

ABDR 1441**Structural Analysis and Damage Repair I**

Expand training in the roughing and shaping procedures on automotive sheet metal necessary to make satisfactory body repairs. Emphasis on the alignment of component parts such as doors, hood, front-end assemblies, and deck lids.

Lecture Hrs.=3, Lab Hrs.=2

Prerequisite: READ 300 or ESOL 310 or equivalent

ABDR 1442**Structural Analysis and Damage Repair II**

Continuation of general repair and replacement procedures for damaged structural parts and collision damage.

Lecture Hrs.=3, Lab Hrs.=2

Prerequisite: READ 300 or ESOL 310 or equivalent

ABDR 1455**Minor Metal Repair**

A course in sheet metal alignment principles using mechanical and hydraulic equipment. Emphasis on attachment devices used to straighten and align exterior body panels.

Lecture Hrs.=3, Lab Hrs.=2

Prerequisite: READ 300 or ESOL 310 or equivalent

ABDR 1458**Intermediate Refinishing**

Expanded training in mixing and spraying of automotive topcoats. Emphasis on formula ingredient, reducing, thinning, and special spraying techniques. Introduction to partial panel refinishing techniques and current industry paint removal techniques.

Lecture Hrs.=3, Lab Hrs.=2

Prerequisite: READ 300 or ESOL 310 or equivalent

ABDR 2488**Internship: Autobody/Collision and Repair 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.=15

Prerequisite: READ 300 or ESOL 310 or equivalent, Instructor's Permission

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, 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: READ 300 or ESOL 310 or equivalent

ACCT 2402Q**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 control. 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 ESOL 311 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. (Fall Only)

Lecture Hrs.=2, Lab Hrs.=2

Prerequisite: ACCT 2401, READ 301 or equivalent

ACNT 1313**Computerized Accounting Applications**

Introduction to utilizing the computer to develop and maintain accounting record keeping systems, making management decisions, and process common business applications with emphasis on utilizing a spreadsheet and/or data base package/program. (Spring Only)

Lecture Hrs.=2, Lab Hrs.=2

Prerequisite: ACCT 2401, READ 301 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 over-view of taxes relating to partnerships and corporations. (Spring Only)

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ACCT 2401, READ 301 or equivalent

ACNT 1331**Federal Income Tax: Individual**

A study of the laws currently implemented by the IRS, providing a working knowledge of preparing taxes for the individual. The course focuses on identifying the determinants of taxable income, selection and use of proper forms, and compilation of income tax due. The use of computer tax program is included.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301 or ESOL 311 or equivalent

ACNT 2302**Accounting Capstone**

A learning experience that allows students to ap-

ply broad knowledge of the accounting profession through discipline specific projects involving the integration of individuals and teams performing activities to simulate workplace situations.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ACCT 2303

ACNT 2303**Intermediate Accounting I**

Critical analysis of generally accepted accounting principles, concepts, and theory underlying the preparation of financial statements. Emphasis on current theory and practice. In addition, this course includes the study of present and future value concepts; current, plant, and intangible assets; some payroll theory; other financial accounting topics. (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. (Spring Only).

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ACCT 2303

ACNT 2309**Cost Accounting**

A study of budgeting and cost control systems including a detailed study of manufacturing cost accounts and reports, job order costing, and process costing. Includes introduction to alternative costing methods such as activity-based and just-in-time costing. The course also includes cost allocations, break-even analysis, profit-volume ratio, standard, direct and variable costing. (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, MUST be in 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, MUST be in 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, MUST be in 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

AGRI 1319 **Introductory Animal Science**

Scientific animal agriculture. Selection, reproduction, nutrition, genetics, animal breeding, growth and development in beef cattle, swine, sheep, and goats.

Lecture Hrs.=2, Lab Hrs.=2
Pre/Corequisite: READ 301, ESOL 311 or equivalent; ENGL 301 or equivalent; MATH 310 or equivalent

AGRI 2317 **Introduction to Agricultural Economics**

An introduction to the study of the field of agricultural economics and fundamental economic problems and their application to the problems of the industry of agriculture. Concepts are illustrated in terms of selected current social and economic issues, including the role of agriculture in both the national and international dimension.

Lecture Hrs.=0, Lab Hrs.=0
Pre/Corequisite: READ 300 or equivalent

AIRP 1215 **Private Flight**

Flight training to prepare the student for the completion of the Federal Aviation Administration private pilot certificate, including dual and solo flight in the areas of maneuvers and cross-country navigation.

Lecture Hrs.=1, Lab Hrs.=7
Pre/Corequisite: READ 300, ESOL 310, or equivalent
Corequisite: Two ground courses in Fall/Spring semesters; one in Summer terms

AIRP 1255 **Intermediate Flight**

Provide students with flight hours and skills necessary to fulfill solo cross-country hours required for the Federal Aviation Administration Commercial Pilot, single engine land, airplane certificate.

Lecture Hrs.=1, Lab Hrs.=7
Prerequisite: AIRP 1215
Pre/Corequisite: READ 300, ESOL 310, or equivalent
Corequisite: Two ground courses in Fall/Spring semesters; one in Summer terms

AIRP 1301 **Air Navigation**

Instruction in Visual Flight rules navigation in the National Airspace System. Topics include sectional charts, flight computers, plotters, and navigation logs and publications. Qualifies as part of a program leading to Federal Aviation Administration Private Pilot certification.

Lecture Hrs.=3, Lab Hrs.=0
Pre/Corequisite: READ 300 or equivalent

AIRP 1307 **Aviation Meteorology**

In-depth coverage of meteorological phenomena affecting aircraft flight. Topics include basic concepts of aviation meteorology in the study of temperature, pressure, moisture, stability, clouds, air masses, fronts, thunderstorms, icing, and fog. Also includes analysis and use of weather data for flight planning.

Lecture Hrs.=3, Lab Hrs.=0
Pre/Corequisite: READ 300 or equivalent

AIRP 1317 **Private Pilot Ground School**

Basic ground school for the Federal Aviation Administration Private Pilot Certificate, providing the student with the necessary aeronautical knowledge that can be used for private pilot certification. Topics include principles of flight, radio procedures, weather, navigation, aerodynamics, and Federal Aviation Administration regulations.

Lecture Hrs.=3, Lab Hrs.=0
Pre/Corequisite: READ 300 or equivalent

AIRP 1341 **Advanced Air Navigation**

Skill development in advanced airplane systems and performance including radio navigation and cross-country flight planning. Includes an introduction to instrument flight operations and navigation. This course may be used as part of a program leading to Federal Aviation Administration certification.

Lecture Hrs.=3, Lab Hrs.=0
Prerequisite: AIRP 1301
Pre/Corequisite: READ 300 or equivalent

AIRP 1343 **Aerodynamics**

Study of the general principles of the physical laws of flight. Topics include physical terms and the four forces of flight: lift, weight, thrust, and drag. Aircraft design, stability control, and high-speed flight characteristics are also included.

Lecture Hrs.=3, Lab Hrs.=0
Pre/Corequisite: READ 300 or equivalent

AIRP 1345 **Aviation Safety**

A study of the fundamentals essential to the safety of flight. A survey of the aviation industry including decision-making factors, accident reporting, accident investigation, air traffic systems, and aircraft technologies.

Lecture Hrs.=3, Lab Hrs.=0
Pre/Corequisite: READ 300 or equivalent

AIRP 1351 **Instrument Ground School**

A study of basic instrument radio and navigation fundamentals used in instrument flight. Topics include a description and practical use of navigation systems and instruments, charts used for instrument flight, and Federal Aviation Administration regulations. Qualifies as part of a program leading to Federal Aviation Administration certification.

Lecture Hrs.=3, Lab Hrs.=0
Pre/Corequisite: READ 300 or equivalent

AIRP 2239 **Commercial Flight**

Flight instruction necessary to qualify for the Federal Aviation Administration Commercial Pilot Certificate. Instruction includes both dual and solo flight training to prepare the student for mastery of all commercial pilot maneuvers.

Lecture Hrs.=1, Lab Hrs.=7
Prerequisite: AIRP 2250
Pre/Corequisite: READ 300, ESOL 310, or equivalent
Corequisite: Two ground courses in Fall/Spring semesters; one in Summer terms

AIRP 2250 **Instrument Flight**

Preparation for completion of the Federal Aviation Administration Instrument Pilot Rating with mastery of all instrument flight procedures.

Lecture Hrs.=1, Lab Hrs.=7
Pre/Corequisite: Two ground courses in Fall/Spring semesters; one in Summer terms
Pre/Corequisite: READ 300 or equivalent

AIRP 2331 **Advanced Meteorology**

Preparation for advanced aviation students to apply knowledge of varying meteorological factors including weather hazards to flight, techniques for minimizing weather hazards, and aviation weather services.

Lecture Hrs.=3, Lab Hrs.=0
Prerequisite: AIRP 1307
Pre/Corequisite: READ 300 or equivalent

AIRP 2333 **Aircraft Systems**

Study of the general principles, operation, and application of pneumatic, hydraulic, electrical, fuel, environmental, protection, and warning systems. Emphasis on types of aircraft structures and their control systems.

Lecture Hrs.=3, Lab Hrs.=0
Pre/Corequisite: READ 300 or equivalent

AIRP 2337 **Commercial Ground School**

A study of advanced aviation topics that can be used for Federal Aviation Administration certification at the commercial pilot level. Includes preparation for the Federal Aviation Administration Commercial Airplane written test.

Lecture Hrs.=3, Lab Hrs.=0
Prerequisite: AIRP 2250
Corequisite: Two ground courses in Fall/Spring semesters; one in Summer terms
Pre/Corequisite: READ 300 or equivalent

ANTH 2351 **Cultural Anthropology**

The course introduces theories and methods in the study of human cultures and how anthropologists comparatively research, analyze and interpret the cultural institutions such as languages, kinships, economic systems, political processes, social stratifications, arts, and religions. This course takes a critical look at cultural diversity, evolution, and cross-cultural interaction.

Lecture Hrs.=3, Lab Hrs.=0
Prerequisite: READ 301, ESOL 311, or equivalent and ENGL 302, ESOL 321, or equivalent

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 ESOL 310 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 ESOL 310 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 READ 301, ESOL 311, 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: DFTG 2419

Prerequisite: READ 301 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: ENGL 301 or equivalent, MATH 320 or equivalent,

READ 301 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: ENGL 301 or equivalent, MATH 320 or equivalent,

READ 301 or equivalent

ARCH 1303**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.=3, Lab Hrs.=3

Prerequisite: READ 301 or equivalent

Pre/Corequisite: ARCH 2301 or ARCH 1307

ARCH 1304**Architectural Design II**

This course is a continuation of ARCH 1303 (Architectural Design I), with emphasis on more complex, three-dimensional design problems.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: ARCH 1303, READ 301 or equivalent

ARCH 1305**Architectural Aesthetics**

Architecture as a contemporary philosophical concept. Visual experience in the aesthetics of architecture.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGL 301 or equivalent, READ 301 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.=3, Lab Hrs.=3

Prerequisite: ENGL 301, MATH 310, READ 301 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.=3, Lab Hrs.=3

Prerequisite: ARCH 1307, READ 301 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: ENGL 301 or equivalent, READ 301 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.=3, Lab Hrs.=3

Pre/Corequisite: ARCH 1311

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.=3, Lab Hrs.=3

Prerequisites: ENGL 301, MATH 310, READ 301 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.=3, Lab Hrs.=3

Prerequisites: ENGL 301, ESOL 320, or equivalent; MATH 310, READ 301, ESOL 311 or, equivalent

Requisite: ARCH 2301

ARCH 2312**Architectural Technology I**

Introduction to the properties, specifications, and application of materials related to architectural structures. Emphasis on methods of construction and the effect of design. This course involves the study of building systems and their structure, economics, and aesthetic uses in architecture. The varieties, manufacture, properties, and uses of building materials are also presented. Also included are units on Accessibility, Life Safety, Building Envelope Systems, and Building Service Systems.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301 or equivalent

Pre/Corequisites: PHYS 1401, MATH 1316 or MATH 2412 or equivalent

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: READ 301 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: READ 301, ESOL 311, or equivalent

Pre/Corequisite: 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: READ 301 or equivalent

Pre/Corequisite: ITSC 1309 or BCIS 1405

ARTS 1301**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: READ 301 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: READ 301 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: READ 301 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.=3, Lab Hrs.=3

Pre/Corequisite: READ 300 or equivalent

ARTS 1312**Design II**

Continuation of ARTS 1311 with emphasis on three-dimensional concepts.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: ARTS 1311

Pre/Corequisite: READ 300 or equivalent

ARTS 1313**Art Education**

A survey of philosophical, methodological, and materials commonly used in primary art education. This course has the dual purpose of making the prospective teacher aware of children's art as a whole and at the same time the creative individuality of each child.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 301 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.=3, Lab Hrs.=3

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.=3, Lab Hrs.=3

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.=3, Lab Hrs.=3

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.=3, Lab Hrs.=3

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.=3, Lab Hrs.=3

Pre/Corequisite: READ 300 or equivalent

ARTS 2317Ω**Painting II**

Continuation of ARTS 2316 with emphasis on individual expression.

Lecture Hrs.=3, Lab Hrs.=3

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.=3, Lab Hrs.=3

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.=3, Lab Hrs.=3

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.=3, Lab Hrs.=3

Pre/Corequisite: READ 300 or equivalent

ARTS 2327Ω**Sculpture II**

A continuation of ARTS 2326 with emphasis on individual expression.

Lecture Hrs.=3, Lab Hrs.=3

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.=3, Lab Hrs.=3

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.=3, Lab Hrs.=3

Prerequisite: ARTS 2326

Pre/Corequisite: READ 300 or equivalent

ARTS 2346Ω**Ceramics I**

An introduction to basic ceramic processes.

Lecture Hrs.=3, Lab Hrs.=3

Pre/Corequisite: READ 300 or equivalent

ARTS 2347Ω**Ceramics II**

Opportunities for specialization in ceramic processes.

Lecture Hrs.=3, Lab Hrs.=3

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.=3, Lab Hrs.=3

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.=3, Lab Hrs.=3

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.=3, Lab Hrs.=3

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.=3, Lab Hrs.=3

Prerequisite: ARTS 2356

Pre/Corequisite: READ 300 or equivalent

AUMT 1313**Automotive Suspension and Steering Systems Theory**

A study of automotive suspension and steering systems including the theory of wheel and tire

construction and alignment angles and procedures.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 300 or ESOL 310 or equivalent

AUMT 1349

Automotive Electronics Theory

A course in automotive technology including electrical principles, semiconductor and integrated circuits, digital fundamentals, microcomputer systems, and electrical test equipment.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 300 or ESOL 310 or equivalent

AUMT 1357

Automotive Brake Systems Theory

Theory and principles related to the design, operation, and servicing of automotive braking systems. Includes disc and drum-type brakes, hydraulic systems, power assist components, anti-lock brake systems, and diagnosis and reconditioning procedures.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 300 or ESOL 310 or equivalent

AUMT 1407

Automotive Electrical Systems

An overview of automotive electrical systems including topics in operational theory, testing, diagnosis, and repair of batteries, charging and starting systems, and electrical accessories. Emphasis on electrical schematic diagrams and service manuals. May be taught manufacturer specific.

Lecture Hrs.=3, Lab Hrs.=2

Prerequisite: READ 300 or ESOL 310 or equivalent

AUMT 1416

Automotive Suspension and Steering Systems

A study of automotive suspension and steering systems including tire and wheel problem diagnosis, component repair, and alignment procedures. May be taught manufacturer specific.

Lecture Hrs.=3, Lab Hrs.=2

Prerequisite: READ 300 or ESOL 310 or equivalent

AUMT 1480

Cooperative Education: Automobile/Automotive Mechanics 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.=1, Lab Hrs.=0, External Hrs.=21

Prerequisite: READ 300 or ESOL 310 or equivalent

AUMT 2305

Automotive Engine Theory

Fundamentals of engine operation and diagnosis including lubrication and cooling systems. Emphasis on identification of components, measurements, inspections, and repair methods.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 300 or ESOL 310 or equivalent

AUMT 2315

Automotive Engine Performance Analysis Theory I

Operation and diagnosis of basic engine dynamics including the study of the ignition system, fuel delivery systems, and the use of engine performance diagnostic equipment.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 300 or ESOL 310 or equivalent

AUMT 2317

Automotive Engine Performance Analysis I

Theory, operation, diagnosis, and repair of basic engine dynamics, ignition systems, and fuel delivery systems. Use of basic engine performance diagnostic equipment. May be taught with manufacturer specific instructions.

Lecture Hrs.=2, Lab Hrs.=2

Prerequisite: READ 300 or ESOL 310 or equivalent

AUMT 2388

Internship-Automobile/Automotive Mechanics 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.=10

Prerequisite: READ 300 or ESOL 310 or equivalent

AUMT 2389

Internship-Automobile/Automotive Mechanics 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.=10

Prerequisite: READ 300 or ESOL 310 or equivalent

BCIS 1405

Business Computer Applications

This course discusses 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, spreadsheets, databases, presentation graphics, and business-oriented utilization of the Internet.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: READ 300 or ESOL 311 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).

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 301 or equivalent, ENGL 301 or equivalent, MATH 310 or equivalent

BIOL 1406Ω

General Biology I

A general biology course including basic biochemistry, cell biology, cell metabolism and energetics, photosynthesis, genetics, evolution, taxonomy, bacteria, and viruses. A research component is required for honors credit.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: READ 302

Pre/Corequisites: ENGL 301 or equivalent and MATH 310 or equivalent

BIOL 1407Ω

General Biology II

A continuation of BIOL 1406 with emphasis on fungi, protists, plants, plant function, animals, animal physiology, ecology, and environmental issues. A research component is required for honors credit.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: BIOL 1406 (C or better), READ 302 or equivalent, ENGL 301 or equivalent, MATH 310 or equivalent

BIOL 1411Ω

General Botany

This course presents a panorama of plant life and how plants function, live, reproduce, and interact with their environment and man. The botanical principles discussed will convey a conceptual unity to the knowledge about plants and their relationships in a dynamic world.

Lecture Hrs.=3, Lab Hrs.=3

Pre/Corequisites: READ 301 or equivalent, ENGL 301 or equivalent and MATH 310 or equivalent

BIOL 1413

General Zoology

This course presents a panorama of animal life and how animals function, live, reproduce, and interact with their environment and man. The zoological principles discussed will convey a conceptual unity to the knowledge about animals and their relationships in a dynamic world.

Lecture Hrs.=3, Lab Hrs.=3

Pre/Corequisites: READ 301 or equivalent, ENGL 301 or equivalent, 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/Corequisites: READ 301 or equivalent, ENGL 301 or equivalent, MATH 310 or equivalent

BIOL 1475

Introduction to Oceanography

This course will provide a broad understanding of geological, physical, chemical and biological aspects of oceanic phenomena. Laboratory and field exercises will provide experience with common oceanographic techniques while studying local aquatic environments.

Lecture Hrs.=3, Lab Hrs.=3

Pre/Corequisites: BIOL 1406, CHEM 1411, GEOL 1403, PHYS 1401, or PHYS 1405 with a minimum of C or higher

BIOL 2305

Pathophysiology

A study of the structure and function of the human body with specialized emphasis on disease processes.

Lecture Hrs.=3, Lab Hrs.=0

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

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: READ 302 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: READ 301 or ESOL 311 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/Corequisites: READ 301 or equivalent, ENGL 301 or equivalent, MATH 310 or equivalent

BIOL 2421**Microbiology**

The study of the morphology, physiology, and classification of microorganisms with special emphasis on bacteria. Laboratory work includes culturing, staining, and the procedures of disinfection and sterilization techniques.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: Any BIOL course (C or better)

Pre/Corequisites: READ 301 or equivalent, ENGL 301 or equivalent, MATH 310 or equivalent

BMGT 1301**Supervision**

A study of the role of the supervisor. Managerial functions as applied to leadership, counseling, motivation, and human skills are examined.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 300 or equivalent

BMGT 1307**High Performance Work Team**

Basic principles of building and sustaining teams in organizations including team dynamics and process improvement.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 300 or equivalent

BMGT 1325**Office Management**

Systems, procedures, and practices related to organizing and planning office work, controlling employees' performance, and exercising leadership skills.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301, ESOL 311, 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: READ 301, ESOL 311, or equivalent

BMGT 1331**Production and Operations Management**

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

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301, ESOL 311, 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 justice in management practices and business activities. Review of ethical responsibilities and relationships between organizational departments, divisions, executive

management, and the public.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301, ESOL 311, or equivalent

BMGT 2309**Leadership**

Concepts of leadership and its relationship to management. Prepares the student with leadership and communication skills needed to motivate and identify.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301, ESOL 311, or equivalent

BUSG 2309**Small Business Management**

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

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301, ESOL 311, 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: READ 301, ESOL 311, 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: READ 302 or equivalent and ENGL 302 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: READ 301 or equivalent

BUSI 2301**Business Law**

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

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 301 or equivalent

CETT 1302**Electricity Principles**

Principles of electricity including proper use of test equipment, A/C and D/C circuits, and component theory and operation.

Lecture Hrs.=2, Lab Hrs.=2

Prerequisite: READ 300 or ESOL 310 or equivalent

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 ESOL 310 or equivalent

CETT 1325**Digital Fundamentals**

An entry-level course in digital electronics covering number systems, binary mathematics, digital codes, logic gates, Boolean algebra, Karnaugh maps, and combinational logic. Emphasis on circuit logic analysis and troubleshooting digital circuits.

Lecture Hrs.=2, Lab Hrs.=2

Prerequisite: READ 300 or ESOL 310 or equivalent

CHEM 1405Q**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. Cover general principles of chemistry, description of elements and compounds, chemical laws, 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/Corequisites: READ 301 or equivalent, and MATH 310, or equivalent, or prerequisite TECM 1341)

CHEM 1411Q**General Chemistry I**

The study of fundamental concepts and laws underlying chemistry, including states of matter, atomic structure, periodic table, chemical bonding, chemical reactions, solutions, gas laws, properties of solids and liquids, qualitative and quantitative analysis including instrumental methods.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: READ 302 or equivalent

Pre/Corequisite: MATH 1414 or equivalent

CHEM 1412**General Chemistry II**

A continuation of CHEM 1411. Study of equilibrium, oxidation-reduction reactions, electrochemistry, chemical thermodynamics, chemical kinetics, solutions, solubility of salts, acids and bases, buffers, properties of elements in the periodic groups, complexions, introductory organic chemistry, systematic qualitative analysis of common cations and anions, and quantitative analysis including instrumental methods.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisites: CHEM 1411, MATH 1414 or equivalent, READ 302 or equivalent

CHEM 1419Q**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. Credit will not be given for both CHEM 1419 and CHEM 1411 or 1412.

Lecture Hrs.=3, Lab Hrs.=3

Pre/Corequisites: READ 301 or equivalent and (MATH 310 or equivalent or prerequisite TECM 1341)

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, MATH 1414, READ 302

CHEM 2423**Organic Chemistry I**

A study of the nomenclature, mechanism of reactions, synthesis of organic compounds, isolation and analysis of organic compounds, and determination of physical constants. Includes both the aliphatic and aromatic hydrocarbons and their derivatives, cis/trans, and optical isomerism.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisites: CHEM 1412, MATH 1414, READ 302

CHEM 2425**Organic Chemistry II**

A continuation of CHEM 2423 which includes study of aldehydes and ketones, amines, alcohols, carboxylic acids and derivatives, amino acids and proteins, and carbohydrates. Continued study of the analysis of organic compounds, including instrumental methods.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: CHEM 2423

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: READ 301 or ESOL 311 or equivalent

CNBT 1300**Residential and Light Commercial Blueprint Reading**

Introductory blueprint reading for residential and light commercial construction.

Lecture Hrs.=3, Lab Hrs.=1

Pre/Corequisites: READ 301, ESOL 311 or equivalent

CNBT 1311**Construction Methods and Materials I**

Introduction to construction materials, methods and their applications.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisites: READ 301, ESOL 311 or equivalent

CNBT 1316**Construction Technology I**

Introduction to site preparation foundations and form work, safety, tools, and equipment.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisites: READ 301, ESOL 311 or equivalent

CNBT 1442**Building Codes and Inspections**

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

Lecture Hrs.=3, Lab Hrs.=3

Pre/Corequisites: READ 300, ESOL 310 or equivalent

CNBT 1491**Special Topics in Construction/Building Technology/Technician**

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.=3

Pre/Corequisites: READ 301, ESOL 311 or equivalent

CNBT 2310**Commercial/Industrial Blueprint Reading**

Introductory blueprint reading for commercial/industrial construction.

Lecture Hrs.=3, Lab Hrs.=3

Pre/Corequisites: READ 301, ESOL 311 or equivalent

CNBT 2317**Green Building**

Methods and materials used for buildings that conserve energy, water, and human resources.

Lecture Hrs.=3, Lab Hrs.=3

Pre/Corequisites: READ 301, ESOL 311 or equivalent

CNBT 2437**Construction Estimating II**

Advanced estimating concepts using computer software programs for construction and craft.

Lecture Hrs.=3, Lab Hrs.=3

Pre/Corequisites: READ 301, ESOL 311 or equivalent

CNBT 2442**Construction Management I**

Human relations management skills in motivation on the job site. Topics include written and oral communications, leadership and motivation, problem solving, and decision-making.

Lecture Hrs.=3, Lab Hrs.=2

Pre/Corequisites: READ 301, ESOL 311, or equivalent, CNBT 1300 and 1316

CNBT 2444**Construction Management II**

A management course in contract documents, safety, planning, scheduling, production control, and law and labor. Topics include contracts, planning, cost, and production peripheral documents, and cost and work analysis.

Lecture Hrs.=3, Lab Hrs.=3

Pre/Corequisites: READ 301, ESOL 311, or equivalent

CNBT 2467**Practicum (or Field Experience): Construction Engineering Technology/Technician**

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.=28

Prerequisites: 12 hours of CNBT credit and READ 301, ESOL 311, or equivalent

COMM 1307**Introduction to Mass Communications**

A general study of the mass media with emphasis on print, broadcast, and film. Includes the interrelationship of mass media in modern society with reference to its evolution. Gives the non-journalism major the knowledge to be a more intelligent user of the mass media. Introduces the journalism major to all areas of journalism stressing responsibility and ethics. This course taught in fall semester only.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGL 301 or equivalent, READ 302 or equivalent

COMM 2220**Advanced Recording and Production Techniques**

Examination of the role of the producer including recording, mixing, arranging, analyzing projects, session planning, communication, budgeting, business aspects, technical consideration, and

music markets. Execute advanced recording and producing projects.

Lecture Hrs.=2, Lab Hrs.=4

Prerequisite: COMM 2325, COMM 2326, instructor's permission

Pre/Corequisite: READ 300, ESOL 310, or equivalent

COMM 2289A**Audio Recording Cooperative**

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

Lecture Hrs.=1, Lab Hrs.=0, External Hrs.=6

Prerequisite: Instructor's permission

Pre/Corequisite: READ 300 or equivalent

Instructor Consent Required

COMM 2303**Beginning Recording Techniques**

Overview of the recording studio. Topics include basic studio electronics and acoustic principles, wave form analysis, 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.=1

Pre/Corequisite: READ 300 or equivalent

COMM 2305**Business Publication Design**

Technical emphasis on design and production of printed materials such as reports, brochures, booklets and manuals. Subjects covered will include typography, layout, and effective use of color and graphic effects. This course is computer-based.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGL 302 or equivalent, READ 301 or equivalent

COMM 2324**Intermediate Recording Techniques**

Implementation of the recording process, microphones, audio console, multi-track recorder, and signal processing devices.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: COMM 2303

Pre/Corequisite: READ 300 or equivalent

COMM 2325**Electronic Music I: Editing Hard Disk**

Procedures and techniques in recording and manipulating audio. Topics include advanced hard disk digital editing, linear and nonlinear digital multi-track recording and advanced engineering project completions.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: COMM 2324, MUSI 1301 or MUSI 1311

Pre/Corequisite: READ 300 or equivalent

COMM 2326**Electronic Music II-MIDI Interface**

History and evolution of Musical Digital Interface (MIDI) systems and applications, the MIDI language, and applications in the studio environment using software based sequencing programs.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: COMM 2324, MUSI 1301 or MUSI 1311

Pre/Corequisite: READ 300 or equivalent

COMM 2389H**Communications Cooperative**

This course provides students with work-related experience in any of the following areas: journalism, mass communications, electronic broadcast media, public relations, advertising, audio en-

hancement, graphic design, web page development.

Lecture Hrs.=1, Lab Hrs.=0, External Lab Hrs.=6

Prerequisite: READ 302 or equivalent

Instructor Consent Required

COSC 1301 Microcomputer Applications

Overview of computer information systems. Introduces computer hardware, software, procedures, systems, and human resources and explores their integration and application in business and other segments in society. The fundamentals of computer problem solving and programming in a higher level programming language may be discussed and applied.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301 or ESOL 311 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.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: COSC 1301 or ITSC 1309 or READ 301 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.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: COSC 1436, READ 301 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.

Lecture Hrs.=2, Lab Hrs.=2

Prerequisite: COSC 1436, READ 301 or equivalent

COSC 2436 Programming Fundamentals II

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.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: COSC 1437, READ 301 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 ESOL 310 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: READ 300 or ESOL 310 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: READ 300 or equivalent

CPMT 2445 Computer System Troubleshooting

Principles and practices involved in computer system troubleshooting techniques and repair procedure including advanced diagnostic test programs and the use of specialized test equipment.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: CPMT 1411, READ 300 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 2445, 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: READ 301 or ESOL 311 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: READ 301 or ESOL 311 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: READ 301 or ESOL 311 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: READ 301 or ESOL 311 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: READ 301 or ESOL 311 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; future trends in community treatment.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301 or ESOL 311 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; current and future issues.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301 or ESOL 311 or equivalent

CRIJ 2314 Criminal Investigation

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

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301 or ESOL 311 or equivalent

CRIJ 2323 Legal Aspects of Law Enforcement

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

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301 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; current and future issues.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301 or equivalent

CSME 1244**Introduction to Salon Development**

Overview of the procedures and operations as related to salon management.

Lecture Hrs.=1, Lab Hrs.=3

Pre/Corequisite: READ 300 or equivalent

CSME 1248**Principles of Skin Care**

An introduction of the theory and practice of skin care.

Lecture Hrs.=1, Lab Hrs.=3, Insurance Fee

Pre/Corequisite: CSME 1505, READ 301 or equivalent

CSME 1330**Orientation to Nail Technology**

An overview of the fundamental skills and knowledge necessary for the field of nail technology.

Lecture Hrs.=1, Lab Hrs.=8, Insurance Fee

Pre/Corequisite: READ 300 or equivalent

CSME 1410**Introduction to Haircutting and Related Theory**

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

Lecture Hrs.=2, Lab Hrs.=7, Insurance Fee

Pre/Corequisite: CSME 1505, READ 300 or equivalent

CSME 1431**Principles of Nail Technology I**

A course in the principles of nail technology. Topics include anatomy, physiology, theory, and skills related to nail technology.

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

Prerequisite: CSME 1330

Pre/Corequisite: READ 300 or equivalent

CSME 1434**Cosmetology Instructor**

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 license is 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 license is required for admission to this class.

Pre/Corequisite: READ 300 or equivalent

CSME 1441**Principles of Nail Technology II**

A continuation of the concepts and principles of nail technology. Topics include advanced instruction in anatomy, physiology, theory, and related skills of nail technology.

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

Prerequisite: CSME 1330

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.=68, Insurance Fee

Pre/Corequisite: CSME 2505, READ 300 or equivalent

CSME 1505**Fundamentals of Cosmetology**

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

Lecture Hrs.=3, Lab Hrs.=8

Pre/Corequisite: READ 300 or equivalent

CSME 1551**Artistry of Hair, Theory and Practice**

Instruction in the artistry of hair design. Topics include theory, techniques, and application of hair design.

Lecture Hrs.=2, Lab Hrs.=9

Pre/Corequisite: CSME 1505, READ 300 or equivalent

CSME 2245**Preparation for the State Licensing Practical Examination**

Preparation for the state licensing practical examination.

Lecture Hrs.=0, Lab Hrs.=6

Note: A high school diploma or GED is required for admission to this class.

Prerequisite: CSME 1505

Pre/Corequisite: READ 300 or equivalent

CSME 2337**Advanced Cosmetology Techniques**

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

Lecture Hrs.=1, Lab Hrs.=8, Insurance Fee

Pre/Corequisite: CSME 1505 and READ 300, ESOL 310, or equivalent

CSME 2343**Salon Development**

Applications of procedures necessary for salon development. Topics include professional ethics and goals, salon operation, and record keeping.

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

Pre/Corequisite: CSME 1505, READ 300, ESOL 310 or equivalent

CSME 2344**Preparation for the State Licensing Written Examination**

Preparation for the state licensing written examination.

Lecture Hrs.=1, Lab Hrs.=7

Note: A high school diploma or GED is required for admission to this class.

Prerequisite: CSME 1505

Pre/Corequisite: 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.=7, Insurance Fee

Pre/Corequisite: CSME 1505, 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

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

Prerequisite: CSME 1435

Pre/Corequisite: 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

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

Prerequisite: CSME 1435

Pre/Corequisite: READ 300 or equivalent

CSME 2530**Nail Enhancement**

A course in the theory, application, and related technology of artificial nails.

Lecture Hrs.=3, Lab Hrs.=6, Insurance Fee

Prerequisite: CSME 1330

Pre/Corequisite: READ 300 or equivalent

CSME 2539**Advanced Hair Design**

Advanced concepts in the theory and practice of hair design.

Lecture Hrs.=2, Lab Hrs.=9, Insurance Fee

Prerequisite: CSME 1505, READ 300 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: READ 300 or ESOL 310 or equivalent

Instructor's Permission

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 ESOL 310 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 ESOL 310 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 ESOL 310 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 ESOL 310 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 ESOL 310 or equivalent

DAAC 1391**Special Topics in Alcohol/Drug Abuse Counseling**

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. 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, 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, ESOL 310, 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, ESOL 310, 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 ESOL 310 or equivalent

DAAC 2307**Addicted Family Intervention**

Present family as a dynamic system focusing on the effects of addiction on family role, rule, and behaviors 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 ESOL 310 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 (ADD) 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 ESOL 310 or equivalent

DAAC 2343Q**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 ESOL 310 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 ESOL 310 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 ESOL 310 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: READ 301, ESOL 311 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: READ 301, ESOL 311 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, READ 301, ESOL 311 or equivalent

DFTG 1433**Mechanical Drafting**

Study of detail drawings with dimensioning and tolerances, sectioning techniques, orthographic projection, and pictorial drawings.

Lecture Hrs.=3, Lab Hrs.=3

Pre/Corequisite: DFTG 2419, READ 301, ESOL 311 or equivalent

DFTG 1458**Electrical/Electronics Drafting**

Electrical and electronic drawings stressing modern representation used for block diagrams, schematic diagrams, logic diagrams, wiring/assembly drawings, printed circuit board layouts, motor control diagrams, power distribution diagrams, and electrical one-line diagrams.

Lecture Hrs.=3, Lab Hrs.=3

Pre/Corequisite: DFTG 2419, READ 301, ESOL 311 or equivalent

DFTG 2371**Advanced Technology: Process Plant Design 1**

(Smart plant) is project based course emphasizing the development of advanced pipe design, layout skills and techniques in a project application.

Lecture Hrs.=3, Lab Hrs.=3

Pre/Corequisite: DFTG 2445 and READ 301, ESOL 311, or equivalent

DFTG 2400**Intermediate Architectural Drafting-Residential**

Continued application of principles and practices used in residential construction.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: DFTG 1417, DFTG 2419

Pre/Corequisite: READ 301, ESOL 311 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

Prerequisite: DFTG 2419

Pre/Corequisite: READ 301, ESOL 311 or equivalent

DFTG 2412**Technical Illustration and Presentation**

Study of pictorial drawing including isometrics, obliques, perspectives, charts, and graphs. Emphasis on rendering and using different media.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: DFTG 2419

Pre/Corequisite: READ 301, ESOL 311 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 3D.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: DFTG 1405, DFTG 1409

Pre/Corequisite: READ 301, ESOL 311 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 2432

Pre/Corequisite: READ 301, ESOL 311 or equivalent

DFTG 2427**Landscape Drafting**

A study of site planning and landscape design.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: DFTG 2419

Pre/Corequisite: READ 301, ESOL 311 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 1417

Pre/Corequisite: READ 301, ESOL 311 or equivalent

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 2400

Pre/Corequisite: READ 301, ESOL 311 or equivalent

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: READ 301, ESOL 311 or equivalent

DFTG 2432**Advanced Computer-Aided Drafting**

Study of advanced techniques, including the use of a customized system. Presentation of advanced drawing applications, such as solids modeling and linking graphic entities to external non-graphic data.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: DFTG 2419

Pre/Corequisite: READ 301, ESOL 311 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: READ 301, ESOL 311 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: READ 301, ESOL 311 or equivalent

DFTG 2440**Solid Modeling/Design**

A computer-aided modeling course. Development of three-dimensional drawings and models from engineering sketches and orthographic drawings and utilization of three-dimensional models in design work.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: DFTG 2419

Pre/Corequisite: READ 301, ESOL 311 or equivalent

DFTG 2442**Aeronautical Drafting**

A study of aeronautical drawings required in the aircraft and aerospace industries.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: DFTG 2419

Pre/Corequisite: READ 301, ESOL 311 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

Prerequisite: DFTG 2423, DFTG 2432

Pre/Corequisite: READ 301, ESOL 311 or equivalent

DFTG 2467**Practicum (for Field Experience)-Drafting and Design Technology/Technician, 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.=40

Prerequisite: DFTG 2419

Pre/Corequisite: READ 301, ESOL 311 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: READ 301, ESOL 311 or equivalent

DRAM 1120**Theatre Arts Lab 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.=6

Prerequisite: READ 300 or ESOL 310 or equivalent

DRAM 1121**Theatre Arts Lab 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.=6

Prerequisite: READ 301 or ESOL 311 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 ESOL 310 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 ESOL 310 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.=2

Prerequisite: READ 300 or ESOL 310 or equivalent

DRAM 1342**Introduction to Costume**

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

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: READ 300 or ESOL 310 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 ESOL 310 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 ESOL 310 or equivalent

DRAM 2120Q**Theatre Arts Lab III**

Open to all students interested in theatre. Credit is earned for acting, technical work, or other par-

ticipation. Limited to one semester credit hour each semester. Each course may be taken up to two times.

Lecture Hrs.=0, Lab Hrs.=6

Prerequisite: READ 300 or ESOL 310 or equivalent

DRAM 2121

Theatre Arts Lab 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.=6

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 and Diction

Open to all students interested in improving their diction. Development of the voice and proper diction. Coaching of the individual student with the aid of audio taping and an audio journal. Same as SPCH 1342.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 300 or ESOL 310 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 ESOL 310 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 ESOL 310 or equivalent

DRAM 2366

History and Development of Motion 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 ESOL 310 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 insti-

tutions; and consideration of current problems.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 302 or equivalent, ENGL 301 or equivalent, and 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: READ 302 or equivalent, ENGL 301 or equivalent, and MATH 310 or equivalent

EDUC 1300

Learning Framework

A study of the 1.) research and theory in the psychology of learning, cognition, and motivation. 2.) factors that impact learning, and 3.) application of learning strategies. Theoretical model of strategic learning and motivation serve as the conceptual basis for the introduction of college-level student academic strategies.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301 or ESOL 311 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: READ 301 or equivalent

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: READ 302 or equivalent

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, ESOL 310, 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 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

Pre/Corequisite: 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

Pre/Corequisite: 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

Pre/Corequisite: 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

Pre/Corequisite: 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

Pre/Corequisite: 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

Pre/Corequisite: 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

Pre/Corequisite: 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

Pre/Corequisite: READ 300, ESOL 310, or equivalent

ELPT 2355**Programmable Logic Controllers II**

Advanced concepts in programmable logic controllers and their applications and interfacing to industrial controls.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ELPT 2319 or ELPT 1455

Pre/Corequisite: 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 READ 301 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

Pre/Corequisite: READ 300 or equivalent

ENGL 300**Developmental Writing**

Development of fundamental writing skills such as idea generation, organization, style, utilization of standard English, and revision.

Lecture Hrs.=3, Lab Hrs.=0

ENGL 301**Fundamentals of Writing I**

Practice in development of effective sentences and paragraphs with emphasis on structure, clarity, unity, and development of topic. Review of fundamentals of grammar, punctuation, and spelling in a laboratory setting. Credit for this course is not transferable.

Lecture Hrs.=4, Lab Hrs.=0

Pre/Corequisite: READ 300, ESOL 310, or equivalent

ENGL 302**Fundamentals of Writing II**

Practice in development of full-length themes with emphasis on structure, organization, unity, and development of thesis. Credit for this course is not transferable.

Lecture Hrs.=4, Lab Hrs.=0

Prerequisites: ENGL 301 or ESOL 320; READ 300, ESOL 310, or equivalent

ENGL 1301Σ**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.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGL 302 or equivalent, READ 302 or equivalent

ENGL 1302ΩΣ**English Composition II**

A study of the principles of effective writing through analysis of selected novels, short stories, poems, and plays. Continued study of methods of library research and of writing research papers. Research required.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: ENGL 1301 (C or better), READ 302 or equivalent

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 more advanced.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGL 2307

ENGL 2311Ω**Technical Writing**

A course designed to develop professional document writing in the technical and business world. A speech component is included. Requirements include an original report of considerable scope and length. Research required.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGL 302 or equivalent, READ 301 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 masterpiece of English literature from the earlier times to the Romantic Period with particular attention to the main currents of thought and the major writers of Britain.

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 masterpiece 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.

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.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGL 1302 with a C or better

ENGL 2327ΩΣ**American Literature to 1860**

A general survey of the major works in American

literature from its origins to 1860.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGL 1302 with a C or better

ENGL 2328ΩΣ**American Literature: 1860 to Present**

A general survey of the major works in American literature from 1860 to the present.

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.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGL 1302 with a C or better

ENGL 2332Ω**World Literature: Greeks to Renaissance**

A study of the masterpieces of western world literature, from the ancient Greek classics through the early Renaissance.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGL 1302 with a C or better

ENGL 2333Ω**World Literature: Fifteenth Century to the Present**

A study of the masterpieces of western world literature, from Shakespeare through the present.

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.

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.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGL 1302 with a C or better

ENGR 1304**Engineering Graphics I**

Engineering graphics is a general course for all types of engineering. Its practical and technical content is essential for engineers, designers, and manufacturers. In many other vocations, a knowledge of working drawings and the techniques of engineering drawing are of inestimable value. Students who register for engineering graphics will require a complete set of drafting instruments which meet the approval of the instructor in charge. Care and use of instruments, freehand lettering, geometric construction, orthographic projection, technical sketching, pictorial drawing, dimensioning, solutions to engineering problems, details and assemblies, and blueprinting.

Lecture Hrs.=2, Lab Hrs.=4

Prerequisite: MATH 1414

Pre/Corequisite: READ 302 or equivalent

ENGR 1305**Engineering Graphics II**

Engineering applications of problems relating to points, lines, planes, solids, intersections of planes and solids, development of surfaces, per-

spectives, auxiliary view, and double curved and warped surfaces.

Lecture Hrs.=2, Lab Hrs.=4

Prerequisite: ENGR 1304

Pre/Corequisite: READ 302 or equivalent

ENGR 2301 Engineering Statics

Elementary principles of mechanics applied to particles at rest and in motion. Kinematics of particles, resultants of forces, Newton's Laws for a particle work and energy, impulse and momentum principles. Elementary rigid body statics.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: MATH 2413

Pre/Corequisite: PHYS 2425, READ 302 or equivalent

ENGR 2302 Engineering Dynamics

Extension of the principles of mechanics to rigid bodies at rest and in motion. Kinematics of rigid body motion, extension of Newton's Law to translation, rotation, plane motion of rigid bodies. Equilibrium and motion of bodies affected by friction. Work-energy and impulse-momentum for rigid bodies.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGR 2301

Pre/Corequisite: READ 302, ESOL 312 or equivalent

ENGR 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: READ 302, ESOL 311 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, casting and injection molding.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 301, ESOL 311 or equivalent

ENTC 1191 Special Topics in Engineering Technology, 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.=1, Lab Hrs.=1

Pre/Corequisite: READ 301, ESOL 311 or equivalent

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.=1, Lab Hrs.=1

Pre/Corequisite: TECM 1349 or MATH 1414 or above; READ 301, ESOL 311 or equivalent

ENVR 1401Q Environmental Science

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: READ 302, ESOL 312 or equivalent

Pre/Corequisite: MATH 310

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 ESOL 310 or equivalent

ESOL 300 Listening/Speaking I

Develop listening and speaking skills in speakers of languages other than English and prepares them to function in an English-speaking society. Placement by test or advisement.

Lecture Hrs.=3, Lab Hrs.=0

ESOL 301 Listening/Speaking II

Develop listening and speaking skills in speakers of languages other than English and prepares them to function in an English-speaking society.

Lecture Hrs.=3, Lab Hrs.=0

ESOL 302 Listening/Speaking III

Develop listening and speaking skills in speakers of languages other than English and prepares them to function in an English-speaking society.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 300 or equivalent

ESOL 310 Reading/Vocabulary I

Develops reading fluency and vocabulary in speakers of languages other than English and prepares them to function in an English-speaking society. Placement by test or advisement.

Lecture Hrs.=3, Lab Hrs.=0

ESOL 311 Reading/Vocabulary II

Develops reading fluency and vocabulary in speakers of languages other than English and prepares them to function in an English-speaking society.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 300 or ESOL 310 or equivalent

ESOL 312 Reading/Vocabulary III

Develops reading fluency and vocabulary in speakers of languages other than English and prepares them to function in an English-speaking society.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301 or ESOL 311 or equivalent

ESOL 320 Grammar/Writing I

Develops writing skills, including standard English usage, organization of ideas, and application of grammar, in speakers of languages other than English and prepares them to function in an English-speaking society. Placement by test or advisement.

Lecture Hrs.=3, Lab Hrs.=0

ESOL 321 Grammar/Writing II

Develops writing skills, including standard English usage, organization of ideas, and application of grammar, in speakers of languages other than English and prepares them to function in an English-speaking society.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 300 or equivalent

ESOL 322 Grammar/Writing III

Develops writing skills, including standard English usage, organization of ideas, and application of grammar, in speakers of languages other than English and prepares them to function in an English-speaking society.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 300 or equivalent

ESOL 330 English for Specific Purposes

Principles and techniques of composition and reading for non-native speakers of English. Placement by test or advisement.

Lecture Hrs.=3, Lab Hrs.=0

GAME 1212 Game Theory

Game and simulation design. Application of design theories to production-based projects from the conceptual stage to a completed project.

Lecture Hrs.=2, Lab Hrs.=1

Prerequisite: READ 301 or ESOL 311 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: READ 301 or ESOL 311 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: READ 301 or ESOL 311 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: READ 301 or ESOL 311 or equivalent

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: READ 301 or ESOL 311 or equivalent

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, 1306, and COSC 1436

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

Prerequisite: READ 301, ESOL 311 or equivalent

Pre/Corequisite: GAME 1304

GAME 2459**Game and Simulation Group Project**

Creation of a game and/or simulation project utilizing a team approach. Includes the integration of design, art, audio, programming, and quality assurance.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: GAME 2338

GEOG 1300**Introduction to College Geography**

The world and its climate regions, resources, and man's use of the earth and its resources.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301 or equivalent

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: READ 301 or equivalent, ENGL 301 or equivalent

GEOG 1301**Earth Science**

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

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301 or ESOL 311 or equivalent

GEOG 1403**Physical Geology**

Earth forms, structures, materials and processes which have formed them. An introduction to minerals, rocks, and topographic maps. Optional field trips.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: READ 302, ESOL 312 or equivalent

GEOG 1404**Historical Geology**

A history of the earth and the development of its life forms and land forms throughout geologic time. Introduction to fossils and geologic maps. Optional field trips.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: READ 302, ESOL 312 or equivalent

GEOG 1405**Environmental Geology**

Environmental geology is an introductory survey to some of the various processes that help to shape our earth, the resources that come from it, and the problems that arise from their use. Lab studies will investigate such problems as flooding, faulting, subsidence, landfills, and other pertinent land use issues. Optional field trips.

Lecture Hrs.=3, Lab Hrs.=3

Pre/Corequisite: READ 302, ESOL 312 or equivalent

GISC 1301**Cartography and Geography in Geographical Information Systems (GIS) and Global Positioning Systems**

Introduction to the principles of cartography and geography. Emphasis on global reference systems and the use of satellites for measurements and navigation.

Lecture Hrs.=2, Lab Hrs.=2

Pre/Corequisite: GISC1311 and READ301 or equivalent

GISC 1311**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: READ 301, ESOL 311 or equivalent

GISC 1321**Introduction to Raster-Based Geographic Information System (GIS)**

Instruction in GIS data sets including raster-based information such as images or photographs, acquisition of such data, processing and merging with vector data.

Lecture Hrs.=2, Lab Hrs.=2

Pre/Corequisite: GISC 1311 and READ301 or equivalent

GISC 1391**Special Topics in Cartography**

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.

Lecture Hrs.=2, Lab Hrs.=2

Pre/Corequisite: READ 301, ESOL 311 or equivalent

GISC 2303**Fundamentals of Logistics with Geographic Information Systems (GIS)**

Multiple data sources and their location-based relationships. Incorporates exposure to modes of transportation, resources, and product distribution and the combination of these elements with time, distance, and GPS technology for support of GIS analysis as relating to logistics.

Lecture Hrs.=2, Lab Hrs.=2

Pre/Corequisite: GISC 1306 and READ 301, ESOL 311, or equivalent

GISC 2311**Geographic Information Systems (GIS) Applications**

Application of GIS technology to real workplace applications from public and private sectors. Completion of Global Positioning Systems (GPS) fieldwork required for lab exercises.

Lecture Hrs.=2, Lab Hrs.=2

Instructors Permission

Pre/Corequisite: GISC 1311 and READ 301, ESOL 311, or equivalent

GISC 2320**Intermediate Geographic Information Systems (GIS)**

This course focuses on the study of spatial data structures and the display, manipulation, and analysis of geographic information. Students will study the technical aspects involved in spatial data handling, analysis and modeling. Instruction will include theories and procedures associated with the implementation and management of GIS projects. A variety of GIS software packages will be used in the laboratory.

Lecture Hrs.=2, Lab Hrs.=2

Instructors Permission

Pre/Corequisite: GISC 1311 and READ 301, ESOL 311, or equivalent

GISC 2359**Web-Served Geographic Information Systems (GIS)**

Delivery of geographic data via the Internet. Includes composition of the map features distributed and introduction on the use of markup languages to customize web-based Geographic Information Systems (GIS).

Lecture Hrs.=2, Lab Hrs.=2

Pre/Corequisite: READ 301, ESOL 311, or equivalent

GISC 2380**Cooperative Education-Cartography**

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.

Instructor permission required.

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

Pre/Corequisite: READ 301, ESOL 311, or equivalent

GISC 2402**Geographic Information System (GIS) Design with Raster Analysis**

Raster/remote sensing principles, technologies, and applications. Emphasizes processing raster imagery into useful information to be used in a GIS. Includes geo-referencing and image classification. Student final project will be demonstrating raster and remote sensing techniques.

Lecture Hrs.=3, Lab Hrs.=2

Pre/Corequisite: READ 301, ESOL 311, or equivalent

GOVT 2301Ω**American Government I**

Theory and forms of government, political socialization, United States and Texas constitutions, federalism, civil rights and civil liberties, and political parties and elections. This course will fulfill Texas teacher certification requirements in government for individuals with out-of-state degrees.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGL 301 or equivalent, READ 302 or equivalent

GOVT 2302Ω**American Government II**

United States and Texas executive, legislative, and judicial branches, governmental finance, foreign policy, and county and municipal government.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGL 301 or equivalent, READ 302 or equivalent

HIST 1301ΩΣ**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: ENGL 301 or equivalent, READ 302 or equivalent

HIST 1302ΩΣ**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: ENGL 301 or equivalent, READ 302 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: ENGL 301 or equivalent, READ 302 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: ENGL 301 or equivalent, READ 302 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: ENGL 301 or equivalent, READ 302 or equivalent

HITT 1261**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, Clinical Hrs.=10

Prerequisite: READ 302 or equivalent

Pre/corequisite: HITT 1373

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.=0

Prerequisite: READ 300 or ESOL 310 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 ESOL 310 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, READ 301 ESOL 311 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 ESOL 310 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: READ 301 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 ESOL 310 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.=0

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

HITT 1372**Cancer Data Management I**

This course, an introduction to Cancer Data Management, includes cancer program requirements, the American College of Surgeons Cancer Program survey process and data collection/retrieval-abstracting, coding, staging, and reporting.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: HITT 1301, 1305, ITSC 1309, BIOL 2401, and READ 302 or equivalent

HITT 1373**Cancer Data Management II**

This class is a continuation of HITT 1372. The student will gain hands-on experience in the application of cancer registry data.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: HITT 1372 and READ 302 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, ESOL 310 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 ESOL 310 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 ESOL 310 or equivalent

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, READ 301 or ESOL 311 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: READ 301 or ESOL 311 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: READ 301, ESOL 311 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 art, 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.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301 or equivalent, ENGL 302 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 art, 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.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301 or equivalent, ENGL 302 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.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 302 or equivalent and ENGL 302 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: READ 302 or equivalent and ENGL 302 or equivalent

HUMA 1315**Fine Arts Appreciation**

Understanding purposes and processes in the visual and musical arts including evaluation of selected works.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 302 or equivalent and ENGL 302 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: READ 300 or ESOL 310 or equivalent

IBUS 1305**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: READ 301 or ESOL 311 or equivalent

IMED 1316**Web Design I**

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

Lecture Hrs.=3, Lab Hrs.=1

Prerequisite: READ 301 or ESOL 311 or equivalent

IMED 1445**Interactive Multimedia 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, READ 301 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 on-line transactions.

Lecture Hrs.=3, Lab Hrs.=1

Pre/Corequisite: READ 301, ESOL 311 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 1413, 1453, 2404, and READ 301 or ESOL 311 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 web sites according to accessibility standards, cultural appearance, and legal issues.

Lecture Hrs.=3, Lab Hrs.=1

Pre/Corequisite: IMED 1316

INMT 1371**Introduction to Digital Manufacturing**

The purpose of this course is to give the student an introduction to various digital manufacturing methods including 3D 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: READ 301, ESOL 311, or equivalent

INMT 2488**Internship-Manufacturing Technology/Technician**

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

Lecture Hrs.=0, Lab Hrs.=0, External Hrs.=24

Pre/Corequisite: DFTG 2419 and READ 301, ESOL 311, 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 ESOL 310 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 ESOL 310 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, 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 ESOL 310 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 ESOL 310 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, ESOL 310 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 ESOL 310 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 ESOL 310 or equivalent

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, Internal 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 ESOL 310 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 ESOL 310 or equivalent

INTC 2436**Distributed Control and Programmable Logic**

An overview of distributed control systems including configuration of programmable logic controllers, smart transmitters, and field communicators. Functions of digital systems in a process

control environment.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: INTC 1441, READ 300, ESOL 310 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: INTC 1448 and READ 300 or equivalent

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, ESOL 310, or equivalent

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 ESOL 310 or equivalent

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 issue and problems. Model and analyze routing processes.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: ITCC 1401 and READ 300, ESOL 310, 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, ESOL 310, 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, ESOL 310 or equivalent

Pre/Corequisite: ITCC 1404

ITDF 1300**Introduction to Digital Forensics**

A study of the application of digital forensic science and technology to collect, analyze, document, and present information while maintaining a documented chain of custody. Overview of ethics, white collar crime, and other legal guidelines/regulations/laws. Includes overview of tools used for forensic analysis of digital devices in investigations.

Lecture Hrs.=3, Lab Hrs.=1

Prerequisite: READ 301 or ESOL 311 or equivalent

ITDF 1305**Fundamentals of Digital Data Storage**

Exploration, examination, and assessment of the characteristics and details of digital storage media used in computers systems and small-scale digital devices, such as cell phones, cameras, DVRs, PDAs, and other devices. Includes experimenting with various open source tools to reinforce identification of evidentiary data.

Lecture Hrs.=2, Lab Hrs.=2

Prerequisite: READ 301 or ESOL 311 or equivalent

ITDF 2320**Digital Forensics Collection**

A study of acquiring digital evidence from devices, networks, and logs while preserving the evidentiary chain. Includes the legal aspects of the search and seizure of computers and related equipment/information.

Lecture Hrs.=2, Lab Hrs.=2

Prerequisite: READ 301 or ESOL 311 or equivalent

Corequisite: ITDF 232

ITDF 2325**Digital Forensics Tools**

Skills-based course in the applications of forensics analysis software. Tools used in this course may include EnCase, ILook, Forensics Tool Kit, write blockers, StegAlyzerSS, "X-Ways", ProDiscover Basic, and others.

Lecture Hrs.=2, Lab Hrs.=2

Corequisite: ITDF 2320

ITDF 2335**Comprehensive Digital Forensics Project**

Comprehensive application of skills learned in previous digital forensics courses in a simulated crime scene or workplace investigation. Includes collection, analysis, and presentation of digital data and evidence in a problem-based case study format. This course is used as a capstone course for a certificate or degree.

Lecture Hrs.=2, Lab Hrs.=2

Prerequisite: ITDF 2320, ITDF 2325

Corequisite: ITSY 2330

ITNW 1445**Implementing Network Directory Services**

Provides students with the knowledge and skills necessary to install, configure, and administer Network Directory Service.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: CPMT 1449, READ 300 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: READ 301, ESOL 311, 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

Pre/Corequisite: COSC 1301 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, READ 301 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, READ 301, ESOL 311 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 READ 301 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 READ 301 or equivalent

ITSE 1331**Introduction to Visual BASIC Programming**

Introduction to computer programming using Visual BASIC. Emphasis on 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: READ 301 or ESOL 311 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: READ 301 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: READ 301 or equivalent

ITSE 2309**Database Programming**

Database development using database programming techniques emphasizing database structures, modeling, and database access.

Lecture Hrs.=2, Lab Hrs.=2

Prerequisite: ITSC 1309 or COSC 1301, READ 301 or equivalent

ITSW 2337**Advanced Database**

Advanced concepts of database design and functionality.

Lecture Hrs.=3, Lab Hrs.=1

Pre/Corequisite: READ 301, ESOL 311 or equivalent and ITSC 2321

ITSY 2301**Firewalls and Network Security**

Identify elements of firewall design, types of security threats and responses to security attacks. Use best practices to design, implement, and monitor a network security plan. Examine security incident postmortem reporting and ongoing network security activities.

Lecture Hrs.=2, Lab Hrs.=2

Prerequisite: CPMT 1449

ITSY 2330**Intrusion Detection**

Computer information systems security monitoring, intrusion detection, and crisis management. Includes alarm management, signature configuration, sensor configuration, and troubleshooting components. Emphasizes identifying, resolving and documenting network crises and activating the response team.

Lecture Hrs.=2, Lab Hrs.=2

Prerequisite: ITSY 2301

ITSY 2343**Computer System Forensics**

In-depth study of system forensics including methodologies used for analysis of computer security breaches. Gather and evaluate evidence to perform postmortem analysis of a security breach.

Lecture Hrs.=2, Lab Hrs.=2

Prerequisite: ITSY 2301

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.=1, Lab Hrs.=2, 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.=1, Lab Hrs.=2, 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.=1, Lab Hrs.=2

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.=1, Lab Hrs.=2

Prerequisite: KINE 1103

Pre/Corequisite: READ 300 or equivalent

KINE 1105**Golf, Beginning**

A course designed to learn rules, scoring, etiquette, and fundamental techniques for golf. An emphasis will be placed on proper execution of all skills for golf using woods, irons, and putter.

Lecture Hrs.=1, Lab Hrs.=2

Pre/Corequisite: READ 300 or equivalent

KINE 1106**Golf, Experienced**

A course designed to learn rules, scoring, etiquette, and fundamental techniques for golf. An emphasis will be placed on proper execution of all skills for golf using woods, irons, and putter.

Lecture Hrs.=1, Lab Hrs.=2

Prerequisite: KINE 1105

Pre/Corequisite: READ 300 or equivalent

KINE 1107**Cycling, Beginning**

A course designed to develop cardiovascular fitness through stationary cycling (spinning). Some emphasis will be on setting up the bicycle, correct technique, nutrition, and hydration.

Lecture Hrs.=1, Lab Hrs.=2

Pre/Corequisite: READ 300 or equivalent

KINE 1108**Cycling, Experienced**

A course designed to further improve cardiovascular fitness, strengthen the lower body and increase flexibility. Emphasis will remain on correct cycling techniques, nutrition, and hydration strategies.

Lecture Hrs.=1, Lab Hrs.=2

Prerequisite: KINE 1107

Pre/Corequisite: READ 300 or equivalent

KINE 1109**Pilates, Beginning**

A course designed to strengthen, lengthen, and tone the body without machines.

Lecture Hrs.=1, Lab Hrs.=2

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.=1, Lab Hrs.=2

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.=1, Lab Hrs.=2

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.=1, Lab Hrs.=2

Prerequisite: KINE 1111

Pre/Corequisite: READ 300 or equivalent

KINE 1113**Racquetball, Beginning**

A course designed to learn rules, fundamental techniques, and strategies for racquetball. Emphasis will be placed on proper techniques for single and double play.

Lecture Hrs.=1, Lab Hrs.=2

Pre/Corequisite: READ 300 or equivalent

KINE 1114**Racquetball, Experienced**

A course designed to learn rules and techniques for the experienced student. Emphasis will be placed on skill development, strategy, and advance shot selection.

Lecture Hrs.=1, Lab Hrs.=2

Prerequisite: KINE 1113

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.=1, Lab Hrs.=2

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.=1, Lab Hrs.=2

Prerequisite: KINE 1115

Pre/Corequisite: READ 300 or equivalent

KINE 1117**Tennis, Beginning**

A course designed to learn the fundamental techniques of tennis. Emphasis will be given to the skills of forehand, backhand, overhead, serve, and volley. Rules, etiquette, and strategy for single and doubles play will be addressed.

Lecture Hrs.=1, Lab Hrs.=2

Pre/Corequisite: READ 300 or equivalent

KINE 1118**Tennis, Experienced**

A course designed to review the skills for tennis. Rules will be reviewed and attention to style of play and strategy will be addressed for singles and doubles play.

Lecture Hrs.=1, Lab Hrs.=2

Prerequisite: KINE 1117

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.=1, Lab Hrs.=2

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.=1, Lab Hrs.=2

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.=1, Lab Hrs.=2

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.=1, Lab Hrs.=2

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 cardiovascular endurance. Both machines and free weights will be used for programs. Weight management will be discussed.

Lecture Hrs.=1, Lab Hrs.=2

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.=1, Lab Hrs.=2

Prerequisite: KINE 1123

Pre/Corequisite: READ 300 or equivalent

KINE 1125**Sailing, Beginning**

A course designed to learn the basic techniques in sailing with emphasis on equipment, safety, and the skills of rigging, setting the sails, starting and stopping, tacking, tiller movement, leaving and returning to the beach.

Lecture Hrs.=1, Lab Hrs.=2

Pre/Corequisite: READ 300 or equivalent

KINE 1126**Sailing, Experienced**

A course designed to review the techniques in sailing with emphasis on the skills of rigging, setting the sails, starting and stopping, tacking, jibing tiller movement, leaving and returning to the beach, and correct language for sailing.

Lecture Hrs.=1, Lab Hrs.=2

Prerequisite: KINE 1125

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.=1, Lab Hrs.=2

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.=1, Lab Hrs.=2

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.=1, Lab Hrs.=2

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.=1, Lab Hrs.=2

Prerequisite: KINE 1129

Pre/Corequisite: READ 300 or equivalent

KINE 1133**Yogalates, Beginning**

An introductory course designed to teach students how to strengthen core and postural muscles, while also improving balance and coordination. This course is an integration of Pilates for core strength, and Hatha Yoga for limb strength and flexibility.

Lecture Hrs.=1, Lab Hrs.=2

Pre/Corequisite: READ 300 or ESOL 310 or equivalent or Personal Enrichment

KINE 1134**Yogalates, Experienced**

An intermediate course designed to strengthen core and postural muscles, while also improving balance and coordination. This course is an integration of Pilates for core strength, and Hatha Yoga for limb strength and flexibility. Students will refine introductory techniques to progress to advanced levels.

Lecture Hrs.=1, Lab Hrs.=2

Pre/Corequisite: READ 300 or ESOL 310 or equivalent or Personal Enrichment

KINE 1141**Self-Defense, Beginning**

Instructor will include specific moves related to martial art movements in regard to self-protection.

Lecture Hrs.=1, Lab Hrs.=2

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.=1, Lab Hrs.=2

Prerequisite: KINE 1141

Pre/Corequisite: READ 300 or equivalent

KINE 1147**Racquet Sports, Beginning**

A course designed to learn the fundamental of racquet sports such as tennis, racquetball, and badminton. Emphasis will be placed on correct technique for the fundamental strokes. Rules, etiquette, and game play for singles and doubles matches will be addressed.

Lecture Hrs.=1, Lab Hrs.=2

Pre/Corequisite: READ 300, ESOL 310, or equivalent or Personal Enrichment

KINE 1148**Racquet Sports, Experienced**

A course designed to improve the fundamentals of racquet sports such as tennis, racquetball, and badminton. Emphasis will be placed on skill development and advanced strategy for singles and doubles play.

Lecture Hrs.=1, Lab Hrs.=2

Prerequisite: KINE 1148

Pre/Corequisite: READ 300, ESOL 310, or equivalent

KINE 1149**Conditioning for Athletics**

A course designed to develop strength and endurance as related to athletics.

Lecture Hrs.=1, Lab Hrs.=2

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.=1, Lab Hrs.=2

Prerequisite: KINE 1149

Pre/Corequisite: READ 300 or equivalent

KINE 1151**Skin and Scuba Diving, Beginning**

A course designed to learn fundamental techniques for under water procedures. Techniques in breathing, communicating and diving will be taught. Manipulation of diving equipment will be covered as well as safety procedures.

Lecture Hrs.=1, Lab Hrs.=2

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.=1, Lab Hrs.=2

Prerequisite: KINE 1151

Pre/Corequisite: READ 300 or equivalent

KINE 1164**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.=1, Lab Hrs.=2

Pre/Corequisite: READ 300, ESOL 310 or equivalent

KINE 1183M**Basketball Team**

A course designed for individuals on athletic scholarships who participate in basketball.

Lecture Hrs.=1, Lab Hrs.=2

Prerequisite: Instructor's permission

Pre/Corequisite: READ 300 or equivalent

KINE 1184M**Basketball Team**

A course designed for individuals on athletic scholarships who participate in basketball.

Lecture Hrs.=1, Lab Hrs.=2

Prerequisite: KINE 1183M, Instructor's permission

Pre/Corequisite: READ 300 or equivalent

KINE 1185W**Tennis Team**

A course designed for individuals on athletic scholarships who participate in tennis.

Lecture Hrs.=1, Lab Hrs.=2

Prerequisite: Instructor's permission

Pre/Corequisite: READ 300 or equivalent

KINE 1186W**Tennis Team**

A course designed for individuals on athletic scholarships who participate in tennis.

Lecture Hrs.=1, Lab Hrs.=2

Prerequisite: KINE 1185W, Instructor's permission

Pre/Corequisite: READ 300 or equivalent

KINE 1187W**Volleyball Team**

A course designed for individuals on athletic scholarships who participate in volleyball.

Lecture Hrs.=1, Lab Hrs.=2

Prerequisite: Instructor's permission

Pre/Corequisite: READ 300 or equivalent

KINE 1188W**Volleyball Team**

A course designed for individuals on athletic scholarships who participate in volleyball.

Lecture Hrs.=1, Lab Hrs.=2

Prerequisite: KINE 1187W, Instructor's permission

Pre/Corequisite: READ 300 or equivalent

KINE 1301**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: READ 301 or equivalent

KINE 1304**Personal Health and Nutrition**

This course studies the relationship among nutrition, diet, 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: READ 301, ESOL 311, or equivalent

KINE 1305**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: READ 301 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 competing the course, students are certified in first aid and CPR.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 301 or equivalent

KINE 1308**Sports Officiating**

A course designed for students desiring to increase their knowledge and appreciation of sports. Students will be given an insight into the rules of various sports, the technique, procedure and practice of officiating.

Lecture Hrs.=2, Lab Hrs.=2

Pre/Corequisite: READ 301 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: READ 301, ESOL 311, 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: READ 301 or equivalent

KINE 1336**Introduction to Recreation**

This course is designed to provide students with an awareness and understanding of recreation and leisure in the past, present, and future. The course includes an overview of basic techniques in leadership, program planning, and program organization besides possible career directions.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 301, ESOL 311, 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: READ 301 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, ESOL 310, or equivalent

KINE 2149**Conditioning for Athletics**

A course designed to develop dynamic speed, coordination and balance as related to athletics.

Lecture Hrs.=1, Lab Hrs.=2

Pre/Corequisite: READ 300 or equivalent

KINE 2150**Conditioning for Athletics**

A course designed to develop dynamic power and flexibility for athletics.

Lecture Hrs.=1, Lab Hrs.=2

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.=1, Lab Hrs.=2

Pre/Corequisite: READ 300 or equivalent

KINE 2183M**Basketball Team**

A course designed for individuals on athletic scholarships who participate in basketball.

Lecture Hrs.=1, Lab Hrs.=2

Prerequisite: KINE 1184M, Instructor's permission

Pre/Corequisite: READ 300 or equivalent

KINE 2184M**Basketball Team**

A course designed for individuals on athletic scholarships who participate in basketball.

Lecture Hrs.=1, Lab Hrs.=2

Prerequisite: KINE 1183M, Instructor's permission

Pre/Corequisite: READ 300 or equivalent

KINE 2185W**Tennis Team**

A course designed for individuals on athletic scholarships who participate in tennis.

Lecture Hrs.=1, Lab Hrs.=2

Prerequisite: KINE 1186W, Instructor's permission

Pre/Corequisite: READ 300 or equivalent

KINE 2186W**Tennis Team**

A course designed for individuals on athletic scholarships who participate in tennis.

Lecture Hrs.=1, Lab Hrs.=2

Prerequisite: KINE 2185W, Instructor's permission

Pre/Corequisite: READ 300 or equivalent

KINE 2187W**Volleyball Team**

A course designed for individuals on athletic scholarships who participate in volleyball.

Lecture Hrs.=1, Lab Hrs.=2

Prerequisite: KINE 1188W, Instructor's permission

Pre/Corequisite: READ 300 or equivalent

KINE 2188W**Volleyball Team**

A course designed for individuals on athletic scholarships who participate in volleyball.

Lecture Hrs.=1, Lab Hrs.=2

Prerequisite: KINE 2187W, Instructor's permission

Pre/Corequisite: READ 300 or equivalent

KINE 2356**Care and Prevention of Athletic Injuries**

Student will acquire knowledge regarding the signs and symptoms of injuries specific to each body part. Along with injury recognition, they will also learn how to treat and stabilize a variety of orthopedic injuries. To help students learn practical skills, hands-on learning, labs will be utilized throughout the course in areas of wound management, splinting, vital signs, transporting athletes, modalities, and supportive taping techniques.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 300 or equivalent

LGLA 1301**Legal Research and Writing**

This course presents the fundamentals of legal research and writing. Topics include standard and electronic legal research, and legal writing techniques including case and fact analysis and citation format.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301 or ESOL 311 or equivalent

LGLA 1307**Introduction to Law and the Legal Professions**

This course provides an overview of the law and the legal professions. Topics include legal concepts, systems, and terminology; ethical obligations and regulations; professional trends and issues with emphasis on the paralegal's role.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 301 or ESOL 311 or equivalent

LGLA 1317**Law Office Technology**

Computer technology and software applications within the law office. Introductory.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: LGLA 1307, ENGL 1301

LGLA 1343**Bankruptcy**

This course presents fundamental concepts of bankruptcy law and procedure with emphasis on the paralegal's role. Topics include individual and business liquidation and reorganization.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: LGLA 1307, ENGL 1301

LGLA 1345**Civil Litigation**

This course presents fundamental concepts and procedures of civil litigation with emphasis on the paralegal's role. Topics include pretrial, trial, and post trial phases of litigation.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: LGLA 1307, ENGL 1301

LGLA 1351**Contracts**

This course presents fundamental concepts of contract law with emphasis on the paralegal's role. Topics include formation, performance, and enforcement of contracts under the common law and the Uniform Commercial Code.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: LGLA 1307, ENGL 1301

LGLA 1353**Wills, Trusts and Probate Administration**

This course presents fundamental concepts of the law of wills, trusts, and probate administration with emphasis on the paralegal's role.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: LGLA 1307, ENGL 1301

LGLA 1355**Family Law**

This course presents fundamental concepts of family law with emphasis on the paralegal's role. Topics include formal and informal marriages, divorce, annulment, marital property, and the parent-child relationship.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: LGLA 1307, ENGL 1301

LGLA 2301**Environmental Law**

This course presents fundamental concepts of environmental law with emphasis on the paralegal's role. Topics include terminology, creation of environmental law, and the application of statutes and government regulations to specific fact situation.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: LGLA 1307, ENGL 1301

LGLA 2303**Torts and Personal Injury Law**

This course presents fundamental concepts of tort law with emphasis on the paralegal's role. Topics include intentional torts, negligence, and strict liability.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: LGLA 1307, ENGL 1301

LGLA 2307**Law Office Management**

This course presents the fundamentals of 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**

This course presents fundamental concepts of real property law with emphasis on the paralegal's role. Topics include 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.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: LGLA 1307, ENGL 1301

LGLA 2311**Business Organizations**

Basic concepts of business organizations with emphasis on the paralegal's role. Includes law of agency, sole proprietorships, partnerships, corporations, and other emerging business entities.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: LGLA 1307, ENGL 1301

LGLA 2313**Criminal Law and Procedure**

This course presents the fundamental concepts of criminal law from arrest to final disposition, principles of federal and states law, and the role of the paralegals in the preparation of pleadings and motions.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: LGLA 1307, ENGL 1301

LGLA 2323**Intellectual Property**

This course presents the fundamentals of intellectual property law, including creation, procurement, preparation, and filing documents related to patents, copyrights, trademarks, and processes of intellectual property litigation with emphasis on the paralegal's role.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: LGLA 1307, ENGL 1301

LGLA 2331**Advanced Legal Research and Writing**

Standard and electronic research techniques and preparation of complex legal documents such as briefs, legal office memoranda, and citation forms 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**

Preparation of legal documents by paralegals based on hypothetical situations drawn from various areas including real estate, family law, contracts, litigation, and business organizations.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: 15 SCH of LGLA Coursework, POFI 1401, READ 301 or equivalent

LGLA 2337**Mediation**

This course emphasizes the role of the paralegal in the process of mediation.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: LGLA 1307, ENGL1301

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, ENGL1302, SPCH 1315, POFI 1401, READ 301 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, ENGL1302, SPCH 1315, POFI 1401

MATH 210**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 term of refresher math, instruction in reading dosage labels, measurements of parenteral dosages, and pediatric drug calculation.

Lecture Hrs.=2, Lab Hrs.=0

Prerequisite: MATH 310 or equivalent, READ 300 or equivalent

MATH 310**Basic Mathematics**

This course provides the basic arithmetic skills of addition, subtraction, multiplication, and division of whole numbers, fractions, and decimals; ratio and proportion, percent, measures, averages, exponents, square roots, problem solving, geometry, logic, and introduction to algebra. In this course a grade of "C" or higher prepares the student to take MATH 315. Credit for this course is not transferable.

Lecture Hrs.=4, Lab Hrs.=0

Pre/Corequisite: READ 300, ESOL 310, or equivalent

MATH 315**Pre Algebra**

This course provides a transition from arithmetic to algebra. Algebraic concepts are introduced through traditional arithmetic topics including

whole numbers, fractions, decimals, percents, 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. Credit for this course is not transferable.

Lecture Hrs.=4, Lab Hrs.=0

Prerequisite: MATH 310 or equivalent and READ 300, ESOL 310, 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.=4, Lab Hrs.=0

Prerequisite: MATH 315 or equivalent and READ 300, ESOL 310, 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 1414. Credit for this course is not transferable.

Lecture Hrs.=4, Lab Hrs.=0

Prerequisite: MATH 320 or equivalent and READ 300, ESOL 310, or equivalent

MATH 520**Pre Algebra and Introduction to Algebra**

This course provides a review of addition, subtraction, multiplication, and division of integers and rational numbers with a strong emphasis on decimals, fractions, ratio, proportions, and percents. Also, a strong emphasis on algebraic skills and concepts of the real number system, solving equations and inequalities, exponents and polynomials, factoring, rational expressions, graphing linear equations, linear systems, roots and radicals, quadratic equations and applied problems. This course prepares students to take MATH 330 or 530, when completed with a grade of "C" or higher. May not be applied toward a certificate or degree at Lee College. Will not transfer to another college or university.

Lecture Hrs.=5, Lab Hrs.=0

Prerequisite: MATH 310 or equivalent and READ 300, ESOL 310, or equivalent

MATH 530**Introductory and Intermediate Algebra: A Combined Course**

This course provides a strong emphasis of algebraic and concepts of the real number system, solving polynomials, factoring rational expressions and equations, linear systems, roots and radical, quadratic equations and inequalities, functions including exponents and logarithmic

matrices, and problem solving. This course prepares students to take MATH 1414 when completed with a grade of "C" or higher. May not be applied toward a certificate or degree at Lee College. Will transfer to another college or university.

Lecture Hrs.=5, Lab Hrs.=0

Prerequisite: MATH 315 or equivalent, READ 300 or equivalent

MATH 1316**Plane Trigonometry**

This course covers trigonometric functions, identities, equations, and applications.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: MATH 1414 or equivalent (C or better), ENGL 301 or equivalent

Pre/Corequisite: READ 302 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 1414 or equivalent (C or better), ENGL 301 or equivalent

Pre/Corequisite: READ 302 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: MATH 320 or equivalent ENGL 301 or equivalent, READ 302 or equivalent

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: MATH 1332 (C or better) ENGL 301 or equivalent, READ 302 or equivalent

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 1414 or equivalent (C or better), ENGL 301 or equivalent

Pre/Corequisite: READ 302 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 1414 **College Algebra**

This course covers the study of quadratics; polynomial, rational, logarithmic, and exponential functions; systems of equations; progressions; sequences and series; and matrices and determinants.

Lecture Hrs.=4, Lab Hrs.=0

Prerequisite: MATH 330 or equivalent, ENGL 301 or equivalent

Pre/Corequisite: READ 302 or equivalent

MATH 1425 **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.

Lecture Hrs.=4, Lab Hrs.=0

Prerequisite: MATH 1414 or equivalent (C or better), ENGL 301 or equivalent

Pre/Corequisite: READ 302 or equivalent

MATH 2305 **Discrete Mathematics**

A study of set theory, relations, functions, matrices, number systems, number theory, difference equations, graphs and trees, combinatorics, probability, and Boolean Algebra.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: MATH 1414 or equivalent (C or better), ENGL 301 or equivalent

Pre/Corequisite: READ 302 or equivalent

MATH 2412 **Precalculus**

This course covers the applications of algebra and trigonometry to the study of elementary functions and their graphs including polynomial, rational, exponential, logarithmic, and trigonometric functions and may include topics from analytical geometry.

Lecture Hrs.=4, Lab Hrs.=0

Prerequisite: MATH 1414 or equivalent (C or better), ENGL 301 or equivalent

Pre/Corequisite: READ 302 or equivalent

MATH 2413 **Calculus I with Analytic Geometry**

This course includes limits, continuity of functions, algebraic and trigonometric function derivative of functions with application in related-rate and optimization problems, differentials, indeterminate forms, L'Hospital's Rule, Max-Min Theorems, Mean Value Theorem, Fundamental Theorem of calculus, integration with applications to area, volumes, surface area, moments, centers of mass, work and hydrostatic force, and numerical integration.

Lecture Hrs.=4, Lab Hrs.=0

Prerequisite: MATH 2412 or equivalent (C or better)

MATH 2414 **Calculus II with Analytic Geometry**

Transcendental functions, methods of integration conic sections, other plane curves, parametric

equations, hyperbolic functions: definitions, identities, derivatives, and integrals; inverse hyperbolic functions; polar coordinates. Sequences, infinite series, convergence, power series, Taylor Polynomials, Taylor's Theorem, convergence of power series: Differentiation, integration, multiplication, and division; vectors.

Lecture Hrs.=4, Lab Hrs.=0

Prerequisite: MATH 2413 with a C or better

MATH 2415 **Calculus III with Analytic Geometry**

Vector functions and motion, surfaces cylindrical and spherical coordinate systems, and curve sketching. Limits and continuity of functions of two variable, partial derivatives, directional derivatives, gradient, surface, tangent planes, differential approximations, La Grange multiplier, multiple integration, physical applications, triple integration, center of gravity, movement of inertia, line integrals, Green's Theorem, surface integrals, Gauss and Stokes Theorem, and differential equations.

Lecture Hrs.=4, Lab Hrs.=0

Prerequisite: MATH 2414 or equivalent (C or better)

MATH 2418 **Linear Algebra**

Introductory course in linear algebra covering abstract ideas of vector spaces and linear transformation as well as applications of these concepts, systems of linear equations, matrices and determinants, quadratic forms, equivalence and similarity of matrices eigenvectors and eigenvalues, and the Gram-Schmidt procedure.

Lecture Hrs.=4, Lab Hrs.=0

Prerequisite: MATH 2414 with a C or better

MATH 2420 **Differential Equations**

Integration of differential equations of the first order by elementary methods, geometry and integral curves, physical applications, properties of linear equations, simultaneous equations with applications, solutions by Laplace transformers and series.

Lecture Hrs.=4, Lab Hrs.=0

Prerequisite: MATH 2414 or equivalent (C or better)

MATH 2442 **Elementary Statistics**

A study of collection and tabulation of data, bar charts, graphs, sampling measures of central tendency and variability, correlation, index numbers, statistical distributions, probability, linear regression, and applications to various fields of study.

Lecture Hrs.=4, Lab Hrs.=0

Prerequisite: MATH 1414 or equivalent (C or better), ENGL 301 or equivalent

Pre/Corequisite: READ 302 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 ESOL 310 or equivalent

MCHN 1391 **Special Topics in Machinist/Machine Technologist: Machine Parts Metrology and Design**

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. Topics will include mechanical field sketching thru basics blueprint. Practical experience in precision measuring and dimensioning for manufacturing.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 300 or ESOL 310 or equivalent

MCHN 1416 **Machine Tool Repair**

Basic repair of machine tools, disassembly, parts, fabrication, and assembly of machine types, including related math, blueprint reading, and safety.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: MCHN 2445

Pre/Corequisite: READ 300 or ESOL 310 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 ESOL 310 or equivalent

MCHN 1429 **Millwright II**

An introduction to millwright tools including speciality power and precision tools. A study of the property of metals and in 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 ESOL 310 or equivalent

MCHN 1452 **Intermediate Machining I**

Operation of drills, milling machines, lathes, and power saws. Continued use of precision measuring techniques.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: READ 300 or ESOL 310 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 1452

Pre/Corequisite: READ 300 or ESOL 310 or equivalent

MCHN 2403 **Fundamentals of Computer Numerical Controlled (CNC) Machine Controls**

An introduction to G and M codes (RS274-D) necessary to program Computer Numerical Controlled (CNC) machines.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: MCHN 2445

Pre/Corequisite: READ 300 or ESOL 310 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 1425

Pre/Corequisite: READ 300 or ESOL 310 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 2405

Pre/Corequisite: READ 300 or ESOL 310 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 2407

Pre/Corequisite: READ 300 or ESOL 310 or equivalent

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 ESOL 310 or equivalent

MCHN 2441**Advanced Machining I**

A study of 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

Pre/Corequisite: READ 300 or ESOL 310 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 ESOL 310 or equivalent

MRKG 1311**Principles of Marketing**

Introduction to the marketing functions; identification of consumer and organizational needs; explanation of economic, psychological, sociological and global issues; and description and analysis of the importance of marketing research.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 301 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: READ 301 or ESOL 311 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, ESOL 310 or equivalent

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.=3, Lab Hrs.=1

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.=3, Lab Hrs.=1

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.=2, Lab Hrs.=2

Pre/Corequisite: READ 300 or equivalent

MUEN 1137**Guitar Ensemble**

Study and performance of guitar ensemble lit-

erature (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.=3, Lab Hrs.=1

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.=3, Lab Hrs.=0

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.=3, Lab Hrs.=0

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.=3, Lab Hrs.=0

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.=3, Lab Hrs.=1

Pre/Corequisite: READ 300 or equivalent

MUAP: Applied (Private) Music Lessons

Pre/Corequisite: READ 300 or equivalent

		Non-major (1 credit) <i>one 30-minute lesson per week</i>	Non-major (2 credit) <i>one 60-minute lesson per week</i>	Major	
				<i>Freshman</i>	<i>Sophomore</i>
Voice	MUAP	1181, 1182, 2181, 2182	1281, 1282, 2281, 2282	1283, 1284	2283, 2284
				<i>Co-enroll in an ensemble: MUEN 1141, 1142, 1152, 1153,</i>	
Brass					
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
Keyboard					
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
Strings					
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	1213, 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
Woodwinds					
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

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.=3, Lab Hrs.=1

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.=2, Lab Hrs.=2

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.=3, Lab Hrs.=1

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.=3, Lab Hrs.=1

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. Upon completion of course, students will be able to explain basic music industry principles including copyright, publishing, and performance right; explain the business of live performance to include artist management, unions and guilds, entertainment agencies, ven-

ues, and concessions; identify the record industry systems from record producers, recording studios, manufacturing production, and distribution companies; summarize the use of contracts and licenses in the music industry; and discuss career opportunities in the music industry.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 300, ESOL 310, 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 2448 and READ 300, ESOL 310, or equivalent

MUSC 1323**Audio Electronics**

Basic concepts in electricity, Ohm's Law, circuit analysis and troubleshooting audio problems. Includes soldering techniques and equipment

Basic concepts in electricity, Ohm's Law, circuit analysis and troubleshooting audio problems. Includes soldering techniques and equipment maintenance.

Lecture Hrs.=2, Lab Hrs.=2

Pre/Corequisite: READ 300, ESOL 310, or equivalent and MATH 320 or equivalent

MUSC 1331**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 1301 or 1311 and READ 300, ESOL 310, 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, ESOL 310, or equivalent

MUSC 1396**Special Topics in Recording Arts Technology/Technician**

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.

Lecture Hrs.=2, Lab Hrs.=2

Prerequisite: MUSC 1427

Pre/Corequisite: READ 300, ESOL 310, 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: READ 301 or ESOL 311 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 30 or ESOL 310 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, ESOL 310, or equivalent

MUSC 2386**Internship: Recording Arts Technology/Technician**

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.=11

Prerequisite: MUSC 2447, MUSB 1305

Pre/Corequisite: READ 300, ESOL 310 or equivalent

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 ESOL 311 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 READ 301 or ESOL 311 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 1331, MUSC 1335

Pre/Corequisite: READ 300, ESOL 310 or equivalent

MUSC 2448**Audio Engineering IV**

The role of the producer. Includes recording, mixing, arranging, analyzing projects, session planning, communication, budgeting, business aspects, technical considerations, and music markets. Covers advanced techniques in recording, mixing, and editing.

Lecture Hrs.=2, Lab Hrs.=6

Prerequisite: MUSC 2447, 2355

Pre/Corequisite: READ 300, ESOL 310 or equivalent

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 READ 301 or ESOL 311 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, loudspeaker management systems, ear training and industry-standard acoustic analysis software.

Lecture Hrs.=3, Lab Hrs.=2

Prerequisite: MUSC 2402 and READ 301 or equivalent

MUSI 1116**Elementary 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.=1, Lab Hrs.=2

Pre/Corequisite: READ 300 or equivalent

Corequisite: MUSI 1311

MUSI 1117**Elementary 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.=1, Lab Hrs.=2

Prerequisite: MUSI 1116, READ 300 or equivalent

Corequisite: MUSI 1312

MUSI 1181**Class Piano**

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.=0, Lab Hrs.=2

Pre/Corequisite: READ 300 or equivalent

MUSI 1182**Class Piano**

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.=0, Lab Hrs.=2

Pre/Corequisite: READ 300 or equivalent

MUSI 1183**Beginning Voice Class**

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**Intermediate Voice Class**

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**

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**

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**

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 1301**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**Survey of 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, 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. (Offered Spring semester only).

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 300 or equivalent

MUSI 1308**Music Literature I: Church Music**

Survey of the principle musical forms and cultural

periods as illustrated in the literature of major composer in the renaissance, baroque, and classical periods, specifically applicable to the study of sacred music, including the history and use of hymnody, introduction to the lectionary, score study, and conducting, rehearsal planning and techniques and general stylistic practices.

Lecture Hrs.=2, Lab Hrs.=2

Pre/Corequisite: READ 300 or equivalent

MUSI 1309**Music Literature II: Church Music**

Survey of the principle musical forms and cultural periods as illustrated in the literature of major composer in the romantic, 20th century, and modern periods, specifically applicable to the continued study of sacred music, including the history and use of hymnody, introduction to the lectionary, score study, and conducting, rehearsal planning and techniques and general stylistic practices.

Lecture Hrs.=2, Lab Hrs.=2

Pre/Corequisite: READ 300 or equivalent and MUSI 1308

MUSI 1310**Contemporary 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 music majors. Also open to non-music majors with instructor's consent. (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 music majors. Also open to non-music majors with instructor's consent. (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**Advanced Sight Singing and Ear Training I**

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 Fall semester only). Tutorial lab required.

Lecture Hrs.=1, Lab Hrs.=2

Prerequisite: MUSI 1117, READ 300 or equivalent

Corequisite: MUSI 2311

MUSI 2117**Advanced Sight Singing and Ear Training II**

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.=1, Lab Hrs.=2

Prerequisite: MUSI 2116, READ 300 or equivalent

Corequisite: MUSI 2312

MUSI 2181 **Class Piano**

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.=0, Lab Hrs.=2

Pre/Corequisite: READ 300 or equivalent

MUSI 2182 **Class Piano**

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.=0, Lab Hrs.=2

Pre/Corequisite: READ 300 or equivalent

MUSI 2183 **Advanced Voice Class**

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 2312 **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 ESOL 310 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 including proper test technique, or combination of techniques and interpretation, evaluation of test results.

Lecture Hrs.=3, Lab Hrs.=3

Pre/Corequisite: READ 300 or ESOL 310 or equivalent

NDTE 2411 **Preparation for Welding Inspection**

General principles of welding inspection including welding processes, terms and definitions, welding discontinuities, duties, and responsibilities of inspectors, destructive and non-destructive testing, quality assurance/quality control, welding codes and blueprint, procedures, and case studies. An overview of welding tools and equipment, metallurgy, chemistry, and joint design.

Lecture Hrs.=3, Lab Hrs.=3

Pre/Corequisite: READ 300 or ESOL 310 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 and 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, ESOL 310 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 ESOL 310 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 ESOL 310 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: READ 300 or equivalent and OSHT 1301

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: READ 300 or equivalent and OSHT 1301

PFPB 1305 **Basic Blueprint Reading for Pipefitters**

Reading and interpreting working drawings. Includes symbols and abbreviations and the use of sketching techniques to create isometric and orthographic drawings of piping and piping component.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 300 or ESOL 310 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 ESOL 310 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 ESOL 310 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 ESOL 310 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 ESOL 310 or equivalent

PFPB 2407

Pipe Fabrication and Installation I

Pipe fabrication procedure of threaded, socket-weld, and butt-weld pipe joints. Includes pipe and tube bending with hand bender, saddling in and saddling on pipe braces to pipe header, and fabrication and installation of pipe supports.

Lecture Hrs.=3, Lab Hrs.=3
Prerequisite: PFPB 1408
Pre/Corequisite: READ 300 or ESOL 310 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 ESOL 310 or equivalent

PFPB 2441

Pipe Fabrication and Installation II

Advanced pipe fabrication procedures of threaded, socket weld, and butt-weld pipe joints. Layout and fabrication of vertical, horizontal, and rolling off-sets using 45-degree fitting and odd-angle fittings.

Lecture Hrs.=3, Lab Hrs.=3
Prerequisite: PFPB 2408
Pre/Corequisite: READ 300, ESOL 310, or equivalent

PFPB 2449

Field Measuring, Sketching, and Layout

Use, care, and setup of transit and level. Includes field dimensioning, sketching, and layout of future process piping. Emphasizes advanced trade math including the use of trigonometric functions and tables.

Lecture Hrs.=3, Lab Hrs.=3
Pre/Corequisite: READ 300 or ESOL 310 or equivalent
Lead Instructor's Approval

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
Pre/Corequisite: ENGL 301 or equivalent, READ 302 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
Pre/Corequisite: ENGL 301 or equivalent, READ 302 or equivalent

PHIL 2303

Introduction to Logic

This course covers the nature and methods of clear and critical thinking skills and methods of reasoning, such as deduction, induction, scientific reasoning, and fallacies.

Lecture Hrs.=3, Lab Hrs.=0
Prerequisite: ENGL 301 or equivalent, READ 302 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: ENGL 301, ESOL 320 or equivalent and READ 302, ESOL 312 or equivalent

PHYS 1401

College Physics I: Mechanics and Heat

Physics 1401 and 1402 are designed to meet the needs of students who need one year of algebra/trigonometry - based physics. An introduction to the concepts and problems of classical mechanics and heat, and thermodynamics enriched with modern physics concepts.

Lecture Hrs.=3, Lab Hrs.=3
Prerequisite: READ 302 or equivalent
Pre/Corequisite: MATH 1414 or equivalent, TECM 1341

PHYS 1402

College Physics II: Sound, Electricity, Magnetism, Light, and Modern Physics

Physics 1401 and 1402 are designed to meet the needs of students who need one year of algebra/trigonometry - based physics. Completes one year of physics. Includes an introduction to the concepts and problems of wave motion, sound, electricity and magnetism, light, and modern physics.

Lecture Hrs.=3, Lab Hrs.=3
Prerequisite: PHYS 1401, READ 302 or equivalent

PHYS 1405

General 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: READ 302 or equivalent
Pre/Corequisite: MATH 320, TECM 1341 or equivalent

PHYS 1407

General 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: READ 302 or equivalent
Pre/Corequisite: MATH 320, TECM 1341 or equivalent

PHYS 1411

Introductory Astronomy I

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), 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: MATH 1414 or equivalent, READ 302 or equivalent

PHYS 1412

Introductory Astronomy II

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: PHYS 1411

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: MATH 320 or equivalent

PHYS 2425

Mechanics and Heat

Principles of mechanics, thermodynamics, kinetic theory of gases, and mechanics of solids and fluids; also engineering applications of physical principle by means of computer numerical methods; primarily for science, mathematics, and engineering students.

Lecture Hrs.=3, Lab Hrs.=3
Prerequisite: MATH 2413

PHYS 2426

Electricity, Optics, and Waves

Principles of electricity and magnetism, geometrical and physical optics, wave motion and sound, and introductory quantum theory; primarily for physical science, mathematics, and engineering majors.

Lecture Hrs.=3, Lab Hrs.=3
Prerequisite: PHYS 2425

POFI 1341

Computer Applications II

Continued study of current computer terminology and technology. Advanced skill development in computer hardware, software applications, and procedures. Advanced functions of word processing, spreadsheets, database documents, and presentation software are emphasized.

Lecture Hrs.=3, Lab Hrs.=1
Prerequisite: POFI 1401 or equivalent
Pre/Corequisite: READ 301 or equivalent

POFI 1349

Spreadsheets

Spreadsheet software for business applications.

Lecture Hrs.=3, Lab Hrs.=1
Prerequisite: POFT 1321, POFI 1401
Pre/Corequisite: READ 301 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 provides a brief introduction to word processing, spread-

sheet, presentation, and database terminology and concepts.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: POFT 1321, POFI 1401

Pre/Corequisite: READ 301 or equivalent

POFI 2301

Word Processing

Word processing software focusing on business applications.

Lecture Hrs.=3, Lab Hrs.=1

Pre/Corequisite: READ 301, ESOL 311 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.

Lecture Hrs.=3, Lab Hrs.=1

Pre/Corequisite: READ 301, ESOL 311, or equivalent

POFI 2340

Advanced Word Processing

Advanced techniques in merging, macros, graphics, and desktop publishing. Includes extensive formatting for technical documents. Emphasis on business applications.

Lecture Hrs.=3, Lab Hrs.=1

Prerequisite: POFT 2301

Pre/Corequisite: READ 301, ESOL 311 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, ESOL 310 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: READ 301, ESOL 311 or equivalent

POFT 1301

Business English

Introduction to 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: READ 301 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.=0

Pre/Corequisite: READ 301 or equivalent

POFT 1321

Business Math

Fundamentals of business mathematics including analytical and critical thinking skills.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 301, ESOL 311 or equivalent

POFT 1329

Beginning Keyboarding

Skill development keyboard techniques. Emphasis on development of acceptable speed and accuracy levels and formatting basic documents.

Lecture Hrs.=3, Lab Hrs.=1

Pre/Corequisite: READ 301, ESOL 311 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.=0

Prerequisite: POFT 1309

Pre/Corequisite: READ 301, ESOL 311 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: READ 301, ESOL 311 or equivalent

POFT 1367

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: READ 301, ESOL 311 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: READ 301, ESOL 311 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 skill; and to preparing attractive business documents.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 301 or equivalent and POFT 1301 or ENGL 1301

POFT 2331

Administrative Systems

Advanced concepts of project management and office procedures integrating software applications.

Lecture Hrs.=3, Lab Hrs.=1

Prerequisite: Completion of Office Assistant and Administrative Assistant Certificates

Pre/Corequisite: READ 301 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: READ 301, ESOL 311 or equivalent

PSYC 2301

Introduction to Psychology

A survey of the fields of general psychology; the biological and psychological basis of human be-

havior, intelligence, motivation, emotion, learning, personality, memory, and psychopathology.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGL 301 or equivalent, READ 302 or equivalent

PSYC 2308Ω

Child Psychology

A study of the physical, mental, and emotional development of the individual from birth through adolescence. Emphasis on the nature of individual differences and the correct integration of behavior patterns into a socially desirable and well-adjusted personality.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: PSYC 2301, READ 302 or equivalent, ENGL 301 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, READ 302 or equivalent, ENGL 301 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, READ 302 or equivalent, ENGL 301 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, READ 302 or equivalent, ENGL 301 or equivalent

PSYC 2318

Juvenile Delinquency

Nature and extent of delinquency, comparison of explanatory models and theories; evaluation of prevention, control, and treatment programs. Same as SOCI 2339.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: PSYC 2301, READ 302 or equivalent, ENGL 301 or equivalent

PSYT 1313

Psychology of Personal Adjustment

Development of personal, social, and work adjustment skills.

Lecture Hrs.=2, Lab Hrs.=2

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: READ 301 or ESOL 311 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: READ 301 or ESOL 311 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: READ 301 or ESOL 311 or equivalent

PTAC 1410**Process Technology I: Equipment**

Instruction in the use of common process equipment.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: READ 301 or ESOL 311 or equivalent

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: READ 301 or ESOL 311 or equivalent

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 1410, READ 301 or equivalent

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 1410, READ 301, ESOL 311, or equivalent

PTAC 2446**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 1410 and READ 301, ESOL 311, or equivalent

READ 300**Beginning College Reading Skills**

A course designed for individuals whose reading development has been delayed. Emphasis is on vocabulary development, interpretation, and evaluation of basic sentence and paragraph

patterns, articulative training, and concept development necessary for effective reading. It is required of all students whose Computerized Placement Test score is below 46.

Lecture Hrs.=4, Lab Hrs.=0

READ 301**Intermediate College Reading Skills**

This course provides improvement of reading habits and skills. It includes a study of the theory and mechanics of good reading. Emphasis is placed on developing vocabulary and improving comprehension through computer assisted instruction and classroom discussion. It is required of all students whose Computerized Placement Test score is between 46-61.

Lecture Hrs.=4, Lab Hrs.=0

Prerequisite: READ 300 or ESOL 310 or equivalent

READ 302**Advanced College Reading Skills**

This course is designed to improve reading effectiveness at the adult level. Emphasis is placed on skills relating to vocabulary, comprehension, and reading speed. It is suggested for college students, business and professional people, and other adults who recognize a need for greater efficiency in reading and required for those students whose Computerized Placement Test score is between 62-81.

Lecture Hrs.=4, Lab Hrs.=0

Prerequisite: READ 301 or ESOL 311 or equivalent

RNSG 1146**Legal and Ethical Issues for Nurses**

Study of the laws and regulations related to the provision of safe and effective professional nursing care; attention given to the development of a framework for addressing ethical issues; and topics to include confidentiality, the Nursing Practice Act, professional boundaries, ethics and health care legislation. This course lends itself to a blocked approach.

Lecture Hrs.=1, Lab Hrs.=0

Prerequisite: Admission to RN or RNT Program, RNSG 1162, RNSG 1251, RNSG 2160, RNSG 2213, SPNL 1301

Corequisite: RNSG 2121, RNSG 2432, RNSG 2263

RNSG 1162**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 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, RNSG 1362, RNSG 2161, RNSG 2201, BIOL 2421. RN only: ENGL 1302, Humanities, Oral Communication, and Computer Literacy electives

Pre/Corequisite: SPNL 1301

Corequisite: RNSG 1251, RNSG 2160, RNSG 2213

RNSG 1205**Nursing Skills I**

Study of the concepts and principles essential for demonstrating competence in the performance of nursing procedures. Topics include knowledge, judgement, skills and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Progression: student must pass RNSG 1209 and RNSG 1205 concurrently to progress.

Lecture Hrs.=1, Lab Hrs.=4

Prerequisite: Admission to RN Program

Pre/Corequisite: BIOL 2402, PSYC 2314

Corequisite: RNSG 1209, RNSG 1341, RNSG 1361

RNSG 1209**Introduction to Nursing**

Overview of nursing and the role of the professional nurse as a provider of care, coordinator of care, and member of a profession. Topics include knowledge, judgement, skills, and professional values with a legal/ethical framework. This course lends itself to a blocked approach. Progression: student must pass RNSG 1209 and RNSG 1205 concurrently to progress.

Lecture Hrs.=2, Lab Hrs.=0, Testing Fee

Prerequisite: Admission to RN Program

Pre/Corequisite: BIOL 2402, PSYC 2314

Corequisite: RNSG 1205, RNSG 1341, RNSG 1361

RNSG 1251**Care of the Childbearing Family**

Study of concepts related to the provision of nursing care for childbearing families. Topics may include selected complications. Topics include knowledge, judgement, 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 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, Computer Literacy, and Oral Communication electives

Pre/Corequisite: SPNL 1301

Corequisite: RNSG 1162, RNSG 2160, RNSG 2213

RNSG 1301**Pharmacology**

Introduction to the science of pharmacology with emphasis on the actions, interactions, adverse effects, and nursing implications of each drug classification. Topics include 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 TSI approved tests; (b.) successfully completing MATH 320, (c.) earning a grade of C or better in MATH 110, 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, READ 302 or equivalent

Pre/Corequisite: BIOL 2401 or BIOL 2404

RNSG 1341**Common Concepts of Adult Health**

Study of the general principles of caring for selected adult clients and families in structured settings with common medical-surgical health care needs related to each body system. Emphasis on knowledge, judgement, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Progression: student must pass RNSG 1341 and RNSG 1361 concurrently to progress to next nursing level.

Lecture Hrs.=3, Lab Hrs.=0, Testing Fee
Prerequisite: Admission to RN Program
Pre/Corequisite: BIOL 2402, PSYC 2314
Corequisite: RNSG 1205, RNSG 1209, RNSG 1361

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 care, coordinator of care and member of a profession in the care of adult clients/families in structured health care settings with complex medical-surgical health care needs associated with each body system. Emphasis on knowledge, judgement, 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, RNSG 1209, RNSG 1341, RNSG 1361, BIOL 2402, PSYC 2314, or admission to RNT Program, RNSG 2207, BIOL 2421

RNSG 1361

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 1341 and RNSG 1361 concurrently to progress to next nursing level.

Lecture Hrs.=0, Lab Hrs.=0, Clinical Hrs.=9,
Insurance Fee

Prerequisite: Admission to RN

Pre/Corequisite: BIOL 2402, PSYC 2314

Corequisite: RNSG 1205, RNSG 1209, RNSG 1341

RNSG 1362

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 1343 and RNSG 1362 concurrently to progress to next nursing level.

Lecture Hrs.=0, Lab Hrs.=0, Clinical Hrs.=9,
Insurance Fee

Prerequisite: Admission to RN Program, RNSG 1205, RNSG 1209, RNSG 1341, RNSG 1361, BIOL 2402, PSYC 2314, or admission to RNT Program, RNSG 2207, BIOL 2421

Pre/Corequisite: RN Program only, BIOL 2421

Corequisite: RNSG 1343, RNSG, 2161, RNSG 2201

RNSG 2121

Management of Client Care

Exploration of leadership and management principles applicable to the role of the nurse as a provider of care, coordinator of care, and member of a profession. Includes application of knowledge, judgement, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

Lecture Hrs.=0, Lab Hrs.=0, Clinical Hrs.=4,
Insurance Fee

Prerequisite: Admission to RN or RNT Program, RNSG 1162, RNSG 1251, RNSG 2160, RNSG 2213, RNSG 2432, RNSG 2263, SPNL 1301

Corequisite: RNSG 114

RNSG 2160

Clinical: Nursing Registered Nurse Training

A health-related work-based learning experience that enables the student to apply specialized oc-

cupational 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, RNSG 1362, RNSG 2161, RNSG 2201, BIOL 2421. RN only: ENGL 1302, Humanities, Computer Literacy, and Oral Communication electives

Pre/Corequisite: SPNL 1301

Corequisite: RNSG 1162, RNSG, 1251, RNSG 2213

RNSG 2161

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 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, RNSG 1209, RNSG 1341, RNSG 1361, 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 judgement and professional values within 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, RNSG 1209, RNSG 1341, RNSG 1361, BIOL 2402, PSYC 2314, or admission to RNT Program, RNSG 2207, BIOL 2421

Pre/Corequisite: BIOL 2421 RN only

Corequisite: RNSG 1343, RNSG 1362, RNSG 2161

RNSG 2207

Transition to Nursing Practice

Introduction to selected concepts related to the role of the professional nurse as a provider of care, coordinator of care, and member of the profession. Review of trends and issues impacting nursing and health care today and in the future. Topics include knowledge, judgement, skills, 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 clients and their families. This course lends itself to a blocked approach. In addition, the student will utilize the nursing process to identify common disruptions in growth and developmental patterns as they relate to the client's optimal levels of health. 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, RNSG 1362, RNSG 2161, RNSG 2201, BIOL 2421. RN only: ENGL 1302, Humanities, Computer Literacy, and Oral Communication electives

Pre/Corequisite: SPNL 1301

Corequisite: RNSG 1162, RNSG 1251 RNSG 2160

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, RNSG 1251, RNSG 2160, RNSG 2213, SPNL 1301

Corequisite: RNSG 1146, RNSG 2432

RNSG 2432

Enhanced Concepts of Adult Health I

Enhanced concepts and skills for developing professional competencies in complicated nursing care situations involving adult clients/families with multiple body system problems. Emphasizes critical thinking, clinical reasoning, and determining legal/ethical values for optimization of client 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, RNSG 1251, RNSG 2160, RNSG 2213, SPNL 1301.

Corequisite: RNSG 1146, RNSG, 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, ESOL 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

Pre/corequisite: READ 301 or equivalent

SGNL 1401

Beginning American Sign Language

This course focuses on fingerspelling and basic training skills in sign language with an emphasis on expressive communication. This course is for students with little or no previous experience in sign language.

Lecture Hrs.=3, Lab Hrs.=3

Pre/corequisite: READ 300 or equivalent

SGNL 1402

Advanced American Sign Language

This course is a continuation of SGNL 1401 and

includes intermediate and advanced skills in sign language with an emphasis on American Sign Language (American Sign Language) in terms of expressive and receptive communication.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: SGNL 1401, READ 300 or equivalent

SGNL 2301

American Sign Language III: Conversation, Interpreting, Literature, Folklore, and Review

This course is a review and application of conversational skills in American Sign Language, interpreting from signing to voice and voice to signing. An introduction to American Sign Language literature and folklore.

Hrs.=3, Lab Hrs.=2

Prerequisite: SGNL 1402 and READ 300, ESOL 310, or equivalent

SGNL 2302

American Sign Language IV: Conversation, Interpreting, Literature, Folklore, and Review

This course is a continuation of SGNL 2301

Lecture Hrs.=3, Lab Hrs.=2

Prerequisite: SGNL 2301

SOCI 1301Q

Introductory Sociology

The principles of social organization including the study of social groups, culture, social change, personality population, rural and urban communities, social class and caste systems, and social institutions such as the family, recreation, and religion.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGL 301 or equivalent, READ 302 or equivalent

SOCI 1306

Social Problems

Social disorganization and reorganization with emphasis on the following topics: mental illness, suicide, drug addiction, alcoholism, sex deviation, crime, gambling, minority groups, divorce, and retirement.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGL 301 or equivalent, READ 302 or equivalent

SOCI 2301Q

Marriage and the Family

A sociological examination of marriage and family life. Problems of courtship, mate selection, divorce, and marriage adjustment in modern American society.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGL 301 or equivalent, READ 302 or equivalent

SOCI 2319Q

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 identity.' The course also examines a variety of remedies for the problems noted above. These include: the expansion of civil right, affirmative action, and recognition of minority cultures.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: SOCI 1301, ENGL 301 or equivalent, READ 302 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: ENGL 301 or equivalent, READ 302 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: ENGL 301 or equivalent, READ 302 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.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGL 301 or equivalent, READ 302 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.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: ENGL 301 or equivalent, READ 302 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 in Spanish

SPCH 1145

Forensic Workshop

A laboratory course for students wishing to participate in debate, forensic, and interpretation tournaments. All speech tournament activities will be covered. One hour each semester.

Lecture Hrs.=1, Lab Hrs.=2

Pre/Corequisite: READ 300 or equivalent

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: READ 300 or equivalent

Pre/corequisite: ENGL 301 or equivalent

SPCH 1315

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 and expository, persuasive, after-dinner, and radio speeches.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 300 or ESOL 310 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 includes subjects such as listening, assertive communication and dealing appropriately with conflict with emphasis on self improvement.

Lecture Hrs.=3, Lab Hrs.=0

Prerequisite: READ 300 or ESOL 310 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: READ 300 or ESOL 310 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 ESOL 310 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: READ 301 or equivalent, ENGL 301 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: READ 302 or equivalent, ENGL 301 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: READ 302 or ESOL 301 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: READ 302 or equivalent

SRVY 1413**Plane Surveying**

An introductory overview of surveying equipment and measurement techniques with emphasis on leveling and traversing.

Lecture Hrs.=3, Lab Hrs.=3

Pre/Corequisite: READ 301 ESOL 311 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: READ 301, ESOL 311 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: READ 301 or ESOL 311 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: READ 301 or ESOL 311 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: READ 301 or ESOL 311 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: MATH 310 or equivalent, READ 300 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 ESOL 310 or equivalent

VNSG 1161**Clinical-Licensed Vocational Nurse (LVN) 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 multi-disciplinary 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 normal physical, psychosocial, and cultural aspects of the aging process. Addresses common disease processes of aging.

Exploration of attitudes towards care of the older adult.

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**Essential 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 childhood diseases and childcare from infancy through adolescence. Focus on the care of the well and the ill child utilizing the nursing process.

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**

Utilization of the nursing process in the assessment and management of the childbearing family. Emphasis on the bio-psycho-socio-cultural needs of the family during the phases of pregnancy, childbirth, and the neonatal period including abnormal conditions. 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 Vocational Nurse (LVN) 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 entry-level nursing skills and competencies for a variety of health care setting. Utilization of 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 setting. This course will focus on the health care needs of the adult client with disorders of the endocrine, gastrointestinal, nervous, cardiovascular, eye and ear, and genitourinary systems.

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 Vocational Nurse (LVN) 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 ESOL 310 or equivalent

WLDG 1323**Welding Safety, Tool, and Equipment**

An introduction to welding careers and safety practice, including welding safety; OSHA and the Hazardous Communication Act, Material Safety Data Sheets (MSDS); basic mathematics, measuring systems, shop operations, use and care of precision measuring tools, and the use and care of hand and power tools. Instruction on various types of welding equipment and processes, basic welding gases, fluxes, rods, electrodes, symbols, and blueprints. Also includes metal preparation, joint design, and oxy-fuel cutting.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 300 or ESOL 310 or equivalent

WLDG 1327**Welding Codes**

An in-depth study of welding codes and their development in accordance with structural standards, welding processes destructive, and non-destructive test methods. Include API1104 and ASME, Sections V and IX.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 300 or ESOL 310 or equivalent

WLDG 1337**Introduction to 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, machine ability and ductility.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 300 or ESOL 310 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 ESOL 310 or equivalent

WLDG 1434**Introduction to Gas Tungsten Arc Welding (GTAW)**

An introduction to the principles of gas tungsten arc welding (GTAW), setup/use of GTAW equipment, and safe use of tools and equipment. Welding instruction in various positions on joint designs.

Lecture Hrs.=3, Lab Hrs.=3

Prerequisite: WLDG 1428

Pre/Corequisite: READ 300 or ESOL 310 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 ESOL 310 or equivalent

WLDG 2331**Advanced Blueprint Interpretation and Cost Analysis**

A continuation of the Blueprint for Welders course. Emphasis placed on inspection cost analysis, and estimating.

Lecture Hrs.=3, Lab Hrs.=0

Pre/Corequisite: READ 300 or ESOL 310 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 ESOL 310 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 ESOL 310 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 ESOL 310 or equivalent