NORTH CENTRAL TEXAS COLLEGE

Course Descriptions

ACCOUNTING

ACNT1303 INTRODUCTION TO ACCOUNTING I
48 lecture hours .....3 credit hours
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. Course will include computer applications. Recommended prerequisite: COSC1400 or equivalent.

ACNT1304 INTRODUCTION TO ACCOUNTING II
Prerequisite: ACNT1303
48 lecture hours .....3 credit hours
A study of accounting for merchandising, notes payable, notes receivable, valuation of receivables and equipment and valuation of inventories in a manual and computerized environment. Course will include computer applications. Recommended prerequisite: COSC1400 or equivalent.

ACNT1313 COMPUTERIZED ACCOUNTING APPLICATIONS
48 lecture hours .....3 credit hours
Prerequisite: ACNT 1303
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.

ACNT1329 PAYROLL & BUSINESS TAX ACCOUNTING
48 lecture hours .....3 credit hours
Prerequisite: ACNT 1303
A study of payroll procedures, tax entities, and reporting requirements of local, state, and federal taxing authorities in a manual and computerized environment. Course may include computer applications. Recommended prerequisite: COSC1400 or equivalent.

ACNT1391 SPECIAL TOPICS IN ACCOUNTING (INTERNATIONAL ACCOUNTING)
Prerequisite: ACNT 1303
48 hour lecture hours .....3 credit hours
Topics address recently identified current events, skills, knowledge and/or attitudes and behavior pertinent to the technology or occupation and relevant to the professional development of the student. Course may include computer applications. Recommended prerequisite: COSC1400 or equivalent.

5203015125
ACCT2301 PRINCIPLES OF ACCOUNTING I
48 lecture hours .....3 credit hours
Fundamentals of financial accounting concepts and interpretation of accounting data; analysis of financial statements; income and cash flow analysis; nature of assets, liabilities and equities; understanding and use of the accounting process. Course will include computer applications. Recommended prerequisite: MATH1314 and COSC1400 or equivalent.

5203015125
ACCT2302 PRINCIPLES OF ACCOUNTING II
Prerequisite: ACCT2301
48 lecture hours .....3 credit hours
Managerial use of accounting information; terminology, activity and cost behavior; use of accounting information for pricing; product and investment decisions, budgeting and quality control. Course will include computer applications. Recommended prerequisite: MATH1314 and COSC1400 or equivalent. Required prerequisite: ACCT2301.

ACNT2309 COST ACCOUNTING
48 lecture hours .....3 credit hours
Prerequisite: ACNT1303
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. Course may include computer applications. Recommended prerequisite: COSC1400 or equivalent. Required prerequisite: ACNT1303.

ACNT2330 GOVERNMENTAL AND NOT-FOR-PROFIT ACCOUNTING
Prerequisite: ACNT1303
48 lecture hours .....3 credit hours
Basic concepts and techniques of fund accounting, financial reporting for governmental and not-for-profit entities. Accounting cycle for funds and account groups. Governmental and not-for-profit financial statements. Course may include computer applications. Recommended prerequisite: COSC1400 or equivalent.

ACNT2331 INTERNAL CONTROL AND AUDITING
48 lecture hours .....3 credit hours
Prerequisite: ACNT1303
A study of internal control and auditing standards and processing used by internal auditors, managers, and independent public accountants. Course may include computer applications. Recommended prerequisite: COSC1400 or equivalent. Required prerequisite: ACNT1303.

AGRICULTURE

0101035201
AGRI1131 THE AGRICULTURE INDUSTRY
16 lecture hours .....1 credit hour
Overview of world agriculture, nature of the industry, resource conservation, and the American agricultural system, including production, distribution, and marketing.

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0101015101
AGRI1309 COMPUTERS IN AGRICULTURE
32 lecture hours + 32 laboratory hours ..... 3 credit hours
Use of computers in agricultural applications. Introduction to programming languages, word processing, electronic spreadsheets, and agricultural software.

0109055101
AGRI1311 DAIRY SCIENCE
32 lecture hours + 32 laboratory hours ..... 3 credit hours
Survey of the dairy industry including dairy breeds, standards for selection and culling, herd replacements, feeding, management, physiology, and health maintenance. Food value for milk, tests for composition and quality, and use and processing of market milk and dairy products.

0101025101
AGRI1325 MARKETING OF AGRICULTURE PRODUCTS
48 lecture hours ..... 3 credit hours
Operations in the movement of agricultural commodities from producer to consumer, including the essential marketing functions of buying, selling, transporting, storing, financing, standardizing, pricing, and risk bearing.

0109075101
AGRI1327 POULTRY SCIENCE
32 lecture hours + 32 laboratory hours ..... 3 credit hours
Introduction to the poultry industry. Practices and principles in the production and marketing of turkeys, layers, broilers, and specialized fowl. Management, automated equipment, product technology, incubation, and production economics.

0111025101
AGRI1407 AGRONOMY
48 lecture hours + 32 laboratory hours ..... .4 credit hours
Principles and practices in the development, production, and management of field crops including plant breeding, plant diseases, soils, insect control, and weed control.

0109015101
A**GRI1419 INTRODUCTORY ANIMAL SCIENCE**
48 lecture hours + 32 laboratory hours ..... .4 credit hours
Scientific animal agriculture. Importance of livestock and meat industries. Selection, reproduction, nutrition, management, and marketing of beef cattle, swine, sheep, goats, and horses.

0109015201
AGRI2221 LIVESTOCK EVALUATION
16 lecture hours + 32 laboratory hours ..... 2 credit hours
Selection, evaluation, and classification of livestock and livestock products. May be repeated for credit with permission of instructor.

0102045101
AGRI2301 AGRICULTURAL POWER UNITS
16 lecture hours + 64 laboratory hours ..... 3 credit hours
Fundamentals of internal combustion engines: gasoline, diesel, and liquefied petroleum. Maintenance and adjustments of the electrical, ignition, fuel, lubricating, and cooling systems of agricultural power machinery.

0101035101
AGRI2317 INTRODUCTION TO AGRICULTURAL ECONOMICS
48 lecture hours ..... .3 credit hours
Fundamental economic principles and their applications to the problems of the industry of agriculture.

0306015101
AGRI2330 WILDLIFE CONSERVATION & MANAGEMENT
32 lecture hours + 32 laboratory hours ..... 3 credit hours
Principles and practices used in the production and improvement of wildlife resources. Aesthetic, ecological, and recreational uses of public and private lands.

ANTHROPOLOGY

4502015125
ANTH 2346 GENERAL ANTHROPOLOGY
48 lecture hours ..... 3 credit hours
Study of human beings, their antecedents and related primates, and their cultural behaviors and institution. Introduces the major sub-fields: physical and cultural anthropology, archaeology, linguistics and ethnology.

4502015325
ANTH 2351 CULTURAL ANTHROPOLOGY
48 lecture hours ..... 3 credit hours
Key concepts, methods and theory in the study of cultural diversity, social institutions, lingquistics, and culture change among world peoples. Focus on understanding the forces that shape cultures and societies.

ART

5007035130
ARTS1301 ART APPRECIATION
48 lecture hours ..... 3 credit hours
A course open to all students directed toward understanding the elements and principles of art as applied to the visual arts: painting, sculpture and architecture as well as printmaking, ceramics, metal work and weaving.

5007035230
ARTS1303 ART HISTORY I
48 lecture hours ..... 3 credit hours
A critical and analytical study of the great historical works of art in architecture, sculpture, painting, and minor arts from the prehistoric times to the Renaissance.

5007035230
ARTS1304 ART HISTORY II
48 lecture hours ..... 3 credit hours
Survey of the history of art from Renaissance to the present. Special consideration is given to the form and content of a work of art, as well as the social and cultural context in which the work is created.

5004015330
ARTS1311 DESIGN I
32 lecture hours + 64 laboratory hours ..... 3 credit hours
A basic course in the theory and practice of design including fundamentals of line, form, space, texture and color with emphasis on two-dimensional form.

5004015330
ARTS1312 DESIGN II
32 lecture hours + 64 laboratory hours ..... 3 credit hours
A continuation of ARTS1311 with emphasis on three-dimensional design.

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5007055230
ARTS1316 DRAWING I
32 lecture hours + 64 laboratory hours .....3 credit hours
A beginning course using a variety of media and techniques exploring the descriptive and expressive possibilities of drawing objects and the environment.

5007055230
ARTS1317 DRAWING II
32 lecture hours + 64 laboratory hours .....3 credit hours
Expansion of ARTS1316 stressing greater facility in materials and techniques and an increase of graphic skills by means of line, full value, and creative studies.

5007085230
ARTS2316 PAINTING I
32 lecture hours + 64 laboratory hours .....3 credit hours
An introduction to the techniques of various mediums in painting. Exploring and dealing with the problems encountered in color and pictorial composition.

5007085230
ARTS2317 PAINTING II
32 lecture hours + 64 laboratory hours .....3 credit hours
A continuation of ARTS2316.

5007095130
ARTS2326 SCULPTURE I
32 lecture hours + 64 laboratory hours .....3 credit hours
Students are exposed to traditional and contemporary methods of sculture. These methods include carving, modeling, mold making, casting, forge work, metal forming and fabrication, woord working and mixed media. Sculpture prepares students interested in working with any or all of these methods for professional careers requiring a creative component and knowledge of design, tools, processes, and equipment.

5007095130
ARTS2327 SCULPTURE II
32 lecture hours + 64 laboratory hours .....3 credit hours
A continuation of ARTS2326.

5007135130
ARTS2341 JEWELRY & METALWORKING I
32 lecture hours + 64 laboratory hours .....3 credit hours
Design, construction and forming of metals and various materials using basic techniques.

5007135130
ARTS2342 JEWELRY & METALWORKING II
32 lecture hours + 64 laboratory hours .....3 credit hours
Design in metal, using basic and advanced process.

5007115130
ARTS2346 CERAMICS I (POTTERY)
32 lecture hours + 64 laboratory hours .....3 credit hours
Pottery construction using coil and slab methods and use of the potter's wheel, compounding of glazes, glazing and firing.

5007115130
ARTS2347 CERAMICS II (POTTERY)
32 lecture hours + 64 laboratory hours .....3 credit hours
Continuation of ARTS2346 with opportunity to specialize in one area.

5007085330
ARTS2366 WATERCOLOR PAINTING I
32 lecture hours + 64 laboratory hours .....3 credit hours
Development of painting skills, techniques, and aesthetic sensibilities to artistic expression in watercolor medium.

ARTS2367 WATERCOLOR PAINTING II
32 lecture hours + 64 laboratory hours .....3 credit hours
Continuation of Arts 2366

GRAPH1357 DIGITAL IMAGING II
Instructor approval required
32 lecture hours + 32 laboratory hours .....3 credit hours
An in-depth investigation of digital imaging on the computer using imaging editing and/or image creation software. Manipulation, creation, and editing of digital images. Topics include: image capture, high-end work stations, image bit-depth, interaction with service bureaus and printing industries.

GRAPH1359 OBJECT ORIENTED COMPUTER GRAPHICS
Instructor approval required
32 lecture hours + 32 laboratory hours .....3 credit hours
Mastery of the tools and transformation options of an industry standard draw program to create complex illustrations and follow them through to the color output stage. Mastery in the use of basic elements of good layout and design principles and use of the capabilities specific to vector (object oriented) drawing software to manipulate both text and graphics with emphasis on the use of bezier curves. Acquisition of images via scanning and the creative use of clip art is included.

BIOLOGY

1905025133
BIOL1322 BASIC NUTRITION
48 lecture hours .....3 credit hours
A study of the basic principles of nutrition in health and disease. The course is designed to develop a good background in the science of nutrition that can be used as a basis for decisions in the dietary planning for health and disease, provide for the acquisition of practical knowledge concerning selection of foods according to nutritive values, and provide the ability to apply techniques of education and dietary counseling so that the principles of normal and therapeutic nutrition can be interpreted to the layman.

2601015124
BIOL1408 GENERAL BIOLOGY
48 lecture hours + 48 laboratory hours .....4 credit hours
A survey of key concepts including biological chemistry, cell structure and function, genetics, evolution and ecology. An overview of the plants and animals is included with special emphasis given to the morphology and physiology of man. The course includes the dissecting of fetal pigs. For non-science majors.

2603015124
BIOL1411 GENERAL BOTANY
48 lecture hours + 48 laboratory hours .....4 credit hours
Fundamental structures and functions of plants with emphasis on their levels of organization. Physiology of seed plants with emphasis on photosynthesis, respiration, nutrition, reproduction and identification. Environmental features, agricultural and industrial importance and phylogenetic sequence included.

2607015324
BIOL1413 GENERAL ZOOLOGY
48 lecture hours + 48 laboratory hours .....4 credit hours
A study of representatives of the animal kingdom with special consideration devoted to cytology, morphology, physiology and ecology of the organism. The course includes the dissecting of an assortment of animals. Laboratory and lecture are correlated for a more comprehensive understanding of the phylogenetic relationship within the animal kingdom.

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2607065124
BIOL2401 HUMAN ANATOMY AND PHYSIOLOGY I
48 lecture hours + 32 laboratory hours .....4 credit hours
A study of the structure and function of the body and its relationship to health and disease. Designed to meet requirements of physical education and nursing education majors. Laboratory experience includes experiments in vertebrate physiology and the dissection of a mammal.

2607065124
BIOL2402 HUMAN ANATOMY AND PHYSIOLOGY II
Prerequisite: BIOL2401
48 lecture hours + 32 laboratory hours .....4 credit hours
A continuation of BIOL2401.

0301025124
BIOL2406 ENVIRONMENTAL BIOLOGY
48 lecture hours + 32 laboratory hours .....4 credit hours
An introduction to basic ecological principles and techniques. Aquatic and terrestrial communities will be studied with emphasis upon biotic interrelationships and the effects of pollution upon various biotic communities. The laboratory will combine experimental studies with field investigations.

2605015124
BIOL2420 MICROBIOLOGY
Prerequisite: BIOL1408 OR BIOL2401
48 lecture hours + 32 laboratory hours .....4 credit hours
A study of the morphology, physiology and taxonomy of microorganisms. Special emphasis is placed upon the human immune system. Laboratory includes the fundamental procedures of sterilizations, cultures and identification of common bacteria.

BUSINESS & BUSINESS MANAGEMENT

BMGT1191 SPECIAL TOPICS IN BUSINESS ADMINISTRATION AND MANAGEMENT, GENERAL
16 lecture hours ..... 1 credit hour
Topics address recently identified current events, skills, knowledge, and/or attitudes 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.

BMGT1307 HIGH PERFORMANCE WORK TEAMS
48 lecture hours .....3 credit hours
Basic principles of building and sustaining teams in organizations including team dynamics and process involvement.

BMGT1309 INFORMATION AND PROJECT MANAGEMENT
32 lecture hours + 32 lab hours .....3 credit hours
Critical path methods for planning and controlling projects. Includes time/cost tradeoffs, resource utilization, stochastic consideration, task determination, time management, scheduling management, status reports, budget management, customer service, professional attitude, and project supervision.

BMGT1327 PRINCIPLES OF MANAGEMENT
48 lecture hours .....3 credit hours
Concepts, terminology, principles, theories, and issues in the field of management. In addition, outcomes will include various theories, processes, and functions of management, current topics in management, and case studies of Fortune 500 Companies.

BMGT1345COMMUNICATION SKILLS FOR MANAGERS
48 lecture hours .....3 credit hours
Comprehensive study of advanced communication skills for managers in business and industry, including advanced techniques in reading, writing, listening, and speaking. Emphasis on clear, concise written and spoken communication in terms of business letters, memos, and reports, as well as oral presentations; techniques for time management; prioritizing reading materials, and comprehending the main ideas and salient details of technical materials, including journals and reports, and other work-related materials.

BMGT1391 SPECIAL TOPICS IN BUSINESS ADMINISTRATION AND MANAGEMENT
48 lecture hours .....3 credit hours
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.

BMGT2303 PROBLEM SOLVING AND DECISION MAKING
48 lecture hours .....3 credit hours
Decision making and problem solving processes in organizations, utilizing logical and creative problem solving techniques. Application of theory is provided by experimental activities such as small group discussions, case studies, and the use of other managerial decision aids.

BMGT2309 LEADERSHIP
48 lecture hours .....3 credit hours
Concepts of leadership and its relationship to management. Prepares the student with leadership and communication skills needed to inspire and influence.

BUSG1301 INTRODUCTION TO BUSINESS.....
48 lecture hours .....3 credit hours
Fundamental business principles including structure, functions, resources, and operational processes.

BUSG1304 PERSONAL FINANCE
48 lecture hours .....3 credit hours
The course will present a study of the financial problems encountered in managing family and business financial affairs. Topics include financial security for the family, budgeting, use of credit, home ownership, financial tangles, and savings and investment planning.

BUSG2305 BUSINESS LAW/CONTRACTS
48 lecture hours .....3 credit hours
Principles of law which form the legal framework for business activity including applicable statutes, contracts, and agency.

BUSG2307 LEGAL AND SOCIAL ENVIRONMENT OF BUSINESS
48 lecture hours .....3 credit hours
The role of law in business and society including government regulations of business, legal reasoning, sources of law, social policy, legal institutions, antitrust, security regulations, consumer protection, environmental laws, worker health and safety, employment discrimination, and other laws affecting business.

BUSG2380 COOPERATIVE EDUCATION – BUSINESS, GENERAL
16 lecture hours + 224 laboratory hours .....3 credit hours
Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. This course may be related if topics and learning outcomes vary.

HRPO1301 CUSTOMER RELATIONS
48 lecture hours .....3 credit hours
Topics address general principles of customer service including skills, knowledge, attitudes, and behaviors pertinent to the professional development of the student.

HRPO2301 HUMAN RESOURCE MANAGEMENT
48 lecture hours .....3 credit hours
Behavioral and legal approaches to the management of human resources in organizations.

HRPO2307 ORGANIZATIONAL BEHAVIOR
48 lecture hours .....3 credit hours
The analysis and application of organizational theory, group dynamics, motivation theory, leadership concepts and the integration of interdisciplinary concepts from the behavioral sciences.

IBUS1305 INTRODUCTION TO INTERNATIONAL BUSINESS AND TRADE
48 lecture hours .....3 credit hours
The course is designed for the business student to explore the techniques for entering the international marketplace. Emphasis will be placed on the impact and dynamics of socio-cultural, 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.

MRKG1301 CUSTOMER RELATIONS
48 lecture hours.....3 credit hours
General principles of customer service including skills, knowledge, attitudes, and behaviors. Topics will include teamwork in an organization, internal and external customer relationships; communication in clear and professional manner and conflict resolution.

MRKG1311 PRINCIPLES OF MARKETING
48 lecture hours .....3 credit hours
Introduction to basic 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.

MRKG1313 PUBLIC RELATIONS
48 lecture hours .....3 credit hours
Exploration of theories, techniques, and processes of public relations including means of influencing methods of building good will, analysis of media, obtaining publicity, and implementation of public relations programs. Course outcomes include the preparation and presentation of an activity using basic public relations principles.

POFT2312 BUSINESS CORRESPONDENCE & COMMUNICATION
48 lecture hours .....3 credit hours
Emphasis is on the development of presentation skills and writing skills to produce effective business documents.

CHEMISTRY

4005015239
CHEM1411 GENERAL CHEMISTRY I
Prerequisite: Two years of high school algebra or concurrent enrollment in MATH1314 or consent of instructor
48 lecture hours + 48 laboratory hours .....4 credit hours
A survey of basic chemical concepts, theories and practices; fundamental laws, periodic table, valence, stoichiometry, states of matter, oxidation and reduction.

4005015239
CHEM1412 GENERAL CHEMISTRY II
Prerequisite: CHEM1411
48 lecture hours + 48 laboratory hours .....4 credit hours
A continuation of CHEM1411. Kinetics, thermodynamics, electrochemistry, acids and bases, chemical families, nuclear chemistry and introduction to organic chemistry.

4001015139
CHEM1413 CHEMISTRY FOR THE HEALTH SCIENCES
48 lecture hours + 48 laboratory hours .....4 credit hours
The course is designed for nursing students and others who plan careers in health-related fields. Topics in inorganic, organic and biological chemistry, including basic chemical concepts and theories, nomenclature and reactions of organic compounds, and introduction to the chemistry of carbohydrates, lipids, proteins, nucleic acids and metabolism.

4005045239
CHEM2423 ORGANIC CHEMISTRY I
Prerequisite: CHEM1412 or consent of instructor
48 lecture hours + 48 laboratory hours .....4 credit hours
An introduction to the chemistry of carbon compounds: nomenclature, functional groups, structure and spectroscopy, reaction mechanisms, radicals, kinetics and thermodynamics.

4005045239
CHEM2425 ORGANIC CHEMISTRY II
Prerequisite: CHEM2423
48 lecture hours + 48 laboratory hours .....4 credit hours
A continuation of CHEM2423. Aromatic systems, electrophilic and nucleophilic substitution, carboxylic acids and derivatives, amines and sulfides, reactive intermediates, carbonyl compounds and enolates, heterocyclic and biochemical compounds.

COMPUTER INFORMATION SYSTEMS & TECHNOLOGY

ITSC1305 INTRODUCTION TO PC OPERATING SYSTEMS
32 lecture hours + 32 lab hours .....3 credit hours
A study of personal computer operating systems. Topics include installation and configuration, file management, memory and storage management, control of peripheral devices, and demonstrate the use of utilities.

ITSC1315 PROJECT MANAGEMENT APPLICATIONS
32 lecture hours + 32 lab hours .....3 credit hours
General principles of customer service within a technical environment. Topics include internal/external customer relationships, time-management, best practices, and verbal and non-verbal communications skills.

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ITSC1325 PERSONAL COMPUTER HARDWARE
32 lecture hours + 32 lab hours .....3 credit hours
A study of current personal computer hardware including personal computer assembly and upgrading, setup and configuration, and troubleshooting.

ITSC1354 IMPLEMENTING AND SUPPORTING SERVERS
32 lecture hours + 32 lab hours .....3 credit hours
A course in the development of skills necessary to implement, administer, and troubleshoot information systems that incorporate Windows Based Servers in a networked computing environment.

ITSC2280 COOPERATIVE EDUCATION
16 lecture hours + 112 laboratory hours .....2 credit hours
Career related activities encountered in the student's area of specialization are offered through an individual agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

ITSC2302 INTERMEDIATE WEB PROGRAMMING
32 lecture hours + 32 lab hours .....3 credit hours
Intermediate applications for web authoring. Topics may include server side includes (SSI), Perl, HTML, Java, JavaScript and/or ASP.

ITSC2331 INTEGRATED SOFTWARE APPLICATIONS III
32 lecture hours + 32 laboratory hours .....3 credit hours
Designed for advanced users with emplasis on a wide range of productivity tasks including complex assignments that require advanced formatting and functionality.

ITSY1342 INFORMATION TECHNOLOGY SECURITY
32 lecture hours + 32 lab hours .....3 credit hours
Instruction in security for network hardware, software, and data, including physical security; backup procedures; relevant tools; encryption; and protection from viruses.

IMED1316 WEB PAGE DESIGN I
32 lecture hours + 32 lab hours .....3 credit hours
Instruction in web page design and related graphic design issues including mark-up languages, web sites, and browsers.

EECT1300 TECHNICAL CUSTOMER SERVICE
48 lecture hours .....3 credit hours
General principles of customer service within a technical environment. Topics include internal/external customer relationships, time-management, best practices, and verbal and non-verbal communications skills.

GAME1342 GAME AND SIMULATION PROGRAMMING I
32 lecture hours + 32 laboratory hours .....3 credit hours
Game and simulation programming. Includes advanced pointer manipulation techniques and pointer applications, points and vectors, sound, and graphics.

ITSE1302 COMPUTER PROGRAMMING
32 lecture hours + 32 lab hours .....3 credit hours
An introduction to computer programming using Visual BASIC, and/or Java, and/or C++. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files.

ITSE1359 INTRODUCTION TO SCRIPTING LANGUAGES
32 lecture hours + 32 lab hours .....3 credit hours
Introduction to Perl programming language with the utilization of the three basic types of scalars, arrays, and hashes, the control structures, regular expressions, I/O, and textual analysis.

ITSW1307 INTRODUCTION TO DATABASE
32 lecture hours + 32 laboratory hours .....3 credit hours
Introduction to database theory and the practical applications of a database.

ITSW1310 INTRODUCTION TO PRESENTATION GRAPHICS SOFTWARE
Prerequisite: Departmental permission.
32 lecture hours + 32 laboratory hours .....3 credit hours
Instruction in the utilization of presentation software to produce multimedia presentations. Graphics, text, sound, animation and/or video may be used in presentation development.

ITNW1308 IMPLEMENTING AND SUPPORTING CLIENT OPERATION SYSTEMS
32 lecture hours + 32 laboratory hours .....3 credit hours
Skills development in the management of client as desktop operating systems.

ITNW1325 FUNDAMENTALS OF NETWORKING TECHNOLOGIES
32 lecture hours + 32 laboratory hours .....3 credit hours
Instruction in networking technologies and their implementation. Topics include the OSI reference model, network protocols, transmission media, and networking hardware and software.

ITNW1337 INTRODUCTION TO THE INTERNET
32 lecture hours + 32 laboratory hours .....3 credit hours
Introduction to the Internet with emphasis on using the World Wide Web to locate, transfer, and publish information. Survey of emerging technologies on the Internet.

ITNW1348 IMPLEMENTING AND SUPPORTING CLIENT OPERATION SYSTEMS
32 lecture hours + 32 laboratory hours .....3 credit hours
Skills development in the management of client as desktop operating systems.

ITNW1354 IMPLEMENTING AND SUPPORTING SERVERS
32 lecture hours + 32 laboratory hours .....3 credit hours
Development of skills necessary to implement, administer, and troubleshoot information systems that incorporate servers in a networked cumputing environment.

ITNW2304 IMPLEMENTING, MANAGING, AND MAINTAINING A MICROSOFT WINDOWS 2003 ENVIRONMENT
32 lecture hours + 32 lab hours .....3 credit hours
Preparation for Exam 70-291. Includes configuring a Windows-based computer to operate in a Microsoft Windows Server2003 Networking Infrastructure.

ITCC1402 CCNA 1: NETWORKING BASICS
48 lecture hours + 32 laboratory hours .....4 credit hours
A course introducing the basics of networking including network terminology, local area networks (LAN) and wide area networks (WAN). Topics include network protocols such as TCP/IP, Open System Interconnection (OSI) models, cabling and routers.

ITCC1406 CCNA 2: ROUTER AND ROUTING BASICS
48 lecture hours + 32 laboratory hours .....4 credit hours
Introduction to basic Cisco router configuration. Topics include initial router configuration for TCP/IP, management of Cisco IOS and router configuration files, routing protocols, and access control lists.

ITCC1442 CCNA 3: SWITCHING BASIC AND INTERMEDIATE ROUTING
48 lecture hours + 32 laboratory hours ..... 4 credit hours
A course focusing on advanced topics including IP addressing techniques intermediate routing protocols, CLI configuration of switches, Ethernet switching, VLANs, Spanning Tree Protocols, and VLAN Trunking Protocol.

ITCC1446 CCNA 4: WAN TECHNOLOGIES
48 lecture hours + 32 laboratory hours ..... 4 credit hours
This course focuses on advanced IP addressing techniques (Network Address Translation [NAT], Port Address Translation [PAT], and DHCP), WAN technology and terminology, PPP, ISDN, DDR, Frame Relay, network management and introduction to optical networking. In addition, the student will prepare for the CCNA exam.

GRPH1359 OBJECT ORIENTED COMPUTER GRAPHICS
32 lecture hours + 32 laboratory hours ..... 3 credit hours
Mastery of the tools and transformation options of an industry standard draw program to create complex illlustrations and follow them through to the color output stage. Mastery in the use of basic elements of good layout and design principles and use of capabilities on the use of Bezier curves. Acquisition of images via scanning and the creative use of clip art is included.

COMPUTER SCIENCE

5212025404
BCIS1305 BUSINESS COMPUTER APPLICATIONS
Prerequisite: High School Algebra, Geometry, or Business Mathematics
32 lecture hours + 32 laboratory hours ..... 3 credit hours
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 fo the Internet.

1102015507
COSC1436 PROGRAMMING FUNDAMENTALS I
Prerequisite: COSC1400 or department exam
48 lecture hours + 32 laboratory hours ..... 4 credit hours
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.

1102025607
COSC1437 PROGRAMMING FUNDAMENTALS II
Prerequisite: COSC1436
48 lecture hours + 32 laboratory hours ..... 4 credit hours
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.

1102015707
COSC2436 PROGRAMMING FUNDAMENTALS III
Prerequisite: COSC1437
48 lecture hours + 32 laboratory hours ..... 4 credit hours
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.

1102015407
COSC2425 COMPUTER ORGANIZATION AND MACHINE LANGUAGE
Prerequisite: COSC1436
48 lecture hours + 32 laboratory hours ..... 4 credit hours
Basic computer organization; machine cycle, digital representation of data and instructions; assembly language programming, assembler, loader, macros, subroutines and program linkages.

COSMETOLOGY

CSME1401 ORIENTATION TO COSMETOLOGY
32 lecture hours + 128 laboratory hours ..... 4 credit hours
An overview of the skills and knowledge necessary for the field of cosmetology.

CSME1405 FUNDAMENTALS OF COSMETOLOGY
32 lecture hours + 128 laboratory hours ..... 4 credit hours
A course in the basic fundamentals of cosmetology. Topics include service preparation, manicure, facial, chemical services, shampoo, haircut, wet styling, comb out, and salon management.

CSME1410 INTRODUCTION TO HAIRCUTTING AND RELATED THEORY
32 lecture hours + 128 laboratory hours ..... 4 credit hours
Introduction to the theory and practice of hair cutting. Topics include terminology, implements, section haircutting and finishing techniques.

CSME 1430 ORIENTATION TO NAIL TECHNOLOGY
4 credit hours ..... 48 lecture hours
An overview of the fundamental skills and knowledge necessary for the field of nail technology.

CSME 1431 PRINCIPLES OF NAIL TECHNOLOGY I
4 credit hours ..... 48 lecture hours
A course in the principles of nail technology. Topics include anatomy, physiology, theory, and skills related to nail technology.

CSME 1443 MANICURING AND RELATED THEORY
4 credit hours ..... 48 lecture hours
Presentation of the theory and practice of nail technology. Topics include terminology, application, and workplace competencies related to nail technology.

CSME1451 ARTISTRY OF HAIR, THEORY AND PRACTICE
16 lecture hours + 144 laboratory hours ..... 4 credit hours
Instruction in the artistry of hair design. Topics include theory, techniques, and application of hair design.

CSME1453 CHEMICAL REFORMATION AND RELATED THEORY
32 lecture hours + 128 laboratory hours ..... 4 credit hours
Presentation of the theory and practice of chemical reformation. Topics include terminology, application, and workplace competencies related to chemical reformation.

CSME1534 COSMETOLOGY INSTRUCTOR I
32 lecture hours + 144 laboratory hours ..... 5 credit hours
The fundamentals of instruction of cosmetology students.

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CSME1535 ORIENTATION TO THE INSTRUCTION OF COSMETOLOGY
32 lecture hours + 144 laboratory hours .....5 credit hours
An overview of the skills and knowledge necessary for the instruction of cosmetology students.

CSME 1541 PRINCIPLES OF NAIL TECHNOLOGY II
5 credit hours.....32 lecture hours
An advanced course in the principles of nail technology. Topics include terminology, applications, and advanced workplace competencies related to nail technology.

CSME2401 THE PRINCIPLES OF HAIR COLORING AND RELATED THEORY
16 lecture hours + 144 laboratory hours .....4 credit hours
Presentation of the theory and practice of hair color and chemistry. Topics include terminology, application, and workplace competencies related to hair color and chemistry.

CSME2514 COSMETOLOGY INSTRUCTOR II
32 lecture hours + 144 laboratory hours .....5 credit hours
A continuation of the fundamentals of instruction of cosmetology students.

CSME2415 COSMETOLOGY III
48 lecture hours + 32 laboratory hours .....4 credit hours
Presentation of assignments and evaluation techniques for a cosmetology program.

CSME 2530 NAIL ENHANCEMENT
32 lecture hours .....5 credit hours
A course in the general principles of the theory and application of artificial nails and related technology.

CSME2545 INSTRUCTIONAL THEORY AND CLINIC OPERATION
32 lecture hours + 144 laboratory hours .....5 credit hours
An overview of the objectives required by the Texas Department of Licensing and Regulations.

CSME2237 ADVANCED COSMETOLOGY TECHNIQUES
16 lecture hours + 64 laboratory hours .....2 credit hours
Mastery of advanced cosmetology techniques including hair designs, professional cosmetology services, and workplace competencies.

CSME2410 INTERMEDIATE HAIRCUTTING AND RELATED THEORY
16 lecture hours + 144 laboratory hours .....4 credit hours
Advanced concepts and practice of haircutting. Topics include haircuts utilizing scissors, razor, and/or clippers.

CSME2439 ADVANCED HAIR DESIGN
16 lecture hours + 144 laboratory hours .....4 credit hours
Advanced concepts in the theory and practice of hair design.

CSME2441 PREPARATION FOR TEXAS DEPARTMENT OF LICENSING AND REGULATIONS
16 lecture hours + 128 laboratory hours .....4 credit hours
Preparation for the Texas Department of Licensing and Regulations Operator Examination.

CSME 2443 SALON DEVELOPMENT
48 lecture hours + 48 laboratory hours .....4 credit hours
Exploration of salon development. Topics include professional ethics and goals, salon operation, and record keeping.

CSME1520 ORIENTATION TO FACIAL SPECIALIST
48 lecture hours + 112 laboratory hours .....5 credit hours
An overview of the skills and knowledge necessary for the field of facials and skin care.

CSME1348 PRINCIPLES OF SKIN CARE
32 lecture hours + 64 laboratory hours .....3 credit hours
An introduction to the theory and practice of skin care.

CSME1547 PRINCIPLES OF SKIN CARE/FACIALS & RELATED THEORY
32 lecture hours + 144 laboratory hours .....5 credit hours
Demonstrations will include facial services and methods with machines used in the field of esthetics. Advanced concepts of massage and product use and preparations in state testing for licensing will be reviewed.

CSME1521 PRINCIPLES OF FACIALS/ESTHETICS TECHOLOGY I
32 lecture hours + 144 laboratory hours .....5 credit hours
Topics include the principles of Facial and Esthetic theory. Students will learn the basic concepts of massage as related to esthetic procedures and the chemistry of products used in this industry.

CSME1545 PRINCIPLES OF FACIALS/ESTHETICS TECHOLOGY II
32 lecture hours + 144 laboratory hours .....5 credit hours
A continuation of the concepts and principles in skin care and other related technologies. Topics include advanced instruction in anatomy, physiology, theory, and related skills of facials/esthetic technology.

CSME2531 PRINCIPLES OF FACIALS/ESTHETICS TECHOLOGY III
32 lecture hours + 144 laboratory hours .....5 credit hours
Advanced concepts and principles of skin care and other related techologies.

DANCE

5003015226
DANC1151 DANCE PERFORMANCE I
48 laboratory hours..... 1 credit hour
An introductory laboratory course giving credit to students for their experiences in rehearsal and performance of dance as an art form. The course is threefold in content: studio rehearsals, technical and dress rehearsal, and performance.

5003015226
DANC1152 DANCE PERFORMANCE II
48 laboratory hours..... 1 credit hour
Continuation of DANC1151.

5003015226
DANC2151 DANCE PERFORMANCE III
48 laboratory hours..... 1 credit hour
Continuation of DANC1151 and DANC 1152.

5003015226
DANC2152 DANCE PERFORMANCE IV
48 laboratory hours..... 1 credit hour
Continuation of DANC1151, DANC 1152 and DANC 2151.

5003015426
DANC2303 DANCE APPRECIATION I
48 lecture hours ..... 3 credit hour
The aesthetics of dance as a performing art. Emphasis placed on the development of an appreciation for dance as a form of communication and as a reflection of contemporary society (its interrelationships with culture and other art forms). Satisfied the Humanities/Visual and Performing Arts requirement of the College Core Curriculum.

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5003015426
DANC2304 DANCE APPRECIATION II
48 lecture hours ..... 3 credit hour
Continuation of DANC2303.

50003015226
DANC1147 JAZZ DANCE TECHNIQUE I
48 lecture hours ..... 1 credit hour
Introduction to jazz dance through a study of its vocabulary, style and technique. Fundamental exercises and analysis of time, space and dynamics as they apply to elements of dance with emphasis on structural alignment and integration.

DANC1148 JAZZ DANCE TECHNIQUE II
48 lecture hours ..... 1 credit hour
Continuation of DANC1147.

DANC2147 JAZZ DANCE TECHNIQUE III
48 lecture hours ..... 1 credit hour
Continuation of DANC1147 and DANC1148.

DANC2148 JAZZ DANCE TECHNIQUE IV
48 lecture hours ..... 1 credit hour
Continuation of DANC1147, DANC1148, and DANC2147.

DRAFTING TECHNOLOGY

DFTG1305 TECHNICAL DRAFTING
32 lecture hours + 32 laboratory hours .....3 credit hours
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.

DFTG1309 BASIC COMPUTER AIDED DRAFTING
Prerequisite: DFTG1305
32 lecture hours + 32 laboratory hours .....3 credit hours
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.

DFTG1317 ARCHITECTURAL DRAFTING/RESIDENTIAL
Prerequisite: DFTG1305
40 lecture hours + 40 laboratory hours .....3 credit hours
Architectural drafting procedures, practices, and symbols, including preparation of detailed working drawings for residential structure with emphasis on light frame construction methods.

DFTG1333 MECHANICAL DRAFTING
32 lecture hours + 32 laboratory hours .....3 credit hours
Course Description: Detail drawings with proper dimensioning and tolerances, use of sectioning techniques, pictorial drawings, including bill of materials.

DFTG1358 ELECTRICAL/ELECTRONIC DRAFTING
Prerequisite: DFTG1305, DFTG1309
32 lecture hours + 32 laboratory hours .....3 credit hours
A study of the principles of layout of 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.

DFTG1391 SPECIAL TOPICS IN DRAFTING
32 lecture hours + 32 laboratory hours .....3 credit hours
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.

DFTG2300 INTERMEDIATE ARCHITECTURAL DRAFTING—RESIDENTIAL
Prerequisite: DFTG1317
40 lecture hours + 40 laboratory hours .....3 credit hours
A continuation of principles and practices used in residential construction.

DFTG2302 MACHINE DRAFTING
Prerequisite: DFTG1305, DFTG1309
40 lecture hours + 40 laboratory hours .....3 credit hours
Production of detail and assembly drawings of machines, threads, cams, tolerances and limit dimensioning, surface finishes, and precision drawings.

DFTG2306 MACHINE DESIGN
Prerequisite: DFTG1305, DFTG1309
40 lecture hours + 40 laboratory hours .....3 credit hours
Theory and practice of design. Projects in problem-solving, including press fit, bolted and welded joints, and transmission components.

DFTG2317 DESCRIPTIVE GEOMETRY
32 lecture hours + 32 laboratory hours .....3 credit hours
Examination of the graphical solution to problems involving points, lines, and planes in space.

DFTG2319 INTERMEDIATE COMPUTER AIDED DRAFTING
Prerequisites: DFTG1305, DFTG1309
32 lecture hours + 32 laboratory hours .....3 credit hours
A continuation of practices and techniques used in basic computer-aided drafting emphasizing advanced dimensioning techniques, the development and use of protype drawings, construction of pictorial drawings, interfacing 2D and/or 3D environments and extracting data.

DFTG2323 PIPE DRAFTING
32 lecture hours + 32 laboratory hours 3 credit hours
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.

DFTG2330 CIVIL DRAFTING
32 lecture hours + 32 laboratory hours 3 credit hours
An in-depth study of drafting methods and principles used in civil engineering.

DFTG2332 ADVANCED COMPUTER AIDED DRAFTING
Prerequisite: DFTG1305, DFTG1309, DFTG2319
32 lecture hours + 32 laboratory hours .....3 credit hours
Exploration of the use of system customization for drawing production enhancement and the principles of data manipulation. Presentation of advanced applications, such as three-dimensional objects creation and linking graphic entities to external nongraphic data.

DFTG2338 FINAL PROJECT
32 lecture hours + 32 laboratory hours 3 credit hours
A drafting course in which students participate in a comprehensive project from conception to conclusion.

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DFTG2340 SOLID MODELING/DESIGN
Prerequisite: DFTG1305, DFTG1309
32 lecture hours + 32 laboratory hours .....3 credit hours
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.

DFTG2358 ADVANCED MACHINE DESIGN
Prerequisite: DFTG1305, DFTG1309, DFTG2306
40 lecture hours + 40 laboratory hours .....3 credit hours
Use of design process skills for the production of complete design package, which includes jig and fixture design, extrusion dies, and injection mold design.

DRAMA

5009036126
DRAM1161 MUSICAL THEATER
48 lecture hours .....1 credit hours
Study and performance of works in the musical theatre repertoire. The student will get practical experience in the performance of musicals; study of the integration of music, acting and staging.

5009036126
DRAM1162 MUSICAL THEATER II
48 lecture hours .....1 credit hours
A continuation of DRAM 1161.

5005015126
DRAM1310 INTRODUCTION TO THEATRE
48 lecture hours .....3 credit hours
Theatre as an art form is presented from the historical, literary and production points of view in order to deepen the student's understanding and appreciation of Theatre. The course includes viewing and critiquing plays, musicals, motion pictures, and television dramas.

5005065326
DRAM1323 BASIC THEATER PRACTICE
48 lecture hours .....3 credit hours
Practicum in theater with emphasis on technique and procedures with experience gained in play productions. Each semester will have a different topic such as Shakespeare, Comedy, Tragedy, etc.

5005035226
DRAM2336 VOICE FOR THEATER
48 lecture hours .....3 credit hours
Application of the performer's use of the voice as a creative instrument of effective communication. Encourages an awareness of the need for vocal proficiency and employs techniques designed to improve the performer's speaking abilities.

5006025126
DRAM2366 INTRODUCTION TO FILM
48 lecture hours .....3 credit hours
An introductory course in motion pictures which surveys the film industry as a business, a means of communication, but most importantly as an art form. The course places an emphasis on the analysis of the visual and aural aspects of selected motion pictures, the dramatic aspects of narrative films, and the historical growth and sociological effect of film as an art.

5005035126
DRAM1351 ACTING I
48 lecture hours .....3 credit hours
This course introduces students to the skills and techniques of acting. Through improvisation and exercises, students learn character motivation and development, concentration, movement, line interpretation, vocal delivery and projection, blocking, and ensemble interaction. The course balances exercises that develop acting techniques and character development with exercises that release imaginative expression.

5005035126
DRAM1352 ACTING II
48 lecture hours .....3 credit hours
With the focus on performance, this course employs the skills acquired in Acting I and emphasizes scene study and textural analysis, allowing students to concentrate on the method and technique of building a character. Performance of scenes and monologues offer challenges in textual interpretation, vocal expression, and physical embodiment.

5005035126
DRAM2351 ACTING III
48 lecture hours .....3 credit hours
The student will analyze known theatrical conventions such as the stage, costumes, and methods of speaking that would influence the presentation of a play in its particular period and develop acting techniques suitable for performing various styles and genres, such as Classical Greek, commedia del arte, French Classical and Shakespearean. Students will also develop and prepare audition pieces in this course.

5005035126
DRAM2352 ACTING IV
48 lecture hours .....3 credit hours
This course is a continuation of DRAM 2351 and will include an advanced study of theories, styles, and methods with a strong emphasis on character development. The student will study various acting techniques to condition him to meet the demands of classical literature in an actural production.

5005015226
DRAM1120 THEATER PRACTICUM I
48 lecture hours ..... 1 credit hour
The course provides the student an opportunity to apply classroom theory in a practical situation and environment through mounting a theatrical production. The student will gain familiarity with one or more of the following areas: acting, directing, costuming, scenery construction, properties, lighting, sound and stage management. Open to all students.

5005015226
DRAM1121 THEATER PRACTICUM II
48 lecture hours ..... 1 credit hour
Continuation of DRAM1120.

5005015226
DRAM2120 THEATER PRACTICUM III
48 lecture hours ..... 1 credit hour
Continuation of DRAM1120 and DRAM1121.

5005015226
DRAM2121 THEATER PRACTICUM IV
48 lecture hours ..... 1 credit hour
Continuation of DRAM1120, DRAM1121 and DRAM2120.

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5005025126
DRAM1330 STAGECRAFT
48 lecture hours .....3 credit hours

This course studies and applies the basic techniques of set construction, theatrical lighting, sound technology, stage rigging and backstage organization. The student will be introduced to the various theatre disciplines outlined above and have the opportunity for actual hands-on experience with building basic theatrical scenery and handling theatre lighting and sound equipment.

5005025126
DRAM2331 STAGECRAFT II
48 lecture hours .....3 credit hours

Course is a continuation of DRAM1330, but it allows the individual student the opportunity to specialize in a particular area of technical theater.

EDUCATION

4203015125
EDUC1300 LEARNING FRAMEWORK
48 lecture hours ..... 3 credit hours

A study of the (1) research and theory in the psychology of learning, cognition, and motivation; (2) factors that impact learning, and (3) application of learning strategies. Theoretical models of strategic learning, cognition, and motivation serve as the conceptual basis for the introduction of the college-level student academic strategies. Students use assessment instruments (e.g. learning inventories) to help them identify their own strengths and weaknesses as strategic learners. Students are ultimately expected to integrate and apply the learning skills discussed across their own academic programs and become effective and efficient learners. Students developing these skills should be able to continually draw from the theoretical models they have learned. This course is cross-listed as PSYC 1300. The student may register for either EDUC1300 or PSYC1300 but may receive credit for only one of the two.

13.0101.51 09
EDUC1301 INTRODUCTION TO THE TEACHING PROFESSION
Prerequisite: ENGL1301
48 lecture hours + 32 hour lab.....3 credit hours

An introduction to the teaching profession and the role of the school in a democratic society. Focus areas include: principles and foundations of curriculum development/alignment, school/classroom organizational philosophies, issues of race, ethnicity, gender, social class, cultures and disabilities. Field Experience Required: 32 hours of field-based activities, 16 of which must be observation hours in EC-12 schools.

13.0101.51 09
EDUC1325 MULTICULTURAL EDUCATION
Prerequisite: ENGL1301
48 lecture hours + 32 hour lab.....3 credit hours

An examination of cultural diversity found in society and reflected in the classroom. Topics include the study of major cultures and their influence on lifestyle, behavior, learning, intercultural communications and teaching, as well as psychoscial stressors encountered by diverse cultural groups.

13.1001.51 09
EDUC2301 INTRODUCTION SPECIAL POPULATIONS
Prerequisite: EDUC1301
48 lecture hours + 32 hour lab.....3 credit hours

A study of etiology and concepts relating to exceptional individuals. Overview of the unique physical, cognitive and behavioral needs of exceptional learners. Includes teacher's role in identification, referral procedures and implementation of effective educational practices as required by federal and state laws. Field Experience Required: 30 hours of field-based activities; 16 of which must be observation hours in EC-12 schools.

13.0101 52 09
TECA1303 FAMILY & COMMUNITY
48 lecture hours + 16 field experience hours.....3 credit hours

An introduction course for the teaching profession. Focus is on effective ways for home, school and community to contribute to the optimal development of a child and the role of schools in a democratic society. Field Experience Required: 16 hours.

13.1202 51 09
TECA1311 INTRODUCTION TO EARLY CHILDHOOD EDUCATION
48 lecture hours + 16 field experience hours.....3 credit hours

An introduction to the education of the young child, including developmentally appropriate practices and programs, theoretical and historical perspectives, ethical and professional responsibilities, and current issues. Requires students to participate in minimum of 16 hours of field experiences with children from infancy through high school in a variety of settings with varied and diverse populations. Field Experience Required: 16 hours.

13.0101 53 09
TECA1318 NUTRITION, HEALTH & SAFETY OF YOUNG CHILDREN
48 lecture hours + 16 field experience hours.....3 credit hours

A study of the factors that impact the well-being of the young child including healthy behavior, food, nutrition, fitness, and safety practices. Focus on local and national standards and legal implications of relevant policies and regualtions. Requires students to participate in a minimum of 16 hours of field experiences with children from infancy through high school in a variety of settings with varied and diverse populations. Field Experience Required: 16 hours.
13.1202 52 09

TECA1354 HUMAN GROWTH AND DEVELOPMENT OF CHILDREN AND ADOLESCENTS
48 lecture hours .....3 credit hours

A study of the physical, emotional, social, and cognitive factors impacting growth and development of children through adolescence.

ECONOMICS

1904025242
ECON1303 CONSUMER ECONOMICS
48 lecture hours .....3 credit hours

The goal of this course is to familiarize students with consumer issues and make direct applications of economic concepts such as supply and demand, business fluctuations, and interest rates to consumer topics. Specifically, the course addresses the economic issues involved with purchases of homes, cars, and consumer durables. It explains both monetary and fiscal policy and how consumers are affected by government policy. Health, auto, and live insurance are discussed from theoretical and applied perspectives. Finally, personal investment, saving, and retirement goals and vehicles are introduced and discussed.

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4506015142
ECON2301 PRINCIPLES OF ECONOMICS (MACRO)
48 lecture hours .....3 credit hours

An introduction to the principles of macroeconomics. This course explores Classical, Keynesian and other models in economics. Emphasis given to national income, money and banking, monetary and fiscal policy, economic fluctuations and growth. Other topics include but not limited to introductory international trade and finance, employment, comparative economic systems and economic decision-making.

4506015142
ECON2302 PRINCIPLES OF ECONOMICS (MICRO)
48 lecture hours .....3 credit hours

An introduction to the principles of microeconomics. Emphasis given to price theory, income distribution, costs and productions, and theory of the firm. Other topics include but not limited to introductory international trade and finance, comparative economic systems and techniques of economic analysis.

EMERGENCY MEDICAL SERVICES

EMSP1160 CLINICAL – EMERGENCY MEDICAL TECHNICIAN/ TECHNOLOGY
Corequisite: EMSP1501
48 clinical hours..... 1 credit hour

A method of instruction providing detailed education, training and work-based experience, and direct patient/client care, generally at a clinical site. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation, and placement are the responsibility of the college faculty. Clinical experiences are unpaid external learning experiences. Course may be repeated if topics and learning outcomes vary.

EMSP1261 CLINICAL I– EMERGENCY MEDICAL TECHNICIAN/PARAMEDIC
96 clinical hours.....2 credit hours

A method of instruction providing detailed education, training and work-based experience, and direct patient/client care, generally at a clinical site. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation, and placement are the responsibility of the college faculty. Clinical experiences are unpaid external learning experiences. Course may be repeated if topics and learning outcomes vary.

EMSP1338 INTRODUCTION TO ADVANCED PRACTICE
32 lecture + 32 laboratory hours.....3 credit hours

At the completion of this module, the student will understand the roles and responsibilities of a paramedic within the EMS system; apply the basic concepts of development, pathophysiology and pharmacology to assessment and management of emergency patients; be able to properly administer medications; communicate effectively with patients; and understand the medical/legal and ethical issues relating to EMS practice as well as the issues impacting the well being of the paramedic.

EMSP1355 TRAUMA MANAGEMENT
32 lecture + 32 laboratory hours.....3 credit hours

A detailed study of the knowledge and skills necessary to reach competence in the assessment and management of patients with traumatic injuries.

EMSP1356 PATIENT ASSESSMENT & AIRWAY MANAGEMENT
32 lecture + 32 laboratory hours.....3 credit hours

A detailed study of the knowledge and skills required to reach competence in performing patient assessment and airway management.

EMSP1501 EMERGENCY MEDICAL TECHNICIAN
Prerequisite: Current AHA Health Care Provider CPR or equivalent
Corequisite: EMSP1160
32 lecture + 96 laboratory hours.....5 credit hours

Introduction to the level of Emergency Medical Technician (EMT) - Basic. Includes all the skills necessary to provide emergency medical care at a basic life support level with an ambulance service or other specialized services.

EMSP2553 EMERGENCY MEDICAL SERVICES CERTIFICATION FOR THE REGISTERED NURSE/PHYSICIAN'S ASSISTANT/REGISTERED RESPIRATORY THERAPIST/LICENSED NURSE PRACTITIONER
Prerequisite: Currently licensed RN/PA/RRT/LNP with 36 months work experience and a college degree
Corequisite: EMSP2563
64 lecture hours + 32 skills hours .....5 credit hours

Preparation of the R.N., R.R.T., L.P.N., or P.A. (Licensed to Practice in Texas) for Emergency Medical Services (EMS) certification. In addition to completing this course, students must also successfully complete an EMS internship. Students that meet all the listed requirements are eligible to apply for certification as an Emergency Medical Technician-Paramedic.

EMSP2262 CLINICAL II – EMERGENCY MEDICAL TECHNICIAN/ PARAMEDIC
96 clinical hours.....2 credit hours

A method of instruction providing detailed education, training and work-based experience, and direct patient/client care, generally at a clinical site. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation, and placement is the responsibility of the college faculty. Clinical experiences are unpaid external learning experiences. Course may be repeated if topics and learning outcomes vary.

EMSP2135 ADVANCED CARDIAC LIFE SUPPORT
Corequisite: EMSP2544
32 laboratory hours..... 1 credit hour

Skill development for EMS personnel practicing on a critical care paramedic ambulance. Establishes a systematic approach for management of the patient experiencing cardiac difficulties according to American Heart Association protocols.

EMSP2332 MASS DISASTER RESPONSE
16 lecture hours + 32 laboratory hours .....3 credit hours

Preparation for first response to nuclear, biological, or chemical, biological, and radiological agents that may be employed by terrorists.

EMSP2352 EMERGENCY MEDICAL SERVICES RESEARCH
48 lecture.....3 credit hours

Primary and/or secondary research in current and emerging issues in EMS. Basic research principles, scientific inquiry, and interpretation of professional literature are emphasized. Students will demonstrate computer competencies during this course. Students will be required to present research data utilizing the internet. Data presentation shall include, but not be limited to PowerPoint, Excel or other Windows platforms.

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EMSP2563 *CLINICAL – EMT-P INTERNSHIP
**Denotes CAPSTONE Experience*
256 clinical hours.....5 credit hours
A method of instruction providing detailed education, training and work-based experience, and direct patient/client care, generally at a clinical site. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation, and placement are the responsibility of the college faculty. Clinical experiences are unpaid external learning experiences. Course may be repeated if topics and learning outcomes vary.

EMSP2434 MEDICAL EMERGENCIES
48 lecture + 32 laboratory hours.....4 credit hours
A detailed study of the knowledge and skills necessary to reach competence in the assessment and management of patients with medical emergencies.

EMSP2544 CARDIOLOGY
Corequisite: EMSP2135
80 lecture hours .....5 credit hours
A detailed study of the knowledge and skills necessary to reach competence in the assessment and management of patients with cardiac emergencies.

ENGLISH (COLLEGE PREPARATORY)
(ENGL COURSE NUMBERS BELOW 1000):

Note: NCTC offers a number of courses (listed below) designed to help you acquire the skills necessary for success in college-level courses. The courses are widely offered in Texas community/junior colleges, and the policy statewide is that these will not transfer as college-level courses nor will they count toward graduation at accredited Texas colleges and universities. It is important that you understand that such courses are designed to help you overcome academic deficiencies that are likely to hinder you in your pursuit of a college degree. Attendance in College Preparatory Studies is mandatory when a student has not passed the THEA exam. After THREE hours of absenteeism, a student may be warned and referred to the Director of College Preparatory Studies. At SIX hours of absenteeism, a student may be dropped from his/her College Preparatory class. If the student is dropped from the only College Preparatory class in which he/she is enrolled, the student will be DROPPED from all remaining courses for that semester.

3201085335
ENGL0300 FUNDAMENTALS OF ENGLISH I
48 lecture hours .....3 credit hours
A course designed for students who have demonstrated, by scores on placement tests and their writing samples, their need for the beginning level of Fundamentals of English. Students will practice formulating simple and compound sentences and learn tense formation, basic subject-verb agreement, end punctuation, dictionary skills, prefixes, roots, suffixes, and basic spelling rules and skills. Students will gain skill in writing clear, logically developed paragraphs using standard American English. Does not count toward graduation at NCTC.

3201085335
ENGL0305 FUNDAMENTALS OF ENGLISH II
Prerequisite: Satisfactory placement score OR passed ENGL0300 with a "C" or better.
48 Lecture hours .....3 credit hours
A course designed for students who have demonstrated by scores on placement tests and their writing samples that they should be capable of starting at the second level of Fundamentals of English. Fundamentals of English II will review skills from the first level and then will help students gain practice in recognizing, writing, and revising clear, correct compound and complex sentences; in mastering subject-verb agreement and pronoun usage; in using all punctuation; and in overcoming major spelling problems. This course, building on paragraph skills taught in Fundamentals of English I, will teach students to write short essays in standard American English. Does not count toward graduation at NCTC.

ENGLISH (COLLEGE-LEVEL)
(ENGL COURSE NUMBERS ABOVE 1000):

2304015135
ENGL1301 COMPOSITION I
Prerequisite: Satisfactory placement test score or passing grade in ENGL0305.
48 lecture hours .....3 credit hours
Principles and techniques of expository and persuasive writing; critical thinking and textual analysis; essays and research methods.

230415135
ENGL1302 COMPOSITION II
Prerequisite: ENGL1301
48 lecture hours .....3 credit hours
Continuation of ENGL1301. Advanced techniques of expository and persuasive writing; critical thinking and textual analysis; essays and research methods.

2305015135
ENGL2307 CREATIVE WRITING
Prerequisite: ENGL1302 OR special permission of instructor.
48 lecture hours .....3 credit hours
Elective for students interested in original and imaginative writing; a study of one or more of the genres of poetry, short story, novel, drama, screenplay with practice in the writing of one or more genres.

2305015135
ENGL 2308 ADVANCED CREATIVE WRITING
Prerequisite: ENGL2307
48 lecture hours .....3 credit hours
Elective for students interested in advanced practice in original and imaginative writing; a study of one or more of the genres of poetry, short story, novel, drama, and screenplay.

2311015135
ENGL2311 TECHNICAL WRITING
Prerequisite: ENGL1301
48 lecture hours .....3 credit hours
The study of the fundamentals of clear writing in general. A study of presentations of technical information to non-technical audiences through samples of such writing and through practice in specific tasks, such as process analyses, object descriptions, instructions, reports, manuals and business correspondence.

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2308015135
ENGL2322 BRITISH LITERATURE I
Prerequisite: ENGL1302
48 lecture hours .....3 credit hours
General survey of major British literary masterpieces from the Anglo-Saxon period through the 18th century; reports and essays.

2308015135
ENGL2323 BRITISH LITERATURE II
Prerequisite: ENGL1302
48 lecture hours .....3 credit hours
General survey of major British literary masterpieces from the beginning of the Romantic period to the present century; reports and essays.

2307015135
ENGL2327 AMERICAN LITERATURE I
Prerequisite: ENGL1302
48 lecture hours .....3 credit hours
The study of major writers and their works from the colonial period through the Civil War Period, including the philosophical and cultural background to the works; reports and essays.

2307015135
ENGL2328 AMERICAN LITERATURE II
Prerequisite: ENGL1302
48 lecture hours .....3 credit hours
The study of major writers and their works from the Civil War Period to the present, including the philosophical and cultural background to the works; reports and essays.

2303015235
ENGL2332 WORLD LITERATURE I
Prerequisite: ENGL1302
48 lecture hours .....3 credit hours
Study of selected masterpieces of world literature from the ancient world through the Renaissance; reports and essays.

2303015235
ENGL2333 WORLD LITERATURE II
Prerequisite: ENGL1302
48 lecture hours .....3 credit hours
Study of selected masterpieces of world literature from the Neo-Classical period to the present day; reports and essays.

ENGL 2341 FICTION
Prerequisite: ENGL 1302
48 Lecture hours .....3 credit hours
Studies in the literary genre of fiction. Emphasis on critical analysis; reports and essays.

ENGL 2341 FILM
Prerequisite: ENGL 1302
48 Lecture hours .....3 credit hours
Studies in film. Emphasis on critical analysis; reports and essays.

ENGL 2341 POETRY
Prerequisite: ENGL 1302
48 Lecture hours .....3 credit hours
Studies in the literary genre of poetry. Emphasis on critical analysis; reports and essays.

ENGL 2341 DRAMA
Prerequisite: ENGL 1302
48 Lecture hours .....3 credit hours
Studies in the literary genre of drama. Emphasis on critical analysis; reports and essays.

ENGL 2342 CLASSICAL BACKGROUNDS I
Prerequisite: ENGL 1302
48 Lecture hour.....3 credit hours
Analysis of mythological and philosophical roots of modern literature. Emphasis on critical reading; reports and essays.

ENGL 2343 CLASSICAL BACKGROUNDS II
Prerequisite: ENGL 1302
48 Lecture hours .....3 credit hours
Advanced analysis of mythological and philosophical roots of modern literature. Emphasis on critical reading; reports and essays.

EQUINE SCIENCE

AGAH1402 PRINC. OF FITTING AND GROOMING LIVESTOCK
Prerequisite: AGEQ1401
32 lecture hours + 112 laboratory hours ..... 4 credit hours
Students will develop skill development necessary to fit and groom Livestock in preparation for competition or as a tool in marketing. Includes proper aspects of feeding, working, and grooming with hands-on activities assigned. This class meets five days a week, in addition to weekends.

AGEQ1271 REINING
16 lecture hours + 32 laboratory hours .....2 credit hours
Basic fundamentals of working and riding a horse for reining will be discussed. Topics include history, development, rules, judging, and the merchanics of working and training a horse for reining. Class will be supplemented with guest lecturers and speakers from the industry.

AGEQ1291 SPECIAL TOPICS II
16 lecture hours + 32 laboratory hours .....2 credit hours
This course will address recently identified current events, skills, knowledge, and behaviors pertinent to the equine industry and relevant to the professional development of the student.

AGEQ1300 ENGLISH EQUITATION I
Course Requires Approval of Instructor
16 lecture + 32 laboratory hours..... 3 credit hours
Course in basic equitation skills, including handling, saddling, bridling, mounting, riding, grooming, safety, and basic health care. Topics will include correct riding position, leg strengthening exercises, and balance exercises.

AGEQ1305 EQUINE ENTERPRISE MANAGEMENT
48 lecture hours .....3 credit hours
Course is designed as a business survey of the equine industry as a whole. Topics will include all areas involved directly and indirectly with the equine industry and the applied management techniques that are involved with these areas. Lecture will be supplemented with guest speakers and field trips to area farms and businesses.

AGEQ1315 HORSE EVALUATION I
32 lecture hours + 32 laboratory hours .....3 credit hours
Instruction in evaluation and selection of horses based on breed and performance criteria. Topics include basic anatomy and its relation to function, breed type, and characteristics. Emphasis will be given to breed standards and rules of judging performance horses.

AGEQ1319 HORSEMANSHIP I
Course requires approval by instructor.
16 lecture + 32 laboratory hours.....3 credit hours
Instruction in basic horsemanship skills including handling, saddling, safety, proper riding techniques, and basic health care will be discussed. Emphasis will be given to use of aids and cues; and proper leg, seat, and hand position.

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AGEQ 1322 FUNDAMENTALS OF RIDING INSTRUCTION
48 lecture hours ..... 3 credit hours

Students will develop basic skills needed to become an effective riding instructor. Through classroom and arena exercises students will gain skills in organization, development of lesson plans, and a variety of teaching techniques. Students will be working with first year students. Course requires approval of instructor.

AGEQ1391 SPECIAL TOPICS III
16 lecture hours + 32 laboratory hours .....3 credit hours

This course will address recently identified current events, skills, knowledge, and behaviors pertinent to the equine industry and relevant to the professional development of the student.

AGEQ1401 EQUINE BEHAVIOR AND TRAINING I
Course requires approval by instructor.
16 lecture hours + 144 laboratory hours .....4 credit hours

Instruction in basic equine behavior and training methods will be discussed. Topics will include safety, behavior, health care and management, and training methods. Students will use a systematic approach to training a weanling horse while learning proper safety and training techniques used in the industry.

AGEQ1411 EQUINE SCIENCE I (HORSE PRODUCTION & MANAGEMENT)
48 lecture hours + 32 laboratory hours .....4 credit hours

Provides the student with an introduction to the horse industry. Topics will include history, breeds, selection, identification, anatomy (health,) and basic management techniques and theories related to horses and horse facilities. Laboratory exercises will supplement lecture presentations.

AGEQ1450 EQUINE REPRODUCTION
Prerequisites: AGEQ2305; AGAH1443, AGEQ2311
32 lecture hours + 64 laboratory hours ..... 4 credit hours

Reproductive anatomy, physiological functions, and common management practices related to equine reproductive facilities. Lecture portion of this course is conducted in the first 6 weeks of the semester with emphasis on anatomy and physiology of the mare and stallion as it relates to management for maximum reproductive efficiency. Basic principles of artificial insemination,embryonic development, parturition, and care of the pregnant mare and newborn will be discussed. Semen collection, evaluation, and shipping will also be discussed. The lab portion is the remainder of the semester, and consists of students working on well respected breeding farms in the area.

AGEQ2215 HORSE EVALUATION II
Prerequisite: AGEQ1315
16 lecture hours + 32 laboratory hours .....2 credit hours

A study of the advanced concepts in evaluation and selection of horses. Students in this course will be part of the horse judging team and participate in judging contests on a state and national level. Students will also learn how to organize a judging contest, perfect oral reason presentation and learn to judge other's oral reasons. Students must be enrolled in this course to travel with the judging team.

AGEQ2239 HORSEMANSHIP II
Prerequisites: AGEQ1319
16 lecture hours + 32 laboratory hours .....2 credit hours

Instruction in advanced horsemanship skills including cues, lead changes, head set, side-pass, and pivots will be given. Emphasis will be given to proper use of cues, legs, and seat during maneuvers; as well as proper training concepts and methods of working horses for specific performance areas.

AGEQ2259 ENGLISH EQUITATION II
Prerequisite: AGEQ1300
16 lecture hours + 32 Laboratory hours ..... 2 credit hours

Advanced equitation skills in English equitation. Topics will include suppling exercises for the horse and rider, ground pole exercises to gain Strength and stability, in addition to exercises in stride length and rhythm.

AGEQ2310 EQUINE BUSINESS MANAGEMENT
48 lecture hours .....3 credit hours

Instruction in the management of the equine business will be discussed. Topics will include record keeping, insurance and liability, promotion and sales, as well as employer relationships. Lectures will be supplemented with industry speakers and students will complete an in-depth business plan of their choice.

AGEQ2311 EQUINE SCIENCE II (ADVANCED HORSE PRODUCTION & MANAGEMENT)
48 lecture hours .....3 credit hours

Course will present advanced concepts in horse production and management. Topics include advanced anatomy, physiology and nutrition of the horse as it relates to exercise and fitness. Discussion will focus on techniques and theories related to management of the horse for athletic events.

AGEQ2386 INTERNSHIP – EQUINE SCIENCE
16 lecture hours + 272 practicum hours.....3 credit hours

Meets 8 weeks during the summer. Departmental approval required for registration in this course. Each student will be placed in the horse industry under the supervision of a prominent person who specializes in the student's main areas of interest. The student's industry training will be supervised by the instructor as well as their immediate supervisor on the job. This course serves as the external or capstone experience.

AGEQ2401 EQUINE BEHAVIOR AND TRAINING II
Prerequisite: AGEQ1401; AGEQ1319
16 lecture hours + 144 laboratory hours .....4 credit hours

A study of advanced concepts in equine behavioral patterns that is relevant to specific performance training strategies. Emphasis will be given to safety, and different training methods involved with working a young horse. Students will use a systematic approach to training a two-year old horse from the ground to working specified maneuvers and patterns.

FARM AND RANCH MANAGEMENT

AGAH1191 SPECIAL TOPICS IN ANIMAL SCIENCES, GENERAL
16 lecture hours ..... 1 credit hour

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.

AGAH1291 SPECIAL TOPICS IN ANIMAL SCIENCES, GENERAL
16 lecture hours + 32 laboratory hours .....2 credit hours

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.

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AGAH1443 ANIMAL HEALTH
48 lecture hours + 32 laboratory hours .....4 credit hours
An overview of anatomy and physiology as it relates to animal health. Topics include disease symptoms, basic immunology, diagnosis, prevention, and control of infectious and non-infectious diseases of animals.

AGAH1453 BEEF CATTLE PRODUCTION
48 lecture hours + 32 laboratory hours .....4 credit hours
An overview of the beef cattle industry. Topics include the organization and operation of beef cattle enterprises, selection breeding, reproduction, health, nutrition, management, and marketing.

AGAH2270 ARTIFICIAL INSEMINATION
16 lecture hours + 32 laboratory hours.....2 credit hours
A course to train a person to artificially inseminate cattle. In addition to spending many hours learning the inseminating technique itself, various management practices to ensure a successful overall program will be presented. These subjects include handling of frozen semen and equipment, reproductive problems and diseases, heat detection, cycle control, nutrition and methods of bull evaluation for maximum genetics and conformation progress.

AGAH2271 PALPATION
16 lecture hours + 32 laboratory hours .....2 credit hours
A course to train a person to pregnancy test cattle. The pregnancy examination involves a rectal palpation of the reproductive tract for signs of pregnancy, or to determine open or non-pregnant females.

AGAH 2313 PRINCIPLES OF FEEDS AND FEEDING
48 lecture hours .....3 credit hours
Study of the role and application of feed nutrients and additives. Topics include comparative aspects of digestion, absorption, and metabolism of nutrients. Emphasis on identification of nutrient requirements and formulation of dietary feeding regiment.

AGCR 1419 SOIL SCIENCE
48 lecture hours + 32 laboratory hours .....4 credit hours
Introduction to the physical, chemical, and biological properties of soils. Topics include the relationship between crops and soils, conservation of soil and water resources, and the economic use of fertilizer.

AGCR1441 FORAGE AND PASTURE MANAGEMENT
48 lecture hours + 32 laboratory hours .....4 credit hours
Study of the production and management of forage crops and pastures including establishment, fertilization, weed control, grazing systems, hay, seed production, and harvesting.

AGCR2401 AGRICULTURAL CHEMICALS
48 lecture hours + 32 laboratory hours .....4 credit hours
Instruction in the identification, biology and integrated management of pests affecting crops, livestock, and buildings. Emphasis on classification, chemistry, environmental impact, and safe application of chemical pesticides.

AGME1415 FARM AND RANCH SHOP SKILLS I
48 lecture hours + 32 laboratory hours .....4 credit hours
Study and application of shop skills used in agricultural processes including arc welding, oxyacetylene cutting and welding, drawing and planning projects, tool maintenance, metal working, woodworking, plumbing, and concrete.

AGME1449 FARM AND RANCH EQUIPMENT
48 lecture hours + 32 laboratory hours .....4 credit hours
Planning and application of farm and ranch maintenance equipment. Includes basic repair and adjustment to tractors and other agricultural equipment and design and use of maintenance records.

AGMG2301 LIVESTOCK BUSINESS MANAGEMENT
48 lecture hours .....3 credit hours
Instruction in contracts, leases, laws and regulations, estate planning, and applications of personnel and management principles.

AGMG2480 COOPERATIVE EDUCATION - AGRICULTURAL BUSINESS AND MANAGEMENT, GENERAL
16 lecture hours + 336 practicum hours.....4 credit hours
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. This course may be repeated if topics and learning outcomes vary. THIS COURSE SERVES AS THE EXTERNAL LEARNING EXPERIENCE OR CAPSTONE EXPERIENCE.

RELE1331 FARM AND RANCH REAL ESTATE
48 lecture hours ..... 3 credit hours
This course focuses on land value, land use, federal subsidies, environmental compliance issues, soil conservation, and highest and best use of land.

FRENCH

FREN 1411 BEGINNING FRENCH I
48 lecture hours + 32 laboratory hours .....4 credit hours
Emphasis on the development of elementary listening, speaking, reading, and writing skills applied to present situations and events relevant to students' lives and to the understanding of French-speaking communities.

FREN 1412 BEGINNING FRENCH II
Prerequisite: FREN 1411 or one year of high school French
48 lecture hours + 32 laboratory hours .....4 credit hours
Continuation of FREN 1411 with emphasis on elementary listening, speaking, reading and writing skills. Includes basic vocabulary, grammatical structures, and culture.

FREN 2311 INTERMEDIATE FRENCH I
Prerequisite: SPAN 1412 or two years of high school French
48 lecture hours .....3 credit hours
Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture.

FREN 2312 INTERMEDIATE FRENCH II
Prerequisite: SPAN 2311 or two years of high school French
48 lecture hours .....3 credit hours
Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture.

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GOVERNMENT

4510025142
GOVT2305 AMERICAN NATIONAL GOVERNMENT
48 lecture hours .....3 credit hours
A survey of the political system of the United States including: the United States Constitution, the three branches of the government; political theory, political parties, interest groups and the media. This course is required for graduation and teacher certification.

4510025142
GOVT2306 AMERICAN, STATE & LOCAL GOVERNMENT
48 lecture hours .....3 credit hours
A survey of the state and local political structures of Texas including: the geographical and political environment of Texas, the three branches of state government, the federal system, county and municipal governments, special districts, the Texas Constitution and a comparison of Texas' political system with other states. This course is required for graduation and teacher certification.

GRAPHIC ARTS

GRPH1357 DIGITAL IMAGING II
Instructor approval required
32 lecture hours + 32 laboratory hours .....3 credit hours
An in-depth investigation of digital imaging on the computer using imaging editing and/or image creation software. Manipulation, creation, and editing of digital images. Topics include: image capture, high-end work stations, image bit-depth, interaction with service bureaus and printing industries.

GRPH1359 OBJECT-ORIENTED COMPUTER GRAPHICS
Instructor approval required
32 lecture hours + 32 laboratory hours .....3 credit hours
Mastery of the tools and transformation options of an industry standard draw program to create complex illustrations and follow them through to the color output stage. Mastery in the use of basic elements of good layout and design principles and use of the capabilities specific to vector (object oriented) drawing software to manipulate both text and graphics with emphasis on the use of Bezier curves. Acquisition of images via scanning and the creative use of clip art is included.

HISTORY

4508025142
HIST1301 U.S. HISTORY TO 1865
48 lecture hours .....3 credit hours
A general survey of American history from the earliest discovery period through the Civil War and Reconstruction. This course is required for graduation and teacher certification.

4508025142
HIST1302 U.S. HISTORY FROM 1865
48 lecture hours .....3 credit hours
A continuation of HIST 1301. A general survey of American history from Reconstruction to the present. This course is required for graduation and teacher certification.

54.0102.52 25
HIST2301 TEXAS HISTORY
48 lecture hours .....3 credit hours
Survey of Texas from the Spanish exploration to the present. Special emphasis on economic, social, political and military history of Texas Revolution and Republic.

4508015342
HIST2321 HISTORY OF CIVILIZATION
48 lecture hours .....3 credit hours
A general survey of the origins, development and significance of various cultures from prehistoric times to about 1650. This course is required for history majors and recommended for all education majors.

4508015342
HIST2322 HISTORY OF CIVILIZATION
48 lecture hours .....3 credit hours
A continuation of HIST2321. A survey of the history of civilization from 1650 to the present, including the development of nationalism, imperialism and contemporary developments. This course is required for history majors and recommended for all education majors.

HORTICULTURE MANAGEMENT

FMKT1301 FLORAL DESIGN
32 lecture hours + 32 laboratory hours .....3 credit hours
Principles and elements of floral art with an emphasis on commerical design. Topics include basic design styles and color harmonies; identification, use, and care of processing of cut flowers and foliages; mechanical aids and containers; personal flowers; holiday designs; and plant identification and care. History of florial art in society. Required $100 lab fee.

FMKT2331 ADVANCED FLORAL DESIGN
32 lecture hours + 32 laboratory hours .....3 credit hours
An in-depth coverage of advanced floral design practices for the retail floral industry. Topics include contemporary floral arrangement styles and trends. Advanced study of floral design as an art form in contrast to a commercial florist operation; interpretive expression of design principles and color stressed along with international design styles. Required $100 lab fee.

HALT1301 PRINCIPLES OF HORTICULTURE (NATURALISTIC HORTICULTURE)
32 lecture hours + 32 laboratory hours .....3 credit hours
Study of plants suitable for Texas landscapes including trees, shrubs, grasses, wildflowers and other ornamentals. Developing healthy ecosystems for atracting wildlife. Principles for developing naturalistic landscapes.

HALT1309 INTERIOR PLANTS
32 lecture hours + 32 laboratory hours .....3 credit hours
Instruction in the identification and classification of the plants used in home and commerical interior landscapes. Topics include design characteristics for interiorscapes and environmental requirments of the plants.

HALT1325 LANDSCAPE PLANT MATERIAL
32 lecture hours + 32 laboratory hours .....3 credit hours
Study of the identification, characteristics, cultural requirements, and landscape uses of native and adapted plants (annuals, perennials, shrubs, trees, vines, groundcover, turf).

HALT1353 LANDSCAPE COMPUTER DESIGN
32 lecture hours + 32 laboratory hours .....3 credit hours
A course in computer-aided landscape design. Emphasis on the application of design concepts and techniques using software. Basic computer skills required. Prerequisite: HALT1422 (Landscape Design).

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HALT1422 LANDSCAPE DESIGN
48 lecture hours + 32 laboratory hours .....4 credit hours
A study of the principles and elements of landscape design. Topics include client interview, site analysis, plan view, scale, plant selection, basic drawing and drafting skills, and plan preparation.

HALT2302 GREENHOUSE CROP PRODUCTION
32 lecture hours + 32 laboratory hours .....3 credit hours
In-dept coverage of the production of crops within the controlled environment of the greenhouse. Topics include growing techniques, environmental control, crop rotation, scheduling, preparation for sale, and marketing. Hands-on greenhouse production of bulbs, cut flowers, foliage, and flowering potted plants, bedding plants, and/or perennials.

HALT2307 HORTICULTURE FOOD CROPS
32 lecture hours + 32 laboratory hours .....3 credit hours
A study of commerical and home cultivated food crops including various vegetables, fruits, and nuts. Topics address planting, maintenance, harvest, and storage of the various crops.

HALT2308 GREENHOUSE MANAGEMENT
32 lecture hours + 32 laboratory hours .....3 credit hours
Fundamentals of greenhouse construction and operation. Topics include architectual styles, construction materials, environmental systems and controls, growing media, fertilizers, post harvest handling, marketing, and business management.

HALT2331 ADVANCED LANDSCAPE DESIGN
32 lecture hours + 32 laboratory hours .....3 credit hours
In-depth coverage of advanced practices in landscape planning for commercial and residential landscapes. Topics include advanced design analysis, architectural elements, space articulation, and land engineering concepts.

HALT2480 COOPERATIVE EDUCATION
16 lecture hours + 336 practicum hours.....4 credit hours
Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. This course may be repeated if topics and learning outcomes vary. *This course serves as the external learning experience or capstone experience.*

HORT1401 HORTICULTURE
48 lecture hours + 32 laboratory hours.....4 credit hour
A scientific and practical approach to plant production and growth. Principles of propagating plants, including vegetables, ornamentals and fruits. Also methods of handling seed; starting plants by the use of cuttings, layers, buds, grafts and bulbs; ways of propagating specific plants; factors influencing growth of plants after transplanting. Topics such as sites, soils, fertilizers, pruning, nutrition, pests and greenhouse production will be covered.

AGRI1131 THE AGRICULTURE INDUSTRY
16 lecture hours .....1 credit hours
Insights into agriculture curricula from standpoint of professional and managerial careers in agriculture; survey of field of agriculture and vocational guidance. Recommended for all freshman agriculture majors.

AGCR1419 SOIL SCIENCE
48 lecture hours + 32 laboratory hours .....4 credit hours
The principles of soil characteristics, properties and development. The relationships between crops and soils; practical use and conservation of soil and water and economic use of fertilizers.

AGCR2401 AGRICULTURE CHEMICALS
48 lecture hours + 32 laboratory hours .....4 credit hours
Instruction in the identification, biology and integrated management of pests affecting crops, livestock, and buildings. Emphasis on classification, chemistry, emvironmental impact, and safe application of chemical pesticides. Students will identify pests; solve chemical pesticide application calculations; recognize the environment impact of pest management practices; explain and interpret a chemical pesticide label; employ integrated pest management principles; and summarize pesticide laws and regulations.

HUMANITIES

2401035135
HUMA1371 SPECIAL TOPICS - COOKE COUNTY HISTORY, CULTURE AND ECONOMICS
48 lecture hours .....3 credit hours
This is a non-traditional interdisciplinary course with an emphasis on local history. Classroom lecture will be minimal since this is primarily an activities course. Much of the student's grade will be based on a portfolio which the student will compile during the course. A student will need dependable transportation to visit various historic sites in Gainesville and rural areas of the county. Our "lab" will include cemeteries, public buildings, various resource persons, and the outdoors.

2401035135
HUMA1371 SPECIAL TOPICS - HOLLYWOOD DOES HISTORY
48 lecture hours .....3 credit hours
A non-traditional look at history as seen through the eyes of Hollywood. Course activities will include viewing films and documentaries, library research, and evaluating the historical accuracy and analyzing the artistic merit of selected films.

2401035135
HUMA1371 SPECIAL TOPICS - LITERATURE IN FILM
48 lecture hours .....3 credit hours
A study of film as a genre of modern literature. Students will watch a number of films and participate in discussions regarding the nature of modern literature; its evolution from simple text into complex multimedia expression. Counts as a Humanities elective.

2401035135
HUMA1371 SPECIAL TOPICS - WOMEN IN POLITICS
48 lecture hours .....3 credit hours
A look at the women's movement in the 1990s and its influence on the American political process. Activities will include traditional and non-traditional research methods.

2401035135
HUMA1371 SPECIAL TOPICS - GREAT AMERICANS
48 lecture hours .....3 credit hours
A survey course exploring the accomplishments and challenges of various leaders in American history with special emphasis on their economic, political and social impact. This course is for Elective Credit only. It does NOT satisfy core requirements.

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2401035135
HUMA1371 SPECIAL TOPICS - HUMAN RIGHTS IN A MULTICULTURAL WORLD
48 lecture hours ..... 3 credit hours
An interdisciplinary study of the development of the human rights movement in a multicultural environment. Students will consider how a variety of materials—literary works, films, essays, music and the visual arts—contribute to social change, as concepts of universal human rights evolve in a variety of cultural contexts. Activities include using the Internet to explore national and international issues, collecting and evaluating samples of media coverage, and sharing relevant works from around the world. Students will develop semester projects presenting their own ideas and formulating their own expressions of the meaning of human rights and human dignity. This course has been approved to satisfy the Humanities/Visual Performing Arts Core Requirement.

ITALIAN

16.0902.51 13
ITAL 1411 ELEMENTARY ITALIAN I
48 lecture hours + 32 laboratory hours ..... 4 credit hours
Emphasis on the development of elementary listening, speaking, reading, and writing skills applied to present situations and events relevant to students' lives and to the understanding of Italian-speaking communities.

16.0902.51 13
ITAL 1412 ELEMENTARY ITALIAN II
Prerequisite: ITAL 1411 or one year of high school Italian
48 lecture hours + 32 laboratory hours ..... 4 credit hours
Continuation of ITAL 1411 with emphasis on elementary listening, speaking, reading, and writing skills applied to two main communicative goals: narration of present or past situations and events, and expression of feelings, hypotheses and opinions. Daily life situations and events and the understanding of the Italian-speaking communities are main thematic components of the course.

LAW ENFORCEMENT

CJCR1304 PROBATION AND PAROLE
48 lecture hours ..... 3 credit hours
A survey of the structure, organization, and operation of probation and parole services. Emphasis on applicable state statutes and administrative guidelines.

CJLE1327 INTERVIEWING AND REPORT WRITING FOR CRIMINAL JUSTICE PROFESSIONS
48 lecture hours ..... 3 credit hours
Instruction and skill development in interviewing, note-taking, and report writing in the criminal justice context. Development of skills to conduct investigations by witnesses, victims, and suspects properly. Organization of information regarding incidents into effective written reports.

CJSA1308 CRIMINALISTICS I
48 lecture hours ..... 3 credit hours
Introduction to the field of criminalistics. The topics include the application of scientific and technical methods in the investigation of crime including location, identification, and handling of evidence for scientific analysis.

CJSA1317 JUVENILE JUSTICE SYSTEM
48 lecture hours ..... 3 credit hours
A study of the juvenile justice process to 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 delinguency.

CJSA1325 CRIMINOLOGY
48 lecture hours ..... 3 credit hours
Current theories and empirical research pertaining to crime and criminal behavior and its causes, methods of prevention, systems of punishment, and rehabilitation.

CJSA1342 CRIMINAL INVESTIGATION
48 lecture hours ..... 3 credit hours
Investigative theory; collection and preservation of evidence; sources of information; interview and interrogation; uses of forensic sciences; case and trial preparation.

CJSA1348 ETHICS IN CRIMINAL JUSTICE
48 lecture hours ..... 3 credit hours
Ethical philosophies and issues pertaining to the various professions in the criminal justice system. Includes ethical issues emanating from constitutional conflict with public protection and individual rights, civil liberties, and correctional policies.

CJSA1393 INTRODUCTION TO FORENSICS
48 lecture hours ..... 3 credit hours
An introductory course in the collection, perservation and analysis of forensic evidence and the study of developments in crime scene techniques. Through lecture and practical experience, students will gain a basic knowledge of processing a crime scene, types and significance of physical evidence and analysis of evidence such as hair, fiber, trace, tool, firearms and explosives.

CJSA2300 LEGAL ASPECTS OF LAW ENFORCEMENT
48 lecture hours ..... 3 credit hours
Police authority, responsibility, constitutional constraints, laws of arrest, search and seizure, and police liability.

CJSA2334 CONTEMPORARY ISSUES IN CRIMINAL JUSTICE
48 lecture hours ..... 3 credit hours
A series of lectures and class participation excercises presenting selected topics currently confronting criminal justice personnal and the public they serve.

CRIJ1301 INTRODUCTION TO CRIMINAL JUSTICE
48 lecture hours ..... 3 credit hours
History and philosophy of criminal justice and ethical considerations; crime defined; its nature and impact; overview of the criminal justice system; law enforcement; court system; prosecution and defense; trial process; and corrections.

CRIJ1310 FUNDAMENTALS OF CRIMINAL LAW
48 lecture hours ..... 3 credit hours
A study of the nature of criminal law; philosophical and historical development; major definitions and concepts; classification of crime; elements of crimes and penalties using Texas statutes as illustrations; criminal responsibility. (TCLEOSE)

CRIJ1306 COURT SYSTEM AND PRACTICES
48 lecture hours ..... 3 credit hours
Examination of the role of the judiciary in the criminal justice system. Topics include the structure of the American court system, prosecution, right to counsel, pretrial release, grand jury process, adjudication process, types and rules of evidence, and sentencing concepts.

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CRIJ2313 CORRECTIONAL SYSTEMS AND PRACTICES
48 lecture hours .....3 credit hours

A study of the roles of corrections in the criminal justice system. Topics include organization and theory of correctional systems, institutional operations, management, alternatives to institutionalization, treatments and rehabilitation, and current and future issues.

CRIJ2328 POLICE SYSTEMS AND PRACTICES
48 lecture hours .....3 credit hours

Exploration of the profession of police officer. Topics include organization of law enforcement systems, the police role, police discretion, ethics, police-community interaction, and current and future issues.

MATHEMATICS (COLLEGE PREPARATORY)
(COURSE NUMBERS UNDER 1000):

Note: NCTC offers a number of courses (listed below) designed to help you acquire the skills necessary for success in college-level courses. The courses are widely offered in Texas community/junior colleges, and the policy statewide is that these will not transfer as college-level courses nor will they count toward graduation at accredited Texas colleges and universities. It is important that you understand that such courses are designed to help you overcome academic deficiencies that are likely to hinder you in your pursuit of a college degree. Attendance in College Preparatory Studies is mandatory when a student has not passed the THEA exam. After THREE hours of absenteeism, a student may be warned and referred to the Director of College Preparatory Studies. At SIX hours of absenteeism, a student may be dropped from his/her College Preparatory class. If the student is dropped from the only College Preparatory class in which he/she is enrolled, the student will be DROPPED from all remaining courses for that semester.

3201045137
MATH0303 PRE-ALGEBRA
48 lecture hours .....3 credit hours

This introductory course includes a general overview of basic arithmetic: fractions, decimals, and percent. Other topics include algebraic concepts, integers, solving equations, linear equations, graphing and polynomials. Simple geometric concepts are also discussed. This course is designed for those students with little or no algebra background. This course does not count toward graduation at NCTC.

3201045137
MATH0305 BEGINNING ALGEBRA
Prerequisite: MATH0303 passed with a "C" or better or satisfactory placement score.
48 Lecture hours ..... 3 credit hours

This course includes basic algebraic concepts and notations; algebraic expressions and equations, factoring polynomials and graphing. Some algebra is required. This course does not count toward graduation at NCTC.

3201045237
MATH0310 INTERMEDIATE ALGEBRA
Prerequisite: MATH0305 passed with a "C" or better or satisfactory placement score.
48 Lecture hours .....3 credit hours

Concepts instructed in this course are algebraic expressions including polynomials and rational expressions, linear expressions and inequalities, exponents and radicals, quadratic equations and inequalities, functions and relations, conic sections, and systems of equations and inequalities. This course does not count toward graduation at NCTC.

MATHEMATICS (COLLEGE-LEVEL)
(COURSE NUMBERS ABOVE 1000):

2701015437
MATH1314 COLLEGE ALGEBRA
Prerequisite: MATH0310 or satisfactory placement test score
48 lecture hours .....3 credit hours

Equations and inequalities; functions and graphs; polynomial functions; exponential and logarithmic functions; systems of equations; sequences and series; applications.

2701015337
MATH1316 TRIGONOMETRY
Prerequisite: MATH1314
48 lecture hours .....3 credit hours

Trigonometric functions and graphs; radian measure; identities; equations; solution of right and oblique triangles; inverse trigonometric functions; vectors; complex numbers; applications.

2703015237
MATH1324 MATHEMATICS FOR BUSINESS ANALYSIS
Prerequisite: MATH0310 or satisfactory placement test score
48 lecture hours .....3 credit hours

Designed for a four-year degree in Business Administration. Equations and inequalities; functions and graphs; exponential and logarithmic functions; matrix algebra; linear programming; sets and probability; mathematics of finance; applications.

2703015237
MATH1325 BUSINESS CALCULUS
Prerequisite: MATH 1324 or MATH1314
48 lecture hours ..... 3 credit hours

Limits and derivatives; indefinite and definite integrals; curve sketching; optimization and other applications.

2701015137
MATH1332 COLLEGE MATHEMATICS
Prerequisite: MATH0310 or satisfactory placement test score
48 lecture hours .....3 credit hours

Sets; logic; number systems; number theory; functions; measurement; geometric concepts; introductory probability and statistics.

2705015137
MATH1342 ELEMENTARY STATISTICS
Prerequisite: MATH0310 or satisfactory placement test score
48 lecture hours .....3 credit hours

Presentation and interpretation of data; sampling; analysis of variance; probability; binomial and normal distributions; estimation and testing of hypotheses; correlation and regression; the use of statistical software.

2701015537
MATH1348 ANALYTIC GEOMETRY
Prerequisite: MATH2412 or both MATH1314 and MATH1316
48 lecture hours .....3 credit hours

Lines, circles and other conic sections; vectors, transformation of coordinates; curve sketching; polar coordinates; parametric equations; solid analytic geometry; cylindrical and spherical coordinates; applications.

2701015619
MATH1350 FUNDAMENTALS OF MATHEMATICS I
Prerequisite: MATH1314 with grade of C or better
48 lecture hours .....3 credit hours

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. **(NOTE: This course is a required part of the approved field of study curriculum for middle grades (4 through 8) teacher certification. This course may also be appropriate for early childhood education majors.)**

2701015619
MATH1351 FUNDAMENTALS OF MATHEMATICS II
Prerequisite: MATH1314 with grade of C or better
48 lecture hours ..... 3 credit hours
Concepts of geometry, probability, and statistics, as well as applications of the algebraic properties of real numbers to concepts of measurement with an emphaisis on problem solving and critical thinking. **(NOTE: This course is a required part of the approved field of study curriculum for middle grades (4 through 8) teacher certification. This course may also be appropriate for early childhood education majors.)**

2701015537
MATH2412 PRE-CALCULUS MATHEMATICS
Prerequisite: MATH0310 or satisfactory placement test score
80 lecture hours ..... 4 credit hours
Polynomial and rational functions; exponential and logarithmic functions; trigonometric functions; graphs and introductory analytic geometry; applications. A course to prepare science and engineering majors for the study of calculus.

2701015937
MATH2413 CALCULUS I
Prerequisite: MATH2412 or both MATH1314 and MATH1316
64 lecture hours ..... 4 credit hours
Limits and continuity; differentiation and integration of algebraic and trigonometric functions; applications of differentiation; approximation and numerical integration; Fundamental Theorem of Calculus.

2701015937
MATH2414 CALCULUS II
Prerequisite: MATH2413
64 lecture hours ..... 4 credit hours
A continuation of MATH2413. Applications of integration; differentiation and integration of transcendental functions; techniques of integration; sequences and series; plane analytic geometry.

2701015937
MATH2415 CALCULUS III
Prerequisite: MATH2414
64 lecture hours ..... 4 credit hours
A continuation of MATH2414. Vectors in 2 and 3 dimensions; vector-valued functions and motion in space; partial differentiation and multiple integration and applications; 3-dimensional analytic geometry; polar, cylindrical and spherical coordinates.

MUSIC

NOTE: Music majors are advised to consult with major instructor before registration.

5009045630
MUSI1116 SIGHT SINGING & EAR TRAINING I
Prerequisite: MUSI1301 or satisfactory score on placement exam.
Must be taken concurrently with MUSI1311 and MUSI1174 or 1274.
32 lecture hours ..... 1 credit hour
Reinforcement of theoretical concepts presented in MUSI1311 via singing, ear training, keyboard skills, and conducting experiences.

5009045630
MUSI1117 SIGHT SINGING & EAR TRAINING II
Prerequisites: MUSI1311 and MUSI1116
Must be taken concurrently with MUSI1312 and MUSI1174 or1274
32 lecture hours ..... 1 credit hour
Reinforcement of theoretical concepts presented in MUSI1312 via singing, ear training, keyboard skills, and conducting experiences.

5009036130
MUSI1159 MUSIC THEATER WORKSHOP
32 lecture hours + 48 laboratory hours ..... 1 credit hour
A course established to give the young singing actor practical experience in the performance of operas, operettas or musicals; study of the integration of music, acting and staging.

5009085330
MUSI1262 DICTION I
32 lecture hours ..... 2 credit hours
Study of the International Phonetic Alphabet and the phonetics of English and Italian to promote the ability to sing in those languages.

5009045430
MUSI1300 METHODS & MATERIALS OF MUSIC
Prerequisite: MUSI1301
48 lecture hours ..... 3 credit hours
A study of the child's voice, music reading, rhythmic development, creative music for children and some of the standard music literature and material that might be used by the elementary teacher in the classroom.

5009045530
MUSI1301 MUSIC FUNDAMENTALS
48 lecture hours ..... 3 credit hours
Introduction to elements of music, staff, clefs, key signatures, scales, time signatures and notation; meter and rhythm; theory applications at keyboard. Credit in this course may not be applied to a music degree. Primarily designed to meet the needs of elementary education majors, this course is open to all interested students.

5009025130
MUSI1306 MUSIC APPRECIATION
48 lecture hours ..... 3 credit hours
An introductory course for non-music majors covering elements of music, a brief study of musical forms, historical periods and composers. An effort is made to develop the listening repertoire. This is not a performance course, and the ability to read music is not required.

5009025230
MUSI1308 MUSIC LITERATURE
48 lecture hours ..... 3 credit hours
A survey of music literature in all styles and periods with detailed study of selective works, followed by a study of composers and an analysis of standard repertoire from the ancient Greeks to the Renaissance.

5009025230
MUSI1309 MUSIC LITERATURE
48 lecture hours ..... 3 credit hours
A survey of music literature in all styles and periods with detailed study of selective works, followed by a study of composers and an analysis of standard repertoire from the Renaissance to the present.

5009025230
MUSI1310 AMERICAN MUSIC
48 lecture hours ..... 3 credit hours
General survey of various styles of music in America. Topics may include jazz, ragtime, folk, rock, and contemporary art music.

5009045130
MUSI1311 THEORY I
Prerequisite(s): MUSI1301 or satisfactory score on placement exam.
Must be taken concurrently with MUSI1116 and MUSI1174 or 1274.
48 lecture hours ..... 3 credit hours
Introduction to analysis, part writing, figured bass realization, and harmonization beginning with melody and three- or four-part exercises.

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5009045130
MUSI1312 THEORY II
Prerequisite(s): MUSI1311 and MUSI1116
Must be taken concurrently with MUSI1117 and MUSI1174 or 1274
48 lecture hours ..... 3 credit hours
Continuation of analysis, part writing, figured bass realization, and harmonization covering harmonic vocabulary of 18th Century music and smaller forms of the Baroque period.

5009045730
MUSI2116 ADVANCED SIGHT SINGING & EAR TRAINING I
Prerequisite(s): MUSI1312 and MUSI1117
Must be taken concurrently with MUSI2311 and MUSI1174 or 1274
16 lecture hours ..... 1 credit hour
Reinforcement of theoretical concepts presented in MUSI2311 via singing, ear training, keyboard skills, and conducting experiences.

5009045730
MUSI2117 ADVANCED SIGHT-SINGING & EAR-TRAINING II
Prerequisite(s): MUSI2311 and MUSI2116
Must be taken concurrently with MUSI2312 and MUSI1174 or 1274
16 lecture hours ..... 1 credit hour
Reinforcement of theoretical concepts presented in MUSI2312 via singing, ear training, keyboard skills, and conducting experiences.

5009085330
MUSI2262 DICTION II
32 lecture hours ..... 2 credit hours
Study of the International Phonetic alphabet and the phonetics of French and German to promote the ability to sing in those languages.

5009045230
MUSI2311 THEORY III
Prerequisite(s): MUSI1312 and MUSI1117
Must be taken concurrently with MUSI2116 and MUSI1174 or 1274
48 lecture hours ..... 3 credit hours
Analysis, part writing, figured bass realization and harmonization covering harmonic vocabulary of the late eighteenth and nineteenth centuries, larger forms of the Baroque era and forms of the Classic and Romantic eras.

5009045230
MUSI2312 THEORY IV
Prerequisite(s): MUSI2311 and MUSI2116
Must be taken concurrently with MUSI2117 and MUSI1174 or 1274
48 lecture hours ..... 3 credit hours
Analysis, part writing and harmonization covering musical practice of the late Romantic and Twentieth Century periods.

Music – Applied Instruction

NOTE: All Applied Instruction music classes require the following: For one-semester-credit-hour course 16 one-half hour lessons and 96 practice hours per semester. For two-semester-credit-hour course 16 one-hour lessons and 160 practice hours per semester.

EACH COURSE MAY BE REPEATED FOR CREDIT.

5009035430
MUAP1172 Applied Guitar ..... 1 credit hour
MUAP1272 Applied Guitar ..... 2 credit hours
MUAP1173 Applied Strings ..... 1 credit hour
MUAP1273 Applied Strings ..... 2 credit hours
MUAP1174 Applied Piano ..... 1 credit hour
MUAP1274 Applied Piano ..... 2 credit hours
MUAP1175 Applied Organ ..... 1 credit hour
MUAP1275 Applied Organ ..... 2 credit hours
MUAP1176 Applied Voice ..... 1 credit hour
MUAP1276 Applied Voice ..... 2 credit hours
MUAP1177 Applied Brass ..... 1 credit hour
MUAP1277 Applied Brass ..... 2 credit hours
MUAP1178 Applied Percussion ..... 1 credit hour
MUAP1278 Applied Percussion ..... 2 credit hours
MUAP1179 Applied Woodwinds ..... 1 credit hour
MUAP1279 Applied Woodwinds ..... 2 credit hours

Music – Class Instruction

5009075130
MUSI1181 BEGINNING CLASS PIANO
32 lecture hours ..... 1 credit hour
Notation, clefs, key signatures, scales, time signatures, meter and rhythm, major and minor chords. Emphasis is placed on piano ensemble and solo literature of the simple type for the student's own pleasure. Open to all students and designed to meet the individual needs of the student.

5009075130
MUSI1182 ADVANCED CLASS PIANO
32 lecture hours ..... 1 credit hour
Interpretation and a larger music vocabulary; opportunity to increase repertoire of piano ensemble literature to the student.

5009085130
MUSI1183 CLASS VOICE
May be repeated for credit.
32 lecture hours ..... 1 credit hour
Notation, clefs, key signatures, scales, time signatures, meter and rhythm, major and minor chords. Emphasis is placed on the basic mechanics of good voice production, i.e., proper breath support, resonation and diction. Open to all students and designed to meet the individual needs of the student.

5009035130
MUSI1192 BEGINNING CLASS GUITAR
32 lecture hours ..... 1 credit hour
Notation, key signatures, scales, time signatures, meter and rhythm, major and minor chords. Emphasis is placed on guitar ensemble and solo literature of the simple type for the student's own pleasure. Open to all students and designed to meet the individual needs of the student.

5009035130
MUSI1193 ADVANCED CLASS GUITAR
32 lecture hours ..... 1 credit hour
Interpretation and a larger music vocabulary; opportunity to increase repertoire of guitar ensemble literature pleasing to the student.

Music – Performing Organizations

5009035630
MUEN1131 WIND ENSEMBLE
48 laboratory hours ..... 3 credit hours
May be repeated for credit. Study and performance of a wide range of wind instrument repertoire (woodwind, brass, and percussion) from the Renaissance through the Twentieth Century. Open to all students (audition required). Satisfies the college core curriculum requirement.

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5009035630
MUEN1135 GUITAR ENSEMBLE
48 lecture hours ..... 1 credit hour
May be repeated for credit. Study and performance of a wide range of guitar repertoire from the Renaissance through theTwentieth Century. Open to all students (audition required). Satisfies college core curriculum.

5009035730
MUEN1141 NORTH CENTRAL TEXAS CHORUS
48 laboratory hours..... 1 credit hour
May be repeated for credit. Open to all students. Study and performance of choral music concentrating especially on major works for chorus and orchestra.

5009035830
MUEN1151 COLLEGE ENSEMBLE
48 laboratory hours..... 1 credit hour
May be repeated for credit. Entrance by audition only from College Singers. This group will perform in connection with public relations activities and recruitment for the College. Travel in the service area will be required.

5009035830
MUEN1154 COLLEGE SINGERS
48 laboratory hours..... 1 credit hour
May be repeated for credit. Entrance by audition only. Study and performance of a broad range of music from Renaissance motets and madrigals to pop and show. This group will be involved in public relations activities for the college.

5009035530
MUEN1171 JAZZ BAND
48 laboratory hours..... 1 credit hour
May be repeated for credit. Consisting of 16-21 instrumentalists, the band performs both traditional and contemporary jazz literature. A number of performances are given both on and off campus (including some travel). Open to all students (audition required). Satisfies the college core curriculum requirement.

NURSING

RNSG1163 CLINICAL – PSYCHIATRIC NURSING
48 clinical hours..... 1 credit hour
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. Emphasis is on nursing skills essential for the care of clients along the mental health/mental illness continuum.

RNSG1213 INTRODUCTION TO THE PROFESSION OF NURSING
Concurrent with: RNSG1219, RNSG1300 and RNSG1361
32 lecture hours; 16 laboratory hours .....2 credit hours
Overview of the various roles of professional nursing within the health care system and the roles of the health care team. Identification of how current events, attitudes, behaviors, and technology impact the nursing role and the role of nursing students in the health care setting.

RNSG1219 INTEGRATED NURSING SKILLS I
Concurrent with: RNSG1213, RNSG1300 and RNSG1361
16 lecture hours; 48 laboratory hours .....2 credit hours
Study of the concepts and principles essential for demonstrating competence in the performance of basic nursing skills for care of diverse clients across the life span. Topics include knowledge, judgement, skills, and professional values within a legal/ethical framework.

RNSG1227 TRANSITION FROM VOCATIONAL TO PROFESSIONAL NURSING
Prerequisite: Must be a currently licensed vocational/practical nurse and must have been accepted into the Associate Degree Nursing program.
Concurrent with: RNSG1262, RNSG1300, and RNSG2504
32 lecture hours .....2 credit hours
Topics include health promotion, expanded assessment, analysis of data, nursing process, pharmacology, multidisciplinary teamwork, communication, and applicable competencies in knowledge, judgement, skills, and professional values within a legal/ethical framework throughout the life span.

RNSG1262 CLINICAL NURSING FOR TRANSITION STUDENTS
Prerequisite: Must be a currently licensed vocational/practical nurse or certified paramedic and must have been accepted into the Associate Degree Nursing program.
Concurrent with RNSG1227
128 clinical hours.....2 credit hours
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. Emphasis is on preparation for transition from vocational to professional nursing.

RNSG1300 HEALTH ASSESSMENT ACROSS THE LIFESPAN
Concurrent with RNSG1219, RNSG1213, and RNSG1361 OR RNSG1227, RNSG2504, and RSG1262
16 lecture hours; 48 laboratory hours .....3 credit hours
Development of skills and techniques required for a comprehensive health assessment of clients across the lifespan: pediatric, adult, and geriatric. Includes assessment of clients' health promotion and maintenance, illness and injury prevention and restoration, and application of the nursing process within a legal/ethical framework.

RNSG1361 CLINICAL NURSING I
Concurrent with: RNSG1219, RNSG1213, and RNSG1300
144 clinical hours.....3 credit hours
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. Emphasis is on a systematic, problem-solving process to provide basic nursing care.

RNSG1562 CLINICAL NURSING II
Concurrent with: RNSG2504
256 clinical hours.....5 credit hours
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. Provides the student with nursing skills essential for care of clients with common health care needs.

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RNSG2504 INTEGRATED CARE OF THE CLIENT WITH COMMON HEALTH CARE NEEDS
Concurrent with: RNSG1562
64 lecture hours; 32 laboratory hours .....5 credit hours
Application of a systematic problem-solving process and critical thinking skills to provide nursing care to diverse clients/families across the life span with common health care needs including, but not limited to, common childhood/adolescent diseases, uncomplicated perinatal care, mental health concepts, perioperative care, frequently occurring adult health problems and health issues related to aging. Emphasis on secondary disease prevention and collaboration with members of the multidisciplinary health care team. Content includes applicable competencies in knowledge, judgement, skills, and professional values within a legal/ethical framework.

RNSG2514 INTEGRATED CARE OF THE CLIENT WITH COMPLEX HEALTH CARE NEEDS
Concurrent with: RNSG2561
64 lecture hours; 32 laboratory hours .....5 credit hours
Application of a systematic problem solving process and critical thinking skills to provide comprehensive nursing care to diverse clients/families across the life span with complex health care needs including, but not limited to, complex childhood/adolescent diseases, complicated perinatal care, acute mental illness, complex perioperative care, serious adult health problems and health issues related to aging. Emphasis on tertiary disease prevention, health maintenance/restoration and collaboration with members of the multidisciplinary health care team. Topics include the role of the nurse as client advocate and coordinator of care and applicable competencies in knowledge, judgement, skills, and professional values within a legal/ethical framework.

RNSG2535 INTEGRATED CLIENT CARE MANAGEMENT
Concurrent with: RNSG2562
64 lecture hours; 32 laboratory hours .....5 credit hours
Application of critical asssessment skills, critical thinking, and independent nursing interventions to care for diverse clients/families throughout the life span whose health care needs may be difficult to predict. Emphasis on collaborative clinical decision-making, nursing leadership skills, and client management. Topics include the significance of professional development, trends in nursing and health care, and applicable knowledge, judgement, skills, and professional values within a legal/ethical framework.

RNSG2561 CLINICAL NURSING III
Concurrent with: RNSG2514
256 clinical hours.....5 credit hours
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. Provides the student with nursing skills essential for care of patients/clients with complex health care needs.

RNSG2562 CLINICAL NURSING IV
Concurrent with: RNSG2535
256 clinical hours.....5 credit hours
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. Provides the student with nursing skills essential for prioritizing, managing and integrating the care of clients with health care needs that are difficult to predict. Emphasis is on collaborative clinical decision-making, nursing leadership skills, and client management.

OFFICE SYSTEMS TECHNOLOGY

ACNT 1303 INTRODUCTION TO ACCOUNTING I
48 Lecture Hours .....3 credit hours
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.

ACNT 1304 INTRODUCTION TO ACCOUNTING II
Prerequisite: ACNT1303
48 Lecture Hours .....3 credit hours
A study of accounting for merchandising, notes payable, notes receivable, valuation of receivables and equipment and valuation of inventories in a manual and computerized environment. Course may include computer applications. Recommended prerequisite: COSC1400 or equivalent.

ITSW2337 DATABASES
Prerequisite: POFT1329 and COSC1400
32 lecture hours + 32 laboratory hours .....3 credit hours
In-depth coverage of database software application.

POFI1349 SPREADSHEETS
32 lecture hours + 32 laboratory hours .....3 credit hours
In-depth coverage in the use of a spreadsheet software application.

POFI2301 WORD PROCESSING
32 lecture hours + 32 laboratory hours .....3 credit hours
In-depth coverage of word processing software application.

POFI2331 DESKTOP PUBLISHING FOR THE OFFICE
32 lecture hours + 32 laboratory hours .....3 credit hours
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, and multiple page displays.

POFI2280 COOPERATIVE EDUCATION - ADMINISTRATIVE ASSISTANT AND SECRETARIAL SCIENCE
16 lecture hours + 112 laboratory hours .....2 credit hours
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.

POFT2312 BUSINESS CORRESPONDENCE & COMMUNICATION
48 lecture hours .....3 credit hours
Compose and produce effective business documents appropriate to meet industry standards; apply critical evaluation techniques to business documents; and demonstrate the importance of coherent, ethical communication principles in business and industry.

POFT1309 ADMINISTRATIVE OFFICE PROCEDURES I
48 lecture hours .....3 credit hours
Study of current office procedures, duties, and responsibilities applicable to an office environment.

POFT1319 RECORDS AND INFORMATION MANAGEMENT I
48 lecture hours .....3 credit hours
Introduction to basic records information management. Includes the life cycle of a record, manual and electronic records management, and basic filing procedures and rules.

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POFT1325 BUSINESS MATH AND MACHINE APPLICATIONS
48 lecture hours .....3 credit hours
Skill development in the use of electronic calculators and business mathematical functions. Emphasis on business problem-solving skills using spreadsheet software and/or electronic calculator/keyboard.

POFT1328 BUSINESS & PROFESSIONAL PRESENTATIONS
48 lecture hours .....3 credit hours
Skill development in planning and conducting business presentations on an individual and/or group basis including communication and media skills.

POFT1329 KEYBOARDING AND DOCUMENT FORMATTING
48 lecture hours .....3 credit hours
Skill development in the operation of the keyboard by touch applying proper keyboarding techniques. Emphasis on development of acceptable speed and accuracy levels formatting basic documents.

POFT1331 BUSINESS MACHINE APPLICATIONS
32 lecture hours; 32 laboratory hours .....3 credit hours
Skill development in the operation of machines used in a business environment. Emphasis on the development of skills in using electronic calculators and other office machines.

POFT1349 ADMINISTRATIVE OFFICE PROCEDURES II
Prerequisite: POFT1309 Administrative Office Procedures I, or Departmental Approval
48 lecture hours .....3 credit hours
Advanced office application with special emphasis on decision-making, goal setting, management theories, and critical thinking.

POFM1327 MEDICAL INSURANCE
Prerequisite: Medical Terminology; basic keyboarding and computer skills
48 lecture hours .....3 credit hours
A survey of medical insurance including the life cycle of various claim forms, terminology, litigation, patient relations and ethical issues.

SRGT1201 MEDICAL TERMINOLOGY
32 lecture hours .....2 credit hours
Study of the basic structure of medical works including prefixes, suffixes, roots, combining forms, plurals, pronunciation, spelling, and the definitions of medical terms. Emphasis is on building a professional vocabulary required for employment within the allied health care field.

OIL AND GAS PRODUCTION TECHNOLOGY

PTRT1301 INTRODUCTION TO PETROLEUM INDUSTRY
48 lecture hours .....3 credit hours
An introduction to the various aspects of petroleum industry including equipment, systems, instrumentation, operations, and the various scientific principles. Addresses a variety of petroleum technologies: exploration, drilling, production, transportation, marketing, and chemical processing industries. End-of-Course Outcomes: Identify the concepts of exploration, production, refining, marketing, and transportation; and describe the terms and phrases associated with the petroleum industry.

PTRT 1307 RECOVERY AND PRODUCTION METHODS
48 lecture hours .....3 credit hours
Petroleum recovery and production methods. End-of-Course Outcomes: Describe natural flow and artificial lift methods; identify the components of lift systems; and describe basic recovery methods.

PTRT 1309 CORROSION BASICS
48 lecture hours .....3 credit hours
Principles of corrosion such as basic electrochemistry processes. Addresses the deterioration of materials, devices, or pieces of oil field (or other) machinery/equipment. Emphasis on terminology associated with metallic and nonmetallic corrosion. End-of-Course Outcomes: Distinguish between the causes of corrosion; state methods by which corrosion can be identified, monitored, and controlled. Communicate potential field problems and recommend the most reliable solutions.

PTRT 1313 INDUSTRIAL SAFETY
48 lecture hours .....3 credit hours
An overview for petroleum and manufacturing workers of state/federal regulations and guidelines which require industrial safety training. Topics include the 29 C.F.R. 1910, 1926 standards such as confined space entry, emergency action, lock out/tag out, and other work related subjects. End-of-Course Outcomes: Describe the basic components of safety, health, and environmental systems as defined by the Occupational Safety and Health Administration.

PTRT 1317 NATURAL GAS PROCESSING I
48 lecture hours .....3 credit hours
An overview of natural gas processing operations. Fundamentals of gas processing, the scientific principles and how they apply to the process, processing equipment, and procedures from raw material to the refined product. End-of-Course Outcomes: Describe the basic components of processing equipment; and explain various gas plant operational procedures.

PTRT 1321 OIL FIELD HYDRAULICS
48 lecture hours .....3 credit hours
Presents hydraulics applicable to drilling, completion, and production. Includes calculating and evaluating the characteristics of the flowing and static fluids in various tubular and annular systems. End-of-Course Outcomes: Calculate and determine the pressure loss inside a tubular system; and discuss the advantages and disadvantages of the different hydraulic systems used in oil field applications.

PTRT 1324 PETROLEUM INSTRUMENTATION
48 lecture hours .....3 credit hours
Study of instruments, instrument systems, terminology, process variables, and control coops as used in a petroleum environment. End-of-Course Outcomes: Describe the basic instrumentation used in modern process control; identify the basic instruments used with temperature, pressure, levels, flow, and analytical applications; and describe the basic components of a control loop.

PTRT 2323 NATURAL GAS PRODUCTION
48 lecture hours .....3 credit hours
An overview of the aspects of natural gas and oil production including various aspects of hydrocarbon production, processing equipment, and gas compression/transportation systems. End-of-Course Outcomes: Describe gas well and casing head testing and metering systems; calculate gas volumes; describe the basic principles of hydrocarbon production; and identify the basic components of processing equipment.

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PTRT 2331 WELL COMPLETIONS
48 lecture hours .....3 credit hours
Drilling and wellbore analysis data to develop a well completion plan. End-of-Course Outcomes: Calculate production and completion data; and develop a plan of action for completing a well.

PTRT 2332 ARTIFICIAL LIFT
48 lecture hours .....3 credit hours
Practical aspects of artificial lift in production systems. End-of-Course Outcomes: Analyze the characteristics of a particular reservoir; select the type of artificial lift required; and design artificial list systems.

PTRT 2336 WELL WORKOVER
48 lecture hours .....3 credit hours
In-depth study and analysis of the various problems associated with the producing wellbore. Students discuss and evaluate the economics of working over an oil or gas well. End-of-Course Outcomes: Perform basic downhole calculations; prepare a schedule and select procedures; and determine the economics of the workover procedure.

PTRT 2340 WELL STIMULATION
48 lecture hour.....3 credit hours
Variables necessary for stimulating oil or gas wells to increase production. Includes factors in determining the economics of a producing well as to fracture oil acidize the pay zones. End-of-Course Outcomes: Analyze different producing zones and determine stimulation techniques; and calculate pressures and volumes to stimulate a well.

PTRT 2341 PIPELINING
48 lecture hours .....3 credit hours
An overview of the construction, repair, and maintenance of pipeline systems: product, oil, natural gas, salt water, and fresh water. Appropriate types of lines for various applications will be discussed. End-of-Course Outcomes: Determine the size and type of tubular to transport product; and calculate the volumes and pressures inside various pipelines.

PTRT 2343 REFINING METHODS
48 lecture hours .....3 credit hours
An analysis of petroleum refining technologies from well head to gasoline pump. End-of-Course Outcomes: Explain the complete route of crude oil from well head to the gasoline pump; and analyze the different distillation processes for crude oil.

PTRT2359 PETROLEUM COMPUTER APPLICATIONS
48 lecture hour..... 3 credit hour
Computer applications used in the petroleum industry. Includes the automation of open and closed loop systems. End-of-Course Outcomes: Describe the different computer systems used to monitor and control petroleum processes; and operate and troubleshoot components and operating systems of modern process control.

PTRT 2380 COOPERATIVE EDUCATION - PETROLEUM TECHNOLOGY/TECHNICIAN
240 hours .....
3 credit hours
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. End-of-Course Outcomes: As outlined in the learning plan, apply the theory, concepts, and skills involving specialized materials, tools, equipment, procedures, regulations, laws, and interactions within and among political, economic, environmental, social, and legal systems associated with the occupation and the business/industry and will demonstrate legal and ethical behavior, safety practices, interpersonal and teamwork skills, and appropriate written and verbal communication skills using the terminology of the occupation and the business/industry.

OSHT2401 OSHA REGULATIONS - GENERAL INDUSTRY
64 lecture hours…….....4 credit hours
A study of Occupational Safety and Health Administration (OSHA) regulations pertinent to general industry. End-of-Course Outcomes: Identify the OSHA regulations which apply to general industry; and exhibit proficiency in retrieving specific information from Title 29 C.F.R. Part 1910 regulations.

PHILOSOPHY

38.0101.51 12
PHIL1301 INTRODUCTION TO PHILOSOPHY
48 lecture hours .....
3 credit hours
Introduction to the study of ideas and their logical structure, including arguments and investigations about abstract and real phenomena. Includes introduction to the history, theories, and methods of reasoning from the Pre-Socratics to present.

38.0101.53 12
PHIL2303 INTRODUCTION TO LOGIC
48 lecture hours .....
3 credit hours
Nature and methods of clear and critical thinking and methods of reasoning such as deduction, induction, scientific reasoning and fallacies.

38.0101.53 12
PHIL2306 INTRODUCTION TO ETHICS
48 lecture hours .....
3 credit hours
Classical and contemporary theories concerning human conduct in society and moral and ethical standards.

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PHYSICAL EDUCATION & RECREATION

NOTE: All students are encouraged to take four semesters of physical education activity courses at NCTC. Level-I activity courses teach the fundamentals, rules, etc. of the activity. Level-II activity courses deal with advanced skills and techniques of the activity. All activity courses meet for 48 activity hours and earn 1 credit hour.

PHED1338 CONCEPTS OF PHYSICAL FITNESS
48 lecture hours ..... 3 credit hours

This course will introduce the basic concepts of fitness, nutrition, exercise physiology, psychology, epidemiology, health promotion and disease prevention. The students will gain knowledge to make intelligent choices that contribute to a healthy lifestyle. The course will incorporate both lecture and physical activity laboratories.

3601085128
PHED1108 BOWLING I
PHED1109 BOWLING II
PHED1110 GOLF I
PHED1111 GOLF II
PHED1114 VARSITY SPORTS I
PHED1115 VARSITY SPORTS II
PHED1116 VARSITY CONDITIONING I
PHED1117 VARSITY CONDITIONING II
PHED1118 JOGGING/WALKING I*
PHED1119 JOGGING/WALKING II*
PHED1120 AEROBIC WORKOUT I
PHED1121 AEROBIC WORKOUT II
PHED1124 WEIGHT TRAINING I/JOGGING
PHED1125 WEIGHT TRAINING II/JOGGING
PHED1126 MARTIAL ARTS I
PHED1127 MARTIAL ARTS II
PHED1134 BASKETBALL I
PHED1135 BASKETBALL II
PHED1140 CARDIO FITNESS I
PHED1141 CARDIO FITNESS II
PHED1146 YOGA I
PHED1147 YOGA II
PHED2100 RACQUETBALL I
PHED2101 RACQUETBALL II

**Note: PHED1118 Jogging/Walking I and PHED1119 Jogging/Walking II students are only allowed to enroll in one course per semester.*

PHYSICAL SCIENCE

PHYS1415 PHYSICAL SCIENCE
48 lecture hours + 32 laboratory hours ..... 4 credit hours

An introduction to the principles and applications of mechanics, heat, sound, light, electricity and atomic nature of matter. Recommended for elementary education majors and business majors.

PHYSICS

4008015339
PHYS1401 GENERAL PHYSICS I
Prerequisite: Background in algebra AND trigonometry
Offered during the fall semester.
48 lecture hours + 48 laboratory hours ..... 4 credit hours

General introductory physics for students majoring in biology, dentistry, medicine, pharmacy and veterinary medicine and others who require a two-semester course in physics. A study of mechanics, wave motion and sound.

4008015339
PHYS1402 GENERAL PHYSICS II
Prerequisite: PHYS1401
Offered during the spring semester.
48 lecture hours + 48 laboratory hours ..... 4 credit hours

A continuation of PHYS1401, including the study of thermodynamics, electricity and magnetism, light and optics.

4008015439
PHYS2425 ENGINEERING PHYSICS I
Prerequisite: MATH2413 (or concurrent enrollment in MATH2413)
Offered during the fall semester.
48 lecture hours + 48 laboratory hours ..... 4 credit hours

For pre-engineering, physics, mathematics and chemistry majors. A study of mechanics.

4008015439
PHYS2426 ENGINEERING PHYSICS II
Prerequisite: PHYS2425 and MATH 2414 (or concurrent enrollment in MATH2414)
48 lecture hours; 48 laboratory hours ..... 4 credit hours

A continuation of PHYS2425. Heat and thermodynamics; electricity; magnetism.

PSYCHOLOGY

4203015125
PSYC1300 LEARNING FRAMEWORK
48 lecture hours ..... 3 credit hours

A study of the (1) research and theory in the psychology of learning, cognition, and motivation; (2) factors that impact learning, and (3) application of learning strategies. Theoretical models of strategic learning, cognition, and motivation serve as the conceptual basis for the introduction of the college-level student academic strategies. Students use assessment instruments (e.g. learning inventories) to help them identify their own strengths and weaknesses as strategic learners. Students are ultimately expected to integrate and apply the learning skills discussed across their own academic programs and become effective and efficient learners. Students developing these skills should be able to continually draw from the theoretical models they have learned. This course is cross-listed as EDUC1300. The student may register for either EDUC1300 or PSYC1300 but may receive credit for only one of the two.

4201015140
PSYC2301 INTRODUCTION TO GENERAL PSYCHOLOGY
48 lecture hours ..... 3 credit hours

An introduction to the scientific study of human and animal behavior, with the emphasis on the basic processes of learning, perception, motivation, emotion, personality and adjustment.

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4201015342
PSYC2306 HUMAN SEXUALITY
48 lecture hours .....3 credit hours
The study of psychological, sociological, and physiological aspects of human sexuality.

4207015140
PSYC2314 DEVELOPMENTAL PSYCHOLOGY
48 lecture hours .....3 credit hours
A study of physical, cognitive, personality and interpersonal development of a person from conception to the end of the life cycle, with an emphasis on developmental principles and tasks.

4201015625
PSYC2315 PSYCHOLOGY OF ADJUSTMENT
48 lecture hours .....3 credit hours
Study of the processes involved in adjustment of individuals to their personal and social environments.

4215015140
PSYC2319 SOCIAL PSYCHOLOGY
48 lecture hours .....3 credit hours
A study of the social and cultural bases of human behavior, interpersonal influences, group membership and the relations between persons and social systems.

4201015540
PSYC2371 CURRENT ISSUES IN PSYCHOLOGY
48 lecture hours .....3 credit hours
An in-depth study of specific contemporary issues in psychology such as gerontology, sex-roles, and death and dying.

RADIOLOGICAL TECHNOLOGY

RADR1301 INTRODUCTION TO RADIOGRAPHY
48 lecture hours .....3 credit hours
An overview of the historical development of radiography, basic radiation protection, an introduction to medical terminology, ethical and legal issues for health care professionals, and an orientation to the program and the health care system.

RADR1311 BASIC RADIOGRAPHIC PROCEDURES
32 lecture hours + 64 laboratory hours .....3 credit hours
An introduction to radiographic positioning terminology, the proper manipulation of equipment, positioning and alignment of the anatomical structure and equipment, and evaluation of images for proper demonstration of basic anatomy.

RADR1303 PATIENT CARE
32 lecture hours + 32 laboratory hours .....3 credit hours
An introduction in patient assessment, infection control procedures, emergency and safety procedures, communication and patient interaction skills, and basic pharmacology.

RADR1160 CLINICAL I
80 clinical hours..... 1 credit hour
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.

RADR1213 PRINCIPLES OF RADIOGRAPHY I
32 lecture hours + 32 laboratory hours .....2 credit hours
An introduction to radiographic image qualities and the effects of exposure variables upon these qualities.

RADR2401 INTERMEDIATE RADIOGRAPHY PROCEDURES
32 lecture hours + 64 laboratory hours .....4 credit hours
A continuation of study of the proper manipulation of radiograhic equipment, positioning and alignment of the anatomical structure and equipment, and evaluation of images for proper demonstration of anatomy.

RADR2313 RADIATION BIOLOGY AND PROTECTION
48 lecture hours .....3 credit hours
A study of the effects of radiation exposure on biological systems, typical medical exposure levels, methods for measuring and monitoring radiation, and methods for protecting personnel and patients from excessive exposure.

RADR1361 CLINICAL II
288 clinical hours.....3 credit hours
An introductory 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.

RADR1362 CLINICAL III
288 clinical hours.....3 credit hours
An intermediate 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.

RADR2305 PRINCIPLES OF RADIOGRAPHY II
48 lecture hours .....3 credit hours
A continuation of the study of radiographic imaging technique formulation, image quality assurance, and the synthesis of all variables in image production.

RADR2217 RADIOGRAPHIC PATHOLOGY
32 lecture hours .....2 credit hours
A presentation of the disease process and common diseases and their appearance on medical images.

RADR2461 CLINICAL IV
384 clinical hours.....4 credit hours
An advanced 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.

RADR2333 ADVANCED MEDICAL IMAGING
48 lecture hours .....3 credit hours
An exploration of specialized imaging modalities.

RADR2335 RADIOGRAPHIC TECH SEMINAR
48 lecture hours .....3 credit hours
A capstone course focusing on the synthesis of professional knowledge, skills, and attitudes in preparation for professional employment and lifelong learning.

RADR2462 CLINICAL V
384 clinical hours.....4 credit hours
A capstone 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.

RADR2236 SPECIAL PATIENT APPLICATIONS
32 lecture hours + 16 laboratory hours .....2 credit hours
An advanced discussion of pediatrics, geriatrics, trauma, history recordation and abbreviation and ECG. Plebotomy and venipuncture will be discussed and practiced.

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RADR2309 RADIOGRAPHIC IMAGING EQUIPMENT
48 lecture hours ..... 3 credit hours

A study of the equipment and physics of x-ray production, basic x-ray circuits, and the relationship of equipment components to the imaging process.

READING (COLLEGE PREPARATORY)

Note: NCTC offers a number of courses (listed below) designed to help you acquire the skills necessary for success in college-level courses. The courses are widely offered in Texas community/junior colleges, and the policy statewide is that these will not transfer as college-level courses nor will they count toward graduation at accredited Texas colleges and universities. It is important that you understand that such courses are designed to help you overcome academic deficiencies that are likely to hinder you in your pursuit of a college degree. Attendance in College Preparatory Studies is mandatory when a student has not passed the THEA exam. After THREE hours of absenteeism, a student may be warned and referred to the Director of College Preparatory Studies. At SIX hours of absenteeism, a student may be dropped from his/her College Preparatory class. If the student is dropped from the only Developmental class in which he/she is enrolled, the student will be DROPPED from all remaining courses for that semester.

3201085235
READ0300 READING TECHNIQUES I
48 lecture hours ..... 3 credit hours

A course designed to raise the reading skills of students who have been assessed. Emphasis is placed on the development of word attack skills, word recognition, basic vocabulary, pronunciation, and reading comprehension. Does not count toward graduation at NCTC.

3201085235
READ0305 READING TECHNIQUES II
Prerequisite: READ0300 passed with a "C" or better or satisfactory placement score.
48 Lecture hours ..... 3 credit hours

A course intended to continue elevation of reading skills with particular emphasis on critical and analytical strategies. This course does not count toward graduation at NCTC.

SOCIOLOGY

4511015142
SOCI1301 INTRODUCTION TO SOCIOLOGY
48 lecture hours ..... 3 credit hours

A study of the nature of human society, cultural heritage, collective behavior, community and social organizations, nature of social change and methods and processes of social control.

4511015242
SOCI1306 CONTEMPORARY SOCIAL PROBLEMS
48 lecture hours ..... 3 credit hours

The sociological analysis of current social problems such as crime and delinquency, community problems, race relations, drug addiction and population, etc.

4511015442
SOCI2301 MARRIAGE AND FAMILY RELATIONS
48 lecture hours ..... 3 credit hours

A study of marriage and family life including the problems of courtship, mate selection and marriage adjustment.

513015216
SOCI2340 DRUG USE & ALCOHOL ABUSE
48 lecture hours ..... 3 credit hours

A comprehensive examination of the history, pharmacology, law, treatment, psychological effects, policy issues and sociological issues related to drug/alcohol use and abuse in the United States and on a global scale.

4511015742
SOCI2371 CURRENT ISSUES IN SOCIOLOGY
48 lecture hours ..... 3 credit hours

Comprehensive examination of specific contemporary topics in sociology such as cultural diversity, urbanization, globalization, sociobiology and/or gerontology. (May be repeated for credit as subjects change.)

SPANISH

SPAN1411 ELEMENTARY SPANISH I
48 lecture hours + 32 laboratory hours ..... 4 credit hours

Emphasis on the development of elementary listening, speaking, reading and writing skills applied to present situations and events relevant to students' lives and to the understanding of Spanish-speaking communities.

SPAN1412 ELEMENTARY SPANISH II
Prerequisite: SPAN1411 or one year of high school Spanish
48 lecture hours + 32 laboratory hours ..... 4 credit hours

Continuation of SPAN1411 with emphasis on elementary listening, speaking, reading and writing skills applied to two main communicative goals: narration of present or past situations and events, and expression of feelings, hypotheses and opinions. Daily life situations and events and the understanding of the Spanish-speaking communities main thematic components of the course.

SPAN2311 INTERMEDIATE SPANISH I
Prerequisite: SPAN1412 or two years of high school Spanish
48 lecture hours ..... 3 credit hours

Emphasis on conversation about present or past situations and events, and on the expression of feelings, hypotheses and opinions. Gradual introduction to composition and the reading of authentic texts in Spanish, taken from literature, history or a variety of disciplines. Practice of listening to conversations and speeches in Spanish from audio-visual sources.

SPAN2312 INTERMEDIATE SPANISH II
Prerequisite: SPAN2311 or three years of high school Spanish
48 lecture hours ..... 3 credit hours

Equal emphasis on systematic conversation and oral presentations, the reading of authentic texts, the writing of compositions and the listening to conversations and speeches from audio-visual sources. A variety of topics are included in this course and the level of complexity is average.

SPEECH

SPCH 1311 INTRODUCTION TO SPEECH COMMUNICATION
48 lecture hours ..... 3 credit hours

Theories and practice of communication in interpersonal, small group, and public speech.

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2310015135
SPCH1315 PUBLIC SPEAKING
48 lecture hours ..... 3 credit hours
The process of oral communication and its relation to communication in general. Emphasis is placed on developing the students' abilities in organization and presentation of ideas. Suggested activities include group discussion, oral interpretation of literature and extemporaneous speaking. There is evaluation of both listening and speaking experiences.

2310015435
SPCH1318 INTERPERSONAL COMMUNICATION
48 lecture hours ..... 3 credit hours
Introduces communication concepts and provides speech interaction in one-to-one and small group situations. Provides experiential settings for a variety of environments, for the reduction of communication barriers, for conflict resolution, and for leadership and decision-making. Emphasizes interpersonal perception and listening skills related to self-concept.

SPCH1321 BUSINESS AND PROFESSIONAL SPEECH
48 lecture hours ..... 3 credit hours
Study of the theory and practice of speech communication in business and professional situations. Emphasis is placed on interpersonal communication techique, leadership strategy, small group communication, conflict management, and the skills necessary to conduct successful interviews, build teams (problem solving), and formal presentations.

SURGICAL TECHNOLOGY

SRGT1201 MEDICAL TERMINOLOGY
2 lecture hours ..... 2 credit hours
Study of the basic structure of medical words including prefixes, suffixes, roots, combining forms, plurals, pronunciation, spelling, and the definitions of medical terms. Emphasis is on building a professional vocabulary required for employment in the allied health care field.

SRGT1505 INTRODUCTION TO SURGICAL TECHNOLOGY
64 lecture hours + 32 laboratory hours ..... 5 credit hours
Orientation to surgical technology theory, surgical pharmacology and anesthesia technologcal sciences, and patient care concepts.

SRGT1509 FUNDAMENTALS OF PERIOPERATIVE CONCEPTS AND TECHNIQUES
64 lecture hours + 32 laboratory hours ..... 5 credit hours
In-depth coverage of perioperative concepts such as aseptic principles and practices, infectious processes, wound healing, and creation and maintenance of the sterile field.

SRGT1441 SURGICAL PROCEDURES I
48 lecture hours + 32 laboratory hours ..... 4 credit hours
Introduction to surgical pathology and its relationship to surgical procedures. Emphasis on surgical procedures related to the general, OB/GYN, genitourinary, and orthopedic surgical specialities incorporating instruments, equipment, and supplies required for safe patient care.

SRGT1442 SURGICAL PROCEDURES II
48 lecture hours + 32 laboratory hours ..... 4 credit hours
Introduction to surgical pathology and its relationship to surgical procedures. Emphasis on surgical procedures related to the thoracic, peripheral vascular, plastic/reconstructive, EENT, cardiac, and neurological surgical specialities incorporating instruments, equipment, and supplies required for safe patient care.

SRGT1261 CLINICAL – SURGICAL/OPERATING ROOM TECHNICIAN (INTRODUCTORY)
96 clinical hours..... 2 credit hours
A basic type of health professions work-based instruction that helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by the clinical professional (faculty or preceptor), generally in a clinical setting. Clinical education is an unpaid learning experience.

SRGT1661 CLINICAL – SURGICAL/OPERATING ROOM TECHNICIAN (INTERMEDIATE)
288 clinical hours..... 6 credit hours
An intermediate type of health professions work-based instruction that helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by the clinical professional (faculty or preceptor), generally in a clinical setting. Clinical education is an unpaid learning experience.

SRGT1662 CLINICAL – SURGICAL/OPERATING ROOM TECHNICIAN (ADVANCED)
288 clinical hours..... 6 credit hours
An advanced type of health professions work-based instruction that helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by the clinical professional (faculty or preceptor), generally in a clinical setting. Clinical education is an unpaid learning experience.

VNSG1420 ANATOMY AND PHYSIOLOGY FOR ALLIED HEALTH
64 lecture hours ..... 4 credit hours
Introduction to the normal structure and function of the body, including an understanding of body systems in maintaining homeostasis. Principles of microbiology also included.

VOCATIONAL NURSING

NOTICE: The Vocational Nursing Program reserves the right to change the curriculum and program requirements as deemed necessary for maintenance of high quality education.

VNSG1219 PROFESSIONAL DEVELOPMENT
Prerequisite: Successful completion of all courses in Level I and Level II
32 lecture hour..... 2 credit hours
Study of the importance of professional growth. Topics include the role of the LVN in the multidisciplinary healthcare team, professional organizations, continuing education, delegating authority, résumé writing, and job interviewing.

VNSG1227 ESSENTIALS OF MEDICATION ADMINISTRATION
Prerequisite: Admission to the Vocational Nursing Program
32 lecture hours ..... 2 credit hours
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.

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VNSG1230 MATERNAL-NEONATAL NURSING
Prerequisite: Successful completion of all courses in Level I for fall admission. Successful completion of all courses in Level I and Level II for spring admission.
32 lecture hours .....2 credit hours
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.

VNSG1234 PEDIATRICS
Prerequisite: Successful completion of all courses in Level I for fall admission. Successful completion of all courses in Level I and Level II for spring admission.
32 lecture hours .....2 credit hours
Study of childhood diseases and childcare from infancy through adolescence. Focus on the care of the well and the ill child utilizing the nursing process.

VNSG1323 BASIC NURSING SKILLS
Prerequisite: Admission to the Vocational Nursing Program
80 lecture hours + 32 laboratory hours .....3 credit hours
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. Related aspects of nutrition, pharmacology, and medical terminology included.

VNSG1331 PHARMACOLOGY
Prerequisite: Successful completion of all courses in Level I.
48 lecture hours .....3 credit hours
Fundamentals of medications and their diagnostic, therapeutic, and curative effects. Includes nursing interventions associated with the various pharmacotherapeutic agents.

VNSG1360 CLINICAL I
Prerequisite: Admission to the Vocational Nursing Program
240 clinical hours.....3 credit hours
This course provides clinical experience in fundamental nursing skills. The nursing process is applied to provide individualized care designed to meet a client's particular needs. The geriatric client is the focus of care.

VNSG1363 CLINICAL II – SPRING ADMISSION
Prerequisite: Successful completion of all courses in Level I.
240 clinical hours.....3 credit hours
This course is offered in the summer semester for the January admission class. It provides a continuation of Clinical I with the emphasis on utilizing the nursing process in providing individualized care of the client in all stages of development. The principles of safety in medication administration and other care are closely monitored.

VNSG1400 NURSING IN HEALTH AND ILLNESS I
Prerequisite: Admission to the Vocational Nursing Program
80 lecture hours .....4 credit hours
Introduction to general principles of growth and development, primary health care needs of the client across the life span, and therapeutic nursing interventions.

VNSG1420 ANATOMY AND PHYSIOLOGY FOR ALLIED HEALTH
64 lecture hours .....4 credit hours
Introduction to the normal structure and function of the body, including an understanding of body systems in maintaining homeostasis. Principles of microbiology also included.

VNSG1463 CLINICAL II – FALL ADMISSION
Prerequisite: Successful completion of all courses in Level I.
336 clinical hours.....4 credit hours
This course is offered in the spring semester for the August admission class. It provides a continuation of Clinical I with the emphasis on utilizing the nursing process in providing individualized care of the client in all stages of development. The principles of safety in medication administration and other care are closely monitored.

VNSG1509 NURSING IN HEALTH AND ILLNESS II
Prerequisite: Successful completion of all courses in Level I.
80 lecture hours .....5 credit hours
Introduction to common health problems requiring medical and surgical interventions.

VNSG1510 NURSING IN HEALTH AND ILLNESS III
Prerequisite: Successful completion of all Level I and Level II courses
80 lecture hours .....5 credit hours
Continuation of Nursing in Health and Illness II. Further study of common medical-surgical health problems of the client.

VNSG2360 CLINICAL III – FALL ADMISSION
Prerequisite: Successful completion of all Level I and Level II courses
240 clinical hours.....3 credit hours
This course is offered in the summer semester for the August admission class. It assists the student in the continued development of their knowledge and skill in the role and functions of the vocational nurse. It provides learning experiences in the clinical setting focusing on further refinement of the nursing process in caring for clients exhibiting health-illness continuum through the life span.

VNSG2460 CLINICAL III – SPRING ADMISSION
Prerequisite: Successful completion of all Level I and Level II courses
336 clinical hours.....4 credit hours
This course is offered in the fall semester for the January admission class. It assists the student in the continued development of their knowledge and skill in the role and functions of the vocational nurse. It provides learning experiences in the clinical setting focusing on further refinement of the nursing process in caring for clients exhibiting health-illness continuum through the life span.