ABDR 1380 Cooperative Education - Autobody/Collision and Repair 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 = 15
Prerequisite: READ 300 or ESOL 310 or equivalent

ABDR 1381 Cooperative Education - Autobody/Collision and Repair 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 = 15
Prerequisite: READ 300 or ESOL 310 or equivalent

ABDR 1441 Structural Analysis and Damage Repair I
Expanded 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 = 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 2255 Collision Repair Estimating
An advanced course in collision estimating and development of an accurate damage report.
Lecture Hrs = 1, Lab Hrs = 2
Prerequisite: READ 300 or ESOL 310 or equivalent

ABDR 2380 Cooperative Education - Autobody/Collision and Repair 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 = 15
Prerequisite: READ 300 or ESOL 310 or equivalent

ABDR 2381 Cooperative Education - Autobody/Collision and Repair 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 = 15
Prerequisite: READ 300 or ESOL 310 or equivalent

ABDR 2402 Auto Body Mechanical and Electrical Service
A course in the repair, replacement, and/or service of collision damaged mechanical or electrical systems. Topics include drive train removal, reinstallation and service; cooling system service and repair; exhaust system service; and emission control systems. Additional topics include wire and connector repair, reading wiring diagrams, and troubleshooting.
Lecture Hrs = 3, Lab Hrs = 2
Prerequisite: READ 300 or ESOL 310 or equivalent

ACCT 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 301 or ESOL 311 or equivalent

ACCT 1313 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, accounts payable, inventories, and payroll systems.
Lecture Hrs = 2, Lab Hrs = 2
Prerequisite: ACCT 2401, READ 301 or equivalent

ACCT 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 fringe taxes, sales tax, and an overview of taxes relating to partnerships and corporations. (Spring Only)
Lecture Hrs = 3, Lab Hrs = 0
Prerequisite: ACCT 2401, READ 301 or equivalent

ACNT 1313 Computerized Accounting Applications
A study of utilizing the computer to develop and maintain accounting record keeping systems, make management decisions, and process common business applications with emphasis on utilizing a spreadsheet and/or data base package/program. (Fall Only)
Lecture Hrs = 2, Lab Hrs = 2
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: ACCT 2401, READ 301 or equivalent

ACNT 2302 Accounting Capstone
A learning experience that allows students to apply broad knowledge of the accounting profession through discipline specific projects involving the integration of individuals and teams performing activities to simulate workplace situations.
Lecture Hrs = 3, Lab Hrs = 0
Prerequisite: ACNT 2303
ACNT 2303
Intermediate Accounting I
Critical analysis of generally accepted accounting principles, concepts, and theory underlying the preparation of financial statements including comparative analysis and statement of cash flow. In addition, special emphasis on corporation accounting, stockholder’s equity, retained earnings, current and long-term liabilities, pensions, statement of cash flows, and other financial 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. (Spring Only)
Lecture Hrs = 3, Lab Hrs = 0
Prerequisite: ACNT 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 Advanced Accounting Technician Certificate.
Lecture Hrs = 0, Lab Hrs = 0, External Hrs = 13
Prerequisite: ACCT 2402

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

AERG 2303
Aerodynamics
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

AERG 2304
Introduction to Agricultural Economics
An introduction to the study of agricultural economics and fundamental economic problems and their applications 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 = 3, Lab Hrs = 0
Pre/Corequisite: ACCT 2401

AIPR 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
(18 pre/post, 30 dual, 0 solo)
Pre/Corequisite: READ 300 or equivalent
Corequisite: Two ground courses in Fall/Spring semesters; one in summer terms

AIPR 1255
Intermediate Flight
Provides 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
(15 pre/post, 27 dual, 22 solo)
Prerequisite: AIPR 1215
Corequisite: Two ground courses in Fall/Spring semesters; one in summer terms
Pre/Corequisite: READ 300 or equivalent

AIPR 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

AIPR 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

AIPR 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

AIPR 1341
Advanced Air Navigation
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

AIPR 1343
Aerodynamics
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
Corequisite: Two ground courses in Fall/Spring semesters; one in summer terms
Pre/Corequisite: READ 300 or equivalent

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
Prerequisite: AIRP 1255
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 1255
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

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 relationships. 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 industries 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 or equivalent

ARCE 2444
Static 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
Pre/Corequisite: 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
Architectural drafting techniques including orthographic and axonometric studies. Principals 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 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 Enclosure 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. Includes principles of layout and design and manipulation of text and graphics.
Lecture Hrs = 3, Lab Hrs = 3
Prerequisite: READ 301 or equivalent
Pre/Corequisite: ITSC 1309 or BCIS 1405

ARTC 2440
Computer Illustration II
Advanced use of software capabilities with emphasis on various output procedures, the resolution of complex design issues, and concept development.
Lecture Hrs = 3, Lab Hrs = 3
Prerequisite: 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
Pre/Corequisite: READ 1311

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 1316
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
Pre/Corequisite: ARTS 1316

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
Pre/Corequisite: ARTS 1311 or ARTS 2313

ARTS 2316
Painting I
Exploring the potentials of painting media with emphasis on color and composition.
Lecture Hrs = 3, Lab Hrs = 3

ARTS 2317
Painting II
Continuation of ARTS 2316 with emphasis on individual expression.
Lecture Hrs = 3, Lab Hrs = 3
Pre/Corequisite: ARTS 2316

ARTS 2323
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
Pre/Corequisite: ARTS 1316, ARTS 1317

ARTS 2324
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
Pre/Corequisite: READ 300 or equivalent

ARTS 2326
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 2327
Sculpture II
A continuation of ARTS 2326 with emphasis on individual expression.
Lecture Hrs = 3, Lab Hrs = 3
Pre/Corequisite: ARTS 2326
ARTS 2333 Ω
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 2334 Ω
Printmaking II
The advanced printmaking course expands on the beginning printmaking course investigating each printmaking technique 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
Pre/Corequisite: ARTS 2333
Pre/Corequisite: READ 300 or equivalent

ARTS 2346 Ω
Ceramics I
An introduction to basic ceramic processes.

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

ARTS 2347 Ω
Ceramics II
Opportunities for specialization in ceramic processes.

Lecture Hrs = 3, Lab Hrs = 3
Pre/Corequisite: ARTS 2346
Pre/Corequisite: READ 300 or equivalent

ARTS 2348 Ω
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
Pre/Corequisite: ARTS 1311 or ARTS 2313 or ARTS 2314
Pre/Corequisite: READ 300 or equivalent

ARTS 2349 Ω
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
Pre/Corequisite: ARTS 1311 or ARTS 2313 or ARTS 2314
Pre/Corequisite: READ 300 or equivalent

ARTS 2356 Ω
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 2357 Ω
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
Pre/Corequisite: 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 -Automotive/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 - Automotive/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 - Automotive/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 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 301 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 1406 Ω
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/Corequisite: ENGL 301 or equivalent and MATH 310 or equivalent

BIOL 1407 Ω
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 1411 Ω
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/Corequisite: BIOL 1406 (C or better), READ 320 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/Corequisite: READ 301 or equivalent, ENGL 301 or equivalent, MATH 310 or equivalent

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 & 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
Prerequisite: READ 301 or ESOL 311 or equivalent

BIOL 2416 Genetics
A study of the principles of molecular and classical genetics and the function and transmission of hereditary material. May include population genetics and genetic engineering.
Lecture Hrs = 3, Lab Hrs = 3
Prerequisite: Any BIOL Course (C or Better)
Pre/Corequisite: READ 301 or ESOL 311 or equivalent

BIOL 2421 Microbiology
A 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
Pre/Corequisite: 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 Teams
A student of the 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, ESOL 310, 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 or 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 or ESOL 311 or equivalent

BUSI 1304 Business Report Writing & 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
CHEM 1405 Ω
Introductory Inorganic Chemistry
An introductory course in inorganic chemistry for liberal arts and other nontechnical majors. This course satisfies requirements for most nursing students and other allied health majors. Covers general principles of chemistry, description of elements and compounds, chemical laws, application of chemistry to modern living. Credit will not be given for both CHEM 1405 and CHEM 1411 or 1412.
Lecture Hrs = 3, Lab Hrs = 3
Pre/Corequisite: READ 301 or equivalent and (MATH 310 or equivalent or prerequisite TECM 1341)

CHEM 1411 Ω
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, gases, 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
Prerequisite: CHEM 1411, MATH 1414 or equivalent, READ 302 or equivalent

CHEM 1419 Ω
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. Covers 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/Corequisite: 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
Prerequisite: 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
Prerequisite: 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/Corequisite: READ 301, ESOL 311 or equivalent

CNBT 1301
Construction Methods and Materials I
Introduction to construction materials and methods and their applications.
Lecture Hrs = 3, Lab Hrs = 0
Pre/Corequisite: READ 301, ESOL 311 or equivalent

CNBT 1316
Construction Technology I
Site preparation, foundation, form work, and framing. Includes safety; tools and equipment; basic site preparation; basic foundations and form work; and basic floor, wall, and framing methods and systems.
Lecture Hrs = 3, Lab Hrs = 0
Pre/Corequisite: 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
Prerequisite: READ 300 or 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/Corequisite: 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/Corequisite: 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/Corequisite: READ 301, ESOL 311, or equivalent

CNBT 2437
Construction Estimating II
Advanced estimating concepts using computer software programs for construction and crafts.
Lecture Hrs = 3, Lab Hrs = 3
Pre/Corequisite: READ 301, ESOL 311, or equivalent

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 = 4, Lab Hrs = 0
Pre/Corequisite: 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
Prerequisite: 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

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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 considerations, 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

COMM 2303
Beginning Recording Techniques
Overview of the recording studio. Topics include basic studio electronics and acoustic principles, wave form analysis, microphone concepts and mixing 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 enhancement, 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, 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 III
Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), and algorithmic analysis.
Lecture Hrs = 3 Lab Hrs = 3
Prerequisite: COSC 1437, READ 301 or equivalent

COS 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 301 or ESOL 311 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 & 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 policy 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 Systems 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 300 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
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
Pre/Corequisite: CSME 1330, READ 300 or equivalent

CSME 1434
Cosmetology Instructor I
The fundamentals of instructing cosmetology students.
Lecture Hrs = 2, Lab Hrs = 6, Insurance Fee
Note: A High School diploma or GED and a valid Texas Cosmetology License is required for admission to this class.
Pre/Corequisite: CSME 1505, 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.
Pre/Corequisite: CSME 1505, READ 300 or equivalent

CSME 2337
Advanced Cosmetology Techniques
Mastery of advanced cosmetology techniques including hair designs, professional cosmetology services, and workplace competencies.
Lecture Hrs = 3, Lab Hrs = 8, Insurance Fee
Pre/Corequisite: CSME 1505 and READ 300, ESOL 310, or equivalent

CSME 2343
Salon Development
Exploration of 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 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.
Pre/Corequisite: CSME 1505, READ 300 or equivalent

CSME 2401
The Principles of Hair Coloring and Related Theory
Presentation of the theory, practice, and chemistry of hair color. Topics include terminology, application, and workplace competencies related to hair color.
Lecture Hrs = 2, Lab Hrs = 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 Cosmetology Commission 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 
Pre/Corequisite: CSME 1505, READ 300 or equivalent

DAAC 1304
Pharmacology of Addiction
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
Major theories and current treatment modalities. Lecture Hrs = 3, Lab Hrs = 0 
Prerequisite: READ 300 or ESOL 310 or equivalent

DAAC 1317
Basic Counseling Skills
Facilitate development of the basic counseling skills necessary to develop an effective helping relationship with clients. Includes the utilization of special skills to assist in achieving objectives through exploration of problems, examination of attitudes and feelings, consideration of alternative solutions, and decision making. Lecture Hrs = 3, Lab Hrs = 0 
Prerequisite: READ 300 or ESOL 310 or equivalent

DAAC 1319
Introduction to Alcohol and Other Drug Addictions
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. Also covers 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: Advanced Group Ski
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 lifespan. Focus includes group therapy, structure, types, stages, development, leadership, therapeutic factors, the effectiveness of group on the individual, group growth, and Effective group facilitation skills, techniques, case management, and record keeping are addressed. Lecture Hrs = 3, Lab Hrs = 0 
Prerequisite: DAAC 2354, READ 300 or equivalent

DAAC 2280
Cooperative Education-Substance Abuse/Addiction Counseling
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Lecture Hrs = 1, Lab Hrs = 0, External Hrs = 10, Insurance Fee 
Prerequisite: 18 SCH of DAAC Coursework 
Pre/Corequisite: READ 300 or equivalent

DAAC 2281
Cooperative Education-Substance Abuse/Addiction Counseling
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Lecture Hrs = 1, Lab Hrs = 0, External Hrs = 10, Insurance Fee 
Prerequisite: 18 SCH of DAAC Coursework 
Pre/Corequisite: READ 300 or equivalent

DAAC 2307
Addicted Family Intervention
The family as a dynamic system focusing on the effects of addiction on family roles, rules, and behavior patterns. Includes the effects of mood altering substances, behaviors, and therapeutic alternatives as they relate to the family from a multicultural and transgenerational perspective. Lecture Hrs = 3, Lab Hrs = 0 
Prerequisite: READ 300 or 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 (AOD) client. Development and utilization of advanced treatment planning and management. Includes review of confidentiality and ethical issues. Lecture Hrs = 3, Lab Hrs = 0 
Prerequisite: READ 300 or ESOL 310 or equivalent

DAAC 2343
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 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, auxiliary views, and reproduction processes. Lecture Hrs = 3, Lab Hrs = 3 
Pre/Corequisite: READ 301 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 
Prerequisite: READ 301 or equivalent

DFTG 1417
Architectural Drafting-Residential
Architectural drafting procedures, practices, and symbols. Preparation of detailed working drawings for residential structures. Emphasis on light frame construction methods. Lecture Hrs = 3, Lab Hrs = 3 
Pre/Corequisite: DFTG 2419, READ 301 or equivalent

DFTG 1433
Mechanical Drafting
Detail drawings with proper dimensioning and tolerances, use of sectioning techniques, common fasteners, pictorial drawings, including bill of materials. Lecture Hrs = 3, Lab Hrs = 3 
Pre/Corequisite: DFTG 2419, READ 301 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 and READ 301 or equivalent

DFTG 2400
Intermediate Architectural Drafting-Residential
Continued application of principles and practices used in residential construction.
Lecture Hrs = 3, Lab Hrs = 3
Pre/Corequisite: DFTG 2419

DFTG 2408
Instrumentation Drafting
Principles of instrumentation as applicable to industrial applications; fundamentals of measurement and control devices; currently used ISA (Instrument Society of America) symbology; basic flow sheet layout and drafting practices.
Lecture Hrs = 3, Lab Hrs = 3
Pre/Corequisite: DFTG 2419

DFTG 2412
Technical Illustration Presentations
Pictorial drawing including isometrics, obliques, perspectives, charts, and graphs. Emphasis on rendering and using different media.
Lecture Hrs = 3, Lab Hrs = 3
Pre/Corequisite: DFTG 2419 and READ 301 or equivalent

DFTG 2419
Intermediate Computer-Aided Drafting
A continuation of practices and techniques used in basic computer-aided drafting emphasizing advanced dimensioning techniques, the development and use of prototype drawings, construction of pictorial drawings, construction of 3-dimensional drawings, interfacing 2d and 3d environments and extracting data.
Lecture Hrs = 3, Lab Hrs = 3
Pre/Corequisite: DFTG 1405, DFTG 1409

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
Pre/Corequisite: DFTG 2419

DFTG 2427
Landscape Drafting
A study of site planning and landscape design.
Lecture Hrs = 3, Lab Hrs = 3
Pre/Corequisite: READ 301 or equivalent

DFTG 2428
Architectural Drafting-Commercial
Architectural drafting procedures, practices, 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
Pre/Corequisite: DFTG 1417

DFTG 2430
Civil Drafting
An in-depth study of drafting methods and principles used in civil engineering.
Lecture Hrs = 3, Lab Hrs = 3
Pre/Corequisite: DFTG 2419

DFTG 2431
Advanced Technologies in Architectural Design and Drafting
Use of architectural specific software to execute the elements required in designing standard architectural exhibits utilizing custom features to create walls, windows and specific design requirements for construction in residential/commercial and industrial architecture.
Lecture Hrs = 3, Lab Hrs = 3
Pre/Corequisite: DFTG 2400

DFTG 2432
Advanced Computer-Aided Drafting
Advanced techniques, including the use of a customized system. Presentation of advanced drawing applications, such as three-dimensional solids modeling and linking graphic entities to external non-graphic data.
Lecture Hrs = 3, Lab Hrs = 3
Pre/Corequisite: DFTG 2419

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
Pre/Corequisite: DFTG 1433

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
Pre/Corequisite: DFTG 2419

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
Pre/Corequisite: DFTG 2419

DFTG 2442
Aeronautical Drafting
A study of aeronautical drawings required in the aircraft and aerospace industries.
Lecture Hrs = 3, Lab Hrs = 3
Pre/Corequisite: DFTG 2419

DFTG 2445
Advanced Pipe Drafting
A continuation of pipe drafting concepts building on the basic principles acquired in pipe drafting.
Lecture Hrs = 3, Lab Hrs = 3
Pre/Corequisite: DFTG 2423

DFTG 2447
PRACTICUM (for Field Experience)-Drafting and Design 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 = 40
Pre/Corequisite: DFTG 2419

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
Pre/Corequisite: READ 300 or ESOL 310 or equivalent

DRAM 1121
Theater 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
Pre/Corequisite: READ 301 or ESOL 310 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
Pre/Corequisite: 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
Pre/Corequisite: 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 productions 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 productions. 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 productions. 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: DRAM 1351, READ 300 or equivalent

DRAM 2120
Theatre Arts Lab III
Open to all students interested in theatre. Credit is earned for acting, technical work, or other participation. Limited to one semester credit hour each semester. Each course may be taken up to two times. Lecture Hrs = 0, Lab Hrs = 6
Prerequisite: READ 300 or ESOL 310 or equivalent

DRAM 2121
Theater 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 beginnings 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 aesthetics of motion pictures. 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 Economics: Macroeconomics
This course emphasizes macroeconomics; economic analysis of forces determining levels of income, prices, and employment; economic growth; 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

ECON 2302
Principles of Economics: 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
Introduction to the Teaching Profession
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 15 contact hours of field observations 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 15 contact hours of field observations 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 = 3, Lab Hrs = 0
Pre/Corequisite: READ 300 or equivalent

ELPT 1325
National Electrical Code I
An introductory study of the National Electric Code (NEC) for those employed in fields requiring knowledge of the Code. Emphasis on wiring design, protection, methods, and materials; equipment for general use; and basic calculations. Lecture Hrs = 3, Lab Hrs = 0
Pre/Corequisite: READ 300 or equivalent

ELPT 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
Pre/Corequisite: 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
Pre/Corequisite: 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
Electronic principles and the use of electronic devices. Includes diodes, transistors, and rectifiers. Lecture Hrs = 3, Lab Hrs = 3
Pre/Corequisite: 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: ELPT 1420
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 conditions, and advanced calculations. Lecture Hrs = 3, Lab Hrs = 0
Pre/Corequisite: ELPT 1420
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
Pre/Corequisite: ELPT 2405
Pre/Corequisite: READ 300 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
Prequisites: 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
Prequisite: 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
Prequisite: 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 = 3, Lab Hrs = 0
Pre/Corequisite: READ 300 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 = 3, Lab Hrs = 0
Pre/Corequisite: ENGL 301 or ESOL 301; READ 300

ENGL 1301
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
Prequisite: ENGL 302 or equivalent, READ 302 or equivalent

ENGL 1302
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
Prequisite: ENGL 302 or equivalent, READ 302 or equivalent

ENGL 1304
English Composition III
A direct study of significant masterpieces of English literature from the earliest times to the Romantic Period with particular attention to the main currents of thought and the major writers of Britain. Lecture Hrs = 3, Lab Hrs = 0
Prequisite: ENGL 1302

ENGL 2322
English Literature: Beowulf to Romantic
A general study of the significant writers and movements of American literature from its origins to the present. Lecture Hrs = 3, Lab Hrs = 0
Prequisite: ENGL 1302

ENGL 2327
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
Prequisite: ENGL 1302

ENGL 2328
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
Prequisite: ENGL 1302

ENGL 2331
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
Prequisite: ENGL 302 or equivalent, READ 301 or equivalent

ENGL 2332
English Literature: Romantic to Present
A general study of the significant writers and movements of American literature from its origins to the present. Lecture Hrs = 3, Lab Hrs = 0
Prequisite: ENGL 1302

ENGL 2334
Creative Writing I
A critical seminar for writers of poetry: narrative or lyric; of fiction: sketches, anecdotes, short stories, and plays. Continued study of methods of library research and of writing research papers. Research required. Lecture Hrs = 3, Lab Hrs = 0
Prequisite: ENGL 1302

ENGL 2336
Creative Writing II
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
Prequisite: ENGL 1302

Course Descriptions 123
ENGL 2332  Ø
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

ENGL 2333  Ø
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

ENGR 2301  Ø
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

ENGR 2302  Ø
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  Ø
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 metalurgical aspects of machining. Topics will also include an overview of properties and uses of polymers and ceramics.
Lecture Hrs = 3, Lab Hrs = 1
Pre/Corequisite: READ 301, ESOL 311, or equivalent

ENGR 2310  Ø
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  Ø
Special Topics in Engineering Technology, General
A study of the composition and resolution of forces and the equilibrium of forces acting on structures. Includes the concepts of friction, moments, centroids, and moment of inertia.
Lecture Hrs = 3, Lab Hrs = 1
Prerequisite: TECM 1349 or MATH 1414 or above; READ 301, ESOL 311, or equivalent

ENTC 1343  Ø
Statics
A study of the composition and resolution of forces and the equilibrium of forces acting on structures. Includes the concepts of friction, moments, couples, centroids, and moment of inertia.
Lecture Hrs = 3, Lab Hrs = 1
Prerequisite: TECM 1349 or MATH 1414 or above; READ 301, ESOL 311, or equivalent

ENVR 1401  Ø
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  Ø
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  Ø
Listening/Speaking I
Develops 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  Ø
Listening/Speaking II
Develops 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  Ø
Listening/Speaking III
Develops 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 310  Ø
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.
Lecture Hrs = 3, Lab Hrs = 0

ESOL 311  Ø
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  Ø
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

ESOL 320  Ø
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
Prerequisite: READ 301 or ESOL 311 or equivalent

ESOL 321  Ø
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
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
Pre/Prerequisite: READ 301 or ESOL 311 or equivalent

GAME 1302
Storyboarding
In-depth coverage of storyboarding for the development of games and simulations. Addresses pre-production preparation and creation of comprehensive design for a game or simulation including target audience analysis, purpose, goals and objectives, content outline, flow chart, and storyboard.
Lecture Hrs = 3, Lab Hrs = 1
Pre/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 toolssets from industry titles.
Lecture Hrs = 3, Lab Hrs = 1
Pre/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
Pre/Prerequisite: READ 301 or 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 3006 and READ 3031, 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 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 Systems (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

GISC 2440 Logistics Data Acquisition and Analysis
Management of geospatial information, system life cycles, and costs and benefits. Includes demographic management and institutional issues such as data providers, data management, combination of attribute and graphical data, information and storage and access, and state and national standards for spatial data. Also covers applications of geospatial modeling, logistics, and analysis. Emphasizes use of industry standard software for database design, table relationships, data collection (GPS-Import-Table input), inputting forms, and project management/troubleshooting.
Lecture Hrs = 3, Lab Hrs = 2
Pre/Corequisite: GISC 2402 and READ 301, ESOL 311, or equivalent

GOVT 2301 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 2302 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 1301 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 1302 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 2301 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

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. Instruction in delivery and organizational structure to include content of health record, 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 301 or ESOL 311 or equivalent

HITT 1341 Coding and Classification Systems
Application of basic coding rules, principles, guidelines, and conventions.
Lecture Hrs = 2, Lab Hrs = 2
Prerequisite: HITT 1305, READ 301 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 ESOL 310 or equivalent

HITT 1353 Legal and Ethical Aspects of Health Information
Concepts of 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
General 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 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. The student will gain direct supervision provided by the clinical professional. Lecture Hrs = 0, Lab Hrs = 0, External Lab = 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 professional. Lecture Hrs = 0, Lab Hrs = 0, External Lab Hrs = 6, Insurance Fee  
Pre/Corequisite: 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 professional. Lecture Hrs = 0, Lab Hrs = 0, External Lab = 6, Insurance Fee  
Pre/Corequisite: 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 professional. Lecture Hrs = 0, Lab Hrs = 0, External Lab = 6, Insurance Fee  
Pre/Corequisite: HITT 2260, READ 300 or equivalent  
Pre/Corequisite: HITT 2343

HITT 2335  
Coding and Reimbursement Methodologies  
Development of advanced coding techniques with emphasis on case studies, health records, and federal regulations regarding prospective payment systems and methods of reimbursement. Lecture Hrs = 2, Lab Hrs = 2  
Prerequisite: HITT 1341, READ 300 or equivalent

HITT 2339  
Health Information Organization and Supervision  
Principles of organization and supervision of human, fiscal, and capital resources. Lecture Hrs = 3, Lab Hrs = 0  
Prerequisite: READ 300 or ESOL 310 or equivalent

HITT 2343  
Quality Assessment and Performance Improvement  
Study of the many facets of quality standards and methodologies in the health information management environment. Topics include licensing, accreditation, compilation and presentation of data in statistical formats, quality improvement functions, quality tools, utilization management, risk management, and medical staff data quality issues. Lecture Hrs = 3, Lab Hrs = 0  
Prerequisite: READ 300 or ESOL 310 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 or ESOL 311 or equivalent

HUMA 1301  
Introduction to the Humanities I  
A multicultural, interdisciplinary introduction to the study of humankind's cultural legacy in at least four of the disciplines of the humanities, which are approached individually, in synthesis with one or more of the others, or thematically: the visual arts, motion pictures, architecture, music, dance, philosophy, and literature as well as the social sciences, history, mathematics, medicine, physical sciences and communication as they have contributed to that cultural legacy. Lecture Hrs = 3, Lab Hrs = 0  
Prerequisite: READ 301 or equivalent, ENGL 302 or equivalent

HUMA 1302  
Introduction to the Humanities II  
Honors only. A historical overview of humankind's cultural legacy in at least four of the disciplines of the humanities, which are approached individually, in synthesis with one or more of the others, or thematically: the visual arts, motion pictures, architecture, music, dance, philosophy, and literature as well as the social sciences, history, mathematics, medicine, and the physical sciences as they have contributed to that cultural legacy. 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 marketplace. 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 Page Design I  
Instruction in web page design and related graphic design issues, including mark-up language, word processors, and browsers. Lecture Hrs = 3, Lab Hrs = 1  
Prerequisite: READ 301 or ESOL 310 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

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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, and creating web sites in order to collect information, performing on-line transactions.  
Lecture Hrs = 3, Lab Hrs = 1  
Pre/Corequisite: READ 301 or equivalent and MRKG 1311

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, 2440, 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

INEW 2334  
Advanced Web Page Programming  
Advanced applications for Web authoring. Topics may include Perl Scripts, Common Gateway Interface (CGI), Database Interaction, Active Server Pages, Java Applets, Javascripts, tables, HTML, and/or interactive elements.  
Lecture Hrs = 2, Lab Hrs = 2  
Pre requisite: ITSE 2302, READ 301 or equivalent

INMT 1371  
Intro 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 concepts. 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 Electronic Instrumentation  
A survey of the instrumentation field and the professional requirements of the instrumentation technician, including an introduction to computer and calculator applications involved in basic electronic circuit analysis. Safety applications and fundamental math applications are included.  
Lecture Hrs = 3, Lab Hrs = 0  
Prerequisite: READ 300 or ESOL 310 or equivalent

INTC 1312  
Introduction to Instrumentation and Safety Technology  
An overview of industries employing instrument technicians. Course also covers 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 sheets, 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 1355  
Unit Operations  
An in-depth study of industrial processes including fluid flow and material transport, distillation, extraction, and automatic control requirements of these processes. Instruction in control system design and control loop adjustments and analysis.  
Lecture Hrs = 2, Lab Hrs = 2  
Prerequisite: READ 300 or ESOL 310 or equivalent

INTC 1425  
Instrument Hardware Installation I  
Introduces installation of instrument to the accepted methods for the mounting instrumentation equipment. Also addressed are aspects of introducing a piece of instrumentation equipment into the process environment.  
Lecture Hrs = 3, Lab Hrs = 3  
Prerequisite: INTC 1456 and READ 300 or equivalent

INTC 1441  
Principles of Automatic Control  
A study of the theory of basic measurements, automatic control systems and design, closed loop systems, recorders, controllers, feedback, control modes and control configurations.  
Lecture Hrs = 3, Lab Hrs = 3  
Prerequisite: INTC 1456 and READ 300 or equivalent

INTC 1448  
Analytical Instrumentation  
A study of analytical instruments emphasizing their utilization in process applications including chromatography, pH, conductivity, and spectrophotometry instruments.  
Lecture Hrs = 3, Lab Hrs = 3  
Prerequisite: INTC 1456 and READ 300 or equivalent

INTC 1456  
Instrumentation Calibration  
A study of techniques for calibrating electronic and pneumatic transmitters, recorders, 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 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, Internal Hrs = 19  
Prerequisite: INTC 1441 and READ 300 or equivalent

INTC 2405  
Instrument Hardware Installation II  
A continuation of Hardware Instrumentation I. Students will improve instrumentation skills in tubing and piping, measuring, layout, welding, and testing. Also covers instrumentation wiring, circuitry, heat tracing, chemical treatment and craft related trigonometry.  
Lecture Hrs = 3, Lab Hrs = 3  
Prerequisite: READ 300 or ESOL 310 or equivalent

INTC 2436  
Distribution Control and Programable 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. This course offers a deeper understanding of current automatic control applications in industry. The course takes a holistic approach to understanding the role of instrumentation in the process industry. The student integrates typical processing equipment and applied instrumentation for that equipment. Studies include advanced control concepts, computer control schemes, programmable logic control applications, and advanced troubleshooting techniques. The lab offers the student hands-on application opportunities relating to the topics above.  
Lecture Hrs = 3, Lab Hrs = 3  
Prerequisite: INTC 1441, READ 300 or equivalent

INTC 2445  
Advanced Analyzers  
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 into the field of instrument technicians with regards to fieldbus systems. Fieldbus equipment and systems with the theory, applications and hands-on experiences preparing the student for the installation and maintenance of this apparatus will be introduced.  
Lecture Hrs = 3, Lab Hrs = 3  
Prerequisite: INTC 1441, READ 300 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 RIP, RIP2, EIGRP, and OSPF. Recognize and correct common routing issues and problems. Model and analyze routing processes.
Lecture Hrs = 3, Lab Hrs = 3
Prerequisite: ITCC 1401 and READ 300, 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 - 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 basics 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

ITNV 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
Integration of applications from popular business productivity software suites. Instruction in embedding data, linking and combining documents using word processing, spreadsheets, databases, and/or presentation media software.
Lecture Hrs = 3, Lab Hrs = 1
Pre/Corequisite: READ 301 or equivalent

ITSC 1364
Practicum (or Field Experience) Computer and Information Sciences
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
Continued 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 media software.
Lecture Hrs = 3, Lab Hrs = 1
Prerequisite: ITSC 1309 and READ 301 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 2302
Intermediate Web Programming
Intermediate applications for web authoring. Topics may include server side include (SSI), Perl, HTML, Java applets, Javascript, and/or ASP.
Lecture Hrs = 2, Lab Hrs = 2
Prerequisite: ITNW 1337, 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
Designed to provide an understanding of advanced functionality of databases.
Lecture Hrs = 3, Lab Hrs = 1
Pre/Corequisite: READ 301 or equivalent and ITSC 2321

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, Materials 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, Materials 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 kickboxing. Correct technique, 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. The course will consist of regular aerobics, step aerobics, and cardio kickboxing. 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 singles and doubles 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 students. An 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 the 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  
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 both 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 a beach, returning to 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 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
Instruction 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, Experience
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 1147
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
Prerequisite: KINE 1148
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 underwater procedures. Techniques in breathing, communicating and diving will be taught. Manipulation of diving equipment will be covered as well as safety procedures.
Lecture Hrs = 1, Lab Hrs = 2
Prerequisite: Good Swimming Skills
Pre/Corequisite: READ 300 or equivalent

KINE 1152
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 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: 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
Foundations 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
Fundamentals of health dealing with personal hygiene. Includes a study of bodily organs and diseases, physical and mental health concepts, and community health problems.
Lecture Hrs = 3, Lab Hrs = 0
Pre/Corequisite: READ 301 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 completing 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 1332
Elementary and Recreational 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 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 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
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, 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 underwater for at least 15 yards and be able to tread water for 1 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
Pre/Corequisite: 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
Pre/Corequisite: KINE 2183M, Instructor's permission
Pre/Corequisite: READ 300 or equivalent

KINE 2185W
Volleyball Team
A course designed for individuals on athletic scholarships who participate in volleyball.
Lecture Hrs = 1, Lab Hrs = 2
Pre/Corequisite: KINE 1188W, 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
Pre/Corequisite: 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
Pre/Corequisite: 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
Pre/Corequisite: KINE 2187W, Instructor's permission
Pre/Corequisite: READ 300 or equivalent

KINE 2356
Care and Prevention of Athletic Injuries
Students 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 301 or equivalent

LGLA 1301
Legal Research and Writing
This course provides a working knowledge of fundamentals of effective legal research and writing.
Topics include law library techniques, computer assisted legal research, briefs, and legal memoranda.
Lecture Hrs = 3, Lab Hrs = 0
Pre/Corequisite: 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 particular emphasis on the paralegal.
Lecture Hrs = 3, Lab Hrs = 0
Pre/Corequisite: 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 situations.
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
Basic principles and structure of management, administration and substantive systems in the law office. Includes 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
MATH 100
Mathematics for Allied Health
Treats the area of mathematics of dosages and solutions, reflecting a major emphasis on the metric, apothecary, and household systems in terms of refresher math, instruction in reading dosage labels, measurements of parental dosages, and pediatric drug calculation.
Lecture Hrs = 1, 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 = 3, Lab Hrs = 0
Prerequisite: MATH 310 or equivalent, READ 300 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 = 3, Lab Hrs = 0
Prerequisite: MATH 310 or equivalent, READ 300 or equivalent

MATH 320
Introductory Algebra
This course provides a strong emphasis on algebraic skills and concepts of the real number system, solving polynomials, factoring, rational expressions and equations, linear systems, roots and radicals, quadratic equations and applied problems. This course prepares students to take MATH 330 or MATH 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 315 or equivalent, READ 300 or equivalent

MATH 321
Plane Trigonometry
This course covers trigonometric functions, identities, equations, and applications.
Lecture Hrs = 5, Lab Hrs = 0
Prerequisite: MATH 315 or equivalent (C or better), ENGL 301 or equivalent
Pre/Corequisite: READ 302 or equivalent

MATH 322
Intermediate Algebra
Covers these topics: real numbers and their properties, linear equations, system 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 = 3, Lab Hrs = 1
Prerequisite: MATH 320 or equivalent, READ 300 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, exponent 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 MATH 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, READ 300 or equivalent

MATH 1316
Plane Trigonometry
This course covers trigonometric functions, identities, equations, and applications.
Lecture Hrs = 5, 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 equations, 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 functions. 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 1322 (C or Better), ENGL 301 or equivalent
Pre/Corequisite: 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 1350

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 1351

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'Hopital'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, surfaces, tangent planes, differential approximations, LaGrange multipliers, 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 transformations 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 2413 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 transforms 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 equivalent

MCHN 1391
Special Topics in Machinist/Machine Technologist: Machine Parts Met
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 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 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 and installation and oxygen/fuel cutting. Emphasis on safety in the accomplishment of these activities. Lecture Hrs = 3, Lab Hrs = 3
Pre/Corequisite: READ 300 or equivalent

MCHN 1429
Millwright II
An introduction to millwright tools including specialty power and precision tools. A study of the property of metals and in the installation of packings. Emphasis on safety in the accomplishment of these activities. Lecture Hrs = 3, Lab Hrs = 3
Prerequisite: MCHN 1425
Pre/Corequisite: READ 300 or equivalent
MCHN 1452
Intermediate Machining I
Operation of drills, milling machines, lathes, and power saws. Introduction to 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 press machines, and power saws. Set-up, layout, and tool maintenance is included. Emphasis on shop safety and preventative maintenance.
Lecture Hrs = 3, Lab Hrs = 3
Prerequisite: MCHN 1452, READ 300 or equivalent

MCHN 2403
Fundamentals of Computer Numerical Controlled (CNC) Machine Contr
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 1454, READ 300 or equivalent

MCHN 2405
Millwright III
An introduction to bearings and seals. Identification of common bearings and seals. Emphasis on design and installation of seals and bearings, and couplings.
Lecture Hrs = 3, Lab Hrs = 3
Prerequisite: MCHN 1429
Pre/Corequisite: READ 300 or equivalent

MCHN 2407
Millwright IV
A study in the recognition and application of pumps. Emphasis on troubleshooting, repair, and installation of pumps.
Lecture Hrs = 3, Lab Hrs = 3
Prerequisite: MCHN 1425
Pre/Corequisite: READ 300 or equivalent

MCHN 2412
Millwright V
A study of the recognition and application of gearboxes. A review of drive installations using gearboxes and belt drives. This course will focus on troubleshooting, repairing, and installing gearboxes, chain drives, and belt drives.
Lecture Hrs = 3, Lab Hrs = 3
Prerequisite: MCHN 2407, READ 300 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 1317, MCHN 2445, READ 300 or equivalent

MCHN 2441
Advanced Machining I
An advanced study of lathe and milling operations. Emphasis on advanced cutting operations of the lathe and milling machines, including the use of carbide insert tooling, special tooling, bench assembly, and materials metallurgy.
Lecture Hrs = 3, Lab Hrs = 3
Prerequisite: MCHN 1452, READ 300 or equivalent

MCHN 2445
Advanced Machining II
Advanced milling, drilling, grinding, and lathe operations to close tolerance dimensions. Emphasis on job planning and advanced uses of precision measuring instruments.
Lecture Hrs = 3, Lab Hrs = 3
Prerequisite: MCHN 1452, READ 300 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 ESOL 311 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 salespeople.
Lecture Hrs = 3, Lab Hrs = 0
Prerequisite: 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 Lab = 8, Insurance Fee
Pre/Corequisite: MRMT 1307, READ 300 or equivalent

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 reports, 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
Production of advanced reports of physician dictation with increasing speed and accuracy including history and physicals, consultations, discharge summaries, operative reports, and other medical reports.
Lecture Hrs = 3, Lab Hrs = 2
Prerequisite: MRMT 1307, READ 300 or equivalent

MUAP 1101
Strings - Violin
Pre/Corequisite: READ 300 or equivalent

MUAP 1102
Strings - Violin
Pre/Corequisite: READ 300 or equivalent

MUAP 1105
Strings - Viola
Pre/Corequisite: READ 300 or equivalent

MUAP 1106
Strings - Viola
Pre/Corequisite: READ 300 or equivalent

MUAP 1109
Strings - Cello
Pre/Corequisite: READ 300 or equivalent

MUAP 1110
Strings - Cello
Pre/Corequisite: READ 300 or equivalent

MUAP 1111
Strings - String Bass
Pre/Corequisite: READ 300 or equivalent

MUAP 1114
Strings - String Bass
Pre/Corequisite: READ 300 or equivalent

MUAP 1117
Woodwind - Flute
Pre/Corequisite: READ 300 or equivalent

MUAP 1118
Woodwind - Flute
Pre/Corequisite: READ 300 or equivalent

MUAP 1121
Woodwind - Oboe
Pre/Corequisite: READ 300 or equivalent

MUAP 1122
Woodwind - Oboe
Pre/Corequisite: READ 300 or equivalent

MUAP 1125
Woodwind - Bassoon
Pre/Corequisite: READ 300 or equivalent

MUAP 1126
Woodwind - Bassoon
Pre/Corequisite: READ 300 or equivalent

MUAP 1129
Woodwind - Clarinet
Pre/Corequisite: READ 300 or equivalent

MUAP 1130
Woodwinds - Clarinet
Pre/Corequisite: READ 300 or equivalent

MUAP 1133
Woodwind - Saxophone
Pre/Corequisite: READ 300 or equivalent

MUAP 1134
Woodwind - Saxophone
Pre/Corequisite: READ 300 or equivalent

MUAP 1137
Brass - Trumpet
Pre/Corequisite: READ 300 or equivalent

MUAP 1138
Brass - Trumpet
Pre/Corequisite: READ 300 or equivalent

MUAP 1141
Brass - French Horn
Pre/Corequisite: READ 300 or equivalent
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>MUAP 1142</td>
<td>Brass - French Horn</td>
<td>READ 300 or equivalent</td>
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<tr>
<td>MUAP 1145</td>
<td>Brass - Trombone</td>
<td>READ 300 or equivalent</td>
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<tr>
<td>MUAP 1146</td>
<td>Brass - Trombone</td>
<td>READ 300 or equivalent</td>
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<tr>
<td>MUAP 1153</td>
<td>Brass - Tuba</td>
<td>READ 300 or equivalent</td>
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<tr>
<td>MUAP 1154</td>
<td>Brass - Tuba</td>
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<tr>
<td>MUAP 1157</td>
<td>Percussion</td>
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<td>MUAP 1158</td>
<td>Percussion</td>
<td>READ 300 or equivalent</td>
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<tr>
<td>MUAP 1161</td>
<td>Strings - Classical Guitar</td>
<td>READ 300 or equivalent</td>
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<td>MUAP 1162</td>
<td>Strings - Classical Guitar</td>
<td>READ 300 or equivalent</td>
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<td>MUAP 1165</td>
<td>Organ</td>
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<td>MUAP 1177</td>
<td>Harp</td>
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<td>Voice</td>
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<td>MUAP 1182</td>
<td>Voice</td>
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<tr>
<td>MUAP 1187</td>
<td>Strings - Bass Guitar</td>
<td>READ 300 or equivalent</td>
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<td>MUAP 1188</td>
<td>Strings - Bass Guitar</td>
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<tr>
<td>MUAP 1191</td>
<td>Strings - Electric Guitar</td>
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<td>MUAP 1192</td>
<td>Strings - Electric Guitar</td>
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<tr>
<td>MUAP 1201</td>
<td>Strings - Violin</td>
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<tr>
<td>MUAP 1202</td>
<td>Strings - Violin</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1203</td>
<td>Violin - Freshman Major</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1204</td>
<td>Violin - Freshman Major</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1205</td>
<td>Strings - Viola</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1206</td>
<td>Strings - Viola</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1207</td>
<td>Viola - Freshman Major</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1208</td>
<td>Viola - Freshman Major</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1209</td>
<td>Strings - Cello</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1210</td>
<td>Strings - Cello</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1211</td>
<td>Cello - Freshman Major</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1212</td>
<td>Cello - Freshman Major</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1213</td>
<td>Strings - String Bass</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1214</td>
<td>Strings - String Bass</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1215</td>
<td>String Bass - Freshman Major</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1216</td>
<td>String Bass - Freshman Major</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1217</td>
<td>Woodwinds - Flute</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1218</td>
<td>Woodwinds - Flute</td>
<td>READ 300 or equivalent</td>
</tr>
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<td>MUAP 1219</td>
<td>Flute - Freshman Major</td>
<td>READ 300 or equivalent</td>
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<td>MUAP 1220</td>
<td>Flute - Freshman Major</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1221</td>
<td>Woodwinds - Oboe</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1222</td>
<td>Woodwinds - Oboe</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1223</td>
<td>Oboe - Freshman Major</td>
<td>READ 300 or equivalent</td>
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<tr>
<td>MUAP 1224</td>
<td>Oboe - Freshman Major</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1225</td>
<td>Woodwinds - Bassoon</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1226</td>
<td>Woodwinds - Bassoon</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1227</td>
<td>Bassoon - Freshman Major</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1228</td>
<td>Bassoon - Freshman Major</td>
<td>READ 300 or equivalent</td>
</tr>
<tr>
<td>MUAP 1229</td>
<td>Woodwinds - Clarinet</td>
<td>READ 300 or equivalent</td>
</tr>
</tbody>
</table>
MUAP 1230
Woodwinds - Clarinet
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 1231
Clarinet - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1232
Clarinet - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1233
Woodwinds - Saxophone
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 1234
Woodwinds - Saxophone
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 1235
Saxophone - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1236
Saxophone - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1237
Brass - Trumpet
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 1238
Brass - Trumpet
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 1239
Trumpet - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1240
Trumpet - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1241
Brass - French Horn
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 1242
Brass - French Horn
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 1243
French Horn - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1244
French Horn - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1245
Brass - Trombone
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 1246
Brass - Trombone
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 1247
Trombone - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1248
Trombone - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1253
Brass - Tuba
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 1254
Brass - Tuba
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 1255
Tuba - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1256
Tuba - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1257
Percussion
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 1258
Percussion
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 1259
Percussion - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1260
Percussion - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1261
Strings - Classical Guitar
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1137

MUAP 1262
Strings - Classical Guitar
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1137

MUAP 1263
Classical Guitar - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1264
Classical Guitar - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1265
Organ
Pre/Corequisite: READ 300 or equivalent

MUAP 1266
Organ
Pre/Corequisite: READ 300 or equivalent

MUAP 1267
Organ - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1268
Organ - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1269
Piano
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1141, MUEN 2142, MUEN 1142, MUEN 2142, MUEN 1152, MUEN 1135, or MUEN 2135 (must select one or more)

MUAP 1270
Piano
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1141, MUEN 2142, MUEN 1142, MUEN 2142, MUEN 1152, MUEN 1135, or MUEN 2135 (must select one or more)

MUAP 1271
Piano - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1272
Piano - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1277
Harp
Pre/Corequisite: READ 300 or equivalent

MUAP 1278
Harp
Pre/Corequisite: READ 300 or equivalent

MUAP 1279
Harp - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1280
Harp - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1281
Voice
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1141, MUEN 2141, MUEN 1142, MUEN 2142, or MUEN 1152 (must select one or more)
MUAP 1282
Voice
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1141, MUEN 2141, MUEN 1142, MUEN 2142, or MUEN 1152 (must select one or more)

MUAP 1283
Voice - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1284
Voice - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1287
Strings - Bass Guitar
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1137

MUAP 1288
Strings - Bass Guitar
Pre/Corequisite: READ 300 or equivalent

MUAP 1289
Bass Guitar - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1290
Bass Guitar - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1291
Strings - Electric Guitar
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1137

MUAP 1292
Strings - Electric Guitar
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1137

MUAP 1293
Electric Guitar - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 1294
Electric Guitar - Freshman Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2101
Strings - Violin
Pre/Corequisite: READ 300 or equivalent

MUAP 2102
Strings - Violin
Pre/Corequisite: READ 300 or equivalent

MUAP 2105
Strings - Viola
Pre/Corequisite: READ 300 or equivalent

MUAP 2106
Strings - Viola
Pre/Corequisite: READ 300 or equivalent

MUAP 2109
Strings - Cello
Pre/Corequisite: READ 300 or equivalent

MUAP 2110
Strings - Cello
Pre/Corequisite: READ 300 or equivalent

MUAP 2113
Strings - String Bass
Pre/Corequisite: READ 300 or equivalent

MUAP 2114
Strings - String Bass
Pre/Corequisite: READ 300 or equivalent

MUAP 2117
Woodwinds - Flute
Pre/Corequisite: READ 300 or equivalent

MUAP 2118
Woodwinds - Flute
Pre/Corequisite: READ 300 or equivalent

MUAP 2121
Woodwinds - Oboe
Pre/Corequisite: READ 300 or equivalent

MUAP 2122
Woodwinds - Oboe
Pre/Corequisite: READ 300 or equivalent

MUAP 2125
Woodwinds - Bassoon
Pre/Corequisite: READ 300 or equivalent

MUAP 2126
Woodwinds - Bassoon
Pre/Corequisite: READ 300 or equivalent

MUAP 2129
Woodwinds - Clarinet
Pre/Corequisite: READ 300 or equivalent

MUAP 2130
Woodwinds - Clarinet
Pre/Corequisite: READ 300 or equivalent

MUAP 2133
Woodwinds - Saxophone
Pre/Corequisite: READ 300 or equivalent

MUAP 2134
Woodwinds - Saxophone
Pre/Corequisite: READ 300 or equivalent

MUAP 2137
Brass - Trumpet
Pre/Corequisite: READ 300 or equivalent

MUAP 2138
Brass - Trumpet
Pre/Corequisite: READ 300 or equivalent

MUAP 2141
Brass - French Horn
Pre/Corequisite: READ 300 or equivalent

MUAP 2142
Brass - French Horn
Pre/Corequisite: READ 300 or equivalent

MUAP 2145
Brass - Trombone
Pre/Corequisite: READ 300 or equivalent

MUAP 2146
Brass - Trombone
Pre/Corequisite: READ 300 or equivalent

MUAP 2153
Brass - Tuba
Pre/Corequisite: READ 300 or equivalent

MUAP 2154
Brass - Tuba
Pre/Corequisite: READ 300 or equivalent

MUAP 2157
Percussion
Pre/Corequisite: READ 300 or equivalent

MUAP 2158
Percussion
Pre/Corequisite: READ 300 or equivalent

MUAP 2161
Strings - Classical Guitar
Pre/Corequisite: READ 300 or equivalent

MUAP 2162
Strings - Classical Guitar
Pre/Corequisite: READ 300 or equivalent

MUAP 2165
Organ
Pre/Corequisite: READ 300 or equivalent

MUAP 2166
Organ
Pre/Corequisite: READ 300 or equivalent

MUAP 2169
Piano
Pre/Corequisite: READ 300 or equivalent

MUAP 2170
Piano
Pre/Corequisite: READ 300 or equivalent

MUAP 2177
Harp
Pre/Corequisite: READ 300 or equivalent

MUAP 2178
Harp
Pre/Corequisite: READ 300 or equivalent

MUAP 2181
Voice
Pre/Corequisite: READ 300 or equivalent

MUAP 2182
Voice
Pre/Corequisite: READ 300 or equivalent

MUAP 2187
Strings - Bass Guitar
Pre/Corequisite: READ 300 or equivalent

MUAP 2188
Strings - Bass Guitar
Pre/Corequisite: READ 300 or equivalent

MUAP 2191
Strings - Electric Guitar
Pre/Corequisite: READ 300 or equivalent

MUAP 2192
Strings - Electric Guitar
Pre/Corequisite: READ 300 or equivalent

MUAP 2201
Strings - Violin
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123 or MUEN 2123
MUAP 2202  
Strings - Violin  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123 or MUEN 2123

MUAP 2207  
Viola - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123 or MUEN 2123

MUAP 2208  
Viola - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123 or MUEN 2123

MUAP 2209  
Strings - Cello  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123 or MUEN 2123

MUAP 2210  
Strings - Cello  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123 or MUEN 2123

MUAP 2211  
Cello - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent

MUAP 2212  
Cello - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent

MUAP 2213  
Strings - String Bass  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123 or MUEN 2123

MUAP 2214  
Strings - String Bass  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123 or MUEN 2123

MUAP 2215  
String Bass - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent

MUAP 2216  
String Bass - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent

MUAP 2217  
Woodwinds - Flute  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2218  
Woodwinds - Flute  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2219  
Flute - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent

MUAP 2220  
Flute - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent

MUAP 2221  
Woodwinds - Oboe  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2222  
Woodwinds - Oboe  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2223  
Oboe - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent

MUAP 2224  
Oboe - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent

MUAP 2225  
Woodwinds - Bassoon  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2226  
Woodwinds - Bassoon  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2227  
Bassoon - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent

MUAP 2228  
Bassoon - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent

MUAP 2229  
Woodwinds - Clarinet  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2230  
Woodwinds - Clarinet  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2231  
Clarinet - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent

MUAP 2232  
Clarinet - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent

MUAP 2233  
Woodwinds - Saxophone  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2234  
Woodwinds - Saxophone  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2235  
Saxophone - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent

MUAP 2236  
Saxophone - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent

MUAP 2237  
Brass - Trumpet  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2238  
Brass - Trumpet  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2239  
Trumpet - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent

MUAP 2240  
Trumpet - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent

MUAP 2241  
Brass - French Horn  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2242  
Brass - French Horn  
Pre/Corequisite: READ 300 or equivalent  
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2243  
French Horn - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent

MUAP 2244  
French Horn - Sophomore Major  
Pre/Corequisite: READ 300 or equivalent
MUAP 2245
Brass - Trombone
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2246
Brass - Trombone
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2247
Trombone - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2248
Trombone - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2253
Brass - Tuba
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2254
Brass - Tuba
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2255
Tuba - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2256
Tuba - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2257
Percussion
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2258
Percussion
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123, MUEN 2123, MUEN 1125, MUEN 2125, MUEN 1135, or MUEN 1235 (must select one or more)

MUAP 2259
Percussion - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2260
Percussion - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2261
Strings - Classical Guitar
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1137

MUAP 2262
Strings - Classical Guitar
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1137

MUAP 2263
Classical Guitar - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2264
Classical Guitar - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2265
Organ
Pre/Corequisite: READ 300 or equivalent

MUAP 2266
Organ
Pre/Corequisite: READ 300 or equivalent

MUAP 2267
Organ - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2268
Organ - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2269
Piano
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1141, MUEN 2142, MUEN 1142, MUEN 2142, MUEN 1152, MUEN 1135, or MUEN 2135 (must select one or more)

MUAP 2270
Piano
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1141, MUEN 2142, MUEN 1142, MUEN 2142, MUEN 1152, MUEN 1135, or MUEN 2135 (must select one or more)

MUAP 2271
Piano - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2272
Piano - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2277
Harp
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123 or MUEN 2123

MUAP 2278
Harp
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1123 or MUEN 2123

MUAP 2279
Harp - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2280
Harp - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2281
Voice
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1141, MUEN 2141, MUEN 1142, MUEN 2142, or MUEN 1152 (must select one or more)

MUAP 2282
Voice
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1141, MUEN 2141, MUEN 1142, MUEN 2142, or MUEN 1152 (must select one or more)

MUAP 2283
Voice - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2284
Voice - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2287
Strings - Bass Guitar
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1137

MUAP 2288
Strings - Bass Guitar
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1137

MUAP 2289
Bass Guitar - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2290
Bass Guitar - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2291
Strings - Electric Guitar
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1137

MUAP 2292
Strings - Electric Guitar
Pre/Corequisite: READ 300 or equivalent
Corequisite: MUEN 1137

MUAP 2293
Electric Guitar - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2294
Electric Guitar - Sophomore Major
Pre/Corequisite: READ 300 or equivalent

MUAP 2299
Music Conducting
Private study of strings, woodwinds, brass, percussion, guitar, organ, piano, voice, harp, and music conducting is offered for credit.
Lecture Hrs = 1, Lab Hrs = 1
Pre/Corequisite: READ 300 or equivalent

MUEN 1123
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

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. Admissions 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 literature (4 or more students). Admission by audition or instructor's consent. May be repeated for credit.
Lecture Hrs = 1, Lab Hrs = 1
Pre/Corequisite: READ 300 or equivalent

MUEN 1138
Percussion Ensemble
Ensemble experience presenting balance between basic percussive techniques used individually and in sectional performance requirements, (4 or more students). Admission by audition or instructor's consent.
Lecture Hrs = 1, Lab Hrs = 1
Pre/Corequisite: READ 300 or equivalent

MUEN 1141
Lee College Concert Choir
Open to all students of Lee College. Study and performance of various types and styles of choral literature. Concerts 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 Lee College students. Study and performance of various types and styles of choral literature. Concerts given on and off campus each semester. Admission by audition or instructor's consent. May be repeated for credit.
Lecture Hrs = 3, Lab Hrs = 0
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: MUEN 1152

MUEN 1153
(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 = 1
Prerequisite: 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

MUEN 2125
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 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 2136
Jazz Ensemble
Study and performance of 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.
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. Concerts 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 rights; explain the business of live performance to include artist management, unions and guilds, entertainment agencies, venues, 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 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 maintenance.
Lecture Hrs = 2, Lab Hrs = 2
Pre/Corequisite: READ 300, ESOL 310, 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. = 6
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 and interconnection of the components of a sound reinforcement system. Lecture Hrs. = 2, Lab Hrs. = 6
Pre/corequisite: 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 mixing 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
Pre/corequisite: READ 300, 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
Pre/corequisite: 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 301 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
Pre/corequisite: READ 300, ESOL 310, or equivalent

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 & 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 other students with instructor's consent. Development of aural and sight-singing skills through study of scales, musical intervals, varying chord structures, and rhythms. Corequisite: MUSI 1311
Pre/corequisite: READ 300 or equivalent

MUSI 1117 Elementary Sight Singing & 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 other students with instructor's consent. Development of aural and sight-singing skills through study of scales, musical intervals, varying chord structures, and rhythms. Corequisite: MUSI 1312
Pre/corequisite: READ 300 or equivalent

MUSI 1118 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 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 and contemporary art music.

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 an 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 principal musical forms and cultural periods as illustrated in the literature of major composers 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 Lit. II - Church Music
Survey of the principal musical forms and cultural periods as illustrated in the literature of major composers 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: 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 all students with consent of instructor. (Offered Fall semester only).
Tutorial lab required.
Lecture Hrs = 3, Lab Hrs = 1
Pre/Corequisites: READ 300 or equivalent, Corequisites: MUSI 1116

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 composition forms.
Open to all students with consent of instructor.
Tutorial lab required. (Offered Spring semester only).
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 all students with consent of instructor.
Tutorial lab required. (Offered Fall semester only).
Lecture Hrs = 1, Lab Hrs = 2
Prerequisite: MUSI 1311, 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 all students with consent of instructor.
Tutorial lab required. (Offered Spring semester only)
Lecture Hrs = 1, Lab Hrs = 2
Prerequisite: MUSI 1117, READ 300 or equivalent
Corequisite: MUSI 2311

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 1 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 2311 
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 procedures and survey of the traditional large forms of composition. Open to all students with consent of instructor. 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 procedures and survey of the traditional large forms of composition. Open to all students with consent of instructor. 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
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: PFPB 1350

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 multiview drawings of piping and piping components.
Lecture Hrs = 3, Lab Hrs = 0

PFPB 1350
Plumbing and Pipefitter 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

PFPB 1408
Basic Pipelathing Skills
Mathematical operations necessary to calculate laying lengths of threaded pipe 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

PFPB 2343
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

PFPB 2349
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 = 2, Lab Hrs = 2

PFPB 2407
Pipe Fabrication and Installation I
Pipe fabrication procedures of threaded, socketweld, and butt weld pipe joints. Includes pipe and tube bending with hand benders, saddling in and saddling on pipe braces to pipe headers, and fabrication and installation of pipe supports.
Lecture Hrs = 2, Lab Hrs = 3

PHIL 1301
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

PHIL 1304
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

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

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

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

PFPB 2441
Pipe Fabrication and Installation II
Advanced pipe fabrication procedures of threaded, socketweld, 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

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. This is a continuation of PFPB 2349.
Lecture Hrs = 3, Lab Hrs = 3

PFPB 2441
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Lecture Hrs = 3, Lab Hrs = 3

PFPB 2441
Pipe Fabrication and Installation II
Advanced pipe fabrication procedures of threaded, socketweld, 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
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, & 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, comets, and asteroids), the solar system mechanics. 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 the universe, the various objects in the universe, the exploration of the universe by astronomers, 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, READ 302 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 principles by means of computer numerical methods; primarily for science, mathematics, and engineering majors.
Lecture Hrs = 3, Lab Hrs = 3
Prerequisite: PHYS 2425

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 I
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: POFI 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, spreadsheet, presentation, and database terminology and concepts.
Lecture Hrs = 3, Lab Hrs = 3
Pre/Corequisite: READ 301 or equivalent

POFI 2301 Word Processing
In-depth coverage of word processing software focusing on business applications.
Lecture Hrs = 3, Lab Hrs = 1
Pre/Corequisite: READ 301 or equivalent

POFI 2331 Desktop Publishing for the Office
In-depth coverage of desktop publishing terminology, text editing, and use of design principles to create publishing material using word processing desktop publishing features. Emphasis on layout techniques, graphics, multiple page displays, and business application.
Lecture Hrs = 3, Lab Hrs = 1
Pre/Corequisite: READ 301 or equivalent

POFI 2340 Advanced Word Processing
Advanced applications in merging, macros, graphics, and desktop publishing. Includes extensive formatting for technical documents. Emphasis on business applications.
Lecture Hrs = 3, Lab Hrs = 1
Pre/Corequisite: POFI 2301

POFT 1127 Introduction to Keyboarding
Skill development in keyboarding with emphasis on alphabet, number, and symbol keys by touch. Skills can be applied to computers, typewriters, and other equipment with keyboards.
Lecture Hrs = 0, Lab Hrs = 3
Pre/Corequisite: READ 300 or equivalent

POFT 1132 Workplace Diversity
Gender, cultural background, age, and other factors affecting coworker/client relationships. Includes behavioral expectations and standards in the business environment. An overview of workplace diversity.
Lecture Hrs = 1, Lab Hrs = 0
Pre/Corequisite: READ 301 or equivalent

POFT 1301 Business English
Introduction to a practical application of basic language usage skills with emphasis on fundamentals of writing and editing for business.
Lecture Hrs = 3, Lab Hrs = 0
Pre/Corequisite: 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
Instruction in the fundamentals of business mathematics including analytical and problem-solving skills for critical thinking in business applications.
Lecture Hrs = 3, Lab Hrs = 0
Pre/Corequisite: READ 301 or equivalent

POFT 1329 Beginning Keyboarding
Skill development in the operation of the keyboard by touch applying proper keyboarding techniques. Emphasis on development of acceptable speed and accuracy levels and formatting basic documents.
Lecture Hrs = 3, Lab Hrs = 1
Pre/Corequisite: READ 301 or equivalent
POFT 1349
Administrative Office Procedures II
In-depth coverage of office applications with special 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 or equivalent

POFT 1364
Practicum (or Field Experience) - Administrative Assistant and Secretarial
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 or equivalent

POFT 1365
Practicum (or Field Experience) - Administrative Assistant and Secretarial Science, 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
Pre/Corequisite: READ 301 or equivalent

PSYC 2301
Introduction to Psychology
A survey of the fields of general psychology: the biological and psychological basis of human behavior; intelligence, motivation, emotion, learning, personality, memory, and psychopathology.
Lecture Hrs = 3, Lab Hrs = 0
Prerequisite: ENGL 301 or equivalent, READ 302 or equivalent

PSYC 2308 Ω
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 2314 Ω
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 2316 Ω
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

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 chemical and refinery plant operations. Topics include process technician duties, responsibilities and expectations; plant organizations; plant process and utility systems; and the physical and mental requirements of the process technician.
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 = 0
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 combines systems into operational processes with emphasis on operations under various conditions.
Lecture Hrs = 3, Lab Hrs = 3
Prerequisite: PTAC 1410 and 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 = 3, Lab Hrs = 0

READ 301
Intermediate College Reading Skills
Improvement of reading habits and skills. Includes a study of the theory and mechanics of good reading. Emphasis is 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 = 3, Lab Hrs = 1
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 = 3, 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, judgment, 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, judgment, 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 = 2, Lab Hrs = 0, Testing Fee
Prerequisite: Admission to RN Program.
Pre/Corequisite: BIOL 2402, PSYC 2314
Corequisite: RNSG 1209, 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, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Progression: student must pass RNSG 1251 and RNSG 1162 concurrently to progress to next nursing level.
Lecture Hrs = 2, Lab Hrs = 0, Testing Fee
Prerequisite: Admission to RN Program.
Pre/Corequisite: BIOL 2402, PSYC 2314
Corequisite: RNSG 1209, RNSG 1341, RNSG 1361

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, judgment, 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 1343
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, judgments, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Progression: student must pass RNSG 1343 and RNSG 1362 concurrently to progress to next nursing level.
Lecture Hrs = 3, Lab Hrs = 0, Testing Fee
Prerequisite: Admission to RN Program, RNSG 1205, 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 1362, RNSG 2161, RNSG 2207
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
Pre/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 level.
Lecture Hrs = 0, Lab Hrs = 0, Clinical Hrs = 9, Insurance Fee
Pre/corequisite: RNSG 1205, RNSG 1209, RNSG 1341
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, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Lecture Hrs = 2, Lab Hrs = 0, Clinical Hrs = 4, Insurance Fee
Pre/corequisite: RNSG 1343, RNSG 2161, RNSG 2201
RNSG 2160
Clinical-Nursing-Registered Nurse Training
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Progression: student must pass RNSG 2213 and RNSG 2160 concurrently to progress to next nursing level. Lecture Hrs = 0, Lab Hrs = 0, Clinical Hrs = 6, Insurance Fee
Pre/corequisite: RNSG 1205, RNSG 1209, RNSG 1341, RNSG 2161, BIOL 2402, PSYC 2314, or Admission to RNT Program, RNSG 2207, BIOL 2421
Pre/corequisite: BIOL 2421, RN program only: BIOL 2421
Corequisite: RNSG 1341, RNSG 2161, RNSG 2201
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
Pre/corequisite: RNSG 1205, RNSG 1209, RNSG 1341, RNSG 2161, BIOL 2402, PSYC 2314, or Admission to RNT Program, RNSG 2207, BIOL 2421
Pre/corequisite: BIOL 2421 RN only
RNSG 2201
Care of Children and Families
Study of concepts related to the provision of nursing care for children and their families, emphasizing judgment, and professional values within 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
Pre/corequisite: Admission to RN Program, RNSG 1162, 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: BIOL 2421
Corequisite: RNSG 1343, RNSG 1362, RNSG 2161
RNSG 2207
Transition to Nursing Practice
Introduction to selected concepts related to the professional role of the 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, judgment, skill, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Lecture Hrs = 2, Lab Hrs = 0, Testing Fee
Pre/corequisite: Admission to RN Program
RNSG 2223
Mental Health Nursing
Principles and concepts of mental health, psycho-pathology, 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
Pre/corequisite: Admission to RN Program, RNSG 1162, RNSG 1343, RNSG 1362, RNSG 2201, BIOL 2421 RN only: ENG 1302; Humanities, Computer Literacy, and Oral Communication electives
Pre/corequisite: SPNL 1301
Corequisite: RNSG 1162, RNSG 1251, RNSG 2213
RNSG 2263
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 = 4, Lab Hrs = 0, Clinical Hrs = 12, Insurance Fee
Pre/corequisite: Admission to RN or RNT Program, RNSG 1162, RNSG 1251, RNSG 2160, RNSG 2213, SPNL 1301
Corequisite: RNSG 1145, RNSG 2263
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
Pre/corequisite: Admission to RN or RNT Program, RNSG 1162, RNSG 1251, RNSG 2160, RNSG 2213, SPNL 1301
Corequisite: RNSG 1145, 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
Pre/corequisite: MUSC 1427
Corequisite: RNSG 2160
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
Pre/corequisite: MUSC 1427
Corequisite: RNSG 2160
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 300, ESOL 310, or equivalent
SGNL 1401
Beginning American Sign Language
Fingerspelling and basic training skills in sign language with an emphasis on expressive communication. For students with little or no previous experience in sign language. Lecture Hrs = 3, Lab Hrs = 3
Pre/corequisite: RNSG 1162, RNSG 2201, RNSG 2160
SGNL 1402
Advanced American Sign Language
Continuation of SGNL 1401. Intermediate and advanced skills in sign language with an emphasis on American Sign Language in terms of expressive and receptive communication. Lecture Hrs = 3, Lab Hrs = 3
Pre/corequisite: SGNL 1401, READ 300 or equivalent
SGNL 2301
American Sign Language III:
Conversation, Interpreting, Literature, Folklore
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. Lecture Hrs = 3, Lab Hrs = 2 Prerequisite: SGNL 1402, READ 300 or equivalent

SGNL 2302
American Sign Language IV:
Conversation, Interpreting, Literature, Folklore
A continuation of SGNL 2301 Lecture Hrs = 3, Lab Hrs = 2 Prerequisite: SGNL 2301

SOCI 1301 ∅
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 2301 ∅
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 2319 ∅
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 rights, 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
Crime as a form of deviant behavior. Nature and extent of crime; past and present theories. Evaluation of prevention, control, and treatment programs. Lecture Hrs = 3, Lab Hrs = 0 Prerequisite: ENGL 301 or equivalent, READ 302 or equivalent

SGNL 2339
Juvenile Delinquency
Nature and extent of delinquency; competing explanatory models and theories; 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 1311
Introduction to Speech Communication
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
Preparation and delivery of various types of speeches. 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
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. 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; the research, organization, and presentation of speeches; trends in media; interviewing. Lecture Hrs = 3, Lab Hrs = 0 Prerequisite: READ 300 or ESOL 310 or equivalent

SPCH 1342
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 tapeing 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 & Small Group Communication
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
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

Introduction to the study and application of the oral performance of literature. 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 sociopolitical, political, and anthropological forces that shaped the literature.

Lecture Hrs = 3, Lab Hrs = 0
Pre requisite: READ 300 or ESOL 310 or equivalent

**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
Pre requisite: 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 15 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, Insurance Fee
Pre requisite: READ 301 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 15 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, Insurance Fee
Pre requisite: 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 15 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, Insurance Fee
Pre requisite: 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
Pre requisite: 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
Pre requisite: 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
Pre requisite: 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 Lab = 6, Insurance Fee
Pre/corequisite: BIOL 2404, (B or Better)
Corequisite: VNSG 1226, VNSG 1304, VNSG 1423, VNSG 1429
Pre requisite: 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 1330, VNSG 1360, VNSG 1432
Pre requisite: ADM to VN Program

**VNSG 1226**

Geronotolgy

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
Pre/corequisite: 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
Pre requisite: ADM to VN Program

**VNSG 1227**

Essentials of Medication Administration

General principles of medication administration including determination of dosage, preparation, safe administration, and documentation of multiple forms of drugs. Instruction includes various systems of measurement.

Lecture Hrs = 0, Lab Hrs = 4,
Pre/corequisite: BIOL 2404, (B or Better)
Corequisite: VNSG 1161, VNSG 1304, VNSG 1331, VNSG 1423
Pre requisite: ADM to VN Program

**VNSG 1234**

Pediatrics

Study of childhood diseases and child care 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
Pre/corequisite: BIOL 2404, (B or Better), VNSG 1161, VNSG 1226, VNSG 1304, VNSG 1423, VNSG 1429
Corequisite: HITT 1305, VNSG 1227, VNSG 1331, VNSG 1360, VNSG 1432
Pre requisite: ADM to VN Program

**VNSG 1304**

Foundations 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
Pre requisite: 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
Pre/corequisite: HITT 1305, VNSG 1227, VNSG 1234, VNSG 1331, VNSG 1360, VNSG 1432
Corequisite: VNSG 1219, VNSG 2361, VNSG 2431
Pre requisite: 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
Pre requisite: 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 Lab = 15, insurance fee.
Prerequisite: ADM to VN Program
Corequisite: VNSG 1161, VNSG 1226, VNSG 1304, VNSG 1432, VNSG 1402, VNSG 1429, BIOL 2404 (B or Better)
Prerequisite: ADM to VN Program

VNSG 1423
Basic Nursing Skills
Mastery of entry level nursing skills and competencies for a variety of health care settings. 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, BIOL 2404 (B or Better)
Prerequisite: ADM to VN Program

VNSG 1429
Medical-Surgical Nursing I
Application of the nursing process to the care of adult patients 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, Medical Surgical, Integumentary/Immunecom systems and cancer. Lecture Hrs = 4, Lab Hrs = 1, Testing Fee
Pre/Corequisite: BIOL 2404, (B or Better), VNSG 1423, VNSG 1304, VNSG 1331, VNSG 1327, VNSG 1161
Corequisite: HITT 1305, VNSG 1226, VNSG 1304, 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 adult patients 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 endocrine, gastrointestinal, nervous, cardiovascular, eye, ear, and genitourinary systems. Lecture Hrs = 3, Lab Hrs = 2, 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 1160
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 Lab = 15, insurance, Testing Fee
Prerequisite: HITT 1305, VNSG 1227, VNSG 1234, VNSG 1331, VNSG 1360, and 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 settings utilizing the nursing process as a problem-solving tool. Lecture Hrs = 4, Lab Hrs = 1
Prerequisite: VNSG 1227, VNSG 1234, VNSG 1331, VNST 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: Intro. 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 Arch Welding, setup and use of GMAW equipment, and safe use of tools/equipment. Instruction in various joint designs. Lecture Hrs = 1, Lab Hrs = 2

WLDG 1323
Welding Safety, Tools, 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

WLDG 1327
Welding Codes
An in-depth study of welding codes and their development in accordance with structural standards, welding processes, destructive and nondestructive test methods. Includes API 1104 and ASME Sections V and IX.

WLDG 1337
Introduction to Metallurgy
A study of ferrous and nonferrous metals from the ore to the finished product. Emphasis on metal alloys, heat treating, hard surface welding techniques, forging, foundry processes, and mechanical properties of metal including hardness, machinability and ductility.

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.

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.

WLDG 1435
Introduction to Shielded Metal Arc Welding (SMAW)
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 positions 1G and 2G using various electrodes.

WLDG 2331
Advanced Blueprint Interpretation and Cost Analysis
A continuation of the Blueprint for Welders course. Emphasis placed on inspection cost analysis, and estimating, including instruction in basic drafting skills.

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.

WLDG 2451
Advanced Gas Tungsten Arc Welding (GTAW)
Advanced topics in GTAW welding, including welding in various positions and directions.

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.

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