI 2301Ω**

#### **Business Law**

Principles of law which form the legal framework for business activity.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: ENRD 401 or equivalent*

### **CDEC 1313**

#### **Curriculum Resources for Early Childhood Programs**

A study of the fundamentals of curriculum design and implementation in developmentally appropriate programs for children.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Pre/Corequisite: READ 300 or equivalent*

### **CDEC 1317**

#### **Child Development Associate Training I**

Based on the requirements for the Child Development Associate National Credential (CDA). Topics on CDA overview, general observation skills, and child growth and development overview. The four functional areas of study are creative, cognitive, physical, and communication.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Pre/Corequisite: READ 300 or equivalent*

### **CDEC 1319**

#### **Child Guidance**

An exploration of guidance strategies for promoting prosocial behaviors with individual and groups of children. Emphasis on positive guidance principles and techniques, family involvement, and cultural influences. Practical application through direct participation with children.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Pre/Corequisite: READ 300 or equivalent*

### **CDEC 1323**

#### **Observation and Assessment**

A study of observation skills, assessment techniques, and documentation of children's development.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **CDEC 1356**

### **Emergent Literacy for Early Childhood**

An exploration of principles, methods, and materials for teaching young children language and literacy through a play-based integrated curriculum.

*Lecture Hrs. = 2, Lab Hrs. = 3*

*Pre/Corequisite: CDEC 1313*

## **CDEC 1359**

### **Children with Special Needs**

A survey of information regarding children with special needs including possible causes and characteristics of exceptionalities, intervention strategies, available resources, referral processes, the advocacy role, and legislative issues.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Pre/Corequisite: READ 300 or equivalent*

## **CDEC 2307**

### **Math and Science for Early Childhood**

An exploration of principles, methods, and materials for teaching children math and science concepts and process skills through discovery and play.

*Lecture Hrs. = 2, Lab Hrs. = 3*

*Prerequisite: CDEC 1313*

## **CDEC 2322**

### **Child Development Associate Training II**

A continuation of the study of the requirements for the Child Development Associate National Credential (CDA). The six functional areas of study include safe, healthy, learning environment, self, social, and guidance.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Pre/Corequisite: READ 300 or equivalent*

## **CDEC 2324**

### **Child Development Associate Training III**

Continuation of the requirements for the Child Development Associate National Credential (CDA). Three of the 13 functional areas of study include family, program management, and professionalism.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Pre/Corequisite: READ 300 or equivalent*

## **CDEC 2326**

### **Administration of Programs for Children I**

Application of management procedures for early child care education programs. Includes planning, operating, supervising, and evaluating programs. Topics cover philosophy, types of programs, policies, fiscal management, regulations, staffing, evaluation, and communication.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: CDEC 1313*

## **CDEC 2328**

### **Administration of Programs for Children II**

An in-depth study of the skills and techniques in managing early care and education programs, including legal and ethical issues, personnel management, team building, leadership, conflict resolution, stress management, advocacy, professionalism, fiscal analysis and planning parent education/partnerships, and technical applications in programs.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: CDEC 2326*

## **CDEC 2366**

### **Practicum (or Field Experience) – Child Care provider/Assistant**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 21*

*Pre/Corequisite: CDEC 1319*

## **CETT 1307**

### **Fundamentals of Electronics**

Applies concepts of electricity, electronics, and digital fundamentals; supports programs requiring a general knowledge of electronics.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: READ 300 or equivalent*

## **CETT 1325**

### **Digital Fundamentals**

An entry level course in digital electronics to include numbering systems, logic gates, Boolean algebra, and combinational logic.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: READ 300 or equivalent*

## **CETT 1409**

### **DC-AC Circuits**

Fundamentals of DC circuits and AC circuits operation including Ohm's law, Kirchhoff's laws, networks, transformers, resonance, phasors, capacitive and inductive, and circuit analysis techniques.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **CHEM 1405Ω**

### **Introductory Inorganic Chemistry**

An introductory course in inorganic chemistry for liberal arts and other nontechnical majors. This course satisfies requirements for most nursing students and other allied health majors. Covers general principles of chemistry, description of elements and compounds, chemical laws, and application of chemistry to modern living. Credit will not be given for both CHEM 1405 and CHEM 1411 or 1412.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: ENRD 401 or equivalent, and MATH 320, or equivalent, or TECM 1341*

## **CHEM 1411Ω**

### **General Chemistry I**

Fundamental principles of chemistry for majors in the sciences, health sciences, and engineering; topics include measurements, fundamental properties of matter, states of matter, chemical reactions, chemical stoichiometry, periodicity of elemental properties, atomic structure, chemical bonding, molecular structure, solutions, properties of gases, and an introduction to thermodynamics and descriptive chemistry. Basic laboratory experiments supporting theoretical principles; introduction of the scientific method, experimental design, data collection and analysis, and preparation of laboratory reports.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 402 or equivalent*

*Pre/Corequisite: MATH 1314 or equivalent*

## **CHEM 1412**

### **General Chemistry II**

Chemical equilibrium; phase diagrams and spectrometry; acid-base concepts; thermodynamics; kinetics; electrochemistry; nuclear chemistry; an introduction to organic chemistry and descriptive inorganic chemistry. Basic laboratory experiments supporting theoretical principles; introduction of the scientific method, experimental design, chemical instrumentation, data collection and analysis, and preparation of laboratory reports.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisites: CHEM 1411*

## **CHEM 1419Ω**

### **Introductory Organic Chemistry**

An introductory course in organic chemistry for liberal arts and other nontechnical majors. This course satisfies requirements for most nursing students and other allied health majors. Cover basic chemical principles, the chemistry of carbon and its compounds, fuels, polymers, foods and nutrition, and physiologically active compounds and application of organic chemistry to modern living.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: ENRD 401 or equivalent; MATH 320 or equivalent or TECM 1341*

## **CHEM 2289**

### **Academic Cooperative**

An instructional program designed to integrate on-campus study with practical hands-on work experience in the physical sciences. In conjunction with class seminars, the individual students will set specific goals and objectives in the scientific study of inanimate objects, processes of matter and energy, and associated phenomena. Students will work in conjunction with the faculty coordinator and the sponsor in the development of their goals and objectives.

*Lecture Hrs. = 1, Lab Hrs. = 2*

*Prerequisite: Instructor Permission*

## **CHEM 2389**

### **Academic Cooperative**

An instructional program designed to integrate on-campus study with practical hands-on work experience in the physical sciences. In conjunction with class seminars, the individual students will set specific goals and objectives in the scientific study of inanimate objects, processes of matter and energy, and associated phenomena. Students will work in conjunction with the faculty coordinator and the sponsor in the development of their goals and objectives.

*Lecture Hrs. = 1, Lab Hrs. = 4*

*Prerequisite: Instructor Permission*

## **CHEM 2401**

### **Analytical Environmental Chemistry**

The principles and methods of quantitative chemical analysis dealing primarily with volumetric and gravimetric analysis and containing a brief introduction to instrumental methods. The Laboratory consists of environmental analysis of air and water samples using standard methods commonly used in industry.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisites: CHEM 1412*

## **CHEM 2423**

### **Organic Chemistry I**

Fundamental principles of organic chemistry will be studied, including the structure, bonding, properties, and reactivity of organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules. Laboratory activities will reinforce fundamental principles of organic chemistry, including the structure, bonding, properties, and reactivity of organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules. THIS COURSE IS INTENDED FOR STUDENTS IN SCIENCE OR PRE-PROFESSIONAL PROGRAMS.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisites: CHEM 1412*

## **CHEM 2425**

### **Organic Chemistry II**

Advanced principles of organic chemistry will be studied, including the structure, properties, and reactivity of aliphatic and aromatic organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules. Laboratory activities reinforce advanced principles of organic chemistry, including the structure, properties, and reactivity of aliphatic and aromatic organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules. THIS COURSE IS INTENDED FOR STUDENTS IN SCIENCE OR PRE-PROFESSIONAL PROGRAMS.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: CHEM 2423*

## **CJSA 1322**

### **Introduction to Criminal Justice**

History and philosophy of criminal justice and ethical considerations; crime defined; its nature and impact; overview of criminal justice system; law enforcement; court system; prosecution and defense; trial process; corrections.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **CJSA 2382**

### **Cooperative Education-Criminal Justice/Safety Studies**

Career related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

*Lecture Hrs. = 1, Lab Hrs. = 0, External Hrs. = 15*

*Prerequisite: ENRD 401 or equivalent*

## **CNBT 1411**

### **Construction Methods and Materials I**

Introduction to construction materials and methods and their applications.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: ENRD 401 or equivalent*

## **CNBT 1442**

### **Building Codes and Inspections**

Building codes and standards applicable to building construction and inspection processes.

*Lecture Hrs. = 4, Lab Hrs. = 0*

*Pre/Corequisite: ENRD 401 or equivalent*

## **CNSE 1311**

### **Craning Principles**

Fundamentals of craning principles used by equipment operators. Topics include types of cranes, cables, jobs, rigging, techniques, types of lifts, and safety concerns when making a lift.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

*Pre/Corequisite: LMGT 1319*

## **COSC 1301**

### **Introduction to Computing**

Overview of computer systems – hardware, operating systems, and microcomputer application software, including the Internet, word processing, spreadsheets, presentation graphics, and databases. Current issues such as the effect of computers on society and the history and use of computers in business, educational, and other modern settings are also studied. This course is not intended to count toward a student's major field of study in business or computer science.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **COSC 1436**

### **Programming Fundamentals I**

Introduces the fundamental concepts of structured programming. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging. This course assumes computer literacy.

*(Offered in the Fall only)*

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 401 or equivalent*

## **COSC 1437**

### **Programming Fundamentals II**

Review of control structures and data types with emphasis on structured data types. Applies the object oriented programming paradigm, focusing on the definition and use of classes along with the fundamentals of object oriented design. Includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering. (This course is included in the Field of Study Curriculum for Computer Science.)

*(Offered in the Spring only)*

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: COSC 1436, ENRD 401 or equivalent*

## **COSC 2325**

### **Computer Organization and Machine Language**

Basic computer organization; machine cycle, digital representation of data and instructions; assembly language programming, assembler, loader, macros, subroutines, and program linkages. (This course is included in the Field of Study Curriculum for Computer Science.)

*(Offered in the Fall only)*

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: COSC 1436, ENRD 401 or equivalent*

## **COSC 2436**

### **Programming Fundamentals III**

Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), and algorithmic analysis. (This course is included in the Field of Study Curriculum for Computer Science.)

*(Offered in the Spring only)*

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: COSC 1437, ENRD 401 or equivalent*

## **COSS 100**

### **Applied Study Skills**

Application of study skills techniques to individual learning styles with concentration on note-taking, text marking, and test preparation.

*Lecture Hrs. = 1, Lab Hrs. = 0*

## **COSS 300**

### **Study Skills**

Techniques of study such as time management, listening and note-taking, text marking, library and research skills, preparation for examinations, and use of learning resources.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **CPMT 1303**

### **Introduction to Computer Technology**

A fundamental computer course that provides explanation of the procedures to utilize hardware and software. Emphasis on terminology, acronyms, and hands-on activities.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: READ 300 or equivalent*

## **CPMT 1411**

### **Introduction to Computer Maintenance**

Introduction to the installation, configuration, and maintenance of a microcomputer system.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 401 or equivalent*

## **CPMT 1449**

### **Computer Network Technology**

Networking fundamentals, terminology, hardware, software, and network architecture. Includes local and wide area networking concept and networking installations and operations.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 401 or equivalent*

## **CPMT 2449**

### **Advanced Computer Networking Technology**

Network technology emphasizing network operating systems, network connectivity, hardware, and software. Includes implementation, troubleshooting, and maintenance of LAN and/or WAN network environments.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: READ 300 or equivalent*

*Pre/Corequisite: CPMT 1449*

## **CPMT 2488**

### **Internship: Computer Installation and Repair Technology**

A work-based learning experience that enables the student to apply specializing occupational theory, skills, and concepts. A learning plan is developed by the college and the employer.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 15*

*Prerequisite: CPMT 1411 and READ 300 or equivalent*

## **CRIJ 1301**

### **Introduction to Criminal Justice**

History, philosophy, and ethical considerations of criminal justice, the nature and impact of crime; and an overview of the criminal justice system, including law enforcement and court procedures.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **CRIJ 1306**

### **Court Systems and Practices**

Study of the judiciary in the American criminal justice system and the adjudication processes and procedures.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **CRIJ 1307**

### **Crime in America**

American crime problems in historical perspective, social and public factors affecting crime, impact and crime trends, social characteristics of specific crimes, and prevention of crime.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **CRIJ 1310**

### **Fundamentals of Criminal Law**

Study of criminal law, its philosophical and historical development, major definitions and concepts, classifications and elements of crime, penalties using Texas statutes as illustrations, and criminal responsibility.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **CRIJ 1313**

### **Juvenile Justice System**

A study of the juvenile justice process. Topics include specialized juvenile law, role of the juvenile law, role of the juvenile courts, role of police agencies, role of correctional agencies, and theories concerning delinquency.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **CRIJ 2301**

### **Community Resources in Corrections**

An introductory study of the role of the community in corrections; community programs for adults and juveniles; administration of community programs; legal issues; and future trends in community treatment.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **CRIJ 2313**

### **Correctional Systems and Practices**

Corrections in the criminal justice system; organization of correctional systems; correctional role; institutional operations; alternatives to institutionalization; treatment and rehabilitation; and current and future issues.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **CRIJ 2314**

### **Criminal Investigation**

Investigative theory; collection and preservation of evidence; sources of information; interview and interrogation; uses of forensic sciences; and case and trial preparation.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **CRIJ 2323**

### **Legal Aspects of Law Enforcement**

Police authority; responsibilities; constitutional constraints; law of arrest, search, and seizure; and police liability.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **CRIJ 2328**

### **Police System and Practices**

The police profession; organization of law enforcement systems; the police role; police discretion; ethics; police community interaction; and current and future issues.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **CSME 1254**

### **Artistry of Hair Design I**

Introduction to hair design. Topics include the theory and applications of wet styling, thermal hair styling, and finishing techniques.

*Lecture Hrs. = 0, Lab Hrs. = 8*

*Prerequisite: READ 300 or equivalent*

## **CSME 1255**

### **Artistry of Hair Design II**

A continuation of hair design. Topics include the additional theory and applications of current trends in hair design.

*Lecture Hrs. = 0, Lab Hrs. = 8*

*Prerequisite: CSME 1254, READ 300 or equivalent*

## **CSME 1410**

### **Introduction to haircutting and Related Theory**

Introduction to the theory and practice of hair cutting. Topics include terminology, implements, sectioning, and finishing techniques.

*Lecture Hrs. = 2, Lab Hrs. = 6, Insurance Fee*

*Prerequisite: READ 300 or equivalent*

## **CSME 1434**

### **Cosmetology Instructor I**

The fundamental of instructing cosmetology students.

*Lecture Hrs. = 2, Lab Hrs. = 6, Insurance Fee*

*Note: A high school diploma or GED and a valid Texas Cosmetology Operator license are required for admission to this class.*

*Pre/Corequisite: READ 300 or equivalent*

## **CSME 1435**

### **Orientation to the Instruction of Cosmetology**

An overview of the skills and knowledge necessary for the instruction of cosmetology students.

*Lecture Hrs. = 2, Lab Hrs. = 6, Insurance Fee*

*Note: A high school diploma or GED and a valid Texas Cosmetology Operator license are required for admission to this class. Pre/Corequisite: READ 300 or equivalent*

## **CSME 1453**

### **Chemical Reformation and Related Theory**

Presentation of the theory and practice of chemical reformation including terminology, application, and workplace competencies.

*Lecture Hrs. = 2, Lab Hrs. = 6, Insurance Fee*

*Prerequisite: READ 300 or equivalent*

## **CSME 1505**

### **Fundamentals of Cosmetology**

A course in the basic fundamentals of cosmetology. Topics include safety and sanitation, service preparation, manicure, facial, chemical services, shampoo, haircut, wet styling, and comb out.

*Lecture Hrs. = 3, Lab Hrs. = 5*

*Prerequisite: READ 300 or equivalent*

## **CSME 2337**

### **Advanced Cosmetology Techniques**

Mastery of advanced cosmetology techniques including hair designs, professional cosmetology services, and workplace competencies.

*Lecture Hrs. = 1, Lab Hrs. = 7, Insurance Fee*

*Prerequisite: CSME 1505, READ 300 or equivalent*

## **CSME 2343**

### **Salon Development**

Procedures necessary for salon development. Topics include professional ethics and goal setting, salon operation, and record keeping.

*Lecture Hrs. = 2, Lab Hrs. = 4, Insurance Fee*

*Prerequisite: CSME 1505, READ 300 or equivalent*

## **CSME 2344**

### **Preparation for the State Licensing Written Examination**

Preparation for the state licensing written examination.

*Lecture Hrs. = 1, Lab Hrs. = 7*

*Prerequisite: CSME 1505, READ 300 or equivalent*

## **CSME 2401**

### **The Principles of Hair Coloring and Related Theory**

Presentation of the theory, practice, and chemistry of hair color. Topics include terminology, application, and workplace competencies related to hair color.

*Lecture Hrs. = 2, Lab Hrs. = 6, Insurance Fee*

*Prerequisite: CSME 1505, READ 300 or equivalent*

## **CSME 2410**

### **Advanced Haircutting and Related Theory**

Advanced concepts and practice of haircutting. Topics include haircuts utilizing scissors, razor, and/or clippers.

*Lecture Hrs. = 2, Lab Hrs. = 6, Insurance Fee*

*Prerequisite: CSME 1410, READ 300 or equivalent*

## **CSME 2414**

### **Cosmetology Instructor II**

A continuation of the fundamentals of instructing cosmetology students.

*Lecture Hrs. = 2, Lab Hrs. = 6, Insurance Fee*

*Note: A high school diploma or GED and a valid Texas Cosmetology Operator license is required for admission to this class. Prerequisite: CSME 1435*

*Pre/Corequisite: READ 300 or equivalent*

## **CSME 2415**

### **Cosmetology Instructor III**

Presentation of lesson plan assignments and evaluation techniques.

*Lecture Hrs. = 2, Lab Hrs. = 6, Insurance Fee*

*Note: A high school diploma or GED and a valid Texas Cosmetology Operator license is required for admission to this class. Prerequisite: CSME 1435*

*Pre/Corequisite: READ 300 or equivalent*

## **CSME 2439**

### **Advanced Hair Design**

Advanced concepts in the theory and practice of hair design.

*Lecture Hrs. = 2, Lab Hrs. = 6, Insurance Fee*

*Prerequisite: CSME 1505, READ 300 or equivalent*

## **CSME 2441**

### **Preparation for the State Licensing Examination**

Preparation for the state licensing examination.

*Lecture Hrs. = 2, Lab Hrs. = 8, Insurance Fee*

*Prerequisite: First two semesters of Cosmetology certificate program, READ 300 or equivalent*

## **CSME 2444**

### **Cosmetology Instructor IV**

Advanced concepts of instruction in a cosmetology program. Topics include demonstration, development, and implementation of advanced evaluation and assessment techniques.

*Lecture Hrs. = 2, Lab Hrs. = 6, Insurance Fee*

*Note: A high school diploma or GED and a valid Texas Cosmetology Operator license is required for admission to this class. Prerequisite: CSME 1435*

*Pre/Corequisite: READ 300 or equivalent*

## **CSME 2445**

### **Instructional Theory and Clinic Operation**

An overview of the objectives required by the Texas Department of Licensing and Regulation Instructor Examination.

*Lecture Hrs. = 2, Lab Hrs. = 6, Insurance Fee*

*Note: A high school diploma or GED and a valid Texas Cosmetology Operator license is required for admission to this class. Prerequisite: CSME 1435*

*Pre/Corequisite: READ 300 or equivalent*

## **CTEC 1401**

### **Applied petrochemical Technology**

Instruction in the basic principles of physics and their application to process facilities. Topics include physical laws and properties and how these relate to the operation of processes.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: TECM 1341 and ENRD 401 or equivalent*

## **CTEC 2386**

### **Internship: Chemical Technology/Technician**

A work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the college and the employer.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 9*

*Prerequisite: PTAC 1332, 1410, and Instructor's Permission*

## **CTEC 2445**

### **Unit Operations**

Instruction in the principles of chemical engineering and process equipment with emphasis on scale-up from laboratory bench to pilot plant.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: PTAC 1332, 1410, 2420, 2438, 2346, and SCIT 1414*

## **DAAC 1280**

### **Cooperative Education:**

#### **Substance Abuse/Addiction Counseling**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

*Lecture Hrs. = 1, Lab Hrs. = 0, External Hrs. = 7*

*Prerequisite: DAAC 2306*

*Pre/Corequisite: DAAC 2353*

## **DAAC 1304**

### **Pharmacology of Addiction**

Describes the psychological, physiological, and sociological effects of mood altering substances and behaviors. Emphasizes pharmacological effects of tolerance, dependency/withdrawal, cross addiction, and drug interaction.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **DAAC 1309**

### **Assessment Skill of Alcohol and Other Drug Addictions**

Examines procedures and tools used to identify and assess a client's strengths, weaknesses, problems, and needs.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **DAAC 1311**

### **Counseling Theories**

An examination of the major theories and current treatment modalities used in the field of counseling.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **DAAC 1317**

### **Basic Counseling Skills**

Presents the basic counseling skills necessary to develop an effective helping relationship with clients.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **DAAC 1319**

### **Introduction to Alcohol and Other Drug Addictions**

Provides an overview of causes and consequences of addiction as they relate to the individual, family, community, and society. Overview of alternatives regarding prevention, intervention, and treatment. Includes explanation of competencies and requirements for licensure in Texas. Identifies addiction issues related to diverse populations.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **DAAC 1391**

### **Special Topics in Alcohol/Drug Abuse Counseling**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency. This course will be a continuation of the study of the patterns and dynamics of group interactions across the life span.

Focus includes group therapy, structure, types, stages, development, leadership, therapeutic factors, and the effectiveness of group on the individual, group growth, and behavior. Effective group facilitation skills, techniques, case management, and record keeping are addressed.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: DAAC 2354 and READ 300 or equivalent*

## **DAAC 1391**

### **Special Topics Substance Abuse Prevention Issues**

Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

Topics largely focus on advanced media literacy, use of media to influence social norms, advanced program design and implementation, and/or other topics specific to substance abuse prevention efforts.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: DAAC 2354 and READ 300 or equivalent*

## **DAAC 2280**

### **Cooperative Education:**

#### **Substance Abuse/Addiction Counseling**

Career related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

*Lecture Hrs. = 1, Lab Hrs. = 0, External Hrs. = 10,*

*Insurance Fee*

*Prerequisite: 18 SCH of DAAC Coursework*

*Pre/Corequisite: READ 300 or equivalent*

## **DAAC 2281**

### **Cooperative Education:**

#### **Substance Abuse/Addiction Counseling**

Career related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

*Lecture Hrs. = 1, Lab Hrs. = 0, External Hrs. = 10,*

*Insurance Fee*

*Prerequisite: 18 SCH of DAAC Coursework*

*Pre/Corequisite: READ 300 or equivalent*

## **DAAC 2306**

### **Substance Abuse Prevention I**

Focuses on aspects of substance abuse prevention from a public health model.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **DAAC 2307**

### **Addicted Family Intervention**

Present family as a dynamic system focusing on the effects of addiction on family roles, rules, and behavior patterns. Includes the effects of mood altering substances, behaviors, and therapeutic alternatives as they relate to the family from a multicultural and transgenerational perspective.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **DAAC 2341**

### **Counseling Alcohol and Other Drug Addictions**

Special skills and techniques in the application of counseling skills for the Alcohol and Other Drug (AOD) client. Development and utilization of advanced treatment planning and management. Includes review of confidentiality and ethical issues.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **DAAC 2343Ω**

### **Current Issues**

Current issues in addiction counseling. Includes special populations, dual diagnosis, ethics, gambling, and infectious diseases associated with addiction counseling.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **DAAC 2353**

### **Substance Abuse Prevention II**

Focuses on the incorporation of research and evaluation methods into advanced program designs and outcomes and research and application of ethics as applied to substance abuse prevention.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **DAAC 2354**

### **Dynamics of Group Counseling**

Exploration of group counseling skills, techniques, and stages of group development.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **DFTG 1405**

### **Technical Drafting**

Introduction to the principles of drafting to include terminology and fundamentals, including size and shape descriptions, projection methods, geometric construction, sections, and auxiliary views.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: ENRD 401 or equivalent*

## **DFTG 1409**

### **Basic Computer-Aided Drafting**

An introduction to computer aided drafting. Emphasis is placed on setup; creating and modifying geometry; storing and retrieving predefined shapes; placing, rotating, and scaling objects, adding text and dimensions, using layers, coordinate systems, and plot/print to scale.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: ENRD 401 or equivalent*

## **DFTG 1417**

### **Architectural Drafting-Residential**

Architectural drafting procedures, practices, terms, and symbols. Preparation of detailed working drawings for residential structures. Emphasis on light frame construction methods.

*(Spring and Fall semester only).*

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: DFTG 2419, ENRD 401 or equivalent*

## **DFTG 1433**

### **Mechanical Drafting**

Study of mechanical drawings using dimensioning and tolerances, sectioning techniques, orthographic projection, and pictorial drawings.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: DFTG 2419, ENRD 401 or equivalent*

## **DFTG 2407**

### **Electrical Drafting**

A study of area lighting, control systems and power layouts, electrical and safety codes, load factors, and distribution requirements.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: DFTG 2419, ENRD 401 or equivalent*

## **DFTG 2408**

### **Instrumentation Drafting**

Principles of instrumentation applicable to industrial applications; fundamentals of measurement and control devices; currently used ISA (Instrument Society of America) symbology; basic flow sheet layout; and drafting practices.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: DFTG 2419, ENRD 401 or equivalent*

## **DFTG 2417**

### **Descriptive Geometry**

Graphical solutions to problems involving points, lines, and planes in space.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 401 or equivalent*

## **DFTG 2419**

### **Intermediate Computer-Aided Drafting**

A continuation of practices and techniques used in basic computer-aided drafting including the development and use of prototype drawings, construction of pictorial drawings, extracting data, and basics of 3-D.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: DFTG 1405, DFTG 1409*

*Pre/Corequisite: ENRD 401 or equivalent*

## **DFTG 2423**

### **Pipe Drafting**

A study of pipe fittings, symbols, specifications, and their applications to a piping process system. Creation of symbols and their usage in flow diagrams, plans, elevations, and isometrics.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: DFTG 2419*

*Pre/Corequisite: ENRD 401 or equivalent*

## **DFTG 2428**

### **Architectural Drafting-Commercial**

Architectural drafting procedures, practices, governing codes, terms, and symbols including the preparation of detailed working drawings for a commercial building, with emphasis on commercial construction methods.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: DFTG 2419*

## **DFTG 2430**

### **Civil Drafting**

An in-depth study of drafting methods and principles used in civil engineering.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: DFTG 2419*

## **DFTG 2431**

### **Advanced Technologies in Architectural Design and Drafting**

Use of architectural specific software to execute the elements required in designing standard architectural exhibits utilizing custom features to create walls, windows, and specific design requirements for construction in residential/commercial and industrial architecture.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: DFTG 2400*

*Pre/Corequisite: ENRD 401 or equivalent*

## **DFTG 2432**

### **Advanced Computer-Aided Drafting**

Application of advanced CAD techniques.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: DFTG 2419*

*Pre/Corequisite: ENRD 401 or equivalent*

## **DFTG 2435**

### **Advanced Technologies in Mechanical Design and Drafting**

Use parametric based software for mechanical design for advanced modeling and analysis.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: DFTG 1433*

*Pre/Corequisite: ENRD 401 or equivalent*

## **DFTG 2438**

### **Final Project-Advanced Drafting**

A drafting course in which students participate in a comprehensive project from conception to conclusion.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: DFTG 2419*

*Pre/Corequisite: ENRD 401 or equivalent*

## **DFTG 2445**

### **Advanced Pipe Drafting**

A continuation of pipe drafting concepts building on the basic principles acquired in pipe drafting.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: ENRD 401 or equivalent, DFTG 2432*

## **DFTG 2457**

### **Advanced Technologies in Pipe Design and Drafting**

Advanced design and production techniques using specialized process plant based design software.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: DFTG 2445*

*Pre/Corequisite: ENRD 401 or equivalent*

## **DFTG 2486**

### **Internship – Drafting and Design Technology/Technician, General**

A work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the college and the employer.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 20*

*Prerequisite: DFTG 2419*

*Pre/Corequisite: ENRD 401 or equivalent*

## **DRAM 1120**

### **Theatre Practicum I**

Open to all students interested in theatre. Credit is earned for acting, technical work, or other participation. Limited to one semester credit hour each semester. Each course may be taken up to two times.

*Lecture Hrs. = 0, Lab Hrs. = 4*

*Prerequisite: READ 300 or equivalent*

## **DRAM 1121**

### **Theatre Practicum II**

Open to all students interested in theatre. Credit is earned for acting, technical work, or other participation. Limited to one semester credit hour each semester. Each course may be taken up to two times.

*Lecture Hrs. = 0, Lab Hrs. = 4*

*Prerequisite: ENRD 401 or equivalent*

## **DRAM 1310**

### **Introduction to the Theatre**

An introduction to the nature of theatre art and the dramatic genres and the functions of the basic practices of the playwright, actor, director, and designer in contemporary theatre.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **DRAM 1330**

### **Elementary Stagecraft**

Introduction to the technical aspects of set design, lighting, sound, costumes, and makeup. Participation in the Drama Department's productions required.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: READ 300 or equivalent*

## **DRAM 1341**

### **Principles of Theatrical Makeup**

The principles of straight and character makeup, intensive practical application, and experience in stage production are provided to the student.

*Lecture Hrs. = 1, Lab Hrs. = 5*

*Prerequisite: READ 300 or equivalent*

## **DRAM 1342**

### **Introduction to Costume**

Principles and techniques of costume design and construction for theatrical production.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisite: READ 300 or equivalent*

## **DRAM 1351**

### **Introduction to Acting**

Introduction to the basic techniques of acting with major emphasis on diction and character development. Opportunity to participate in the Drama Department's production class scenes required.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: READ 300 or equivalent*

## **DRAM 1352**

### **Advanced Acting**

Study and practical experience in problems of creating characterization with emphasis on developing vocal and physical skill in acting.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: READ 300 or equivalent*

## **DRAM 2120Ω**

### **Theatre practicum III**

Open to all students interested in theatre. Credit is earned for acting, technical work, or other participation. Limited to one semester credit hour each semester. Each course may be taken up to two times.

*Lecture Hrs. = 0, Lab Hrs. = 4*

*Prerequisite: READ 300 or equivalent*

## **DRAM 2121**

### **Theatre Practicum IV**

Open to all students interested in theatre. Credit is earned for acting, technical work, or other participation. Course can be taken up to two times.

*Lecture Hrs. = 0, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

## **DRAM 2189**

### **Theatre Academic Cooperative**

Individualized instruction or supervised projects in various areas of theatre.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 6*

*Pre/Corequisite: READ 300 or equivalent*

## **DRAM 2331**

### **Advanced Stagecraft**

General consideration of the art of the theatre as it relates to the stage, scenery, and lighting for college production. Participation in Drama Department's productions required.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: DRAM 1330, READ 300 or equivalent*

## **DRAM 2336**

### **Voice for the Theater**

Application of the performer's use of the voice as a creative instrument of effective communication. Encourages an awareness of the need for vocal proficiency and employs techniques designed to improve the performer's speaking abilities.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **DRAM 2361**

### **History of Theatre I**

Survey of growth and development of the theatre from its beginning to 1660 with consideration of dramatic literature, physical theatre, style of presentation, and social significance of theatre.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **DRAM 2362**

### **History of Theatre II**

Survey of growth and development of the theatre from 1660 to the present with consideration of dramatic literature, physical theatre, style of presentation, and social significance of theatre.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **DRAM 2366**

### **Pictures**

A survey of the history and development of motion pictures with emphasis on analysis and understanding of significant movements and schools of filmmaking, critical approaches, sociological impact, and visual aesthetic of motion picture. Two lecture hours and one two hour film screening a week for one semester.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: READ 300 or equivalent*

## **ECON 2301**

### **Principles of Economic: Macroeconomics**

This course emphasizes macroeconomics; economic analysis of forces determining levels of income, prices, and employment; economic growth; explanation of economic term and institutions; and consideration of current problems.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent, MATH 310 or equivalent*

## **ECON 2302**

### **Principles of Economic: Microeconomics**

This course emphasizes microeconomics – economic analysis of decision making in perfect and imperfect product and factor markets, explanation of economic terms and institutions, and consideration of current problems.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent, MATH 310 or equivalent*

## **EDUC 1200**

### **Learning Pathways**

This course studies the psychology of learning and success. It will examine factors that underlie learning, success, and personal development in higher education. Topics covered include using strategies to retrieve information from memory, self-regulation, goal setting, educational planning and learning styles. Techniques of study such as organizing class notes, preparing for examinations, sampling software and utilizing learning resources are covered. It is a required course for first year in college students testing into developmental mathematics only and taking 6 or more credit hours.

*Lecture Hrs. = 2, Lab Hrs. = 1*

*Prerequisite: ENRD 402 or equivalent*

## **EDUC 1301**

### **Introduction to the Teaching Profession**

An enriched, integrated pre-service course with content experience that provides the student with an introduction to and analysis of the culture of schooling and classrooms. The course includes a minimum of 16 contact hours of field observation in P-12 classrooms and aligns with the State Board of Educator Certification Pedagogy and Professional Responsibilities standards.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: ENRD 401 or equivalent*

*Background Check Fees*

## **EDUC 2301**

### **Introduction to Special Populations**

An enriched, integrated pre-service course with content experience that provides an overview of schooling and classrooms from the perspectives of language, gender, socioeconomic status, ethnic, and academic diversity and equity with an emphasis on learning. The course includes a minimum of 16 contact hours of field observation in P-12 classrooms and aligns with the State Board of Educator Certification Pedagogy and Professional Responsibilities standards.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: ENRD 402 or equivalent*

*Background Check Fees*

## **ELPT 1321**

### **Introduction to Electrical Safety and Tools**

Safety rules and regulations. Includes the selection, inspection, use, and maintenance of common tools for electricians.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Pre/Corequisite: READ 300 or equivalent*

## **ELPT 1325**

### **National Electrical Code I**

An introductory study of the National Electric Code (NEC) for those employed in fields requiring knowledge of the Code. Emphasis on wiring design, protection, methods, and materials; equipment for general use; and basic calculations.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **ELPT 1411**

### **Basic Electrical Theory**

Basic theory and practice of electrical circuits. Includes calculations as applied to alternating and direct current.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: READ 300 or equivalent*

## **ELPT 1419**

### **Fundamentals of Electricity I**

An introduction to basic direct current (DC) theory including electron theory and direct current applications.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **ELPT 1420**

### **Fundamentals of Electricity II**

Introduces to alternating current (AC). Includes AC voltage, frequency, mechanical and electrical degrees, waveforms, resistors, capacitors, and inductors.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ELPT 1419 and READ 300 or equivalent*

## **ELPT 1441**

### **Motor Control**

Operating principles of solid state conventional controls along with their practical applications. Includes braking, jogging, plugging, and safety interlocks wiring, and schematic diagram interpretations.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ELPT 1419 and READ 300 or equivalent*

## **ELPT 1445**

### **Commercial Wiring**

Commercial wiring methods. Includes overcurrent protection, raceway panel board installation, proper grounding techniques, and associated safety procedures.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: READ 300 or equivalent*

## **ELPT 1451**

### **Electrical Machines**

Direct current (DC) motors, single phase and polyphase alternating current (AC) motors, generators, and alternators. Emphasis on construction, characteristics, efficiencies, starting, and speed control.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: READ 300 or equivalent*

## **ELPT 1455**

### **Electronic Applications**

Electronics principles and the use of electronic devices. Includes diodes, transistors, and rectifiers.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ELPT 1419 and READ 300 or equivalent*

## **ELPT 2301**

### **Journeyman Electrician Exam Review**

Preparation for journeyman electrician licensure with emphasis on calculations and the National Electrical Code (NEC).

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **ELPT 2319**

### **Programmable Logic Controllers I**

Fundamental concepts of programmable logic controllers, principles of operation, and numbering systems as applied to electrical controls.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: ELPT 1420, READ 300 or equivalent*

## **ELPT 2325**

### **National Electrical Code II**

In-depth coverage of the National Electric Code (NEC) for those employed in fields requiring knowledge of the Code. Emphasis on wiring protection and methods, special condition, and advanced calculations.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **ELPT 2331**

### **AC/DC Drives**

Installation and maintenance of alternating current (AC) and direct current (DC) variable speed drives with emphasis on application, operating characteristics, and troubleshooting techniques.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: ELPT 1420 and READ 300 or equivalent*

## **ELPT 2355**

### **Programmable Logic Controllers II**

A study in programmable logic controllers (PLC). Topics include processor units, numbering systems, memory organization, relay type devices, timers, counters, data manipulators, and programming.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: ELPT 2319, READ 300 or equivalent*

## **ELPT 2380**

### **Cooperative Education: Electrical and power Transmission Installation**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

*Lecture Hrs. = 1, Lab Hrs. = 0, External Hrs. = 19*

*Prerequisites: ELPT 1420 and ENRD 401 or equivalent*

## **ELPT 2405**

### **Motors and Transformers**

Operation of single and three phase motors and transformers. Includes transformer banking, power factor correction, and protective devices.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ELPT 1420, READ 300 or equivalent*

## **ENBR 402**

### **Writing II & Advanced Reading Bridge**

This is an abridged ENRD 402 course designed to develop students' critical reading and academic writing skills through review and practice. The focus of the course will be on students' refreshing their skills and applying critical reading skills for organizing, analyzing, evaluating and retaining material as well as practice in development of full-length themes with emphasis on structure, organization, unity, and development of thesis. The ENBR 402 results will expire within 30 days, therefore students completing the course with a B or better, and a score of 60% on a comprehensive final must register for the paired course (ENGL 1301).

*Lecture Hrs. = 2, Lab Hrs. = 1*

*Prerequisite: Accuplacer (Bubble Score) reading between 70-77, Essay=5, Sentence Structure 70-79. or TSIA (Bubble Score) READ 347-350 & Writing 357-362.*

*Placed according to lowest TSIA component score.*

## **ENGL 1301Ω**

### **English Composition I**

A concentrated study of the fundamentals of English usage; training in accurate reading and writing of prose, chiefly expository; study of the principles of library research and the techniques of writing research papers. Research required. This course is reading and writing intensive.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **ENGL 1302Ω**

### **English Composition II**

Intensive study of and practice in the strategies and techniques for developing research-based expository and persuasive texts. Emphasis on effective and ethical rhetorical inquiry, including primary and secondary research methods; critical reading of verbal, visual, and multimedia texts; systematic evaluation, synthesis, and documentation of information sources; and critical thinking about evidence and conclusions. This course is reading and writing intensive.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENGL 1301 with a grade of P, C or better*

## **ENGL 2307Ω**

### **Creative Writing I**

A critical seminar for writers of poetry: narrative or lyric; of fiction: sketches, anecdotes, short stories, novels, and drama; of factual writing: articles, biography, or family history. Creativity, criticism, and revision are emphasized. Analyses of contemporary models and techniques are examined with emphasis on literary qualities.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENGL 1302 with a C or better*

## **ENGL 2308Ω**

### **Creative Writing II**

Same as ENGL 2307 but giving students additional practice developing their skills and techniques.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENGL 2307*

## **ENGL 2311Ω**

### **Technical Writing**

Intensive study of and practice in professional settings. Focus on the types of documents necessary to make decisions and take action on the job, such as proposals, reports, instructions, policies and procedures, e-mail messages, letters, and description of products and services. Practice individual and collaborative processes involved in the creation of ethical and efficient documents.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **ENGL 2321**

### **British Literature**

Selected significant works of British literature. May include study of movements, schools, or periods.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENGL 1302 with a C or better*

## **ENGL 2322Ω**

### **English Literature: Beowulf to Romantic**

A direct study of significant masterpieces of English literature from the earliest times to the Romantic Period with particular attention to the main currents of thought and the major writers of Britain. This course is reading intensive.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENGL 1302 with a C or better*

## **ENGL 2323Ω**

### **English Literature: Romantic to Present**

A direct study of significant masterpieces of English literature from the Romantic Period to the present with particular attention to the main currents of thought and the major writers of Britain. This course is reading intensive.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENGL 1302 with a C or better*

## **ENGL 2326Ω**

### **American Literature Survey**

A general study of the significant writers and movements of American literature from its origins to the present. This course is reading intensive.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENGL 1302 with a C or better*

## **ENGL 2327Ω**

### **American Literature to 1860**

A general survey of the major works in American literature from its origins to 1860. This course is reading intensive.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENGL 1302 with a C or better*

## **ENGL 2328Ω**

### **American Literature: 1860 to Present**

A general survey of the major works in American literature from 1860 to the present. This course is reading intensive.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENGL 1302 with a C or better*

## **ENGL 2331Ω**

### **Cross-Cultural Literature**

An introduction to literature across cultures. This course focuses on story-telling as a way to learn about peoples from around the world. Authors selected are from North America, Asia, Africa, Latin America, and Europe. This course is reading intensive.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENGL 1302 with a C or better*

## **ENGL 2341Ω**

### **Forms of Literature**

The study of one or more literary genres including, but not limited to, poetry, fiction, drama, and film. This course is reading intensive.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENGL 1302 with a C or better*

## **ENGL 2351Ω**

### **Mexican-American Literature**

A survey of Mexican-American/Chicano/a literature including fiction, non-fiction, poetry, and drama. This course is reading intensive.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENGL 1302 with a C or better*

## **ENGR 1201**

### **Introduction to Engineering**

An introduction to the engineering profession with emphasis on technical communication and team based engineering design. Programming will be introduced for use in the design project.

*Lecture Hrs. = 1, Lab Hrs. = 3*

*Corequisite: Math 2413 or equivalent*

## **ENGR 1304**

### **Engineering Graphics I**

Introduction to computer-aided drafting using CAD software and sketching to generate two-and three-dimensional drawings based on the conventions of engineering graphical communication; topics include spatial relationships, multi-view projections and sectioning, dimensioning, graphical presentation of data, and fundamentals of computer graphics.

*Lecture Hrs. = 2, Lab Hrs. = 3*

*Prerequisite: MATH 1314 or equivalent*

*Pre/Corequisite: ENRD 402 or equivalent*

## **ENGR 2301**

### **Engineering Statics**

Basic theory of engineering mechanics, using calculus, involving the description of forces, moments, and couples acting on stationary engineering structures; equilibrium in two and three dimensions; free-body diagrams; friction; centroids; centers of gravity; and moments of inertia.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: PHYS 2425*

*Corequisite: MATH 2414*

## **ENGR 2302**

### **Engineering Dynamics**

Basic theory of engineering mechanics, using calculus, involving the motion of particles, rigid bodies, and systems of particles; Newton's Laws; work and energy relationships; principles of impulse and momentum; application of kinetics and kinematics to the solution of engineering problems.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: ENGR 2301*

## **ENGR 2304**

### **Programming for Engineers**

Programming principles and techniques for matrix and array operations, equation solving, and numeric simulations applied to engineering problems and visualization of engineering information; platforms include spreadsheets, symbolic algebra packages, engineering analysis software, and laboratory control software.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: ENGR 1201*

## **ENGR 2407**

### **Fundamentals of Circuit Analysis**

Basic concepts of electrical engineering using calculus; the fundamentals of electrical and electronic components and circuits, circuit analysis, network principles, motors, and steady state and transient responses; application of Laplace transforms; and use of computational software to solve network problems; application of the principles to the solution of electrical engineering problems; relationship between basic principles and advanced applications. Basic laboratory experiments supporting theoretical principles involving electrical and electronic components and circuits, including circuit analysis, network principles, motors, and steady-state and transient responses, and preparation of laboratory reports.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: PHYS 2426*

## **ENGT 2307**

### **Engineering Materials I for Engineering Technology**

Instruction in the making and forming of steel and the classification of steel, cast iron, and aluminum. Topics include mechanical and physical properties, non-destructive testing principles of alloying, selection of metals, iron carbon diagrams, principles of hardening and tempering steel, and the metallurgical aspects of machining. Topics will also include an overview of properties and uses of polymer and ceramics.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Pre/Corequisite: ENRD 402 or equivalent*

## **ENGT 2310**

### **Introduction to Manufacturing Processes**

Exploration of a variety of methods used in manufacturing. Theory and application of processes including but not limited to metal forming, welding machining, heat treating, plating, assembly procedures, process controls considerations, and casting and injection molding.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: PTAC 1332, 1410, 2420, 2438, 2346, and SCIT 1414*

## **ENRD 401**

### **Integrated Writing I & Intermediate College Reading**

This is a combined lecture/lab, performance based course designed to develop students' critical reading and academic writing skills. The focus of the course will be on applying basic critical reading skills for organizing, analyzing and retaining material and development of effective sentences and fundamentals of grammar, punctuation, and spelling as well as determining the main idea and supporting details from a written text will be provided in a laboratory setting.

This is a course with a required lab.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: LSSS 300*

*Placement using TSIA Scores is based on a combination of Reading and Writing scores. Placement is according to lowest TSIA component score, Reading scores between 342-346 and /or Writing scores between 350-356.*

## **ENRD 402**

### **Integrated Writing II & Advanced College Reading**

This is a combined lecture/lab, performance-based course designed to develop students' critical reading and academic writing skills. The focus of the course will be on applying critical reading skills for organizing, analyzing, evaluating and retaining material as well as practice in development of full-length themes with emphasis on structure, organization, unity, and development of thesis. This is a course with a required lab.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: LSSS 300*

*Accuplacer Placement Test score of Reading 46-61, Essay 3-4, and Sentence Sense 70-80 to 70-79 or, TSIA reading score 347-351 and/or Writing score 357-362. Placement using TSIA Scores is based on a combination of Reading, and Writing scores, and is according to lowest TSIA component score*

## **ENTC 1343**

### **Statics**

A study of the composition and resolution of forces and the equilibrium of forces acting on structures. Includes the concepts of friction, moments, couples, centroids, and moment of inertia.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Pre/Corequisite: TECM 1349 or MATH 1314 or above; ENRD 401 or equivalent*

## **ENVR 1401Ω**

### **Environmental Science I**

A general study of ecological concepts; an introduction to chemical and biological principles that relate to ecology; an introduction to resources including animal, plant, energy, water, soil, and air. A study of pollution problems and solutions. Laboratory exercises include soil testing, air, and water quality measurements, field sampling techniques, and related nature studies. Optional field trips.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 402 or equivalent*

*Pre/Corequisite: MATH 310 or equivalent*

## **ENVR 1402**

### **Environmental Science I**

A continued interdisciplinary study of natural sciences (ecology, chemistry, physics) and social sciences (economics, regulation, ethics) and how they apply to the environment. This course will build on the basic concepts discussed in ENVR 1401 and will focus on environmental assessment, measurements, and risk assessment. Laboratory exercises include current environmental quality assessment techniques, field sampling techniques, and related studies of local environments. Optional and required field trips.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENVR 1401 or Instructor Permission*

## **EPCT 1349**

### **Environmental Regulation**

Interpretation and Applications

An in-depth study of the major federal and state environmental regulations.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **GAME 1301**

### **Computer Ethics**

A study of ethical issues that apply to computer related professions, intellectual property and privacy issues, professional responsibility, and the effects of globalization. Emphasizes the practical application of computer ethics through case studies and current events in the game and simulation industry.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **GAME 1302**

### **Interactive Storyboarding**

In-depth coverage of storyboarding for the development of interactive media. Addresses target audience analysis, purpose, goals and objectives, content outline, flow chart, and interactive storyboarding.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: ENRD 401 or equivalent*

## **GAME 1304**

### **Level Design**

Introduction to the tools and concepts used to create levels for games and simulations. Incorporates level design, architecture theory, concepts of critical path and flow, balancing, play testing, and storytelling. Includes utilization of toolsets from industry titles.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: ARTC 1453, GAME 1302, GAME 1306*

## **GAME 1306**

### **Design and Creation of Games**

Introduction to game and simulation development. Includes analysis of existing applications and creation of a game using an existing game engine. In-depth coverage of the essential elements of game design. Also covers an overview of cultural history of electronic games, survey of the major innovators, and examination of the trends and taboos that motivate game design.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: ENRD 401 or equivalent*

## **GAME 1336**

### **Introduction to 3D Game Modeling**

Architectural spaces and modeling in a real-time game editor. Includes techniques for building, texturing, and lighting a game level to function in real-time.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: GAME 1302, 1306*

## **GAME 1394**

### **Special Topics in Animation, Interactive Technology, Video Graphics and Special Effects**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: Previously completed minimum 6 hours GAME course work.*

## **GAME 2325**

### **3D Animation II Character Setup**

Skinning and weighting, forward kinematics, inverse kinematics, constraints, expressions, scripting and driven keys, mesh deformers, morph targets/blend shapes, and animation user interfaces.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: GAME 1336 and ARTV 1341*

## **GAME 2332**

### **Project Development I**

Skill development in an original modification based on a current game engine. Includes management of version control; development of project timeliness; integration of sound, models, and animation; production of demos; and creation of original levels, character, and content for a real-time multiplayer game.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: GAME 1304, and COSC 1436*

## **GAME 2334**

### **Project Development II**

Continuation of an original modification based on a current game engine with an emphasis on new content and significant changes in game play over the base game experience. Includes creation of original levels, characters, and content for a real-time multiplayer game applying skills learned in previous classes.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: GAME 2332*

## **GAME 2338**

### **Game Testing**

Testing and debugging gaming and simulation applications in the alpha and beta stages of production. Includes critiques of the product and written documentation of the testing and debugging processes.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Pre/Corequisite: GAME 1304*

## **GAME 2344**

### **DirectX programming**

Exploration of the advanced suite of multimedia application programming interfaces (API) built into the Microsoft Windows operating system.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: COSC 1437 or equivalent*

## **GAME 2386**

### **Internship – Animation, Interactive Technology, Video Graphics, and Special Effects**

A work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the College and the employer.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 9*

*Prerequisites: GAME 1336 or COSC 1437*

## **GAME 2387**

### **Internship Animation, Interactive Technology, Video Graphics and Special Effects**

A work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the College and the employer.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 9*

*Prerequisites: GAME 2386*

## **GAME 2402**

### **Mathematical Applications for Game Development**

Presents applications of mathematics and science in game and simulation programming. Includes the utilization of matrix and vector operations, kinematics, and Newtonian principles in games and simulations. Also covers code optimization.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisites: MATH 1314*

## **GEOG 1303**

### **World Regional Geography**

A study of major developed and developing regions with emphasis on the awareness of prevailing world conditions and developments, including emerging conditions and trends, and the awareness of diversity of ideas and practices to be found in those regions. Course content may include one or more regions.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **GEOL 1301**

### **Earth Science**

Survey of physical sciences with emphasis on the earth's ecological and geological processes. Note: Students are advised to complete their science requirements before attempting this course.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **GEOL 1403**

### **Physical Geology**

A survey of physical processes on Earth. Students investigate plate tectonics, minerals, rocks, geologic time, mountain building, natural hazards, and Earth surface processes through reading, discussion and lab activities. Optional field trips.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 402 or equivalent*

## **GEOL 1404**

### **Historical Geology**

Historical Geology surveys the history of Earth and its life forms and landforms. Introduction to fossils and geologic concepts through lab activities, discussions and reading. Optional field trips.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 402 or equivalent*

## **GEOL 1405**

### **Environmental Geology**

Environmental geology is an introductory survey to Earth surface processes, natural hazards, and human impacts on the environment. Through lab activities and discussion, students investigate efforts to reduce damage due to natural disasters, energy and pollution issues, and climate change. Optional field trips.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: ENRD 402 or equivalent*

## **GEOL 1447**

### **Meteorology**

Introduction to weather and climate with emphasis on the climate system. Topics include atmospheric composition and structure, Earth's energy budget, interaction of oceans and atmosphere, weather systems, severe weather, climate variability and change, and impacts of severe weather and climate change on society.

*Optional field trips.*

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 402 or equivalent, MATH 310 or equivalent*

## **GEOL 2289**

### **Academic Cooperative**

An instructional program designed to integrate on-campus study with practical hands-on work experience in the physical sciences. In conjunction with class seminars, the individual students will set specific goals and objectives in the scientific study of inanimate objects, processes of matter and energy, and associated phenomena. Students will work in conjunction with the faculty coordinator and the sponsor in the development of their goals and objectives.

*Lecture Hrs. = 1, Lab Hrs. = 2*

*Prerequisite: Instructor's Permission*

## **GEOL 2389**

### **Academic Cooperative**

An instructional program designed to integrate on-campus study with practical hands-on work experience in the physical sciences. In conjunction with class seminars, the individual students will set specific goals and objectives in the scientific study of inanimate objects, processes of matter and energy, and associated phenomena. Students will work in conjunction with the faculty coordinator and the sponsor in the development of their goals and objectives.

*Lecture Hrs. = 1, Lab Hrs. = 4*

*Prerequisite: Instructor's Permission*

## **GISC 1311Ω**

### **Introduction to Geographic Information Systems (GIS)**

Introduction to basic concepts of vector GIS using several industry specific software programs including nomenclature of cartography and geography.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Pre/Corequisite: ENRD 401 or equivalent*

## **GOVT 2107**

### **Federal and Texas Constitutions**

Includes consideration of the Constitution of the United States and the constitutions of the states, with special emphasis on that of Texas. Prerequisite: By permission only. Enrollment limited to students who have already completed a minimum of 6 SCH of GOVT courses but have not satisfied the statutory requirement for study of the federal and state constitutions.

*Lecture Hrs. = 1, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **GOVT 2305Ω**

### **Federal Government**

Origin and development of the U.S. Constitution, structure and powers of the national government including the legislative, executive, and judicial branches, federalism, political participation, the national election process, public policy, civil liberties and civil rights.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **GOVT 2306Ω**

### **Texas Government**

Origin and development of the Texas constitution, structure and powers of state and local government, federalism and intergovernmental relations, political participation, the election process, public policy, and the political culture of Texas.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **HIST 1301Ω**

### **History of the United States to 1877**

The political, economic, social, and intellectual history of the United States from the discovery of America to 1877. A research component is required for honors credit.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **HIST 1302Ω**

### **History of the United States Since 1877**

The political, economic, social, and intellectual history of the United States from 1877 to the present day. A research component is required for honors credit.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **HIST 2301Ω**

### **History of Texas**

Texas history from colonization to the present day with attention given to political, social, economic, and intellectual history. Designed for any students interested in local history, the course is particularly recommended for prospective teachers in the public schools of Texas. (Based on House Bill 935, this can be substituted for an American history course.) A research component is required for honors credit.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **HIST 2321Ω**

### **History of World Civilization to 1500**

A comparative historical study of Europe, Asia, Africa, America, and Australia to 1500. A research component is required for honors credit.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **HIST 2322Ω**

### **History of World Civilization from 1500 to Present**

A comparative historical study of Europe, Asia, Africa, America, and Australia from 1500 to the present. A research component is required for honors credit.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **HITT 1301**

### **Health Data Content and Structure**

Introduction to systems and processes for collecting, maintaining, and disseminating primary and secondary health-related information including content of health records, documentation requirements, registries, indices, licensing, regulatory agencies, forms, and screens.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: READ 300 or equivalent*

## **HITT 1305**

### **Medical Terminology I**

Study of word origin and structure through the introduction of prefixes, suffixes, root words, plurals, abbreviations and symbols, surgical procedures, medical specialties, and diagnostic procedures.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **HITT 1341**

### **Coding and Classification Systems**

Basic coding rules, conventions, and guidelines using clinical classification systems.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: HITT 1301, 1305, ENRD 401 or equivalent*

## **HITT 1345**

### **Health Care Delivery Systems**

Introduction to organization, financing, and delivery of health care services, accreditation, licensure, and regulatory agencies.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **HITT 1349**

### **Pharmacology**

Overview of the basic concepts of the pharmacological treatment of various diseases affecting major body systems.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

*Pre/Corequisite: HITT 1305*

## **HITT 1353**

### **Legal and Ethical Aspects of health Information**

Concepts of privacy, security, confidentiality, ethics, health care legislation, and regulations relating to the maintenance and use of health information.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **HITT 1355**

### **Health Care Statistics**

Principles of health care statistics with emphasis in hospital statistics. Skill development in computation and calculation of health data.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: MATH 310 or equivalent, READ 300 or equivalent*

## **HITT 2160**

### **Clinical-health Information/Medical Records**

#### **Technology/Technician**

A health-related, work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Lab Hrs. = 6,*

*Insurance Fee*

*Prerequisite: HITT 1301, HITT 1341, HITT 1345, MRMT 1307, READ 300 or equivalent*

## **HITT 2161**

### **Clinical-health Information/Medical Records**

#### **Technology/Technician**

A health-related, work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Lab Hrs. = 6,*

*Insurance Fee*

*Prerequisite: READ 300 or equivalent*

*Pre/Corequisite: HITT 2335*

## **HITT 2260**

### **Clinical-health Information/Medical Records**

#### **Technology/Technician**

A health-related, work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Lab Hrs. = 8,*

*Insurance Fee*

*Prerequisite: HITT 2160, READ 300 or equivalent*

*Pre/Corequisite: HITT 1353, HITT 1355*

## **HITT 2261**

### **Clinical-health Information/Medical Records**

#### **Technology/Technician**

A health-related, work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Lab Hrs. = 8,*

*Insurance Fee*

*Prerequisite: HITT 2160, READ 300 or equivalent*

*Pre/Corequisite: HITT 2343*

### **HITT 2335**

#### **Coding and Reimbursement Methodologies**

Advanced coding techniques with emphasis on case studies, health records, and federal regulations regarding prospective payment systems and methods of reimbursement.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: HITT 1341, READ 300 or equivalent*

### **HITT 2339**

#### **Health Information Organization and Supervision**

Principles of organization and supervision of human, financial, and physical resources.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

### **HITT 2343**

#### **Quality Assessment and Performance Improvement**

Study of quality standards and methodologies in the health information management environment. Topics include licensing, accreditation, compilation, and presentation of data in statistical formats, quality management, and performance improvement functions, utilization management, risk management, and medical staff data quality issues.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: HITT 1301, READ 300 or equivalent*

### **HMSY 1337**

#### **Introduction to Homeland Security**

Overview of homeland security. Evaluation of the progression of homeland security issues throughout Texas and the United States. An examination of the roles undertaken and methods used by governmental agencies and individuals to respond to those issues.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENDR 401 or equivalent*

*Pre/Corequisite: LMGT 1319*

### **HPRS 2301**

#### **Pathophysiology**

Study of the pathology and general health management of diseases and injuries across the life span. Topics include etiology, symptoms, and the physical and psychological reactions to diseases and injuries.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: HITT 1305, ENRD 401 or equivalent*

### **HRPO 1311**

#### **Human Relations**

Practical application of the principles and concepts of the behavioral sciences to interpersonal relationships in the business and industrial environment.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

### **HRPO 2301**

#### **Human Resources Management**

Behavioral and legal approaches to the management of human resources in organizations.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

### **HUMA 1301ΩΣ**

#### **Introduction to the Humanities I**

A multicultural, interdisciplinary introduction to the study of humankind's cultural legacy in at least four of the disciplines of the humanities, which are approached individually, in synthesis with one or more of the others, or thematically: the visual arts, motion pictures, architecture, music, dance, philosophy, and literature as well as the social sciences, history, mathematics, medicine, physical sciences and communication as they have contributed to that cultural legacy.

This course is writing intensive.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

### **HUMA 1302ΩΣ**

#### **Introduction to the Humanities II**

Honors only. A historical overview of humankind's cultural legacy in at least four of the disciplines of the Humanities, which are approached individually, in synthesis with one or more of the others, or thematically: the visual arts, motion pictures, architecture, music, dance, philosophy, and literature as well as the social sciences, history, mathematics, medicine, and the physical sciences as they have contributed to that cultural legacy. This course is writing intensive.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

### **HUMA 1305**

#### **Introduction to Mexican-American Studies**

Introduction to the field of Mexican-American/Chicano/a Studies from its inception to the present. Interdisciplinary survey designed to introduce students to the salient cultural, economic, educational, historical, political, and social aspects of the Mexican-American/Chicano/a experience. This course is writing intensive.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

### **HUMA 1311**

#### **Mexican-American Fine Arts Appreciation**

An examination of Mexican-American/Chicano/a artistic expressions in the visual and performing arts.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **HYDR 1345**

### **Hydraulics and Pneumatics**

Fundamentals of hydraulics and types of hydraulic pumps, cylinders, valves, motors, and related systems including operations, maintenance, and system analysis.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: MCHN 2405 and READ 300 or equivalent*

## **IBUS 1305Ω**

### **Introduction to International Business and Trade**

The techniques for entering the international market place. Emphasis on the impact and dynamics of sociocultural, demographic, economic, technological, and political-legal factors in the foreign trade environment. Topics include patterns of world trade, internationalization of the firm, and operating procedures of the multinational enterprise.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **IEIR 1302**

### **Introduction to Direct Current Circuits**

Fundamentals of direct current including Ohm's Law. Emphasis on methods of analyzing series, parallel, and combination circuits including measurement devices.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: READ 300 or equivalent and MATH 310 or equivalent*

## **IMED 1316**

### **Web Design I**

Instruction in web page design and related graphic design issues including mark-up languages, websites, and browsers.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: ENRD 401 or equivalent*

## **IMED 1445**

### **Interactive Digital Media I**

Exploration of the use of graphics and sound to create interactive multimedia applications and/or animations using industry standard authoring software.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ARTC 1453, ENRD 401 or equivalent*

*Pre/Corequisite: ARTC 2440*

## **IMED 2309**

### **Internet Commerce**

An overview of the Internet as a marketing and sales tool with emphasis on developing a prototype for electronic commerce. Topics include dynamic data integration, data collection, and online transactions.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Pre/Corequisite: ENRD 401 or equivalent*

## **IMED 2311**

### **Portfolio Development**

Preparation and enhancement of portfolio to meet professional standards, development of presentation skills, and improvement of job-seeking techniques.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Pre/Corequisite: ARTC 1453, 2440, IMED 1445, and ENRD 401 or equivalent*

## **IMED 2315**

### **Web page Design II**

A study of mark-up language advanced layout techniques for creating web pages. Emphasis on identifying the target audience and providing websites according to accessibility standards, cultural appearance, and legal issues.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Pre/Corequisite: IMED 1316*

## **INMT 1311**

### **Computer Integrated Manufacturing**

A study of the principles and application of computer integrated manufacturing. Employs all aspects of a system including but not limited to integration of material handling, manufacturing, and computer hardware and programming.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: READ 300 or equivalent*

## **INMT 1371**

### **Introduction to Digital Manufacturing**

The purpose of this course is to give the student an introduction to various digital manufacturing methods including 3-D printing technologies also included is a survey in advanced manufacturing technologies including metals, ceramics, and plastics through subtractive and additive processes.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **INMT 1380**

### **Cooperative Education**

Manufacturing Technology/Technician

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 21*

*Prerequisite: READ 300 or equivalent*

## **INTC 1305**

### **Introduction to Instrumentation**

A survey of the instrumentation field and the professional requirements of the instrumentation technician. Includes computer and calculator applications.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **INTC 1307**

### **Instrumentation Test Equipment**

Theory and application of instrumentation test equipment. Emphasizes accuracy, limitations of instruments, and calibration techniques.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **INTC 1312**

### **Instrumentation and Safety**

An overview of industries employing instrument technicians. Includes instrument safety techniques and practices as applied to the instrumentation field.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **INTC 1343**

### **Application of Industrial Automatic Control**

A study of automatic process control including measuring devices, analog and digital instrumentation, signal transmitters, recorders, alarms, controllers, control valves, and process and instrument drawings. Includes connection and troubleshooting of loops. The study begins with ISA, electrical, and process symbology. Course addresses the engineering package which may include such documents as P&IDs, loop diagrams, sketches, spec sheet, bills of materials, and simplified flow diagrams. The course includes basic sketching techniques.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: INTC 1456 or DFTG 2408, READ 300 or equivalent*

## **INTC 1348**

### **Analytical Instrumentation**

Analytical instruments emphasizing utilization in process applications. Includes, but not limited to, chromatography, pH, conductivity, and spectrophotometric instruments.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: CTEC 1401, READ 300 or equivalent*

## **INTC 1401**

### **Principles of Industrial Measurements**

Principles of measurement and devices used to measure process variables and basic control functions.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: READ 300 or equivalent*

## **INTC 1425**

### **Instrument Hardware Installation I**

Installation of instrumentation equipment into the process environment using industry standards.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: READ 300 or equivalent*

## **INTC 1441**

### **Principles of Automatic Control**

Basic measurements, automatic control systems and design, closed loop systems, controllers, feedback, control modes, and control configurations.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: INTC 1456, READ 300 or equivalent*

## **INTC 1448**

### **Analytical Instrumentation**

A study of analytical instruments emphasizing their utilization in process applications including chromatography, pH, conductivity, and spectrophotometry instruments.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: INTC 1312, SCIT 1414, READ 300 or equivalent*

## **INTC 1456**

### **Instrumentation Calibration**

A study of techniques for calibrating electronics and pneumatic transmitters, controllers, recorders, valves, and valve positioners including tear down, assembly, alignment, and calibration of equipment.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: READ 300 or equivalent*

## **INTC 2359**

### **Distributed Control Systems**

Philosophy and application of distributed control systems. Includes hardware, firmware, software, configuration, communications, and networking systems required to implement a distributed control strategy.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: INTC 1441*

## **INTC 2380**

### **Cooperative Education: Instrumentation Technology/Technician**

Career-related activities encountered in the student's area specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

*Lecture Hrs. = 1, Lab Hrs. = 0, External Hrs. = 19*

*Prerequisite: INTC 1441 and READ 300 or equivalent*

## **INTC 2405**

### **Instrument Hardware Installation II**

Instrumentation skills in tubing and piping, measuring, layout, and testing. Includes instrumentation wiring, circuitry, heat tracing, chemical treatment, and craft-related calculations.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: READ 300 or equivalent*

## **INTC 2410**

### **Principles of Industrial Measurements II**

Advanced principles of measurement and devices used to measure process variables and basic control functions.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: INTC 1401, READ 300 or equivalent*

## **INTC 2445**

### **Advanced Analyzers**

An in depth study of composition analyzers and their sample systems. Analyzers covered will include chromatographs, mass spectrometers, in-line and continuous emissions lab, and portable types.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: READ 300 or equivalent*

*Pre/Corequisite: INTC 2472*

## **INTC 2450**

### **Fieldbus Process Control Systems**

A comprehensive view of fieldbus systems using theory, applications, and hands-on experiences.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: INTC 1441 and READ 300 or equivalent*

## **INTC 2471**

### **Physical Properties Analyzers**

An in-depth study of process analyzers used to measure pH, electrical conductivity, trace oxygen, vapor pressure, boiling point, density, viscosity, thermal conductivity, and other physical properties.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: CTEC 1401*

*Pre/Corequisite: INTC 1348, 1441*

## **INTC 2472**

### **Sample Systems**

A study of sample conditioning systems and system components including the types of unit operations and process streams that may be analyzed.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: INTC 1348, 2471, EPCT 1349*

## **ITCC 1401**

### **Exploration-network Fundamentals**

A course introducing the architecture, structure, functions, components, and models of the Internet. Describes the use of OSI and TCP layered models to examine the nature and roles of protocols and services at the applications, network, data link, and physical layers. Covers the principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations. Build simple LAN topologies by applying basic principles of cabling; perform basic configurations of network devices, including routers and switches; and implementing IP addressing schemes.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: READ 300 or equivalent*

*Pre/Corequisite: CPMT 1449*

## **ITCC 1404**

### **Cisco Exploration 2-Routing Protocols and Concepts**

This course describes the architecture, components, and operation of routers, and explains the principles of routing and routing protocols. Students analyze, configure, verify, and troubleshoot the primary routing protocols RIPv1, RIPv2, EIGRP, and OSPF. Recognize and correct common routing issues and problems. Model and analyze routing processes.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ITCC 1401 and READ 300 or equivalent*

## **ITCC 1408**

### **Introduction to Voice over Internet protocol (VoIP)**

Basic concepts of voice over internet protocol (VoIP). Focuses on technology integration of and data transmission in network communications.

*Lecture Hrs. = 3 Lab Hrs. = 3*

*Prerequisite: CPMT 1449 or ITCC 1401 and READ 300 or equivalent*

## **ITCC 2408**

### **Cisco Exploration 3: LAN Switching and Wireless**

This course helps students develop an in-depth understanding of how switches operate and are implemented in the LAN environment for small and large networks. Detailed explanations of LAN switch operations, VLAN implementation, Rapid Spanning Tree Protocol (RSTP), VLAN Trunking Protocol (VTP), Inter-VLAN routing, and wireless network operations, analyze, configure, verify, and troubleshoot VLANs, RSTP, VTP, and wireless networks. Campus network design and Layer 3 switching concepts are introduced.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ITCC 1401 and READ 300 or equivalent*

## **ITCC 2410**

### **Cisco Exploration 4: LAN Accessing the WAN**

This course explains the principles of traffic control and access control lists (ACLs) and provides an overview of the services and protocols at the data link layer for wide-area access. Describes user access technologies and devices and discover how to implement and configure Point-to-Point Protocol (PPP), Point-to-Point Protocol over Ethernet (PPPoE), DSL, and Frame Relay. WAN security concepts, tunneling, and VPN basic are introduced. Discuss the special network services required by converged applications and an introduction to quality of service (QOS).

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: READ 300 or equivalent*

*Pre/Corequisite: ITCC 1404*

## **ITNW 1351**

### **Fundamentals of Wireless LANs**

Design, plan, implement, operate, and troubleshoot Wireless Local Area Networks (WLANs). Includes WLAN design, installation, and configuration; and WLAN security issues and vendor interoperability strategies.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: INTC 1441, ENRD 401 or equivalent*

## **ITSC 1309**

### **Integrated Software Applications I**

Introduction to business productivity software suites using word processing, spreadsheets, databases, and/or presentation software.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Pre/Corequisite: ENRD 401 or equivalent*

## **ITSC 1316**

### **Linux Installation and Configuration**

Introduction to Linux operating system. Includes Linux installation, basic administration, utilities and commands, upgrading, networking, security, and application installation. Emphasizes hands-on setup, administration, and management of Linux.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: ENRD 401 or equivalent*

## **ITSC 1364**

### **Practicum (or Field Experience) – Computer and Information Sciences, General**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 21*

*Prerequisite: 12 or more SCH of Coursework in COSC, CPMT, ITSC, ITCC, ITSE, and/or ITSW courses, ENRD 401 or equivalent*

## **ITSC 1391**

### **Special Topics in Computer and Information Sciences, General**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: COSC 1301, BCIS 1405, or ITSC 1309, and ENRD 401 or equivalent*

## **ITSC 2321**

### **Integrated Software Applications II**

Intermediate study of computer applications from business productivity software suites. Instruction in embedding data and linking and combining documents using word processing, spreadsheets, databases, and/or presentation software.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: ITSC 1309, ENRD 401 or equivalent*

## **ITSC 2335**

### **Application Software Problem Solving**

Utilization of appropriate application software to solve advanced problems and generate customized solutions.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: ITSC 2321 and COSC 1436 or ITSE 1331 and ENRD 401 or equivalent*

## **ITSC 2339**

### **Personal Computer Help Desk Support**

Diagnosis and solution of user hardware and software related problems with on-the-job and/or simulated projects.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: ITSC 2321 and COSC 1436 or ITSE 1331 and ENRD 401 or equivalent*

## **ITSE 1331**

### **Introduction to Visual Basic Programming**

Introduction to computer programming using Visual Basic. Emphasizes the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: ENRD 401 or equivalent*

## **ITSE 1350**

### **System Analysis and Design**

Introduction to the planning, design, and construction of computer information systems using the systems development life cycle and other appropriate design tools.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: ENRD 401 or equivalent*

## **ITSE 2302**

### **Intermediate Web Programming**

Techniques for Web development. Includes server-side and client-side scripting.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: ENRD 401 or equivalent*

## **ITSW 2337**

### **Advanced Database**

Advanced concepts of database design and functionality.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Pre/Corequisite: ITSC 2321 and ENRD 401 or equivalent*

## **KINE 1101**

### **Bowling, Beginning**

A course designed to learn the rules, scoring, and fundamental techniques for bowling. An emphasis will be placed on proper execution and selection of equipment.

*Lecture Hrs. = 0, Lab Hrs. = 3, Material Fee*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 1102**

### **Bowling, Experienced**

A course designed to learn techniques for experienced individuals. Emphasis will be placed on proper and additional techniques with regard to strategy.

*Lecture Hrs. = 0, Lab Hrs. = 3, Material Fee*

*Prerequisite: KINE 1101*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 1103**

### **Exercise, Beginning**

A course designed to study and apply the components of muscular strength and endurance, flexibility, body composition, and cardiovascular endurance into a personal designed program of exercise. A prescribed program will be designed for students following pre-fitness assessment.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 1104**

### **Exercise, Experienced**

A course designed to study and apply various programs of exercise such as circuit training, weight training, super circuit training, and other prescribed programs for experienced individuals.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1103*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 1109**

### **Pilates, Beginning**

A course designed to strengthen, lengthen, and tone the body without machines.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 1110**

### **Pilates, Experienced**

A course designed to strengthen, lengthen, and tone the body with an emphasis on students' progressing to intermediate and advanced levels.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1109*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 1111**

### **Aerobic Components, Beginning**

A course designed to develop cardiovascular fitness, through aerobic exercise. This course will consist of regular aerobics, step aerobics, and cardio kick-boxing. Correct techniques, nutrition, and hydration will be emphasized.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 1112**

### **Aerobic Components, Experienced**

A course designed to further improve cardiovascular fitness, through aerobic exercise. This course will consist of regular aerobics, step aerobics, and cardio kick-boxing. Correct techniques, nutrition, and hydration will be emphasized.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1111*

*Pre/Corequisite: READ 300 or equivalent*

**KINE 1115****Swimming, Beginning**

A course designed to learn skills for the crawl, back crawl, breaststroke, elementary backstroke, and sidestroke. Emphasis will be given to proper technique and proper breathing skills.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1113*

*Pre/Corequisite: READ 300 or equivalent*

**KINE 1116****Swimming, Experienced**

A course designed to review the skills for the five basic strokes. Attention will be given to competency in execution of the five basic strokes. Endurance will also be emphasized.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1115*

*Pre/Corequisite: READ 300 or equivalent*

**KINE 1119****Volleyball, Beginning**

A course designed to learn the fundamental skills for volleyball such as serving, overhead pass, forearm pass, attacking, blocking, and floor defense. Team offensive and defensive systems will be discussed. Rules and proper equipment will be addressed.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

**KINE 1120****Volleyball, Experienced**

A course designed to review the fundamental skills for volleyball. Team offensive and defensive systems will be emphasized especially in regard to speed of play and set selection. Rules will be addressed.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1119*

*Pre/Corequisite: READ 300 or equivalent*

**KINE 1121****Water Aerobics, Beginning**

A course designed to learn the basic skills for exercise in the water. Emphasis will be placed on various exercise routines in the water that incorporate strength, endurance, and flexibility.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

**KINE 1122****Water Aerobics, Experienced**

A course designed to review the basic skills for exercise in the water. Emphasis will be placed on various exercise routines with extended duration. Students will devise a routine of their own and incorporate strength, endurance, and flexibility.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1121*

*Pre/Corequisite: READ 300 or equivalent*

**KINE 1123****Weight Training, Beginning**

A course designed to introduce a variety of programs for building strength, power, endurance, flexibility and cardio vascular endurance. Both machines and free weights will be used for programs. Weight management will be discussed.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

**KINE 1124****Weight Training, Experienced**

A course designed to review a variety of programs for building strength, power endurance, flexibility and cardiovascular endurance. Supplementation and nutrition will be addressed.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1123*

*Pre/Corequisite: READ 300 or equivalent*

**KINE 1127****Yoga, Beginning**

A course designed to learn the importance and benefits of yoga. Learning skills will include postures (asanas), breathing, and relaxation techniques. An emphasis will be made to improve flexibility, strength, muscle tone, and concentration.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

**KINE 1128****Yoga, Experienced**

A course designed to review the postures and techniques for Hatha Yoga. Emphasis will be given to flexibility, breathing, and relaxation techniques.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1127*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 1129**

### **Basketball, Beginning**

A course designed to learn rules, fundamental techniques, and strategies for the sport of basketball. Emphasis will be placed on proper execution of individual and team skill concepts.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 1130**

### **Basketball, Experienced**

A course designed to learn rules, advanced techniques, and strategies for the sport of basketball. Emphasis will be placed on proper execution of individual and team skill concepts.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1129*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 1132**

### **Introduction to Physical Fitness and nutrition**

The course will introduce wellness-related concepts, articles, and activities. Individual evaluations will be used to determine present health fitness status. The student will use the results from the fitness test to develop a personal exercise program based on their individual goals and needs. Techniques for dietary analysis will be used.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 1141**

### **Self-Defense, Beginning**

Instructor will include specific moves related to martial art movements in regard to self-protection.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 1142**

### **Self-Defense, Experienced**

A course designed to review specific moves related to martial art movements in regard to self-protection. Students will be required to demonstrate proficiency in martial art movements in sequence.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1141*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 1143**

### **Walking/Jogging, Beginning**

The purpose of this class is to encourage regular participation in health and fitness walking as the primary aerobic activity for a personal fitness program. Students will learn the guidelines to begin and sustain a walking or jogging program safely and effectively.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 1144**

### **Walking/Jogging, Experienced**

The purpose of this class is to encourage regular participation in health and fitness walking as the primary aerobic activity for a personal fitness program. Students will learn the guidelines to begin and sustain a walking or jogging program safely and effectively. This course encourages students to progress to intermediate or advanced levels.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 1149**

### **Conditioning for Athletics**

A course designed to develop dynamic power and flexibility for athletics.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 1150**

### **Conditioning for Athletics**

A course designed to develop speed and power as related to athletics.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1149*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 1151**

### **Skin and Scuba Diving, Beginning**

A course designed to learn fundamental techniques for underwater procedures. Techniques in breathing, communicating, and diving will be taught. Manipulation of diving equipment will be covered as well as safety procedures.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: Good Swimming Skills*

*Pre/Corequisite: READ 300 or equivalent*

**KINE 1152****Skin and Scuba Diving, Experienced**

Must be at least 17 years of age and have participated in scuba diving for one year as a certified diver.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1151*

*Pre/Corequisite: READ 300 or equivalent*

**KINE 1183M****Basketball Team**

A course designed for individuals on athletic scholarship who participate in basketball.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: Instructor's Permission*

*Pre/Corequisite: READ 300 or equivalent*

**KINE 1184M****Basketball Team**

A course designed for individuals on athletic scholarship who participate in basketball.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1183M, Instructor's Permission*

*Pre/Corequisite: READ 300 or equivalent*

**KINE 1185W****Tennis Team**

A course designed for individuals on athletic scholarship who participate in tennis.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: Instructor's Permission*

*Pre/Corequisite: READ 300 or equivalent*

**KINE 1186W****Tennis Team**

A course designed for individuals on athletic scholarship who participate in tennis.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1185W, Instructor's Permission*

*Pre/Corequisite: READ 300 or equivalent*

**KINE 1187W****Volleyball Team**

A course designed for individuals on athletic scholarship who participate in volleyball.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: Instructor's Permission*

*Pre/Corequisite: READ 300 or equivalent*

**KINE 1188W****Volleyball Team**

A course designed for individuals on athletic scholarship who participate in volleyball.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1187W, Instructor's Permission*

*Pre/Corequisite: READ 300 or equivalent*

**KINE 1301Ω****Foundation in Physical Education**

A course which includes the history, principles, terminology, aims, and objectives of physical education and related areas of health and recreation.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: ENRD 401 or equivalent*

**KINE 1304****The Healthy American**

A course designed for individuals to make lifestyle assessments within the six dimensions of wellness; the physical, emotional, mental, social, spiritual and occupational dimensions.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: ENRD 401 or equivalent*

**KINE 1305****Personal Health and Nutrition**

This course studies the relationship among nutrition, diet, and food and their role in personal health. This course will provide students with practical information, critical thinking skill, and the scientific foundation needed to make better informed choices about their diet and health.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: ENRD 401 or equivalent*

**KINE 1306****First Aid**

A course which includes instruction in American Red Cross Standard First Aid and personal safety and cardiopulmonary resuscitation. Upon successfully completing the course, students are certified in first aid and CPR. Certifications are not currently available to students who take online courses.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: ENRD 401 or equivalent*

**KINE 1321****Coaching Sports and Athletics**

Study of the history, theories, philosophies, rules, and terminology of competitive sports; including coaching techniques appropriate for a recreational setting.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: ENRD 401 or equivalent*

## **KINE 1332**

### **Elementary and Recreation Game Skills**

Instruction in games, recreational activities, and rhythm skills for preschool through grade six with emphasis on methods of presentation.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: ENRD 401 or equivalent*

## **KINE 1338**

### **Concepts of Physical Fitness**

This course presents the concepts and use of selected physiological variables of fitness, individual testing and consultation, and the organization of sport and fitness programs.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: ENRD 401 or equivalent*

## **KINE 1346**

### **Drug Use and Abuse**

This course is about the use of various drugs and their impact on society. Students will examine the social, psychological, and biochemical ramifications of drug use/abuse as it relates to a growing and complex society.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 2149**

### **Conditioning for Athletics**

A course designed to develop dynamic speed, coordination, and balance as related to athletics.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 2150**

### **Conditioning for Athletics**

A course designed to develop dynamic power and flexibility for athletics.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 2149*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 2155**

### **Water Safety**

Basic Lifeguarding is designed to (1) train participants in basic water safety and rescue skills; (2) develop the skills necessary to obtain Basic Lifeguarding certification; and (3) prepare students for summer-time employment. Required swimming skills: Students must be able to swim continuously 500 yards competently demonstrating the five basic strokes, (crawl, back crawl, breaststroke, elementary backstroke, and sidestroke). Students should be able to dive to a minimum depth of 9 feet and bring a 10-pound diving brick to the surface. Students should be able to dive to a depth of 5 feet and swim under water for at least 15 yards and be able to tread water for one minute.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 2183M**

### **Basketball Team**

A course designed for individuals on athletic scholarship who participate in basketball.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1184M, Instructor's Permission*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 2184M**

### **Basketball Team**

A course designed for individuals on athletic scholarship who participate in basketball.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1183M, Instructor's Permission*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 2185W**

### **Tennis Team**

A course designed for individuals on athletic scholarship who participate in tennis.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1186W, Instructor's Permission*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 2186W**

### **Tennis Team**

A course designed for individuals on athletic scholarship who participate in tennis.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 2185W, Instructor's Permission*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 2187W**

### **Volleyball Team**

A course designed for individuals on athletic scholarship who participate in volleyball.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 1188W, Instructor's Permission*

*Pre/Corequisite: READ 300 or equivalent*

## **KINE 2188W**

### **Volleyball Team**

A course designed for individuals on athletic scholarship who participate in volleyball.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: KINE 2187W, Instructor's Permission*

*Pre/Corequisite: READ 300 or equivalent*

## **LGLA 1219**

### **Paralegal Ethics**

Presents ethical and legal responsibilities as well as rules of professional responsibility a paralegal owes to the public, the court, clients, and colleagues. Includes a review of the canons and codes.

*Lecture Hrs. = 2, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **LGLA 1301**

### **Legal Research and Writing**

Presents the fundamentals of legal research and writing emphasizing the paralegal's role including resources and processes used in legal research and writing.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **LGLA 1307**

### **Introduction to Law and the Legal Professions**

Overview of the law and the legal professions including legal concepts, systems, and terminology; substantive areas of law and the federal and state judicial systems; ethical obligations and regulations; professional trends and issues with emphasis on the paralegal's role.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **LGLA 1317**

### **Law Office Technology**

Computer technology and software applications within the law office emphasizing the paralegal's role in the use of law office technology.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: LGLA 1307, ENGL 1301*

## **LGLA 1343**

### **Bankruptcy**

Fundamental concepts of bankruptcy law and procedure are presented including individual and business liquidation and reorganization with emphasis on the paralegal's role.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: LGLA 1307, ENGL 1301*

## **LGLA 1345**

### **Civil Litigation**

Presents fundamental concepts and procedures of civil litigation including pretrial, trial, and post-trial phases of litigation and emphasizes the paralegal's role in civil litigation.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: LGLA 1307, ENGL 1301*

## **LGLA 1351**

### **Contracts**

Presents fundamental concepts of contract law including formation, performance, and enforcement of contracts under the common law and the Uniform Commercial Code with emphasis on the paralegal's role in contract law.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: LGLA 1307, ENGL 1301*

## **LGLA 1353**

### **Wills, Trusts and Probate Administration**

Fundamental concepts of the law of wills, trusts, and probate administration emphasizing the paralegal's role.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: LGLA 1307, ENGL 1301*

## **LGLA 1355**

### **Family Law**

Fundamental concepts of family law including formal and informal marriages, divorce, annulment, marital property, and the parent-child relationship with emphasis on the paralegal's role in family law.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: LGLA 1307, ENGL 1301*

## **LGLA 2303**

### **Torts and Personal Injury Law**

Fundamental concepts of tort and personal injury law including intentional torts, negligence, and strict liability are presented with emphasis on the paralegal's role in tort and personal injury law.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: LGLA 1307, ENGL 1301*

## **LGLA 2307**

### **Law Office Management**

Fundamental principles and structure of management, administration, and substantive systems in the law office including law practice technology as applied to paralegals.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: LGLA 1307, ENGL 1301*

## **LGLA 2309**

### **Real Property**

Presents fundamental concepts of real property law including the nature of real property, rights and duties of ownership, land use, voluntary and involuntary conveyances, and the recording of and searching for real estate documents emphasizing the paralegal's role in real property law.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: LGLA 1307, ENGL 1301*

## **LGLA 2311**

### **Business Organizations**

Basic concepts of business organizations including law of agency, sole proprietorships, partnerships, corporations, and other emerging business entities with emphasis on the paralegal's role.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: LGLA 1307, ENGL 1301*

## **LGLA 2313**

### **Criminal Law and Procedure**

Fundamental concepts of criminal law and procedure from arrest to final disposition including principles of federal and state law emphasizing the role of the paralegal in the criminal justice system.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: LGLA 1307, ENGL 1301*

## **LGLA 2323**

### **Intellectual Property**

Presents the fundamentals of intellectual property law, including creation, procurement, preparation, and filing documents related to patents, copyrights, trademarks, and the processes of intellectual property litigation. Emphasizes the paralegal's role in intellectual property law.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: LGLA 1307, ENGL 1301*

## **LGLA 2331**

### **Advanced Legal Research and Writing**

Builds on previous legal research and writing courses and covers standard and electronic research techniques and preparation of complex legal documents with emphasis on the paralegal's role.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: LGLA 1301, LGLA 1307, ENGL 1301*

## **LGLA 2333**

### **Advanced Legal Document Preparation**

Use of office technology skills in preparation of legal documents by paralegals based on hypothetical situations drawn from various areas of law.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: 15 SCH of LGLA Coursework, POFI 1401, ENRD 401 or equivalent*

## **LGLA 2337**

### **Mediation**

Fundamental concepts of mediation and alternative dispute resolution emphasizing the paralegal's role assisting in the mediation process.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: LGLA 1307, ENGL 1301*

## **LGLA 2388**

### **Internship: Legal Assistant/Paralegal**

A work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the college and the employer.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 13*

*Prerequisite: 12 SCH of LGLA Coursework, ENGL 1302, SPCH 1315, POFI 1401, ENRD 401 or equivalent*

## **LGLA 2389**

### **Internship: Legal Assistant/Paralegal**

A work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the college and the employer. Capstone course to be taken toward end of program.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 13*

*Prerequisite: 24 SCH of LGLA Coursework, ENGL 1302, SPCH 1315, POFI 1401*

## **LMGT 1319**

### **Introduction to Business Logistics**

A systems approach to managing activities associated with traffic, transportation, inventory management and control, warehousing, packaging, order processing, and materials handling.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **LMGT 1323**

### **Domestic and International Transportation Management**

An overview of the principles and practices of transportation and its role in the distribution process. Emphasis on the physical transportation systems involved in the United States as well as on global distribution systems. Topics include carrier responsibilities and services, freight classifications, rates, tariffs, and public policy and regulations. Also includes logistical geography and the development of skills to solve logistical transportation problems and issues.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

*Pre/Corequisite: LMGT 1319*

## **LMGT 1325**

### **Warehouse and Distribution Center Management**

Emphasis on physical distribution and total supply chain management. Includes warehouse operations management, hardware and software operations, bar codes, organizational effectiveness, just-in-time manufacturing, continuous replenishment, and third party.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

*Pre/Corequisite: LMGT 1319*

## **LMGT 1340**

### **Contemporary Logistics Issues**

Exploration of relevant and changing topics in the logistics management field. Includes group projects, interaction with local industry, class lectures, and case studies.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: LMGT 1319*

## **LMGT 2330**

### **International Logistics Management**

Identification of the principles and practices involved in international distribution systems including the multi-national corporation. Attention to global strategic planning, production, supply, manpower/labor, geography, business communications, cultural, political, and legal issues affecting global distribution and firm/host relationships.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: LMGT 1319*

## **LMGT 2388**

### **Internship: Logistics and Materials Management**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 9*

*Prerequisite: LMGT 1319*

## **LSSS 300**

### **Learning Strategies for Success**

This course prepares students to develop their own plan for academic, personal, and professional success through self-evaluation, application of specific strategies, discussions, journaling, and classroom exercises. These activities help students acquire effective study strategies, stimulate critical thinking, practice oral and written expression, establish goals, encourage meaningful relationships with instructors and classmates, and choose behaviors leading to a more successful academic experience. This course is required for first year in college students testing into ENRD 401 or ENRD 402 and enrolling in 6 or more credits.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent, Essay score 3 or better, Sentence Score 60 or better*

## **MABR 310**

### **Pre Algebra Bridge**

This is an abridged Math 310 course which provides an accelerated transition from arithmetic to algebra. Algebraic concepts are introduced through traditional arithmetic topics including whole numbers, fractions, decimals, percent's, geometric formulas, ratio and proportions, and signed numbers. Unit conversion and basic data analysis will also be studied. The MABR 310 results will expire within 30 days of completion, therefore students completing the course with a B or better, and a score of 60% or higher on the comprehensive final exam, must register for the paired course (TECM 1341, TECM 1349, Math 320, Math 342, or Math 350).  
*Lecture Hrs. = 2, Lab Hrs. = 1*

*Prerequisite: Accuplacer (Bubble Score) Arithmetic 70-84 & READ 300 or its equivalent, or TSIA Math (Bubble) Score >324, TSIA Reading Score >342*

## **MABR 330**

### **Intermediate Algebra Bridge**

This course is an abridged version of Math 330 that covers real numbers and their properties; linear equations; systems of equations, polynomials and functions, fractional expressions and equations, exponents, powers, roots, quadratic equations and functions, equations of second degree and their graphs, inequalities, sets, and problem solving. The MABR 330 results will expire within 30 days, therefore students completing the course with a B or better, and a score of 60% or higher on the comprehensive final exam, must register for the paired course (Math 1314).

*Lecture Hrs. = 2, Lab Hrs. = 1*

*Prerequisite: Accuplacer (Bubble Score) College Math 40-50 & READ >48 (or READ 300) or TSIA Math (Bubble) Score >344, TSIA Reading Score > 347.*

## **MABR 342**

### **Pre Statistics Bridge**

This course is an abridged version of Math 342 that covers concepts of arithmetic skills, linear equations and inequalities, quadratic equations, functions, formulas, graphing linear equations, set theory, probability, and statistics with an emphasis on problem solving and critical thinking. The MABR 342 results will expire in 30 days, therefore students completing the course with a B or better, score 60% on comprehensive final, must register for the paired course (Math 1332 or 1342).

*Lecture Hrs. = 2, Lab Hrs. = 1*

*Prerequisite: Accuplacer (Bubble Score) Elementary Algebra >50 & Reading >78 (or ENRD 402) or TSIA (Bubble Score) >339 & Read > 347 (or ENRD 402)*

## **MATH 310**

### **Pre Algebra**

This course provides a transition from arithmetic to algebra. Algebraic concepts are introduced through traditional arithmetic topics including whole numbers, fractions, decimals, percent's, geometric formulas, ratio and proportions, and signed numbers. Unit conversion and basic data analysis will also be studied. A grade of "C" or higher prepares the student to take MATH 320, MATH 342, MATH 350, TECM 1341, or TECM 1349. Credit for this course is not transferable.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Pre/Corequisite: TSIA below 336, and READ 300 or equivalent*

## **MATH 320**

### **Introductory Algebra**

This course provides a strong emphasis on algebraic skills and concepts of the numbers of ordinary arithmetic and their properties; integers and rational numbers; polynomials in one or more variables; factoring; fractional expressions; solving systems of equations; graphs of linear equations; solving radical, linear, and quadratic equations; inequalities; sets; and applied problems. This course prepares students to take MATH 330 or MATH 1332 when completed with a grade of "C" or higher. May not be applied toward a certificate or degree at Lee College. Credit for this course is not transferable.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: TSIA 336-342, MATH 310 or equivalent and READ 300 or equivalent*

## **MATH 330**

### **Intermediate Algebra**

Covers these topics: real numbers and their properties; linear equations; systems of equations, polynomials and functions, fractional expressions and equations, exponents, powers, roots, quadratic equations and functions, equations of second degree and their graphs, inequalities and sets, exponential and logarithmic functions, and problem solving. This course, when completed with a grade of "C" or higher, provides adequate preparation for MATH 1314. Credit for this course is not transferable.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: TSIA 343-349, MATH 320 or equivalent and ENRD 401 or equivalent*

## **MATH 342**

### **Pre Statistics**

This course covers concepts of arithmetic skills, linear equations and inequalities, quadratic equations, functions, formulas, graphing linear equations, set theory, probability, and statistics with an emphasis on problem solving and critical thinking. This course prepares students to take MATH 1332 or MATH 1342 when completed with a grade of "C" or higher, but does not satisfy the prerequisite for MATH 1314 or MATH 1324. May not be applied toward a certificate or degree at Lee College. Credit for this course is not transferable.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: TSIA 336-349, MATH 310 or equivalent*

*Pre/Corequisite: ENRD 402 or equivalent*

## **MATH 350**

### **Mathematics for Allied Health**

Treats the area of mathematics of dosages and solutions, reflecting a major emphasis on the metric, apothecary, and household systems in terms of refresher math, instruction in reading dosage labels, measurements of parenteral dosages, and pediatric drug calculation.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: TSIA >336, MATH 310 or equivalent and READ 300 or equivalent*

## **MATH 1314**

### **College Algebra**

In-depth study and applications of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices. Additional topics such as sequences, series, probability, and conics may be included.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: MATH 330 (C or better) or equivalent*

*Pre/Corequisite: ENRD 402 or equivalent*

## **MATH 1316**

### **Plane Trigonometry**

In-depth study and applications of trigonometry including definitions, identities, inverse functions, solutions of equations, graphing, and solving triangles. Additional topics such as vectors, polar coordinates, and parametric equations may be included.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: MATH 1314 (C or better) or equivalent*

*Pre/Corequisite: ENRD 402 or equivalent*

## **MATH 1324**

### **Finite Mathematics with Business Applications**

Includes such topics as sets, functions, linear and quadratic inequalities, linear programming, the simplex method, matrix algebra, counting techniques, probability, and decision making. A computer component may be included.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: MATH 1314 (C or better) or equivalent*

*Pre/Corequisite: ENRD 402 or equivalent*

## **MATH 1325**

### **Calculus with Business Applications**

Includes such topics as limits and continuity, rates of change, slope, differentiation, the derivative, maxima and minima techniques, integration: definite and indefinite integration techniques, and applications to management, economics, and business.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: MATH 1314 (C or better) or equivalent*

*Pre/Corequisite: ENRD 402 or equivalent*

## **MATH 1332**

### **Contemporary Mathematics I**

This course assists students in becoming familiar with certain mathematical topics: sets, logic, different numeration systems, number theory, the real numbers and their properties, mathematical systems, equations, inequalities, graphs, and function. Note: Students entering the University of Houston Clear Lake in the school of Human Sciences and Humanities (with the exception of education majors) may use MATH 1332 as an admission requirement instead of college algebra.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent, and MATH 330 (C or better) or equivalent or MATH 342 (C or better)*

## **MATH 1333**

### **Contemporary Mathematics II**

This course assists students in becoming familiar with basic geometric terms and concepts. The student will be exposed to counting methods, introductory probability, statistics, consumer mathematics, computers, and matrices and their applications.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent, MATH 1332 (C or better)*

## **MATH 1342**

### **Elementary Statistics**

Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals, and hypothesis testing. Use of appropriate technology is recommended.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent, and MATH 330 (C or better) or equivalent or MATH 342 (C or better)*

## **MATH 1350**

### **Fundamentals of Mathematics I**

This course covers concepts of sets, functions, numeration systems, number theory, and properties of the natural numbers, integers, rational, and real number systems with an emphasis on problem solving and critical thinking. This course is designed specifically for students who seek middle grade (4-8) teacher certification.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: MATH 1314 (C or better) or equivalent*

*Pre/Corequisite: ENRD 402 or equivalent*

## **MATH 1351**

### **Fundamentals of Mathematics II**

This course covers concepts of geometry, probability, and statistics, as well as applications of algebraic properties of real numbers to concepts of measurements with an emphasis on problem solving and critical thinking. This course is designed specifically for students who seek middle grade (4-8) teacher certification.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: MATH 1350*

## **MATH 2305**

### **Discrete Mathematics**

A course designed to prepare math, computer science, and engineering majors for a background in abstraction, notation, and critical thinking for the mathematics most directly related to computer science. Topics include: logic, relations, functions, basic set theory, countability and counting arguments, proof techniques, mathematical induction, combinatorics, discrete probability, recursion, sequence and recurrence, elementary number theory, graph theory, and mathematical proof techniques.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: MATH 2413 (C or better) Pre/Corequisite: ENRD 402 or equivalent*

## **MATH 2318**

### **Linear Algebra**

Introduces and provides models for application of the concepts of vector algebra. Topics include finite dimensional vector spaces and their geometric significance; representing and solving systems of linear equations using multiple methods, including Gaussian elimination and matrix inversion; matrices; determinants; linear transformations; quadratic forms; eigenvalues and eigenvector; and applications in science and engineering.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: MATH 2414 with a (C or better)*

## **MATH 2320**

### **Differential Equations**

Ordinary differential equations, including linear equations, systems of equations, equations with variable coefficients, existence and uniqueness of solutions, series solutions, singular points, transform methods, and boundary value problems; application of differential equations to real-world problems.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: MATH 2414 or equivalent (C or better)*

## **MATH 2412**

### **Precalculus**

In-depth combined study of algebra and trigonometry for calculus readiness. Other topics may be included.

*Lecture Hrs. = 4, Lab Hrs. = 0*

*Prerequisite: MATH 1314 (C or better) or equivalent*

*Pre/Corequisite: ENRD 402 or equivalent*

## **MATH 2413**

### **Calculus I with Analytic Geometry**

Limits and continuity; the Fundamental Theorem of Calculus; definition of the derivative of a function and techniques of differentiation; applications of the derivative to maximizing or minimizing a function; the chain rule, mean value theorem, and rate of change problems; curve sketching; definite and indefinite integration of algebraic and trigonometric functions, applications to calculation of areas and other applications.

*Lecture Hrs. = 4, Lab Hrs. = 0*

*Prerequisite: MATH 2412 (C or better) or equivalent*

## **MATH 2414**

### **Calculus II with Analytic Geometry**

Differentiation and integration of transcendental functions; parametric equations and polar coordinates; techniques of integration; sequences and series; improper integrals.

*Lecture Hrs. = 4, Lab Hrs. = 0*

*Prerequisite: MATH 2413 with a (C or better)*

## **MATH 2415**

### **Calculus III with Analytic Geometry**

Advanced topics in calculus, including vectors and vector-valued functions, partial differentiation, Lagrange multipliers, multiple integrals, and Jacobians; application of the line integral, including Green's Theorem, the Divergence Theorem, and Stokes' Theorem.

*Lecture Hrs. = 4, Lab Hrs. = 0*

*Prerequisite: MATH 2414 (C or better) or equivalent*

## **MCHN 1302**

### **Print Reading for Machining Trades**

A study of blueprints for machining trades with emphasis on machine drawings.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **MCHN 1343**

### **Machine Shop Mathematics**

Designed to prepare the student with technical, applied mathematics that will be necessary in future machine shop-related courses.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **MCHN 1416**

### **Machine Tool Repair**

Basic repair of machine tools, disassembly, parts fabrication, and assembly of machine types, including a related math, blueprint reading, and safety.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: MCHN 2445*

*Pre/Corequisite: READ 300 or equivalent*

## **MCHN 1425**

### **Millwright I**

An introduction to Millwright Technology. A study of common millwright tools and fasteners. Development of skills in basic layout procedures, gasket making an installation and oxygen/fuel cutting. Emphasis on safety in the accomplishment of these activities.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **MCHN 1429**

### **Millwright II**

A continuation of Millwright I to millwright tools including specialty power and precision tools. A study of the property of metals and the installation of packing. Emphasis on safety in the accomplishment of these activities.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: MCHN 1425*

*Pre/Corequisite: READ 300 or equivalent*

## **MCHN 1438**

### **Basic Machine Shop I**

An introductory course that assists the student in understanding the machinist occupation in industry. The student begins by using basic machine tools such as the lathe, milling machine, drill press, power saw, and bench grinder. Machine terminology, theory, math, part layout, and bench work using common measuring tools is included. Emphasis is placed on shop safety, housekeeping, and preventative maintenance.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **MCHN 1454**

### **Intermediate Machining II**

Development of job process plan to include operation of lathes, milling machines, drill presses, and power saw. Set-up, layout, and tool maintenance is included. Emphasis on shop safety and preventative maintenance.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: MCHN 1438*

*Pre/Corequisite: READ 300 or equivalent*

## **MCHN 2381**

### **Cooperative Education – Machine Tool Technology/Machinist**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

*Lecture Hrs. = 1, Lab Hrs. = 0, External Hrs. = 14*

*Prerequisite: MCHN 2403 and MCHN 2445*

*Pre/Corequisite: READ 300 or equivalent*

## **MCHN 2403**

### **Fundamentals of Computer Numerical Controlled (CNC) Machine Controls**

Programming and operation of Computer Numerically Controlled (CNC) machine shop equipment.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: MCHN 2445*

*Pre/Corequisite: Read 300 or equivalent*

## **MCHN 2405**

### **Millwright III**

An introduction to bearings and seals. Identification of common bearings and seals. Emphasis on design and installation of seals and bearings.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: MCHN 1302, 1425, 1429*

*Pre/Corequisite: READ 300 or equivalent*

## **MCHN 2407**

### **Millwright IV**

A study in the recognition and application of pumps. Emphasis on troubleshooting, repair, and installation of pumps.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: MCHN 1425 or 1429*

*Pre/Corequisite: READ 300 or equivalent*

## **MCHN 2412**

### **Millwright V**

A study in the recognition and application of gearbox.

A review of drive installations using chain and belt drives.

This course will focus on troubleshooting, repairing, and installing gearboxes, chain drives, and belt drive.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: MCHN 1425 and 1429*

## **MCHN 2434**

### **Operation of CNC Machining Centers**

A continuation of Fundamentals of CNC Machine Controls with an emphasis on machining centers.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: MCHN 2403*

*Pre/Corequisite: READ 300 or equivalent*

## **MCHN 2441**

### **Advanced Machining I**

A study of advanced lathe and milling operations. Emphasis on advanced cutting operations of the lathe and milling machines, including the use of special tooling, bench assembly, and materials identification.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: MCHN 1454 and READ 300 or equivalent*

## **MCHN 2445**

### **Advanced Machining II**

Advanced milling drilling, grinding, and lathe operations to close tolerance dimensions. Emphasis on job planning and advanced uses of precision measuring instruments.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: MCHN 2441*

*Pre/Corequisite: READ 300 or equivalent*

## **MRKG 1311**

### **Principles of Marketing**

Introduction to the marketing mix functions and process. Includes identification of consumer and organizational needs and explanation of environmental issues.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: ENRD 401 or equivalent*

## **MRKG 2333**

### **Principles of Selling**

Overview of the selling process. Identification of the elements of the communication process between buyers and sellers. Examination of the legal and ethical issues of organizations which affect sales people.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: ENRD 401 or equivalent*

## **MRMT 1167**

### **Practicum (or Field Experience): Medical Transcription/Transcriptionist**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 8, Insurance Fee*

*Prerequisite: MRMT 1307, READ 300 or equivalent*

*Pre/Corequisite: MRMT 2433*

## **MRMT 1307**

### **Medical Transcription I**

Fundamentals of medical transcription with hands-on experience in transcribing physician dictation including basic reports such as history and physicals, discharge summaries, consultations, operative report, and other medical reports. Utilizes transcribing and information processing equipment compatible with industry standards. Designed to develop speed and accuracy.

*Lecture Hrs. = 1, Lab Hrs. = 4*

*Prerequisite: HITT 1305, ITSC 1309, READ 300 or equivalent*

## **MRMT 2433**

### **Medical Transcription II**

Transcription of advanced medical reports with increasing speed and accuracy including history and physicals, consultations, discharge summaries, operative reports, and other medical reports.

*Lecture Hrs. = 3, Lab Hrs. = 2*

*Prerequisite: MRMT 1307, READ 300 or equivalent*

For MUAP courses refer to page 186.

## **MUEN 1123**

### **Baytown Symphony Orchestra**

Open to Lee College students. Required of instrumental majors when feasible. Study and performance of standards orchestral literature. One three-hour rehearsal plus one hour of section rehearsal and individual assistance per week. Admission by audition or instructor's consent. May be repeated for credit.

*Lecture Hrs. = 0, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

## **MUEN 1125**

### **Concert Band**

*An instrumental class, organized for the study and performance of wind ensemble and concert band, including literature that is both historical and contemporary. Admission by audition or instructor's consent. May be repeated for credit. Lecture Hrs. = 0, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

### **MUEN 1133**

#### **Woodwind Ensemble**

Open to all Lee College students. Study of literature for small woodwind ensembles (4 or more students). Admission by audition or instructor's consent.

*Lecture Hrs. = 1, Lab Hrs. = 1*

*Pre/Corequisite: READ 300 or equivalent*

### **MUEN 1134**

#### **Brass Ensemble**

Open to all Lee College students. Study of literature for small brass ensembles (4 or more students). Admission by audition or instructor's consent.

*Lecture Hrs. = 1, Lab Hrs. = 1*

*Pre/Corequisite: READ 300 or equivalent*

### **MUEN 1135**

#### **Jazz Ensemble**

Practice and performance of various jazz idioms. Admission by audition or instructor's consent. May be repeated for credit.

*Lecture Hrs. = 0, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

### **MUEN 1137**

#### **Guitar Ensemble**

Study and performance of guitar ensemble literature (4 or more students). Admission by audition or instructor's consent. May be repeated for credit.

*Lecture Hrs. = 1, Lab Hrs. = 1*

*Pre/Corequisite: READ 300 or equivalent*

### **MUEN 1138**

#### **Percussion Ensemble**

Ensemble experience presenting balance between basic percussive techniques used individually and in sectional performance requirements (4 or more students). Admission by audition or instructor's consent.

*Lecture Hrs. = 1, Lab Hrs. = 1*

*Pre/Corequisite: READ 300 or equivalent*

### **MUEN 1141**

#### **Lee College Concert Choir**

Open to all students of Lee College. Study and performance of various types and styles of choral literature. Concert given on and off campus each semester. Admission by audition or instructor's consent. May be repeated for credit.

*Lecture Hrs. = 0, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

### **MUEN 1142**

#### **Baytown Community Chorus**

Open to all students of Lee College. Study and performance of major choral literature. One four-hour class per week. Admission by audition or instructor's consent. May be repeated for credit.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Pre/Corequisite: READ 300 or equivalent*

### **MUEN 1152**

#### **Chamber Choir**

A vocal ensemble class organized for the study and performance of madrigal literature primarily from the 16th and 17th centuries. May be repeated for credit.

*Lecture Hrs. = 0, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

### **MUEN 1153**

#### **Chamber Choir**

(Continuation of MUEN 1152.) The study of vocal chamber ensemble class organized for the study and performance of madrigal literature primarily from the 16th and 17th centuries.

*Lecture Hrs. = 0, Lab Hrs. = 4*

*Pre/Corequisite: MUEN 1152*

### **MUEN 1154**

#### **Swing Choir**

The study of swing, popular, and jazz vocal idioms in a small vocal chamber ensemble for the study and performance of contemporary literature.

*Lecture Hrs. = 0, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

### **MUEN 2123**

#### **Baytown Symphony Orchestra**

Open to all Lee College Students. Required of instrumental majors when feasible. Study and performance of standard orchestral literature. One three hour rehearsal plus one hour of section rehearsal and individual assistance per week. Admission by audition or instructor's consent. May be repeated for credit.

*Lecture Hrs. = 0, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

### **MUEN 2125**

#### **Concert Band**

All instrumental class, organized for the study and performance of wind ensemble and concert band, including literature that is both historical and contemporary. Admission by audition or instructor's consent. May be repeated for credit.

*Lecture Hrs. = 0, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

## **MUEN 2133**

### **Woodwind Ensemble**

Open to all Lee College students. Study of literature for small woodwind ensembles (4 or more students). Admission by audition or instructor's consent. May be repeated for credit.

*Lecture Hrs. = 1, Lab Hrs. = 1*

*Pre/Corequisite: READ 300 or equivalent*

## **MUEN 2134**

### **Brass Ensemble**

Open to all Lee College students. Study of literature for small brass ensembles (4 or more students). Admission by audition or instructor's consent. May be repeated for credit.

*Lecture Hrs. = 1, Lab Hrs. = 1*

*Pre/Corequisite: READ 300 or equivalent*

## **MUEN 2135**

### **Jazz Ensemble**

Practice and performance of various jazz idioms. Admission by audition or instructor's consent. May be repeated for credit.

*Lecture Hrs. = 0, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

## **MUEN 2138**

### **Percussion Ensemble**

Ensemble experience presenting balance between basic percussive techniques used individually and in sectional performance requirements, (4 or more students). Admission by audition or instructor's consent. May be repeated for credit.

*Lecture Hrs. = 1, Lab Hrs. = 1*

*Pre/Corequisite: READ 300 or equivalent*

## **MUEN 2141**

### **Lee College Concert Choir**

Open to all students of Lee College. Study and performance of various types and styles of choral literature. Concert given on and off campus each semester. Admission by audition or instructor's consent. May be repeated for credit.

*Lecture Hrs. = 0, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

## **MUEN 2142**

### **Baytown Community Chorus**

Open to all Lee College students. Study and performance of major choral literature. One four-hour class per week. Admission by audition or instructor's consent. May be repeated for credit.

*Lecture Hrs. = 0, Lab Hrs. = 4*

*Pre/Corequisite: READ 300 or equivalent*

## **MUSB 1305**

### **Survey of the Music Business**

An overview of the music industry including songwriting, live performance, the record industry, music merchandising, contracts and licenses, and career opportunities.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **MUSB 2350**

### **Commercial Music Project**

The primary objective of this course is to apply the skills learned in other commercial music courses. This is a hands-on project oriented course aimed at helping students create a portfolio of their work. Artists and their music will be the focus. Each student must design and complete his/her own project with instructor's approval.

*Lecture Hrs. = 1, Lab Hrs. = 4*

*Pre/Corequisite: MUSC 2427*

## **MUSC 1323**

### **Audio Electronics**

Basic concepts in electricity, Ohm's Law, circuit analysis, and troubleshooting. Includes soldering techniques and equipment maintenance.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Pre/Corequisite: READ 300 or equivalent and MATH 320 or equivalent*

## **MUSC 1331Ω**

### **MIDI I**

Exploration of the history and evolution of Musical Instrument Digital Interface (MIDI) systems and applications. Includes the MIDI language and applications in the studio environment using software-based sequencing programs.

*Lecture Hrs. = 2, Lab Hrs. = 3*

*Pre/Corequisite: MUSI 1303 or 1311 and READ 300 or equivalent*

## **MUSC 1335**

### **Commercial Music Software**

Specialized training in commercial music software applications.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisite: MUSC 1427*

*Pre/Corequisite: READ 300 or equivalent*

## MUAP: Applied (private) Music Lessons

Pre/Corequisite: READ 300 or Equivalent

|                    |      | Non-major (1 credit)             | Non-major (2 credit)             | Major  |            |
|--------------------|------|----------------------------------|----------------------------------|--|------------|
|                    |      | one 30-minute lesson<br>per week | one 60-minute lesson<br>per week | Freshman   | Sophomore  |
| <b>Voice</b>       | MUAP | 1181, 1182, 2181, 2182           | 1281, 1282, 2281, 2282           | 1283, 1284   | 2283, 2284 |
|                    |      |                                  |                                  | Co-enroll in an ensemble:<br>MUEN 1141, 1142, 1152,<br>1153, 1154, 2141, or 2142 |            |
| <b>Brass</b>       |      |                                  |                                  |  |            |
| French Horn        | MUAP | 1141, 1142, 2141, 2142           | 1241, 1242, 2241, 2242           | 1243, 1244   | 2243, 2244 |
| Trombone           | MUAP | 1145, 1146, 2145, 2146           | 1245, 1246, 2245, 2246           | 1247, 1248   | 2247, 2248 |
| Trumpet            | MUAP | 1137, 1138, 2137, 2138           | 1237, 1238, 2237, 2238           | 1239, 1240   | 2239, 2240 |
| Tuba               | MUAP | 1153, 1154, 2153, 2154           | 1253, 1254, 2253, 2254           | 1255, 1256   | 2255, 2256 |
| <b>Keyboard</b>    |      |                                  |                                  |  |            |
| Piano              | MUAP | 1169, 1170, 2169, 2170           | 1269, 1270, 2269, 2270           | 1271, 1272   | 2271, 2272 |
| Organ              | MUAP | 1165, 1166, 2165, 2166           | 1265, 1266, 2265, 2266           | 1267, 1268   | 2267, 2268 |
| Percussion         | MUAP | 1157, 1158, 2157, 2158           | 1257, 1258, 2257, 2258           | 1259, 1260   | 2259, 2260 |
| <b>Strings</b>     |      |                                  |                                  |  |            |
| Cello              | MUAP | 1109, 1110, 2109, 2110           | 1209, 1210, 2209, 2210           | 1211, 1212   | 2211, 2212 |
| Guitar – Bass      | MUAP | 1187, 1188, 2187, 2188           | 1287, 1288, 2287, 2288           | 1289, 1290   | 2289, 2290 |
| Guitar – Classical | MUAP | 1161, 1162, 2161, 2162           | 1261, 1262, 2261, 2262           | 1263, 1264   | 2263, 2264 |
| Guitar – Electric  | MUAP | 1191, 1192, 2191, 2192           | 1291, 1292, 2291, 2292           | 1293, 1294   | 2293, 2294 |
| Harp               | MUAP | 1177, 1178, 2177, 2178           | 1277, 1278, 2277, 2278           | 1279, 1280   | 2279, 2280 |
| String Bass        | MUAP | 1113, 1114, 2113, 2114           | 1-213, 1214, 2213, 2214          | 1215, 1216   | 2215, 2216 |
| Viola              | MUAP | 1105, 1106, 2105, 2106           | 1205, 1206, 2205, 2206           | 1207, 1208   | 2207, 2208 |
| Violin             | MUAP | 1101, 1102, 2101, 2102           | 1201, 1202, 2201, 2202           | 1203, 1204   | 2203, 2204 |
| <b>Woodwinds</b>   |      |                                  |                                  |  |            |
| Bassoon            | MUAP | 1125, 1126, 2125, 2126           | 1225, 1226, 2225, 2226           | 1227, 1228   | 2227, 2228 |
| Clarinet           | MUAP | 1129, 1130, 2129, 2130           | 1229, 1230, 2229, 2230           | 1231, 1232   | 2231, 2232 |
| Flute              | MUAP | 1117, 1118, 2117, 2118           | 1217, 1218, 2217, 2218           | 1219, 1220   | 2219, 2220 |
| Oboe               | MUAP | 1121, 1122, 2121, 2122           | 1221, 1222, 2221, 2222           | 1223, 1224   | 2223, 2224 |
| Saxophone          | MUAP | 1133, 1134, 2133, 2134           | 1233, 1234, 2233, 2234           | 1235, 1236   | 2235, 2236 |

## **MUSC 1396**

### **Special Topics in Recording Arts Technology/Technician**

Topics address recently identified current events, skills, knowledge's, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: MUSC 1427*

*Pre/Corequisite: READ 300 or equivalent*

## **MUSC 1405**

### **Live Sound I**

An overview of the field of live sound. Includes principles of live sound and the theory an interconnection of the components of a sound reinforcement system.

*Lecture Hrs. = 2, Lab Hrs. = 6*

*Prerequisite: ENRD 401 or equivalent*

## **MUSC 1427**

### **Audio Engineering I**

Overview of the recording studio. Includes basic studio electronics and acoustic principles, waveform properties, microphone concepts and miking techniques, studio set up and signal flow, recording console theory, signal processing concepts, recorder principles and operation, and an overview of mixing and editing.

*Lecture Hrs. = 3, Lab Hrs. = 2*

*Prerequisite: READ 300 or equivalent*

## **MUSC 2355**

### **MIDI II**

Advanced MIDI concepts and techniques. Includes synchronizing MIDI and audio devices and advanced sequencer operation.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisite: MUSC 1331, MUSC 1427*

*Prerequisite: READ 300 or equivalent*

## **MUSC 2386**

### **Internship: Recording Arts Technology/Technician**

A work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the college and the employer.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 11*

*Prerequisite: MUSC 2427*

## **MUSC 2402**

### **Sound Systems Technician**

Technical and non-technical skills necessary to perform duties of a sound systems technician. Includes business and customer relationships, advanced signal flow, system packaging, system integration, system protection/maintenance, electrical distribution for audio systems, and rigging from a sound systems technician's perspective.

*Lecture Hrs. = 3, Lab Hrs. = 2*

*Pre/Corequisite: MUSC 1427 and READ 300 or equivalent*

## **MUSC 2403**

### **Live Sound II**

Overview of stage monitor systems. Includes monitor systems set-up and operation and stage management. Also covers interactivity between sound management, performance quality, and audience experience.

*Lecture Hrs. = 2, Lab Hrs. = 6*

*Prerequisite: MUSC 1405 and ENRD 401 or equivalent*

## **MUSC 2427**

### **Audio Engineering II**

Implementation of the recording process, microphones, audio console, multitrack recorder, and signal processing devices.

*Lecture Hrs. = 2, Lab Hrs. = 6*

*Prerequisite: MUSC 1427*

## **MUSC 2447**

### **Audio Engineering III**

Advanced practice of procedures and techniques in recording and manipulating audio. Includes digital audio editing, advanced recording techniques, and advanced engineering projects.

*Lecture Hrs. = 2, Lab Hrs. = 6*

*Prerequisite: MUSC 2427*

## **MUSC 2448**

### **Audio Engineering IV**

Advanced recording, mixing, arranging, and editing. Includes the role of the producer in session planning, communication, budgeting, business aspects, technical considerations, and music markets.

*Lecture Hrs. = 2, Lab Hrs. = 6*

*Prerequisite: MUSC 2447*

## **MUSC 2453**

### **Live Sound III**

Advanced concepts of live sound engineering for front-of-house mix. Includes techniques required to build and maintain a live sound mix for an audience.

*Lecture Hrs. = 2, Lab Hrs. = 4*

*Prerequisite: MUSC 2403 and ENRD 401 or equivalent*

## **MUSC 2459**

### **Sound System Optimization**

System optimization. Includes related acoustic principles and system alignment procedures. Emphasizes system equalization, time/phase alignment, subsystem integration, loud-speaker management systems, ear training, and industry standard acoustic analysis software.

*Lecture Hrs. = 3, Lab Hrs. = 2*

*Prerequisite: MUSC 2402 and ENRD 401 or equivalent*

## **MUSI 1116**

### **Sight Singing and Ear Training I**

Singing tonal music in treble, bass, alto, and tenor clefs. Aural study, including dictation, of rhythm, melody, and diatonic harmony. Open to music majors. Also open to non-music majors with instructor's consent. Development of aural and sight singing skills through study of scales, musical intervals, varying chord structures, and rhythms.

*(Fall semester only).*

*Tutorial lab required.*

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

*Corequisite: MUSI 1311*

## **MUSI 1117**

### **Sight Singing and Ear Training II**

Singing tonal music in treble, bass, alto, and tenor clefs. Aural study, including dictation, of rhythm, melody, and diatonic harmony. Open to music majors. Also open to non-music majors with instructor's consent. Development of aural and sight singing skills through study of scales, musical intervals, varying chord structures, and rhythms.

*(Spring semester only)*

*Tutorial lab required.*

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: MUSI 1116, READ 300 or equivalent*

*Corequisite: MUSI 1312*

## **MUSI 1181**

### **Piano Class I**

Open to all students, including music majors preparing for the proficiency examination. Guidelines for this course and subsequent levels of the course may require that the student register instead for MUAP applied lessons in piano. Additional information may be obtained from the instructor. Degree seeking students are required to enroll in piano study until proficiency requirements are met.

*Lecture Hrs. = 1, Lab Hrs. = 1*

*Pre/Corequisite: READ 300 or equivalent*

## **MUSI 1182**

### **Piano Class II**

Open to all students, including music majors preparing for the proficiency examination. Guidelines for this course and subsequent levels of the course may require that the student register instead for MUAP applied lessons in piano. Additional information may be obtained from the instructor.

Degree seeking students are required to enroll in piano study until proficiency requirements are met.

*Lecture Hrs. = 1, Lab Hrs. = 1*

*Pre/Corequisite: READ 300 or equivalent*

## **MUSI 1183**

### **Voice Class I**

Open to all Lee College students. Study of correct vocal production: posture, vowels, consonants, dynamics, phrasing, and other information pertinent to the subject.

*Lecture Hrs. = 0, Lab Hrs. = 2*

*Pre/Corequisite: READ 300 or equivalent*

## **MUSI 1184**

### **Voice Class II**

Open to all Lee College students. Continued development of physical and musical aspects of singing at the intermediate level.

*Lecture Hrs. = 0, Lab Hrs. = 2*

*Pre/Corequisite: READ 300 or equivalent*

## **MUSI 1192**

### **Guitar Class I**

For beginning guitar students. Study of basic guitar techniques, chords, and repertoire.

*Lecture Hrs. = 0, Lab Hrs. = 2*

*Pre/Corequisite: READ 300 or equivalent*

## **MUSI 1193**

### **Guitar Class II**

For beginning guitar students. Study of basic guitar techniques, chords, and repertoire.

*Lecture Hrs. = 0, Lab Hrs. = 2*

*Pre/Corequisite: READ 300 or equivalent*

## **MUSI 1263**

### **Jazz Improvisation I**

Class groups discussing topics in the area of jazz with special emphasis on its development and the contributions jazz has made to American culture. Improvisation on the students' instruments is an integral part of the course. May be repeated for credit.

*Lecture Hrs. = 1, Lab Hrs. = 2*

*Pre/Corequisite: READ 300 or equivalent*

## **MUSI 1303**

### **Fundamentals of Music**

Open to all students at Lee College. Designed to prepare students for freshman study in music theory or to familiarize the non-music major with the meaning of musical notation and the harmonic, melodic, and rhythmic structure of music.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **MUSI 1306**

### **Music Appreciation**

A general education course open to all. A music listening course designed for the non-music major. Students explore music through its basic elements, forms, styles, and major composers. Music majors should enroll in MUSI 1307.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **MUSI 1307**

### **Music Literature**

Open to all students and required of music majors and minors. It includes a study of various masterpieces in music, a study of the major composers, and a study of stylistic characteristics of historical eras. Included also will be introduction to score reading and music research techniques.

Concert attendance is required. Performance/Lecture Series attendance is required.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **MUSI 1310**

### **American Music**

General survey of various styles of American music. Topics may include jazz, ragtime, folk, rock, and contemporary art music.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **MUSI 1311**

### **Music Theory I**

Theoretical analysis and writing of tonal melody using diatonic harmony. Analysis and writing of small compositional forms. Open to all students with consent of instructor.

(Offered Fall semester only).

*Tutorial lab required.*

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Pre/Corequisite: READ 300 or equivalent*

## **MUSI 1312**

### **Music Theory II**

Theoretical analysis and writing of tonal melody using diatonic harmony. Introduction to secondary dominant chords and modulation to closely related keys. Analysis and writing of small compositional forms. Open to all students with consent of instructor.

(Offered Spring semester only).

*Tutorial lab required.*

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: MUSI 1311 and READ 300 or equivalent*

*Corequisite: MUSI 1117*

## **MUSI 2116**

### **Sight Singing and Ear Training III**

Singing more difficult tonal music including modal, ethnic and 20th century materials. Aural study, including dictation, or more complex rhythm, melody, chromatic harmony, and extended tertian structures. Transfer students admitted by examination. Open to all students with consent of instructor.

(Offered Fall semester only).

*Tutorial lab required.*

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: MUSI 1117, READ 300 or equivalent*

*Corequisite: MUSI 2311*

## **MUSI 2117**

### **Sight Singing and Ear Training IV**

Singing more difficult tonal music including modal, ethnic and 20th century materials. Aural study, including dictation, or more complex rhythm, melody, chromatic harmony, and extended tertian structures. Transfer students admitted by examination. Open to music majors. Also open to non-music majors with instructor's consent.

(Offered Spring semester only).

*Tutorial lab required.*

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Prerequisite: MUSI 2116, READ 300 or equivalent*

*Corequisite: MUSI 2312*

## **MUSI 2181**

### **Piano Class III**

Open to all students, including music majors preparing for the proficiency examination. Guidelines for this course and subsequent levels of the course may require that the student register instead for MUAP applied lessons in piano. Additional information may be obtained from the instructor. Degree seeking students are required to enroll in piano study until proficiency requirements are met.

*Lecture Hrs. = 1, Lab Hrs. = 1*

*Pre/Corequisite: READ 300 or equivalent*

## **MUSI 2182**

### **Piano Class IV**

Open to all students, including music majors preparing for the proficiency examination. Guidelines for this course and subsequent levels of the course may require that the student register instead for MUAP applied lessons in piano. Additional information may be obtained from the instructor. Degree seeking students are required to enroll in piano study until proficiency requirements are met.

*Lecture Hrs. = 1, Lab Hrs. = 1*

*Pre/Corequisite: READ 300 or equivalent*

## **MUSI 2183**

### **Voice Class III**

Concert and recital preparation.

*Lecture Hrs. = 0, Lab Hrs. = 2*

*Note: Instructor's consent required to register for this course*

*Prerequisite: READ 300 or equivalent*

## **MUSI 2189**

### **Music Cooperative**

In conjunction with seminars or on-campus instruction, students will study various aspects of music unique to their interests or career objectives. Limited to one credit hour per semester. Course can be taken up to three times.

*Lecture Hrs. = 1, Lab Hrs. = 0, External Hrs. = 2*

*Prerequisite: COMM 2324, COMM 2220*

## **MUSI 2311Ω**

### **Music Theory III**

Advanced harmony part writing and keyboard analysis and writing of more advanced tonal harmony including chromaticism and extended tertian structures. Introduction to 20th century compositional procedure and survey of the traditional large forms of composition. Transfer students admitted by examination. Study of 18th and 19th century harmonic practices, advanced harmonic techniques; complex choral vocabulary; all secondary dominants; leading tone chords and altered chords.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: MUSI 1312 and READ 300 or equivalent*

*Corequisite: MUSI 2116*

## **MUSI 2312Ω**

### **Music Theory IV**

Advanced harmony part writing and keyboard analysis and writing of more advanced tonal harmony including chromaticism and extended tertian structures. Introduction to 20th century compositional procedure and survey of the traditional large forms of composition. Transfer students admitted by examination. Continued study of 18th and 19th century harmonic practices, advanced harmonic techniques; complex choral vocabulary; altered chords; distant modulations, and introduction to contrapuntal techniques. (*Offered Spring semester only*).

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: MUSI 2311 and READ 300 or equivalent*

*Corequisite: MUSI 2117*

## **NDTE 1401**

### **Film Interpretation of Weldments**

A study of radiographic film, including exploration of radiographic basics, interpretation, and causes and effects of discontinuities.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **NDTE 1405**

### **Introduction to Ultrasonics**

Basic theory and applications of the ultrasonic techniques of materials testing covering the theoretical material from the certification test for Ultrasonic Level I American Society of Non-Destructive Testing.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: READ 300 or equivalent*

## **NDTE 1410**

Liquid penetrant/Magnetic particle Testing

A theoretical study and practical application of the non-destructive testing techniques of penetrant and magnetic particle testing required by quality assurance and test personnel.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **NDTE 2411**

### **Preparation for Certified Welding Inspector Exam**

Fundamentals of welding and inspection, code interpretation, and the practical portion in preparation for the certified welding inspector examination.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **OSHT 1301**

### **Introduction to Safety and Health**

An introduction to the basic concepts of safety and health.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **OSHT 1309**

### **Physical Hazards Control**

A study of the physical hazards in industry and the methods of workplace design a redesign to control these hazards. Emphasis on the regulation codes and standards associated with the control of physical hazards.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **OSHT 1313**

### **Accident Prevention, Inspection, and Investigation**

Providing a basis for understanding the nature of occupational hazard recognition, accident prevention, loss reduction, inspection techniques, and accident investigation analysis.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **OSHT 1316**

### **Material Handling**

Proper methods for material handling and storage including safety practice, proper equipment usage, engineering controls, personal protective equipment, and motor fleet safety.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **OSHT 1321**

### **Fire Protection Systems**

Study of fire protection systems and their applications with emphasis on the fire prevention codes and standards.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **OSHT 2309**

### **Safety Program Management**

Examine the major safety management issues that effect the workplace including safety awareness loss control, regulatory issues, and human behavior modification.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: OSHT 1301 and READ 300 or equivalent*

## **OSHT 2401**

### **OSHA Regulations: General Industry**

A study of Occupational Safety and Health Administration (OSHA) regulations pertinent to general industry.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: OSHT 1301, READ 300 or equivalent*

## **PFPB 1305**

### **Basic Blueprint Reading for Pipefitters**

Reading, interpreting, and sketching piping drawings. Includes isometric and orthographic views.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **PFPB 1350**

### **Plumbing and Pipefitting Equipment and Safety**

Safe use of hand tools, power tools, rigging, and power equipment used in the plumbing trade for installation of different plumbing systems.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **PFPB 1408**

### **Basic Pipefitting Skills**

Mathematical operations necessary to calculate laying lengths of pipe fittings for fabrication. Identification and use of hand tools and power tools. Identification of pipe, pipe fittings, flanges, and fasteners used in the trade.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **PFPB 2310**

### **Intermediate Blueprint Reading for Pipefitters**

Reading and interpreting advanced working drawings to calculate piping runs. Includes instrumentation symbols and abbreviations and the use of advanced sketching techniques to create isometric and orthographic drawings of piping and piping components.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: PFPB 1305*

*Pre/Corequisite: READ 300 or equivalent*

## **PFPB 2343**

### **Advanced Pipe Practices**

Identification, installation, and testing of steam traps and steam trap station components; valve identification, application, and maintenance; identification, storage, and handling of in-line specialties; hydrostatic testing of process piping.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: PFPB 2408*

*Pre/Corequisite: READ 300 or equivalent*

## **PFPB 2407**

### **Pipe Fabrication and Installation I**

Pipe fabrication of various materials and installation of pipe supports.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: PFPB 1408*

*Pre/Corequisite: READ 300 or equivalent*

## **PFPB 2408**

### **Piping Standards and Materials**

Identification, description, and application of piping standards and specifications. Includes identification and use of various metallic and non-metallic piping materials, identification and installation of valves, and material take-offs.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: PFPB 2407*

*Pre/Corequisite: READ 300 or equivalent*

## **PFPB 2441**

### **Pipe Fabrication and Installation II**

Advanced pipe fabrication of various materials with emphasis on vertical, horizontal, and rolling off-sets using 45-degree fittings and odd-angle fittings.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: PFPB 2408*

*Pre/Corequisite: READ 300 or equivalent*

## **PFPB 2449**

### **Field Measuring, Sketching, and Layout**

Field dimensioning, measuring, sketching, and layout of future process piping and use, care, and setup of transit and level.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: PFPB 2310 or DFTG 2423*

*Pre/Corequisite: READ 300 or equivalent*

## **PHIL 1301Ω**

### **Introduction to Philosophy**

An introduction to the basic issues in philosophy, including: reality, justice, morality, freedom and responsibility, and the good life. We approach these issues through the original writings of selected classical, modern, and contemporary philosophers.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **PHIL 1304Ω**

### **Introduction to World Religions**

An introduction to selected world religions, including but not limited to: Hinduism, Buddhism, Jainism, Sikhism, Taoism, Confucianism, Shinto, Judaism, and Christianity.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **PHIL 2306**

### **Introduction to Ethics**

An intermediate level philosophy course which covers moral theory (what's right) and ethical theory (what's good). The course also covers specific issues such as: religion, spirituality, and moral purpose, environmental ethics, feminist ethics, and the use of science and technology.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **PHYS 1401Ω**

### **College Physics I: Mechanics and Heat**

Fundamental principles of physics, using algebra and trigonometry; the principles and applications of classical mechanics and thermodynamics, including harmonic motion, physical systems, Newton's Laws of Motion, and gravitation; with emphasis on problem solving. Laboratory activities will reinforce fundamental principles of physics, using algebra and trigonometry; the principles and applications of classical mechanics and thermodynamics, including harmonic motion, physical systems, Newton's Laws of Motion, and gravitation; emphasis will be on problem solving.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 402 or equivalent*

*Pre/Corequisite: MATH 1314 or equivalent*

## **PHYS 1402Ω**

### **College Physics II: Sound, Electricity, Magnetism, Light, and Modern Physics**

Fundamental principles of physics, using algebra and trigonometry; the principles and applications of electricity and magnetism, including circuits, electrostatics, electromagnetism, waves, sound, light, and optics; with emphasis on problem solving. Laboratory activities will reinforce fundamental principles of physics, using algebra and trigonometry; the principles and applications of electricity and magnetism, including circuits, electrostatics, electromagnetism, waves, sound, light, and optics; with emphasis on problem solving.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: PHYS 1401 and ENRD 402 or equivalent*

## **PHYS 1403**

### **Stars and Galaxies**

An introductory course will concentrate on the origin, life, and fate of the stars and universe, the various objects in the universe, the exploration of the universe by astronomer, and the understanding of the principles that lie behind the functioning of the universe. Discussion of atomic spectra, nuclear energy, and astronomical tools (such as optical, radio, and other telescopes and image enhancers) as they provide knowledge about distant objects will be included. Recent discoveries about quasars, black holes, and cosmology will be emphasized.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 402 or equivalent and MATH 330 or equivalent*

## **PHYS 1404**

### **The Solar System**

An introductory course will concentrate on the origin, life, and fate of the solar system, the various bodies in the solar system (planets, satellites, meteors, comet, and asteroids), and the solar system mechanic. Theories about the structure and origin of the solar system, with emphasis on recent discoveries will be included.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 402 or equivalent, and MATH 330 or equivalent*

## **PHYS 1405Ω**

### **Conceptual Physics I**

An elementary course in fundamental concepts of mechanics, heat, gravitation, and sound with emphasis on the scientific approach to solving problems. For elementary education, liberal arts, and other non-science majors and students.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 402 or equivalent*

*Pre/Corequisite: MATH 320, TECM 1341 or equivalent*

## **PHYS 1407Ω**

### **Conceptual Physics II**

An elementary course in fundamental concepts of electricity, magnetism, light, and modern physics with emphasis on the scientific approach to solving problems. For elementary education, liberal arts, and other non-science majors and students.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 402 or equivalent*

*Pre/Corequisite: MATH 320, TECM 1341 or equivalent*

## **PHYS 1415**

### **Physical Science**

This course emphasizes the fundamental principles in physics, chemistry, geology, astronomy, meteorology, and environmental science. Emphasis is placed on the interrelationships among these various fields of science using an inquiry approach.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: ENRD 402 or equivalent and MATH 320 or equivalent*

## **PHYS 2289**

### **Academic Cooperative**

An instructional program designed to integrate on-campus study with practical hands-on work experience in the physical sciences. In conjunction with class seminars, the individual students will set specific goals and objectives in the scientific study of inanimate objects, processes of matter and energy, and associated phenomena. Students will work in conjunction with the faculty coordinator and the sponsor in the development of their goals and objectives.

*Lecture Hrs. = 1, Lab Hrs. = 2*

*Prerequisite: Instructor's Permission*

## **PHYS 2389**

### **Academic Cooperative**

An instructional program designed to integrate on-campus study with practical hands-on work experience in the physical sciences. In conjunction with class seminars, the individual students will set specific goals and objectives in the scientific study of inanimate objects, processes of matter and energy, and associated phenomena. Students will work in conjunction with the faculty coordinator and the sponsor in the development of their goals and objectives.

*Lecture Hrs. = 1, Lab Hrs. = 4*

*Prerequisite: Instructor's Permission*

## **PHYS 2425Ω**

### **University Physics I**

Fundamental principles of physics, using calculus, for science, computer science, and engineering majors; the principles and applications of classical mechanics, including harmonic motion, physical systems, and thermodynamics; and emphasis on problem solving. Basic laboratory experiments supporting theoretical principles involving the principles and applications of classical mechanics, including harmonic motion and physical systems; experimental design, data collection and analysis, and preparation of laboratory reports.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: MATH 2413*

## **PHYS 2426Ω**

### **University Physics II**

Principles of physics for science, computer science, and engineering majors, using calculus, involving the principles of electricity and magnetism, including circuits, electromagnetism, waves, sound, light, and optics. Laboratory experiments supporting theoretical principles involving the principles of electricity and magnetism, including circuits, electromagnetism, waves, sound, light, and optics; experimental design, data collection and analysis, and preparation of laboratory reports.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: PHYS 2425 and Math 2414*

## **POFI 1349**

### **Spreadsheets**

Skill development in concepts, procedures, and application of spreadsheets for business. This course is designed to be repeated multiple times to improve student proficiency.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: POFI 1401*

*Pre/Corequisite: ENRD 401 or equivalent*

## **POFI 1401**

### **Computer Applications I**

Overview of computer office applications including current terminology and technology. Introduction to computer hardware, software applications, and procedures. This course is designed to be repeated multiple times to improve student proficiency.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: ENRD 401 or equivalent*

## **POFI 1441**

### **Computer Applications II**

Continued study of current computer terminology and technology. Advanced skill development in computer hardware, software applications, and procedures. This course is designed to be repeated multiple times to improve student proficiency.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: POFI 1401*

*Pre/Corequisite: ENRD 401 or equivalent*

## **POFI 2331**

### **Desktop Publishing**

In-depth coverage of desktop publishing terminology, text editing, and use of design principles. Emphasis on layout techniques, graphics, multiple page displays, and business applications. This course is designed to be repeated multiple times to improve student proficiency.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Pre/Corequisite: ENRD 401 or equivalent*

## **POFI 2340**

### **Advanced Word Processing**

Advanced word processing techniques using merging, macros, graphics, and desktop publishing. Includes extensive formatting for technical documents. This course is designed to be repeated multiple times to improve student proficiency.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Pre/Corequisite: ENRD 401 or equivalent*

## **POFT 1127**

### **Introduction to Keyboarding**

Skill development in keyboarding techniques. Emphasis on the development of acceptable speed and accuracy.

*Lecture Hrs. = 0, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **POFT 1132**

### **Workplace Diversity**

Examines gender, cultural background, age, and other factors affecting coworker/client relationships. Includes behavioral expectations and standards in the business environment.

*Lecture Hrs. = 1, Lab Hrs. = 0*

*Pre/Corequisite: ENRD 401 or equivalent*

## **POFT 1301**

### **Business English**

Introduction to a practical application of basic language usage skills with emphasis on fundamentals of writing and editing for business.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: ENRD 401 or equivalent*

## **POFT 1309**

### **Administrative Office Procedures I**

Study of current office procedures, duties, and responsibilities applicable to an office environment.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Pre/Corequisite: ENRD 401 or equivalent*

## **POFT 1325**

### **Business Math Using Technology**

Skill development in business math problem-solving using electronic technology.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Pre/Corequisite: ENRD 401 or equivalent*

## **POFT 1329**

### **Beginning Keyboarding**

Skill development keyboarding techniques. Emphasis on development of acceptable speed and accuracy levels and formatting basic documents.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Pre/Corequisite: ENRD 401 or equivalent*

## **POFT 1349**

### **Administrative Office Procedures II**

In-depth coverage of office procedures with emphasis on decision making, goal setting, management theories, and critical thinking.

*Only offered during Fall Semester.*

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: POFT 1309*

*Pre/Corequisite: ENRD 401 or equivalent*

## **POFT 1366**

### **Practicum (or Field Experience): General**

Office Occupations and Clerical Services

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 21*

*Pre/Corequisite: ENRD 401 or equivalent*

## **POFT 2203**

### **Speed and Accuracy Building**

Review, correct, and improve keyboarding techniques for the purpose of increasing speed and improving accuracy. This course is designed to be repeated multiple times to improve student proficiency.

*Lecture Hrs. = 2, Lab Hrs. = 1*

*Pre/Corequisite: ENRD 401 or equivalent*

## **POFT 2301**

### **Intermediate Keyboarding**

A continuation of keyboarding skills emphasizing acceptable speed and accuracy levels and formatting documents.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Pre/Corequisite: ENRD 401 or equivalent*

## **POFT 2312**

### **Business Correspondence and Communications**

Development of writing and presentation skills to produce effective business communications. Skill development in practical applications which emphasize the improvement of writing skills necessary for effective business communication. Emphasis is given to developing business letters, reports, memos, and employment communications; improving writing, speaking, and listening skills; and to preparing attractive business documents.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: POFT 1301 or ENGL 1301 and ENRD 401 or equivalent*

## **POFT 2331**

### **Administrative Systems**

Advanced concepts of project management and office procedures integrating software applications.

*Lecture Hrs. = 3, Lab Hrs. = 1*

*Prerequisite: Completion of Administrative Technology I and II Certificates*

*Pre/Corequisite: ENRD 401 or equivalent*

## **POFT 2366**

### **Practicum (or Field Experience) – General Office Occupations and Clerical Services**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 21*

*Pre/Corequisite: ENRD 401 or equivalent*

## **PSYC 2301**

### **Introduction to Psychology**

A survey of the fields of general psychology; the biological and psychological basis of human behavior, intelligence, motivation, emotion, learning, personality, memory, and psychopathology.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **PSYC 2314Ω**

### **Life Span Growth and Development**

The study of the relationship of the physical, emotional, social, and mental factors of growth and development throughout the life span from birth to death.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: PSYC 2301 with a C or better and ENRD 402 or equivalent*

## **PSYC 2316Ω**

### **Psychology of Personality**

Personality psychology deals with the struggle to understand human nature and its determinants. The complexity of human nature demands investigation of a number of points of view. This course will expose students to the major personality theories (e.g., psychodynamic, humanistic, existential, cognitive, behavioral) and their underlying philosophical assumptions.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: PSYC 2301, ENRD 402 or equivalent*

## **PSYC 2317**

### **Statistics for Behavioral Sciences**

A course designed to provide a background in statistics for students in psychology and the social sciences. Includes elementary probability theory, measures of central tendency, variability, correlation and regression, the normal curve of probability, and statistical inference.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: PSYC 2301, ENRD 402 or equivalent and Math 310 or equivalent*

## **PSYT 1313**

### **Psychology of Personal Adjustment**

Development of personal, social, and work adjustment skills.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: Instructor's permission only*

## **PSYT 1325**

### **Death and Dying**

Study of the cultural and social norms, values, beliefs, and activities associated with the dying and their survivors. Topics include theories, communication skills, and activities to assist with coping for the dying and their survivors.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **PTAC 1302**

### **Introduction to Process Technology**

Introduction to the processing industries. This is a survey of all process technology courses in the program.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent, Math 310 or equivalent*

## **PTAC 1308**

### **Safety, Health, and Environment I**

Development of knowledge and skills to reinforce the attitudes and behaviors required for safe and environmentally sound work habits. Emphasis on safety, health and environmental issues in the performance of all job tasks and regulatory compliance issues.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent, Math 310 or equivalent*

## **PTAC 1332**

### **Process Instrumentation I**

Study of the instruments and instrument systems used in the process industry including terminology, primary variables, symbology, control loops, and basic troubleshooting.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent, Math 310 or equivalent*

## **PTAC 1410**

### **Process Technology I: Equipment**

Instruction in the use of common process equipment.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 401 or equivalent, Math 310 or equivalent*

## **PTAC 1465**

### **Internship – Process Technology/Technician**

A work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the college and the employer.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 12*

*Prerequisite: PTAC 1332, 1410 and Instructor's Permission*

## **PTAC 2314**

### **Principles of Quality**

Study of the background and application of quality concepts. Topics include team skills, quality tools, statistics, economics, and continuous improvement.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 401 or equivalent, Math 310 or equivalent*

## **PTAC 2346**

### **Process Troubleshooting**

Instruction in the different types of troubleshooting techniques, procedures, and methods used to solve process problems. Topics include application of data collection and analysis, cause effect relationships, and reasoning.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: PTAC 1302, 1332, 1410, 2420, SCIT 1414, and*

*MATH/TECM elective*

## **PTAC 2420**

### **Process Technology II: Systems**

Study of the interrelation of process equipment as process systems including related scientific principles.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: PTAC 1302, 1332, 1410, SCIT 1414, and MATH/TECM elective*

## **PTAC 2438**

### **Process Technology III: Operations**

This course emphasizes activities associated with process operations. Students write and follow procedures and operate actual equipment.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: PTAC 1302, 1332, 1410, 2420, SCIT 1414, and MATH/TECM elective*

## **PTAC 2486**

### **Internship - Process Technology/Technician**

A work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the college and the employer.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 24*

*Prerequisite: PTAC 1302, 1332, 1410, 2420, 2438, SCIT 1414, and MATH/TECM elective*

## **RBTC 1301**

### **Programmable Logic Controllers**

A study in programmable logic controllers (PLC). Topics include processor units, numbering systems, memory organization, relay type devices, timers, counters, data manipulators, and programming.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Corequisite: INTC 1441*

## **REBR 300**

### **Beginning College Reading Skills Bridge**

This is an abridged READ 300 course designed to develop students' reading habits and writing skills. The focus of the course will be on students' refreshing their skills on interpretation of basic sentence and paragraph structure, effective reading, fundamentals of grammar, punctuation, and spelling, as well as vocabulary in context. The REBR 300 results will expire within 30 days, therefore students completing the course with a B or better, and score 60% on comprehensive final must register for the paired course (ENRD 401).

*Lecture Hrs. = 2, Lab Hrs. = 0*

*Prerequisites: Accuplacer Reading score 40-47; or TSIA reading score 331-341 and/or writing score 339-349*

## **READ 300**

### **Beginning College Reading Skills**

This course provides improvement of reading habits and writing skills. Emphasis is on vocabulary development, interpretation of basic sentence and paragraph structure, and concept development necessary for effective reading, as well as instruction in fundamentals of grammar, punctuation, and spelling. It is required for all students with an Accuplacer reading score of below 46 and/or student with a score of 1 on the Accuplacer essay.

*Lecture Hrs. = 3, Lab Hrs. = 0*

## **RNSG 1162**

### **Clinical – Registered Nursing/Registered Nurse**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Progression: student must pass RNSG 1251 and RNSG 1162 concurrently to progress to next nursing level.

*Lecture Hrs. = 0, Lab Hrs. = 0, Clinical Hrs. = 6,*

*Insurance Fee*

*Prerequisite: Admission to RN or RNT Program,*

*RNSG 1343, 1362, 2161, 2201, BIOL 2421. RN only: ENGL 1302,*

*Humanities, Communication Area Option, and Computer Literacy electives*

*Pre/Corequisite: SPNL 1301*

*Corequisite: RNSG 1251, 2160, 2213*

## **RNSG 1205**

### **Nursing Skills I**

Study of the concepts and principles necessary to perform basic nursing skills for the adult patient; and demonstrate competence in the performance of nursing procedures. Content includes knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Progression: student must pass RNSG 1413 and RNSG 1205 concurrently to progress.

*Lecture Hrs. = 1, Lab Hrs. = 4, Testing Fee*

*Prerequisite: Admission to RN Program*

*Pre/Corequisite: BIOL 2402, PSYC 2314*

*Corequisite: RNSG 1247, 1261, 1413*

## **RNSG 1247**

### **Concepts of Clinical Decision-Making**

Integration of previous knowledge and skills into the continued development of the professional nurse as a provider of patient-centered care, patient safety advocate, member of health care team, and member of the profession. Emphasis on clinical decision-making for clients in medical-surgical settings experiencing health problems involving gastrointestinal disorders, endocrine and metabolic disorders, reproductive and sexual disorders, musculoskeletal disorders, eye-ear-nose-throat disorders and integumentary disorders. Discussion of knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Progression: student must pass RNSG 1247 and RNSG 1261 concurrently to progress to the next nursing level.

*Lecture Hrs. = 2, Lab Hrs. = 0, Testing Fee*

*Prerequisite: Admission to RN Program*

*Pre/Corequisite: BIOL 2402, PSYC 2314*

*Corequisite: RNSG 1205, 1261, 1413*

## **RNSG 1251**

### **Care of the Childbearing Family**

Study of concepts related to the provision of perinatal nursing care for childbearing families. Content includes knowledge judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Progression; student must pass RNSG 1251 and RNSG 1162 concurrently to progress to the next nursing level.

*Lecture Hrs. = 2, Lab Hrs. = 0, Testing Fee*

*Prerequisite: Admission to RN Program or RNT Program, RNSG 1343, RNSG 1362, RNSG 2161, RNSG 2201, BIOL 2421. RN only: ENGL 1302, Humanities, Communication Area Option, and Computer Literacy electives*

*Pre/Corequisite: SPNL 1301*

*Corequisite: RNSG 1162, RNSG 2160, RNSG 2213*

## **RNSG 1261**

### **Clinical – Registered Nursing/Registered Nurse**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Progression: student must pass RNSG 1247 and RNSG 1261 concurrently to progress to next nursing level.

*Lecture Hrs. = 0, Lab Hrs. = 0, Clinical Hrs. = 8*

*Prerequisites: Admission to the RN Program*

*Pre/Corequisite: BIOL 2402, PSYC 2314*

*Corequisite: RNSG 1205, 1247, 1413*

## **RNSG 1301**

### **Pharmacology**

Introduction to the science of pharmacology with emphasis on the actions, interactions, adverse effects, and nursing implications of drug classifications. Content includes the roles and responsibilities of the nurse in safe administration of medications within a legal/ethical framework. This course lends itself to either a blocked or integrated approach. In addition, the course focuses on the basic concepts and terminology used in the study of pharmacology.

Pharmacokinetics for major drug classifications is emphasized as well as drug administration routes. Note that the RN Math Requirement that is a prerequisite for this course can be satisfied by (a) passing the math portion of one of the TSIA approved tests; (b) successfully completing Math 320, (c) earning a grade of C or better in Math 350, or (d) earning a grade of C or better in any college-level math course attempted.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: RN Math Requirement and ENRD 402 or equivalent*

*Pre/Corequisite: BIOL 2401*

## **RNSG 1343Ω**

### **Complex Concepts of Adult health**

Integration of previous knowledge and skills related to common adult health needs into the continued development of the professional nurse as a provider of patient-centered care, patient safety advocate, member of health care team, and member of the profession in the care of adult patients and families with complex medical-surgical health care needs associated with body systems. Emphasis on complex knowledge, judgments, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Progression: student must pass RNSG 1343 and RNSG 1362 concurrently to progress to next nursing level.

*Lecture Hrs. = 3, Lab Hrs. = 0, Testing Fee*

*Prerequisite: Admission to RN Program, RNSG 1205, 1247, 1261, 1413, BIOL 2402, PSYC 2314, or admission to RNT Program, RNSG 2207, BIOL 2421*

## **RNSG 1362**

### **Clinical – Registered nursing/Registered Nurse**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Progression: student must pass RNSG 1343 and RNSG 1362 concurrently to progress to next level.

*Lecture Hrs. = 0, Lab Hrs. = 0, Clinical Hrs. = 9, Insurance Fee*

*Prerequisite: Admission to RN Program, RNSG 1205, 1247, 1261, 1413, BIOL 2402, PSYC 2314, or admission to RNT Program, RNSG 2207, BIOL 2421*

*Pre/Corequisite: RN Program only, BIOL 2421*

*Corequisite: RNSG 1343, 2161, 2201*

## **RNSG 1413**

### **Foundations for Nursing Practice**

Introduction to the role of the professional nurse as provider of patient-centered care, patient safety advocate, member of health care team, and member of the profession. Content includes fundamental concepts of nursing practice, history of professional nursing, a systematic framework for decision making and critical thinking. The mechanisms of disease and the needs and problems that can arise are discussed and how the nursing process helps manage the patient through these issues. Emphasis on knowledge, judgment, skills and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Progression: student must pass RNSG 1413 and RNSG 1205 concurrently to progress to next nursing level.

*Lecture Hrs. = 4, Lab Hrs. = 0, Testing Fee*

*Prerequisites: Admission to the RN Program*

*Pre/Corequisite: BIOL 2402, PSYC 2314*

*Corequisite: RNSG 1205, 1247, 1261*

## **RNSG 2160**

### **Clinical: Nursing Registered Nurse Training**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Progression: student must pass RNSG 2213 and RNSG 2160 concurrently to progress to next nursing level.

*Lecture Hrs. = 0, Lab Hrs. = 0, Clinical Hrs. = 6,*

*Insurance Fee*

*Prerequisite: Admission to RN or RNT Program, RNSG 1343, 1362, 2161, 2201, BIOL 2421. RN only: ENGL 1302, Humanities, Computer Literacy, and Communication Area Option electives*

*Pre/Corequisite: SPNL 1301*

*Corequisite: RNSG 1162, 1251, 2213*

## **RNSG 2161**

### **Clinical – Registered Nursing/Registered Nurse**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Progression: student must pass RNSG 2201 and RNSG 2161 concurrently to progress to next nursing level.

*Lecture Hrs. = 0, Lab Hrs. = 0, Clinical Hrs. = 6,*

*Insurance Fee*

*Prerequisite: Admission to RN Program, RNSG 1205, 1247, 1261, 1413, BIOL 2402, PSYC 2314, or admission to RNT Program, RNSG 2207, BIOL 2421*

*Pre/Corequisite: BIOL 2421 RN only*

## **RNSG 2201**

### **Care of Children and Families**

Study of concepts related to the provision of nursing care for children and their families, emphasizing judgment, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Progression: student must pass RNSG 2201 and RNSG 2161 concurrently to progress to next nursing level.

*Lecture Hrs. = 2, Lab Hrs. = 0, Testing Fee*

*Prerequisite: Admission to RN Program, RNSG 1205, 1247, 1261, 1413, BIOL 2402, PSYC 2314, or admission to RNT Program, RNSG 2207, BIOL 2421*

*Pre/Corequisite: BIOL 2421 RN only*

*Corequisite: RNSG 1343, 1362, 2161*

## **RNSG 2207**

### **Adaptation to Role of Professional Nurse**

Selected concepts related to the role of the professional nurse as a provider of patient-centered care, patient safety advocate, member of health care team, and member of the profession. Review of trends and issues impacting nursing and health care today and in the future. Content includes knowledge, judgment, skill, and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

*Lecture Hrs. = 2, Lab Hrs. = 0*

*Prerequisite: Admission to RNT Program*

## **RNSG 2213**

### **Mental Health Nursing**

Principles and concepts of mental health, psychopathology, and treatment modalities related to the nursing care of patients and their families. This course lends itself to a blocked approach. Progression: student must pass RNSG 2213 and RNSG 2160 concurrently to progress to next nursing level.

*Lecture Hrs. = 2, Lab Hrs. = 0, Testing Fee*

*Prerequisite: Admission to RN or RNT Program, RNSG 1343, 1362, 2161, 2201, BIOL 2421. RN only: ENGL 1302, Humanities, Computer Literacy, and Communication Area Option electives*

*Pre/Corequisite: SPNL 1301*

*Corequisite: RNSG 1162, 1251, 2160*

## **RNSG 2221**

### **Professional Nursing: Leadership and Management**

Exploration of leadership and management principles applicable to the roles of the professional nurse. Includes application of knowledge, judgment, skills, and professional values within a legal/ethical framework. Emphasizes the impact of laws and regulations on the provision of safe and effective professional nursing care including topics such as confidentiality, the Nursing Practice Act, professional boundaries, ethics, and health care legislation in both theory and in the health care setting.

*Lecture Hrs. = 1, Lab Hrs. = 0, Clinical Hrs. = 4, Insurance Fee*

*Prerequisites: Admission to RN or RNT Program, RNSG 1162, RNSG 1251, RNSG 2160, RNSG 2213, SPNL 1301*

*Corequisites: RNSG 2432, RNSG 2263*

## **RNSG 2263Ω**

### **Clinical- Nursing Registered Nurse Training**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Progression: student must pass RNSG 2432 and RNSG 2263 concurrently to progress.

*Lecture Hrs. = 0, Lab Hrs. = 0, Clinical Hrs. = 12,*

*Insurance Fee*

*Prerequisite: Admission to RN or RNT Program, RNSG 1162, 1251, 2160, 2213, SPNL 1301*

*Corequisite: RNSG 2221, 2432*

## **RNSG 2432**

### **Enhanced Concepts of Adult Health I**

Enhanced concepts and skills for developing professional competencies in complicated nursing care situations involving adult patients and families with multiple body system problems. Emphasizes critical thinking, clinical reasoning, and determining legal/ethical values for optimization of patient care in intermediate and acute care settings. This course lends itself to a blocked approach. Progression: student must pass RNSG 2432 and RNSG 2263 concurrently to progress.

*Lecture Hrs. = 4, Lab Hrs. = 0, Testing Fee*

*Prerequisite: Admission to RN or RNT Program, RNSG 1162, 1251, 2160, 2213, SPNL 1301. Corequisite: RNSG 2221, 2263*

## **RTVB 1321**

### **TV Field Production**

Pre-production, production, and post-production process involved in field television production. Topics include field camera setup and operation, field audio, television directing, and in-camera or basic continuity editing with an emphasis on underlying principles of video technology.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: MUSC 1427*

*Pre/Corequisite: READ 300 or equivalent*

## **SCIT 1318**

### **Applied Physics**

Introduction to physics for industrial applications including vectors, motion, mechanics, simple machines, matter, heat, and thermodynamics.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Corequisite: ENRD 401 or equivalent, Math 310 or equivalent*

## **SCIT 1414**

### **Applied General Chemistry I**

Applications of general chemistry emphasizing industry related laboratory skills and competencies including laboratory safety and report writing. Addresses supporting chemical theories including atomic and molecular structure, nomenclature, chemical reactivity, gas laws, acids and bases, and solutions.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: ENRD 401 or equivalent, Math 310 or equivalent*

## **SOCI 1301Ω**

### **Introductory Sociology**

This course will introduce the students to the principles of social organization. Topics include the study of personality, social groups, culture, social class and caste systems, population, rural and urban communities, and social changes, as well as social institutions such as the family, recreation, and religion.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **SOCI 1306**

### **Social Problems**

The course focuses on the study of social disorganization and reorganization, with emphasis on the following topics: socioeconomic inequality and poverty, majority and minority groups, family and divorce, aging and retirement, deviance and crime, and mental illness and suicide.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **SOCI 2319Ω**

### **Multi-Cultural Studies**

This course focuses on the conflicts, dilemmas, and social problems that arise in multicultural societies. Special emphasis is placed on issues such as racism, sexism, and the "politics of identify." The course also examines a variety of remedies for the problems noted above. These include the expansion of civil rights, affirmative action, and recognition of minority cultures.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: SOCI 1301 with a C or better and ENRD 402 or equivalent*

## **SOCI 2336**

### **Criminology**

In this course, the focus is on the study of crime as a form of deviant behavior. Subjects to be considered are as follows: nature and extent of crime, past and present theories, as well as evaluation of prevention, control, and treatment programs.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **SOCI 2339**

### **Juvenile Delinquency**

This course provides an overview of the nature and extent of delinquency, as well as the juvenile justice system. Emphasis will be on the comparison of competing theoretical explanations/ models and theories; evaluation of prevention, control, plus the evaluation of prevention, control, and treatment programs. Same as PSYC 2318.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **SOCW 2361**

### **Introduction to Social Work**

Philosophy and techniques of social work, survey of its fields, and the historical development of United States system are discussed.

*(Offered Fall semester only)*

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **SOCW 2362**

### **Social Welfare as a Social Institution**

This is an introduction to the study of modern social work, within the context of institution of social welfare, the underlying philosophy and ethics of social work, and the major divisions and types of social work together with their methods and objectives.

*(Offered Spring semester only)*

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **SPAN 1411**

### **Beginning Spanish**

For students with little or no previous knowledge of Spanish. Vocabulary and grammar are taught through a variety of cognitive teaching methods including the use of patterned response drills, memorization of mini-dialogues, and the analysis of contextually related readings. Proper pronunciation is stressed throughout the course.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **SPAN 1412**

### **Intermediate Spanish**

Continuation of SPAN 1411.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: SPAN 1411, READ 300 or equivalent*

## **SPAN 2311**

### **Spanish: Reading, Conversation, Composition and Grammar Review**

Emphasis on oral fluency, grammar, composition, and the reading of modern Spanish prose.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: SPAN 1412, READ 300 or equivalent*

## **SPAN 2312**

### **Spanish: Reading, Conversation, Composition, and Grammar Review**

Continuation of SPAN 2311.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: SPAN 2311 or equivalent transfer credit*

*Continuation of SPAN 2311.*

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: SPAN 2311 or equivalent transfer credit in Spanish*

## **SPCH 1311**

### **Introduction to Speech Communication**

This course covers theories and practice of communication in interpersonal, small group, and public speech.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **SPCH 1315Ω**

### **Principles of Public Speaking**

This course includes preparation and delivery of various types of speeches with emphasis upon such fundamental principles as self-confidence, poise, directness, posture, stress, voice, and articulation. Speech types considered include announcements, informative, persuasive, after dinner, and radio speeches.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **SPCH 1318**

### **Interpersonal Communication**

This course is designed for the student who wants to improve communication skills in one-to-one settings in small groups. A study and practice of effective interpersonal concepts and techniques with emphasis on self-improvement and includes subjects such as listening, assertive communication, verbal and nonverbal communication, and dealing appropriately with conflict.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **SPCH 1321**

### **Business and Professional Communication**

Business and Professional Communication applies the techniques of oral communication to business and professional settings that people might encounter in business situations. Discussion and practical application include: methods and theory, problem-solving, research, organization, and presentation of speeches, trends in media, and interviewing.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **SPCH 1342**

### **Voice and Diction**

This course is open to all students interested in improving their diction development of the voice and proper diction, subjects include coaching of the individual student with the aid of audio taping and an audio journal. Same as DRAM 2336.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent*

## **SPCH 2333**

### **Discussion and Small Group Communication**

This course covers discussion and small group theories and techniques as they relate to group process and interaction.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent and one of the following: SPCH 1311, 1315, 1318, or 1321*

## **SPCH 2335**

### **Argumentation and Debate**

This course emphasizes theories and practice in argumentation and debate including analysis reasoning, organization, evidence, and refutation.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent and one of the following: SPCH 1311, 1315, 1318, or 1321*

## **SPCH 2341**

### **Oral Interpretation**

This course is an introduction to the study and application of the oral performance of literature with emphasis on preparation and oral reading of various types of literature, exercises in arranging and adapting literature, choral speaking, practice in phrasing, vocal quality, rhythm, and bodily responses. Literature will be analyzed and researched with sensitivity to the sociological, political, and anthropological forces that shaped the literature.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent and one of the following SPCH 1311, 1315, 1318, and 1321*

## **SPNL 1301**

### **Health Care Spanish**

Development of practical Spanish communication skills for the health care employee including medical terminology, greetings, common expressions, commands, and phrases normally used within a hospital or a physician's office.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 402 or equivalent*

## **TECA 1303**

### **Family, School and Community**

A study of the child in relation to the family, school and community. Topics include parent, education, and participation in the learning process, family and community lifestyles, child abuse, and contemporary family issues. This course includes a minimum of 16 contact hours of field experience with children, infancy through age 12 in varied settings with diverse populations. The course aligns with the State Board for Educators Certification Pedagogy and Professional Responsibilities Standards.

*Lecture Hrs. = 3, Lab Hrs. = 2, Background Check Fee*

*Prerequisite: ENRD 401 or equivalent*

## **TECA 1311**

### **Educating Young Children**

An introduction to the education of young children, including developmentally appropriate practices and programs, theoretical and historical perspectives, ethics, and professional responsibilities, and current issues. The course includes a minimum of 16 contact hours of field experience with children, infancy through age 12 in varied settings with diverse populations. The course aligns with the State Board of Educators Certification Pedagogy and Professional Responsibilities Standards.

*Lecture Hrs. = 3, Lab Hrs. = 2*

*Background Check Fee*

*Prerequisite: ENRD 401 or equivalent*

## **TECA 1318**

### **Wellness of the Young Child**

A study of factors that impact the well-being of the young child, including healthy behavior, food, nutrition, fitness, and safety practices that focus on local and national standards, as well as legal implications of relevant policies and regulations. The course includes a minimum of 16 contact hours of field experience with children, infancy through age 12 in varied settings with diverse populations. The course aligns with the State Board of Educators Certification Pedagogy and Professional Responsibilities Standards.

*Lecture Hrs. = 3, Lab Hrs. = 2*

*Background Check Fee*

*Prerequisite: ENRD 401 or equivalent*

## **TECA 1354**

### **Child Growth and Development**

A study of the principles of normal child growth and development from conception to adolescence. Focus on physical, cognitive, social, and emotional domains of development.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: ENRD 401 or equivalent*

## **TECM 1341**

### **Technical Algebra**

Application of linear equations, simultaneous equations, and quadratic equations relevant to technical occupations.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent and MATH 310 or equivalent*

## **TECM 1349**

### **Technical Math Applications**

Fundamentals of trigonometry and geometry as used in a variety of technical settings. Topics include the use of plane and solid geometry to solve areas and volumes encountered in industry.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: READ 300 or equivalent and MATH 310 or equivalent*

## **VNSG 1161**

### **Clinical – Licensed Practical/Vocational Nurse Training**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 6, Insurance Fee*

*Pre/Corequisite: BIOL 2404, (B or better)*

*Corequisite: VNSG 1226, VNSG 1304, VNSG 1423, VNSG 1429*

*Prerequisite: ADM to VN Program*

## **VNSG 1219**

### **Leadership and Professional Development**

Study of the importance of professional growth. Topics include the role of the licensed vocational nurse in the multidisciplinary health care team, professional organizations, and continuing education.

*Lecture Hrs. = 2, Lab Hrs. = 1, Testing Fee*

*Pre/Corequisite: HITT 1305, VNSG 1227, VNSG 1234, VNSG 1331, VNSG 1360, VNSG 1432*

*Corequisite: VNSG 1330, VNSG 2361, VNSG 2431*

*Prerequisite: ADM to VN Program*

## **VNSG 1226**

### **Gerontology**

Overview of the physical, psychosocial, and cultural aspects of the aging process. Addresses disease processes of aging. Exploration of perceptions toward care of the older adult. This course will run concurrently with VNSG 1429 and VNSG 1432.

*Lecture Hrs. = 2, Lab Hrs. = 0*

*Prerequisite: BIOL 2404 (B or better), VNSG 1423, VNSG 1304, VNSG 1331, VNSG 1227, VNSG 1161*

*Corequisite: HITT 1305, VNSG 1429, VNSG 1234, VNSG 1432, VNSG 1360*

*Prerequisite: ADM to VN Program*

## **VNSG 1227**

### **Essentials of Medication Administration**

General principles of medication administration including determination of dosage, preparation, safe administration, and documentation of multiple forms of drugs. Instruction includes various systems of measurement.

*Lecture Hrs. = 0, Lab Hrs. = 4*

*Prerequisite: BIOL 2404, (B or better)*

*Corequisite: VNSG 1161, VNSG 1304, VNSG 1331, VNSG 1423*

*Prerequisite: ADM to VN Program*

## **VNSG 1234**

### **Pediatrics**

Study of the care of the pediatric patient and family during health and disease. Emphasis on growth and developmental needs utilizing the nursing process. This course will run concurrently with VNSG 1429 and VNSG 1432.

*Lecture Hrs. = 2, Lab Hrs. = 0*

*Prerequisite: BIOL 2404 (B or better), VNSG 1161, VNSG 1226, VNSG 1304, VNSG 1423, VNSG 1429*

*Pre/Corequisite: HITT 1305, VNSG 1227, VNSG 1331, VNSG 1360, VNSG 1432*

*Prerequisite: ADM to VN Program*

## **VNSG 1304**

### **Foundation of Nursing**

Introduction to the nursing profession including history, standards of practice, legal and ethical issues, and role of the vocational nurse. Topics include mental health, therapeutic communication, cultural and spiritual diversity, nursing process, and holistic awareness. This course will also include introduction to the principles of nutrition.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: BIOL 2404, (B or better)*

*Corequisite: VNSG 1161, VNSG 1226, VNSG 1423, VNSG 1429*

*Prerequisite: ADM to VN Program*

## **VNSG 1330**

### **Maternal- Neonatal Nursing**

A study of the biological, psychological, and sociological concepts applicable to basic needs of the family including childbearing and neonatal care. Utilization of the nursing process in the assessment and management of the childbearing family. Topics include physiological changes related to pregnancy, fetal development, and nursing care of the family during labor and delivery and the puerperium. This course will also include disorders of the female reproductive system.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Prerequisite: HITT 1305, VNSG 1227, VNSG 1234, VNSG 1331, VNSG 1360, VNSG 1432*

*Corequisite: VNSG 1219, VNSG 2361, VNSG 2431*

*Prerequisite: ADM to VN Program*

## **VNSG 1331**

### **Pharmacology**

Fundamentals of medications and their diagnostic, therapeutic, and curative effects. Includes nursing interventions utilizing the nursing process.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: BIOL 2404, (B or better)*

*Corequisite: VNSG 1161, VNSG 1227, VNSG 1304, VNSG 1423*

*Prerequisite: ADM to VN Program*

## **VNSG 1360**

### **Clinical – Licensed practical/Vocational Nurse Training**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 18, Insurance Fee*

*Prerequisite: VNSG 1161, VNSG 1226, VNSG 1304, VNSG 1432, VNSG 1402, VNSG 1429, BIOL 2404, (B or better) Lecture*

*Corequisite: VNSG 1227, VNSG 1234, VNSG 1331, VNSG 1432, HITT 1305*

*Prerequisite: ADM to VN Program*

## **VNSG 1423**

### **Basic Nursing Skills**

Mastery of basic nursing skills and competencies for a variety of health care settings using the nursing process as the foundation for all nursing interventions.

*Lecture Hrs. = 2, Lab Hrs. = 6, Lab Fee*

*Pre/Corequisite: BIOL 2404, (B or better)*

*Corequisite: VNSG 1161, VNSG 1226, VNSG 1304, VNSG 1429*

*Prerequisite: ADM to VN Program*

## **VNSG 1429**

### **Medical-Surgical Nursing I**

Application of the nursing process to the care of the adult patient experiencing medical-surgical conditions along the health illness continuum in a variety of health care settings. This course will focus on the health care needs of the adult client with disorders of the respiratory, musculoskeletal, genitourinary/male reproductive integumentary, immune systems as well as cancer.

*Lecture Hrs. = 4, Lab Hrs. = 1, Testing Fee*

*Prerequisite: BIOL 2404, (B or better), VNSG 1423, VNSG 1304, VNSG 1331, VNSG 1227, VNSG 1161*

*Corequisite: HITT 1305, VNSG 1226, VNSG 1234, VNSG 1432, VNSG 1360*

*Prerequisite: ADM to VN Program*

## **VNSG 1432**

### **Medical-Surgical Nursing II**

Continuation of Medical-Surgical Nursing I with application of the nursing process to the care of the adult patient experiencing medical-surgical conditions along the health-illness continuum in a variety of health care settings. This course will focus on the health care needs of the adult patient with disorders of the endocrine, gastrointestinal, nervous, cardiovascular, eye and ear, genitourinary systems, and fluid and electrolytes.

*Lecture Hrs. = 4, Lab Hrs. = 1, Testing Fee*

*Prerequisite: VNSG 1423, VNSG 1304, VNSG 1226, VNSG 1429, BIOL 2404, (B or better), VNSG 1161*

*Corequisite: HITT 1305, VNSG 1331, VNSG 1227, VNSG 1234, VNSG 1360*

*Prerequisite: ADM to VN Program*

## **VNSG 2361**

### **Clinical – Licensed practical/Vocational Nurse Training**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

*Lecture Hrs. = 0, Lab Hrs. = 0, External Hrs. = 15, Insurance Fee, Testing Fee*

*Prerequisite: HITT 1305, VNSG 1227, VNSG 1234, VNSG 1331, VNSG 1360, VNSG 1432*

*Corequisite: VNSG 1219, VNSG 1330, VNSG 2431*

*Prerequisite: ADM to VN Program*

## **VNSG 2431**

### **Advanced Nursing Skills**

Mastery of advanced level nursing skills and competencies in a variety of health care setting utilizing the nursing process as a problem solving tool.

*Lecture Hrs. = 4, Lab Hrs. = 1*

*Prerequisite: VNSG 1227, VNSG 1234, VNSG 1331, VNSG 1360, VNSG 1432, HITT 1305*

*Pre/Corequisite: VNSG 1219, VNSG 1330, VNSG 2361*

*Prerequisite: ADM to VN Program*

## **WLDG 1291**

### **Special Topics in Welder/Welding**

#### **Technologist: Introduction to Gas Metal Arc**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency. A study of the principles of gas metal arc welding, setup and use of GMAW equipment, and safe use of tools/equipment. Instruction in various joint designs.

*Lecture Hrs. = 1, Lab Hrs. = 2*

*Pre/Corequisite: READ 300 or equivalent*

## **WLDG 1312**

### **Introduction to Flux Cored Arc Welding**

An overview of terminology, safety procedures, and equipment setup. Practice in performing T-joints, lap joints, and butt joints using Flux Cored Arc Welding (FCAW ) equipment.

*Lecture Hrs. = 2, Lab Hrs. = 2*

*Prerequisite: READ 300 or equivalent*

## **WLDG 1313**

### **Introduction to Blueprint Reading for Welders**

A study of industrial blueprints. Emphasis placed on terminology, symbols, graphic description, and welding processes. Includes systems of measurement and industry standards. Also includes interpretation of plans and drawings used by industry to facilitate field application and production.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **WLDG 1323**

### **Welding Safety, Tool, and Equipment**

An introduction to welding careers, equipment and safety practices, including OSHA standards for industry.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **WLDG 1327**

### **Welding Codes**

An in-depth study of welding codes and their development in accordance with structural standards, welding processes, and destructive and nondestructive test methods. Includes API 1104 and ASME, Section IX and B31.3.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **WLDG 1337**

### **Introduction to Welding Metallurgy**

A study of ferrous and non-ferrous metals from the ore to the finished product. Emphasis on metal alloys, heat treating, hard surfacing, welding techniques, forging, foundry processes, and mechanical properties of metal including hardness, machinability, and ductility.

*Lecture Hrs. = 3, Lab Hrs. = 0*

*Pre/Corequisite: READ 300 or equivalent*

## **WLDG 1428**

### **Introduction to Shielded Metal Arc Welding (SMAW)**

An introduction to shielded metal arc welding process. Emphasis placed on power sources, electrode selection, oxy-fuel cutting, and various joint designs. Instruction provided in SMAW fillet welds in various positions.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Pre/Corequisite: READ 300 or equivalent*

## **WLDG 1434**

### **Introduction to Gas Tungsten Arc Welding (GTAW)**

Principles of gas tungsten arc welding (GTAW ), including setup, GTAW equipment. Instruction in various positions and joint designs.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: WLDG 1428*

*Pre/Corequisite: READ 300 or equivalent*

## **WLDG 1435**

### **Introduction to Pipe Welding**

An introduction to welding of pipe using the shielded metal arc welding process (SMAW ), including electrode selection, equipment setup, and safe shop practices. Emphasis on weld position 1G and 2G using various electrodes.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: WLDG 2443*

*Pre/Corequisite: READ 300 or equivalent*

## **WLDG 2443**

### **Advanced Shielded Metal Arc Welding (SMAW)**

Advanced topics based on accepted welding codes. Training provided with various electrodes in shielded metal arc welding processes with open V-groove joints in all positions.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: WLDG 1428*

*Pre/Corequisite: READ 300 or equivalent*

## **WLDG 2451**

### **Advanced Gas Tungsten Arc Welding (GTAW)**

Advanced topics in GTAW welding, including welding in various positions and directions.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: WLDG 1434*

*Pre/Corequisite: READ 300 or equivalent*

## **WLDG 2453**

### **Advanced Pipe Welding**

Advanced topics involving welding of pipe using the shielded metal arc welding (SMAW ) process. Topics include electrode selection, equipment setup, and safe shop practices. Emphasis on weld positions 5G and 6G using various electrodes.

*Lecture Hrs. = 3, Lab Hrs. = 3*

*Prerequisite: WLDG 1435*

*Pre/Corequisite: READ 300 or equivalent*