

Course Descriptions

This section of the catalog is arranged in alphanumeric order. In general, the following list may be used to find the courses offered within each technology:

ACC	Accounting
AET	Alternative Energy
AGR	Agronomy
ANT	Anthropology
ART	Art
ATS	Associate of Technical Studies
BAN	Banking and Finance
BIO	Biological Sciences (Biology, A & P, etc.)
BUS	Business
CAD	Computer Aided Design
CET	Construction Engineering Technology
CHM	Chemistry
CIS	Computer and Information Systems
CJT	Criminal Justice
DBP	Database Processing
ECD	Early Childhood
ECO	Economics
EDP	Paraprofessional
EDU	Education
EET	Electrical Engineering Technologies
EMS	Emergency Medical Services
ENG	Communications (Composition, Speech, Literature)
ETC	Electrical Trades Construction
GEO	Geography
GSD	General Studies
HIS	History
HPF	Beginning Western/English Horsemanship
HST	Human Services
HUM	Humanities
IET	Industrial Engineering Tech
IND	Industry
INT	Industrial Technology
ITR	Industrial Training
JAT	IBEW
MEA	Medical Assisting
MET	Mechanical Engineering Technologies
MGT	Management
MKT	Marketing
MTH	Mathematics
MUS	Music
NRS	Associate Degree Nursing
OAS	Office Administrative Services
PAR	Paralegal
PET	Plastics Engineering Technology
PHI	Philosophy, Ethics, Logic, Religions
PHY	Physics
PLC	Programmable Logic Controllers
PNE	Practical Nursing Program
PSY	Psychology
QCT	Quality Control Technology
REA	Real Estate
RTI	Related Trades Instruction
SPN	Spanish
SCM	Supply Chain Management
SSC	Social Sciences (Sociology, Political Science, etc.)
STA	Statistics

VCT	Visual Communications
WLD	Welding Technology

The College reserves the right to change courses as needed. Course description and prerequisites are effective for the academic year(s) of this catalog.

The parentheses at the end of each course description indicate the lecture and lab hours respectively. Example: (3+1) indicates a course with 3 lecture hours and 1 lab hour.

Developmental classes have numbers below 100, and are graded Satisfactory/Unsatisfactory. These courses DO NOT meet course requirements for graduation.

ACC090 Introduction to Accounting 3 Cr. Hrs.

This course is designed for students who have had no previous accounting instruction or for those desiring an introductory course before beginning the accounting sequence. This course covers accounting terminology, financial statement concepts, intensive drills on debits/credits, and a brief overview of the accounting cycle.
(3+0)

ACC111 Financial Accounting 3 Cr. Hrs.

The course includes a study of the accounting cycle beginning with the business transaction and ending with the preparation of financial statements along with other period end procedures for both sole proprietors as well as corporations. Other topics include: receivables, inventory, depreciation, liabilities, investments, and stock. *Transfer Assurance Guide (TAG) approved effective spring 2017 (OBU010 - Introduction to Financial Accounting).*
(3+0)

ACC112 Managerial Accounting 3 Cr. Hrs.

This course begins with the Statement of Cash Flows and then focuses on managerial topics. These areas of study include: job order and process costing, activity based costing, cost behavior and cost-volume-profit analysis, budgeting, variance analysis, evaluation for decentralized operations, differential analysis, and product pricing, and capital investment analysis. *Transfer Assurance Guide (TAG) approved effective spring 2017 (OBU011 - Introduction to Managerial Accounting).*
(3+0)

Prerequisite: ACC111 with a "C" or better

ACC120 Payroll Accounting 3 Cr. Hrs.

This course includes the various phases of the Social Security Act, unemployment compensation, and federal withholding tax, with considerable emphasis on the study of timekeeping systems and systems of accounting used in keeping payroll and wage records. Students complete the necessary federal and state tax reports and apply payroll accounting concepts to microcomputer applications.
(3+2)

Co-requisite: ACC090 or OAS103 or ACC111

ACC140 Individual Income Tax Accounting 3 Cr. Hrs.
Major emphasis is on individual income tax laws and regulations. The course is designed to have both a personal and vocational value, covering tax return preparation, tax planning, and research. (3+0)

ACC211 Intermediate Accounting I 3 Cr. Hrs.
This course is a review and expansion of concepts learned in accounting principles. Topics studied are the accounting cycle, financial statements, revenue recognition, cash, receivables, and inventories. (3+0)
Prerequisite: ACC112 with grade of "C" or better

ACC212 Intermediate Accounting II 3 Cr. Hrs.
This course is a continuation of Intermediate Accounting I. Subject matter includes: debt and equity financing, noncurrent assets, long term investments, income tax allocation, employee compensation, and additional disclosures. (3+0)
Prerequisite: ACC211

ACC221 Cost Accounting I 3 Cr. Hrs.
This course teaches determination of product costs using different cost systems: primarily job order costing and process costing. Additional topics include: cost estimation, cost-volume-profit analysis, activity-based budgeting, standard costing, operational performance measures, flexible budgeting, and management of overhead activity costs. (3+0)
Prerequisite: ACC112 with a grade of "C" or better

ACC222 Cost Accounting II 3 Cr. Hrs.
This course is a continuation of Cost Accounting I. Topics studied are activity-based costing and management, responsibility accounting, investment centers, transfer pricing, relevant costs and benefits in decision making, cost analysis for pricing decisions, capital expenditure decisions, absorption costing, variable costing, and allocation of support activity costs and joint costs. (3+0)
Prerequisite: ACC221

ACC230 Auditing 3 Cr. Hrs.
This is a study of theories, procedures, and practices employed in audits. The course includes studies on auditor's reports, internal control procedures, tests, and generally accepted auditing standards used in the profession. (3+0)
Prerequisite: ACC112

ACC240 Business Income Tax Accounting 3 Cr. Hrs.
This course teaches fundamentals of federal taxation in relation to business forms and rules. Studies include preparation of partnership, subchapter "S", and corporation returns with related income tax forms. (3+0)

ACC260 Accounting on Computers 3 Cr. Hrs.
This course is a combination of ACC261 QuickBooks, ACC271 Intermediate QuickBooks, and ACC272 Advanced QuickBooks and allows the student to extensively study the QuickBooks software. Information will be processed in most of the areas of accounting in business. Many of the topics covered in financial and managerial accounting courses will be converted into a computerized accounting system. The course employs the case study method of teaching and learning and emphasis is placed upon hands-on practice in class and on assignments. (3+2)
Prerequisite: OAS103 or ACC111

ACC291 Accounting Internship 3 Cr. Hrs.
This course is a job-related accounting experience in which the student works for a department within the college, a business, or an industrial organization. The student is chosen for this course on the basis of academic progress or job experience. Enrollment only with instructor permission. (1+20)

AET100 Intro to Alternative Energies 3 Cr. Hrs.
In this course the student will learn the units of energy, how it is measured, and what our current usage is. Students will determine their current energy usage. They will then be introduced to several alternative energy sources including solar, wind, biomass, hydrogen, fuel cells, and others. As these topics are introduced, students will gain an understanding of these energy sources, applications, and the ability to determine their potential for sustainable energy. The course ends with the development of a plan to create a sustainable energy program for them. These topics will be learned through text, presentations, various exercises, and hands on labs. (3+0)
Prerequisites: MTH080

AET110 Energy Audit 3 Cr. Hrs.
In this course the student will learn to conduct an effective and informative energy audit of various facilities for client or individual use. The student will learn sources, and extent, of energy usage in various facilities including residential, commercial, and industrial. Along with energy users, the operations, processes, and management of facilities will also be looked at. This material will be covered through various exercises, lecture and lab segments. (3+0)
Co-requisites: AET100 and IND120 or EET121

AET120 Wind Power 4 Cr. Hrs.
In this course the student will learn how energy can be captured from wind and converted into electrical energy for commercial or residential use. The student will learn the various wind sources and energy potential of wind in a given area. The types, components, construction, and basic installation of various wind turbines will be studied. They will also learn different techniques and equipment used for monitoring the energy produced from the turbines. This material will be covered through both lecture and lab segments. (3+2)
Prerequisites: AET100 and IND120 or EET121

AET130 Solar Thermal 4 Cr. Hrs.

In this course the student will learn how energy can be captured from the sun and converted into heat energy for air or water in a residential setting. The student will learn about the solar energy balance of the planet and the thermal comfort potential of solar radiation. Solar insolation and what determines its rate will be covered. The types, components, construction, and basic installation of various solar thermal configurations will be discussed. They will also learn different techniques and equipment used for monitoring the energy produced from solar collectors. This material will be covered through both lecture and lab segments. AET110 Energy Audit is recommended prior to or in addition to this class.

(3+2)

Prerequisites: AET100 and IND120 or EET121

AET140 Geothermal 4 Cr. Hrs.

In this course the student will learn the basic concepts of geothermal energy production. The course will introduce the concept and applications of acquiring energy from the Earth's core through steam powered generators for large scale electricity generation. This will be followed by the study of commercial and residential heat pumps. The student will learn how heat transfer with the ground is utilized to reduce energy consumption in both heating and cooling. The various types of heat pumps and types of wells will be discussed. This material will be covered through both lecture and lab segments. AET110 Energy Audit is recommended prior to or in addition to this class.

(3+2)

Prerequisite: AET100

AET200 Sustainable Building Design 3 Cr. Hrs.

In this course the student will learn how to evaluate a site for the most efficient use of energy. The student will evaluate the building site for available energy sources. The student will evaluate current and new building constructions for energy efficiency and utilization of current energy sources. The student will utilize applicable data and software to determine improvements to existing construction or to design new energy efficient sustainable building structures.

(3+0)

Prerequisite: AET110

AET220 Solar Photovoltaics 4 Cr. Hrs.

This course is a continuation, and more advanced study of Solar Energy. In this course the student will review how energy can be captured from the sun and converted into electrical energy for commercial or residential use. The student will learn the process of solar photovoltaic materials. The materials, types, components, construction, and basic installation of various photovoltaic cells will be discussed. They will also learn different techniques and equipment used for monitoring the energy produced from photovoltaic cells. Finally, new technologies in this area will be discussed. This material will be covered through both lecture and lab segments.

(3+2)

Prerequisites: AET100 and IND120 or EET121

AET230 Hydrogen and Fuel Cell Technology 4 Cr. Hrs.

In this course the student will learn what hydrogen is and its potential use as an energy carrier. The production, transportation, storage, and economics of hydrogen will be discussed. Basic thermodynamics and electrochemical cell construction will be studied. With this the student will then learn the basic fuel cell construction. Variations and materials used in fuel cell construction will be covered along with various applications for fuel cells. This material will be covered through both lecture and lab segments.

(3+2)

Prerequisites: AET100 and CHM201

AET240 Biofuels 4 Cr. Hrs.

In this course the student will learn different sources of biomass and the relative energy potential of these fuel sources. The student will learn the processes that are required to convert biomass to fuels such as biodiesel, ethanol, and others. The course also will look at energy potential from directly burning biomass as an energy source such as wood and grains. The determination of energy per mass will be covered to use for comparison of different materials. This material will be covered through both lecture and lab segments.

Prerequisites: AET100 and CHM201

AET290 Alternative Energy Capstone 4 Cr. Hrs.

In this course the student will have the opportunity to apply the knowledge gained through the AET program to relevant scenarios. Specific content may vary with each offering and will be related to the specific Alternative Energy program and electives chosen through the program.

(4+0)

Prerequisites: AET110, and at least one other course with AET prefix

AGR101 Survey of Animal Agriculture 3 Cr. Hrs.

This course provides students within the agribusiness program a broad overview of the animal industry. It is designed to give the agribusiness student a background in both the science and management practices within animal agriculture disciplines.

(3+0)

AGR110 Agronomy Principles 3 Cr. Hrs.

An introduction to the principles of development, production, and management of field crops. The courses provides basic concepts in soils, fertilizers, plant growth, plant diseases, insect and weed pests, production methods and management of agronomic systems. Emphasis is placed on developing soil health, nutrient management, and conservation practices.

(3+0)

AGR120 Introduction to Precision Agriculture 3 Cr. Hrs.

Basic course in precision agriculture technology and applications with emphasis in agronomic systems. Provides an introduction to the field of precision agriculture, variability in agronomic conditions across space and time, global positioning systems, geographical information systems, unmanned aerial systems/vehicles, remote sensing, precision equipment, data management and use, and environmental applications.

(3+0)

AGR130 Fundamentals of Soil Science 4 Cr. Hrs.

An introduction to the principles of soil science that provides a study of the physical, chemical, and biological properties of soils and how the interactions of these properties impact crop growth and development. Examination of the origin, classification and distribution of soils, conservation management, and environmental impact is covered with emphasis on agriculture production.

(3+2)

Prerequisites: CHM101 or CHM201 or Instructor Permission

AGR 140 Introduction to Horticulture 3 Cr. Hrs.

This course provides students in the agribusiness program a broad overview of the horticulture industry. It is designed to give the agribusiness student a background in both the science and management practices within horticulture disciplines.

(3+0)

AGR210 Sustainable Agronomy 3 Cr. Hrs.

Fundamental course in crop production systems that explores the economic and environmental implications of sustainable agronomic systems. Covers topics in conservation practices, land use, nutrient management, water quality, agroecology, tillage systems in crop production, crop diversification, agronomic technology, economics and global food systems.

(3+0)

Prerequisites: AGR110

AGR 215 Introduction to Agricultural Economics and Agribusiness Management 3 Cr. Hrs.

An introduction to the economics and business management practices of agricultural and food markets. This course will introduce students to important aspects of the agricultural economy, its structure and function, how agricultural markets work, the impact of public policy on agriculture economics, and the relationship between agribusiness and agriculture economics.

(3+0)

Prerequisite: ECO212

AGR220 Agricultural Meteorology and Climate 3 CR. Hrs.

Introductory course in meteorology that provides foundational knowledge of the structure of the atmosphere, meteorological measurements, air movement, air masses and fronts, severe weather and climate. Application of meteorological principles to agriculture provide knowledge of the impact of weather and climate on agronomic systems.

(3+0)

AGR 225 Agricultural Analysis & Decision Making 3 Cr. Hrs.

Applied course in agribusiness emphasizing analysis and decision-making skills of existing agribusiness enterprises. Using agricultural management software, students will apply management skills to actual agricultural businesses through analysis of real financial and production records. Students will determine a business's strengths and weaknesses and develop recommendations for improving the sustainability of the business. Through presentations from actual business owners, students will see the effect of implementing planned changes on a business. Students will participate in developing a business plan for an agricultural business.

(3+0)

Prerequisites: ACC260 and AGR215

AGR230 Nutrient Management 3 Cr. Hrs.

Fundamental course in nutrient management practices in cropping systems that provides a study of plant macronutrient requirements, application and consideration of conventional, conservation, and organic systems, soil testing and fertilizer calculations, soil acidity and liming, environmental concerns and regulations, as well as basic nutrient management plan development.

(3+0)

Prerequisites: AGR130

AGR240 Integrated Pest Management 3 Cr. Hrs.

Introductory course in integrated pest management that provides foundational knowledge of the identification and management of insects, weeds, and plant disease in agronomic systems. Application and consideration of biological, cultural, and chemical control systems are covered, with topics including: insect, weed, and disease identification, biologic controls and ecological principles in pest management, pesticide safety, regulations, pesticide modes of action, and application methods, pesticide equipment and calibration, and, basic integrated pest management strategies.

(3+0)

Prerequisites: AGR110 or instructor permission

AGR290 Agriculture Practicum 2-4 Cr. Hrs.

Field-based learning experience combining the study, observation, and employment with an agricultural business, organization, or governmental agency. The practicum provides students the opportunity to apply skills, concepts and theories about agriculture in a practical context. The student, supervisor and college coordinator will develop an individualized practicum plan.

(1+7-21)

Prerequisite: Coordinator permission

ART103 Beginning Drawing 3 Cr. Hrs.

A basic drawing class facilitating students' abilities to see objects rationally, developing expressive drawing skills using various approaches and a wide variety of graphic media. *Transfer Assurance Guide (TAG) approved effective summer 2008*

(OAH001 - Basic Drawing).

(0+6)

ART210 Oil/Acrylic Painting 3 Cr. Hrs.

An introductory painting class emphasizing building stretcher frames, preparing painting surfaces, using oil/acrylic media, using color, and framing.

Transfer Assurance Guide (TAG) approved effective fall 2005 (OAH048 - Painting)

(0+6)

ART220 Beginning Sculpture 3 Cr. Hrs.

A basic level studio sculpture course facilitating students' ability to see and create three dimensional works of art. In this introductory class, clay, placticine, found objects, and soapstone are used in creating manipulative, subtractive, and additive method sculptures, following examination of historical works and the guiding principles of design behind creation of sculpture.

Transfer Assurance Guide (TAG) approved effective fall 2011 (OAH047 - Sculpture)

(0+6)

ATS101 Portfolio Development 3 Cr. Hrs.

This course is designed for the student interested in developing a portfolio for submission and review for college credit. The student will work with his/her advisor in the development of the portfolio. (3+0) On demand with approval of the appropriate Dean.

BAN110 Bank Management 3 Cr. Hrs.

A study of the commercial banking industry and the interrelationships between the various types of financial institutions. Special emphasis is given to branch banking, bank financial statements, methods of evaluating bank performance, lending policies, and the management of deposit liabilities and loan assets. The regulatory environment receives significant emphasis throughout.

(3+0)

BAN210 Credit Management 3 Cr. Hrs.

An examination of the concept of credit with particular emphasis given to the process of credit management for both consumers and businesses. Also explored are the processes of granting and reviewing credit, collection practices, as well as the examination of financial statements leading to the credit decision. Dun and Bradstreet's business services, as well as those of the major consumer credit organizations, receive in-depth treatment.

(3+0)

BAN220 Investment Management 3 Cr. Hrs.

A study of the types of investment vehicles available to the individual investor or business investment officer. The major emphasis of study is on various types of stocks and bonds, but convertibles, options, futures, commodities, and mutual funds are also studied. In addition, several special concepts receive emphasis, such as strategies associated with margin accounts and short-selling. Valuation of the firm and related financial analysis also receive appropriate treatment. Algebra proficiency is recommended.

(3+0)

BIO100 The World of Science 3 Cr. Hrs.

For non-science majors, assuming no background knowledge. Students will learn to scrutinize and assess critically scientific information, historical and current, from popular information outlets. This is a science appreciation course (same as CHM100, PHY100). Course projects will be based on the course prefix chosen.

(3+0)

BIO101 Principles of Biology 4 Cr. Hrs.

An introduction to principles and concepts of life, including topics on cell biology, genetics, diversity of life, and ecology. Laboratory work reinforces lecture.

(3+2)

Prerequisites: ENG095 and MTH080 or MTH085

BIO115 Ecology 4 Cr. Hrs.

An introduction to the field of ecology, including the organization, interrelationships and dynamic of populations, communities and ecosystems. A major emphasis on the relationship of humans to the environment. Lab includes field trips and the study of local aquatic and terrestrial communities.

(3+2)

Prerequisites: BIO101, or High school biology with a grade of "C" or better and ENG095 and MTH080 or MTH085

BIO131 Nutrition 3 Cr. Hrs.

A study of nutrition and its role in promoting good health throughout the life span. Includes the study of proper nutrients and the various functions of the nutrients in the body's metabolism. *Transfer Assurance Guide (TAG) approved effective summer 2007 (OHL016 - Basic Nutrition).*

(3+0)

Prerequisites: ENG095 and MTH080 or MTH085

BIO150 The Human Body 4 Cr. Hrs.
 An integrated course in the normal structure and function of the human body. It forms a basis for the later understanding of dysfunctional conditions. Each body system is presented individually, then the interrelationships between body systems are studied.
 (4+0)
 Prerequisite: BIO101, or high school Biology with a grade of "C" or better and ENG095 and MTH080 or MTH085

BIO175 Review of Biology 1 Cr. Hrs.
 This course offers a review of college resources, a review of math, a review of scientific writing, and a review of cell biology. This course is specifically for those students who have had high school biology and chemistry with a "C" or better and are planning on taking a 200 level biology course but feel they need to review their skills. This course is an optional elective.
 (1+0)
 Prerequisite: High school biology and chemistry with a "C" or better and ENG095 and MTH080 or MTH085

BIO201 General Biology I 4 Cr. Hrs.
 The course is designed for students pursuing various disciplines of science, especially biology and allied health-related majors. The first course in a two-semester sequence. Successful completion of this course is a pre-requisite to BIO 202 (General Biology II). Major topics covered include: the scientific method; basic chemistry, especially as it relates to biochemistry; cell structure and function, including the cell cycle and photosynthesis; genetics, including DNA structure and function; and evolution and natural selection. Transfer Assurance Guide (TAG) approved effective summer 2009 (OSC003 - General Biology I).
 (3+3)
 Prerequisites: BIO 101, or high school biology with a grade of "C" or better and ENG095 and MTH080 or MTH085

BIO202 General Biology II 4 Cr. Hrs.
 The course is designed for students pursuing various disciplines of science, especially biology and allied health-related majors. Major topics include biological classification; animal, plant, fungi and microbial diversity and evolution; plant and animal systems and their form and function; ecosystems and ecology; and animal behavior. Transfer Assurance Guide (TAG) approved effective summer 2010 (OSC004 - General Biology II).
 (3+3)
 Prerequisite: BIO201 with a grade of "C" or better or instructors permission

BIO231 Anatomy & Physiology I 4 Cr. Hrs.
 Anatomical and physiological aspects of cells and tissues and the integumentary, skeletal, muscular, and nervous systems of the human body. Lab emphasizes human anatomy and physiology and includes cat dissection.
 (3+3)
 Prerequisite: ENG095 and MTH080 or MTH085; High school biology and chemistry with a "C" or better within the last 5 years, or BIO175 with a "C" or better, or BIO101 with a "C" or better, or BIO201 with a "C" or better, or Instructor Permission

BIO232 Anatomy & Physiology II 4 Cr. Hrs.
 A continuation of BIO231, which focuses on anatomical and physiological aspects of the endocrine, digestive, respiratory, circulatory, cardiovascular, lymphatic, urinary, and reproductive systems of the human body. Lab emphasizes human anatomy and physiology and includes cat dissection.
 (3+3)
 Prerequisite: BIO231 with a grade of "C" or better within the last 5 years or instructor permission

BIO234 Human Disease 3 Cr. Hrs.
 A study of alterations in homeostasis, alterations in cellular function as well as pathophysiology of common disorders of the human nervous, muscular, skeletal, endocrine, cardiovascular, respiratory, excretory, digestive, and reproductive systems. Special emphasis will be placed on the relationship between the normal physiology and the physiological basis of the disease process. Case studies are used to interpret clinical information, diagnostic tests, signs and symptoms relating to mechanisms of disease. Intended for students in or aspiring to various health professions including nursing.
 (3+0)
 Prerequisite: BIO232 with a grade of "C" or better within the last 5 years or Instructor Permission

BIO250 Genetics 4 Cr. Hrs.
 The fundamentals of classical genetics and the basic principles of human genetics are reviewed. Topics covered include plant and animal genetics, cancer genetics, genetic engineering, genetics in human medicine and criminology, and ethical issues raised by DNA technology such as eugenics.
 (3+2)
 Prerequisite: BIO101 or high school Biology and Chemistry with a grade of "C" or better

BIO257 Microbiology 4 Cr. Hrs.
 A study of anatomy, physiology, taxonomy, identification, growth, and control of micro-organisms, including bacteria, viruses, algae, fungi, and selected human parasites. Additional topics include bacterial metabolism, microbial genetics, immune responses, host defense mechanisms, and the spread of infectious diseases. Laboratory includes culture staining and identification of micro-organisms.
 (3+3)
 Prerequisite: BIO234 with a "C" or better or BIO201 with a "C" or better within the last 5 years or Instructor Permission

BUS101 Introduction to Business 3 Cr. Hrs.
 This course is a survey of business, introducing the major components of a business including production or service, marketing, finance, management, accounting and human resources. The course also examines the economic, social, technological, competitive and regulatory environment of business both domestically and internationally.
 (3+0)

BUS211 Business Communications 3 Cr. Hrs.

This course introduces business communication principles and establishes written communication standards in preparation for the real-world workplace. Students analyze a variety of writing situations, design the form and content of communications, and write in appropriate styles that range from informal to business formal. Effective oral communication is emphasized, individually and as teams, utilizing appropriate technology, strategy, and delivery. Transfer Assurance Guide (TAG) approved effective summer 2012 (OBU005-Business Communications).

(3+0)

Prerequisites: ENG111 and CIS112 or CIS114

BUS221 Business Law 3 Cr. Hrs.

This course is a study of the U.S. legal system and dispute resolution. Major units of study include: sources of law, torts and crimes, contract and sales law, personal property law, employment law, consumer credit/bankruptcy law, and a study of business organizations. In addition, units on ethics, cyber law, e-contracts, intellectual property law, and alternative dispute resolutions are presented. Cases and media presentations are used to highlight important concepts. Transfer Assurance Guide (TAG) approved effective spring 2008 (OBU004 - Legal and Social Environment of Business).

(3+0)

BUS223 Employment Law, Safety & Security 3 Cr. Hrs.

In this course we will address the need to understand and comply with employment law, the benefits of employee assistance programs, and compliance with occupational safety, health, and security programs within the workplace. Topics covered in the course include legal compliance, workplace violence, safety, security, emergency response plans, employee assistance programs, employee wellness programs, and chemical use and dependency.

(3+0)

BUS250 Labor Relations 3 Cr. Hrs.

This is a study of unions and their relationship with management. Major topics include negotiating and administering labor contracts, wages, benefits, and working conditions, as well as their impact on contract negotiations.

(3+0)

CAD112 CAD II 4 Cr. Hrs.

Students successfully completing this course will be proficient in basic Computer-Aided-Design through utilization of commercial CAD software. This course covers fundamental Window system commands, AutoCAD application commands, and utilizing printing equipment for finished projects. The goals are: to become proficient in the operation of a CAD system, to develop complex assemblies to learn the interrelationship of detailed and purchased parts, and how they come together in a final set of multiple part working drawings. Transfer Assurance Guide (TAG) approved effective summer 2008 (OET012-CAD).

(3+3)

Recommended: IND103 and MET107/IND107

CAD213 CAD III 4 Cr. Hrs.

Students will develop and plot advanced 3D models, 2D detail drawings and 3D assembly drawings as used in the modern industry today. Students will also learn how to link their 3D models to develop design tables and bill of materials. This course is an advanced course in mastering the commands utilizing SolidWorks 3D feature-based parametric solid modeling design tool software.

(3+3)

Recommend: MET107/IND107

CET100 Construction Methods & Materials 3 Cr. Hrs.

In this course the student will become familiar with construction drawings and techniques. Common building materials and methods will be explored with respect to sustainability and common construction practice.

(2+2)

CET115 Project Management 3 Cr. Hrs.

In this course the student will learn a plan for project management that expands on initiating, planning, executing, monitoring and controlling, and closing projects. The course focuses on professional presentation and communication to navigate projects from conception to completion.

(3+0)

Prerequisite: CIS090 or equivalent

CET120 Construction Material Testing 3 Cr. Hrs.

This course provides an introduction to fundamental materials used in the construction industry including aggregates, asphalt and asphalt concrete, Portland cement and Portland cement concrete, iron, steel, masonry, and wood. Students will study testing standards as published from ASTM and ACI. Laboratory exercises will perform materials testing according to job site standards.

(2+2)

Co-requisite: MTH109

CET200 Surveying 3 Cr. Hrs.

Students learn the proper use of basic surveying equipment with an emphasis on coordinating theory and drawings into physical experience. This course will use conventional measuring instruments and compare the results to trigonometric predictions.

(2+2)

Prerequisite: MTH112

CET215 Project Management II 3 Cr. Hrs.

This course builds on the foundation of Project Management I within a context of ethics and professionalism. The student will learn advanced project management (PM-3), leadership in teams (PM-4), and organization and behavior within projects (PM-5).

(3+0)

Prerequisite: CET115

CET240 Soils**3 Cr. Hrs.**

In this course the student will learn the relationship between soil conditions and building design. Students will study industry standards and experiment to confirm the standard requirements. Laboratory tests will include sieve and hydrometer tests, compaction analysis, and permeability analysis. Lecture will introduce the theory to support laboratory findings and implementation of design specifications.

(2+2)

Prerequisites: MET234 & MET235

CHM100 The World of Science**3 Cr. Hrs.**

For non-science majors, assuming no background knowledge. Students will learn to scrutinize and assess critically scientific information, historical and current, from popular information outlets. This is a science appreciation course (same as CHM100, PHY100). Course projects will be based on the course prefix chosen.

(3+0)

CHM101 Principles of Chemistry**4 Cr. Hrs.**

This course provides students with an introduction to the fundamental chemistry underlying a variety of technologies and careers. Topics covered include various aspects of conducting measurements, chemical nomenclature and equations, molecular bonding, atomic structure, uses of radioactivity and analytical methodologies. In addition, the behavior of gases, solutions, acid and bases will be explored. The student will also learn how to classify chemical reactions, as well as determine quantities of reagents needed for and products resulting from such reactions. Laboratory reinforces and supplements lectures.

(3+3)

Prerequisites: ENG095 and MTH080 or MTH085

CHM110 Science & Technology of Sustainability**4 Cr. Hrs.**

CHM110 takes the approach of examining past practices; evaluating current technical developments, and exploring promising new technologies in a critical fashion. It is offered that the student will develop and hone the logical capacity to determine how chemical science and engineering principles might have impact on various sustainability issues and evaluate likely applications and results. Topical areas include: energy (e.g., alternative fuels); clean water and the principles of green chemistry. Laboratory work, along with occasional visiting speakers and field trips, will reinforce the basic principles and emphasize development of analytical thinking, laboratory techniques and sound understanding of environmental principles. Students will conduct laboratory exercises in which chemistry intersects a number of matters. Cited examples are clarification of water, detection of lead and characterization of solids in smoke. These areas of inquiry arise from sustainability issues related to clean water, children chewing on lead-based paint chips and by-products of combustion.

(3+3)

CHM138 Principles of Forensics**4 Cr. Hrs.**

Forensics is the application of the natural sciences to all phases of criminal investigation. The study of basic chemistry and biology are now an important aspect of modern forensic science. Current topics in forensics such as DNA investigation, hair analysis, blood, grass and soil, body fluids, fingerprint analysis, drug analysis, arson, accelerants, explosives, toolmarks and firearms.

(3+2)

CHM201 General Chemistry I**5 Cr. Hrs.**

This is the first part of a two-semester program for technically-oriented students needing a solid foundation in general chemistry. Topics covered include an in-depth treatment of measurement, atomic and molecular structures, ionic behavior in solutions, and inorganic chemical nomenclature. Also, the types of chemical reactions (including acid-base and oxidation reduction) are reviewed, along with stoichiometric principles, the behavior of gases and thermochemistry. Additional topics covered include electronic structure, periodic law, chemical bonding and molecular geometry. Lab work reinforces basic principles, supplements lectures and emphasizes analytical techniques. Transfer Assurance Guide (TAG) approved effective summer fall 2009 (OSC008 - General Chemistry I).

(3+3+1 Recitation)

Prerequisites: CHM101 or High School Chemistry in the last 5 yrs and ENG095 and MTH080 or MTH085

CHM202 General Chemistry II**5 Cr. Hrs.**

A continuation of CHM201, this is the second part of a two-semester general chemistry program. Topics covered include a detailed treatment of states of matter, intermolecular forces, and the properties of solutions. Chemical kinetics, chemical equilibrium (including those of acid-base systems, complex ions and coordination compounds) and chemical thermodynamics are covered as well. Students are also introduced to electrochemistry, nuclear chemistry, and the chemistry of selected elements and materials (including polymers and organic substances). Lab work reinforces basic principles, supplements lectures, and emphasizes analytical techniques. Transfer Assurance Guide (TAG) approved effective spring 2011 (OSC009 General Chemistry II).

(3+3+1 Recitation Hour)

Prerequisites: CHM201 and MTH109 with a grade of "C" or better or instructor's permission

CHM256 Principles of Biochemistry**3 Cr. Hrs.**

An introductory course that deals with inorganic and organic biomolecules. Emphasizes the synthetic and degradative reactions of carbohydrates, lipids, nucleic acids, and proteins. Examines the roles of water, buffers, enzymes, vitamins, minerals, and organic salts in cellular metabolism. Laboratory reinforces and supplements lectures.

(2+2)

Prerequisite: CHM101 or equivalent

CIS090 Introduction to Computers 1 Cr. Hr.

This course is a beginner's introduction to computers (PC's). The text covers most of the fundamental concepts associated with computers including terminology, hardware and software issues, and introduces the student to some elementary skills via some of the well-known software applications. Students will practice basic computer skills using word processing and spreadsheets, as well as explore the Internet. No prior computer knowledge is necessary for this course.

(0+2)

Course Placement Test is available

CIS104 Desktop Management 1 Cr. Hr.

This is a course in which the students learn to understand and operate the personal computer using the Microsoft Windows Environment. They will also learn how to communicate with others using Microsoft Outlook. The basic features for the latest operating system and Outlook will be covered.

(0+2)

Prerequisite: CIS090 and OAS090 or satisfactory score on Course Placement Tests

CIS112 Microsoft Word 3 Cr. Hrs.

This course teaches basic and advanced commands in Microsoft Word software to create, format, edit, and save documents including letters, tables, reports, and merged documents. Other topics covered include desktop publishing features, web pages, styles and templates, master documents, online forms, workgroups, and information integration with other office programs.

(2+2)

Prerequisite: CIS090 and OAS090 or satisfactory score on Course Placement Tests

CIS113 Microsoft Excel 3 Cr. Hrs.

This course emphasizes beginning to advanced features of Microsoft Excel. Some of the topics presented include handling multiple worksheets, as well as creating and using formulas, macros, range names, data lists, data protection, data validation, pivot tables, and linking and embedding.

(2+2)

Prerequisites: CIS090 and OAS090 or satisfactory score on Course Placement Tests

CIS114 Microsoft Applications 3 Cr. Hrs.

This course is a basic course in which the student learns to operate the personal computer using four components of Microsoft Office software: Microsoft Word, Excel, Access, and PowerPoint. All the basic program functions will be covered for each package, as well as many advanced functions. A basic knowledge of the keyboard is helpful. *Transfer Assurance Guide (TAG) approved effective spring 2008 (OBU003 - Computer Applications).*

(2+2)

Prerequisite: CIS090 and OAS090 or satisfactory score on Course Placement Tests

CIS117 Microsoft Publisher 1 Cr. Hr.

This course will emphasize the basics of creating professional layouts, including flyers, newsletters, announcements, menus, etc. The student will learn the basics of desktop publishing using Microsoft Publisher.

(1+1)

Prerequisite: CIS112 or CIS114

CIS118 Access 1 Cr. Hr.

This is a course in which students will use MS Access software to learn the basic concepts of database management. Creating databases, entering data, preparing a query, preparing graphs, and creating forms and reports are all practiced in a lab setting.

(0+2)

Prerequisite: CIS090

CIS119 PowerPoint 1 Cr. Hr.

This is a course designed for the beginner in using PowerPoint, a presentation graphics program. Slide creation; use of graphics, charts, tables, and color to enhance slides; and methods of automation, use of sound, and collaboration techniques will be areas of study. Hands on experience and the ability to demonstrate usage of PowerPoint will be provided.

(0+2)

Prerequisite: CIS090

CIS129 Web Page Development 3 Cr. Hrs.

The student will learn the concepts of web page design and layout, along with the writing of HTML, XHTML, and CSS code. In preparing web pages for the internet, current ADA standards, web page validation, and mobile devices will be studied.

(2+2)

Prerequisite: CIS090 or equivalent

CIT108 Internet Scripting 4 Cr. Hrs.

This course is designed to teach programming to a student using a current Internet scripting language. The course will teach the student traditional programming concepts such as variable usage, program flow statements and designing loops. The class will focus on using the scripting language to solve programming problems using Internet applications.

(3+3)

CIT109 Database Management 4 Cr. Hrs.

This course is designed to familiarize students with the concepts underlying client/server relational databases. This class will teach students the basics of using the SQL query language. It will also teach more advanced SQL concepts such as query optimization and using SQL in other high level programming languages. This class will teach the student how to manage and maintain a server based database system. This will include tasks such as creating, backing up, repairing, optimizing, securing, localizing and internationalizing databases.

(3+3)

Co-requisite: CIT191

CIT111 Visual Basic Programming 4 Cr. Hrs.
 This is a computer programming course involving applications utilizing a Graphics User Interface (GUI) and serving the needs of users in an event driven environment. The course moves from fundamental input/output programs to applications accessing a database for the purpose of adding, deleting, and/or updating records. The course also covers user report processing needs and applications involving the Internet. Object oriented techniques are introduced and important programming concepts are emphasized. Students will be required to complete several laboratory assignments during the semester.
 (3+3)

CIT150 Programming C++ 4 Cr. Hrs.
 This is an introduction to structured programming using the ANSI C/C++ programming environment. Use of the environment tools, logic structures, and primary library functions of the language is emphasized. Additional subjects covered include variable types and declarations, math and logical operators, parameter passing, arrays and string handling and pointers. Career Technical Assurance Guide (CTAG) approved effective spring 2017 (CTPROG003 - C++ Programming).
 (3+3)

CIT155 Linux Networking I 4 Cr. Hrs.
 This course covers data communications and operating system technology as implemented in a Linux environment. Subjects covered include the history, theory, administration, and installation of Linux and its associated software. This class will focus on the administration of Linux workstations. This class makes extensive use of lab projects to reinforce essential concepts. Career Technical Assurance Guide (CTAG) approved effective fall 2015 (CTIT016 - Linux).
 (3+3)
 Co-requisite: CIT190 or CIT191

CIT161 C# 4 Cr. Hrs.
 This course is an introductory programming course taught using Microsoft's C# language. The course makes extensive use of the .NET framework which is common in most of the Microsoft programming languages. Students will create both console and GUI programs in this course. Variables, decisions, loops, arrays, classes, inheritance, event-handling, exceptions, file input/output and database connectivity are some of the topics covered. This course includes hands on laboratory assignments.
 (3+3)

CIT165 Java Programming 4 Cr. Hrs.
 This is an introductory programming course which utilizes the Java Programming Language and emphasizes object-oriented programming concepts. As a general purpose programming language Java can be utilized in traditional programming environments. It can support applications developed for a variety of computer platforms and other devices such as smart phones or tablets. This course includes hands on laboratory assignments requiring students to complete and submit programming projects. Career Technical Assurance Guide (CTAG) approved effective spring 2017 (CTPROG002 - Java Programming).
 (3+3)

CIT191 Computer Operations 3 Cr. Hrs.
 This course is an intensive study of operating systems and PC hardware. Topics include study of the theory and tasks commonly assigned to system software, basic disk and program commands, configuration and installation commands and techniques, as well as management of resources and security. Hardware issues are also addressed covering the theory, installation and maintenance of common personal computer hardware such as CPU's, memory, hard drives and peripheral devices. This course helps prepare the student for the CompTIA A+ Certification Exams. Transfer Assurance Guide (TAG) approved effective fall 2016 (CTIT003 - CompTIA A+ Essentials).
 (2+3)

CIT192 Microsoft Workstation Technology 3 Cr. Hrs.
 This course teaches the basic and advanced concepts needed to manage a Microsoft Desktop Operating system in both a networked and standalone environment. This course makes extensive use of lab projects to reinforce essential concepts. Transfer Assurance Guide (TAG) approved effective spring 2011 (CTIT011 - MS Windows Desktop OS).
 (2+3)
 Co-requisite: CIT191

CIT193 Microsoft Server Technology 3 Cr. Hrs.
 This course teaches the basic and advanced concepts needed to manage a Microsoft Server Operating system in both a networked and standalone environment. This course makes extensive use of lab projects to reinforce essential concepts. Transfer Assurance Guide (TAG) approved effective fall 2013 (CTIT015 - CompTIA Security+).
 (2+3)
 Co-requisite: CIT191

CIT194 IT Security Fundamentals 3 Cr. Hrs.
 This course is an introduction to security as it applies to computers, local area networks and the Internet. This class covers both methods of attack and the prevention of those attacks. The course provides an introduction to cryptography. The course covers the creation and implementation of a comprehensive security policy. This course helps prepare the student for the CompTIA Security+ Certification Exams. Transfer Assurance Guide (TAG) approved effective fall 2013 (CTIT015-Comp TIA Security+).
 (2+3)
 Co-requisite: CIT191

CIT195 Networking Essentials 3 Cr. Hrs.
 This is a survey course designed to introduce students to basic network concepts and terminology. Both theoretical and practical material is introduced in this class. This course covers learning objectives tested in the CompTIA Network+ exam. This course includes hands on laboratory assignments. Transfer Assurance Guide (TAG) approved effective fall 2015 (CTIT002-Networking/Comp TIA Network +).
 (2+3)
 Prerequisite: MTH090

CIS201 Workplace Technologies 3 Cr. Hrs.

This is a hands-on course addressing technology's role in the work place. Projects will focus on processes and tools that are available to students to enhance technological office procedures. It will introduce various technologies and DigiTools necessary in the business environment. DigiTools will include, but not limited to, Wacom Graphire Tablet, Tablet PC, scanners, speech recognition, and podcasting. Various productivity software packages will also be included. Digital reputation management will be discussed.

(3+0)

Prerequisite: CIS104 or CIS112 or CIS113 or CIS114

CIT202 Mobile Application Programming 3 Cr. Hrs

This course will provide students with an introduction to mobile application development. By the end of the course the student will be able to install and work with Android development tools. The student will be able to create an effective and attractive visual interface. The student will accomplish these outcomes by creating and debugging several mobile applications. Students need a solid foundation in Java programming skills to be successful in this class.

(2+3)

Prerequisite: CIT193

CIT255 Linux Networking II 4 Cr. Hrs.

This course covers data communications and network services as implemented in a Linux environment. Subjects covered include firewalls, DNS, DHCP, file sharing, printer sharing, as well as email and web services. This class will focus on the administration of Linux workstations. This class makes extensive use of lab projects to reinforce essential concepts.

(3+3)

Prerequisite: CIT155

CIT265 Java Programming II 3 Cr. Hrs.

This is an advanced programming course which utilizes the Java Programming Language and emphasizes object-oriented programming concepts. The course will introduce students to advanced topics such as interfaces, generic types, database connectivity, working with multiple threads and localizing programs so that they can be useful in a global market. This course includes hands on laboratory assignments requiring students to complete and submit programming projects.

(2+3)

Prerequisite: CIT165

CIT284 Microsoft Infrastructure Technology 3 Cr. Hrs.

This course teaches the basic and advanced concepts needed to manage a Microsoft Infrastructure Services such as DNS, DHCP and Remote Access Services. This course makes extensive use of lab projects to reinforce essential concepts.

(2+3)

Co-requisite: CIT193

CIT285 Microsoft Directory Services Technology 3 Cr. Hrs.

This course teaches the basic and advanced concepts needed to manage a Microsoft Directory Services environment. This course makes extensive use of lab projects to reinforce essential concepts.

(2+3)

Co-requisite: CIT193

CIT290 Information Technology Intern. 1-4 Cr. Hrs.

This is a job-related computer experience in which the student works for a department within the college, a business, or an industrial organization. The student is chosen for this course on the basis of academic progress or job experience. Enrollment only with instructor permission.

(1+30)

CJT130 Principles of Criminal Justice 3 Cr. Hrs.

Students will become familiar with the criminal justice system by exploring theories of criminology, examining the development of criminal and procedural law, understanding the roles of law enforcement, court and correctional personnel, and by investigating critical issues surrounding criminal justice including multi-cultural and gender issues.

(3+0)

CJT134 Criminal Law 3 Cr. Hrs.

This course is designed as a study of the development and implementation of criminal law. Emphasis will be placed on exploring elements of criminal statutes, understanding Ohio's criminal statutes, investigating affirmative defenses and sentencing practices. Students will analyze the law based on their own personal opinions and beliefs by critically examining and discussing certain laws, procedures, court cases, and case outcomes.

(3+0)

Prerequisite: CJT130

CJT136 Juvenile Delinquency Principles 3 Cr. Hrs.

This course examines the problems of today's "youth in trouble," with an emphasis placed on prevention, causes and methods of approach and disposition of cases.

(3+0)

Co-requisite: CJT130

CJT140 Constitutional Law 3 Cr. Hrs.

This course is a study of contemporary constitutional issues. Discussed are critical issues in criminal justice including detention, arrest, search and seizure, interrogations and confessions, self-incrimination, due process and right to counsel. Also included are constitutional aspects of criminal and civil liabilities of justice personnel, and constitutional and civil rights in the workplace.

(3+0)

CJT220 Law Enforcement in American Society 3 Cr. Hrs.
 Overview of the police role in modern American society; emphasis on problems and issues confronting police and solutions within an organizational framework.
 (3+0) F - odd years
 Prerequisite: CJT130

CJT230 Corrections 3 Cr. Hrs.
 A survey of the general field of corrections, including the institutions and resources which are used. A historical overview of corrections is explored.
 (3+0)
 Co-requisite: CJT130

CJT240 Criminal Evidence & Procedure 3 Cr. Hrs.
 An overview of criminal procedure and law including constitutional provisions, rules of evidence, trial and pre-trial procedures, arrest, search and seizure, admissibility and confessions. (TAG approved spring 2018 - OSS031- Introduction to Criminal Justice).
 (3+0)
 Prerequisites: CJT130

CJT242 Probation & Parole 3 Cr. Hrs.
 This course will explore the philosophies and guidelines utilized in both the juvenile and adult probation setting. The dilemma of surveillance involving custody/control factors verses supervision and treatment will be examined. A strong emphasis will be placed on developing citizen agency relationships in utilizing citizen volunteer programs to help rehabilitate offenders.
 (3+0)
 Prerequisites: CJT130

CJT244 Criminal Investigation 4 Cr. Hrs.
 A study of investigative procedures; initial contact by the investigator, interviewing, case development, follow-up investigation, handling of leads, hot or cold information, in custody interviews and procedures. Crime scene labs will be incorporated into this class.
 (3+2)
 Prerequisites: CJT130 and CJT134

CJT246 Technical Skills for Officers 3 Cr. Hrs.
 This course will focus on developing technical skills necessary for the performance of jobs in the Criminal Justice field. Topics covered will include Report Writing, Sketching, Interrogation, and Testifying in Court.
 (3+0)
 Prerequisite: Admission to Law Enforcement Academy

CJT252 Seminar in Criminal Justice 3 Cr. Hrs.
 This course exams current critical issues in criminal justice. Topics to be considered for discussion and analysis include: terrorism, capital punishment, restorative justice, ethics, race and class issues, drugs, the decision making process, issues in policing and the future of crime and justice.
 (3+0)
 Prerequisites: CJT130 and CJT134

CJT281 Vehicle Patrol/Traffic Enforcement 4 Cr. Hrs.
 Police academy cadets will become familiar with O.P.O.T.C. requirements for proper patrol techniques including identifying traffic offenses and correct tactical procedures for stopping and approaching vehicles.
 (3+3)
 Prerequisite: Admission to Law Enforcement Academy

CJT282 Firearms/Driving 4 Cr. Hrs.
 Police academy cadets will become proficient in O.P.O.T.C. firearms techniques including identification of firearms and nomenclatures, secure handling of firearms, and will become certified in the firing of firearms. Students will also become adept in defensive and pursuit driving techniques and vehicle maneuverability.
 (2+6)
 Prerequisite: Admission to Law Enforcement Academy

CJT283 Defensive Tactics/Physical Fit 3 Cr. Hrs.
 Police academy cadets will become experienced with several levels of defensive tactics including hand to hand and baton techniques as well as weapon retention. Students will also become physically ready to pass the O.P.O.T.C. physical fitness standards.
 (1+6)
 Prerequisite: Admission to Law Enforcement Academy

CJT284 Human Conditions 4 Cr. Hrs.
 Police academy cadets will become certified in first aid and CPR techniques. Students will also identify cultural differences and how to effectively interact and communicate in diverse settings. Cadets will also become knowledgeable in preventing and controlling civil disorders.
 (3+3)
 Prerequisite: Admission to Law Enforcement Academy

CJT289 Special Topics CJ Professional 1 Cr. Hrs.
 This course will examine special topics within criminal justice including sociological, criminological and philosophical discussions of criminal justice. Topics within the course will challenge students to examine the underlying theory and assumptions behind many of their current beliefs.
 (1+0)
 Prerequisites: CJT132, CJT136, CJT230, and CJT240
 Co-requisites: CJT242, CJT244, and HST214

CJT290 Criminal Justice Practicum 4 Cr. Hrs.
 A basic exposure to a particular criminal justice agency through observation and limited participation. This course will provide an understanding of how this agency fits into the entire criminal justice system and local community.
 (3+8)
 Prerequisites: CJT136, CJT230, and CJT240

CYB190 Introduction to Programming 3 Cr. Hrs.

This course covers introductory topics to programming. This course will use Python. Introductory topics are Python installation, Python documentation, package management (pip) in Python, using variables, variable types, conditional operators (decision making), iteration, string formatting, proper handling of user input, functions, exceptions, and object oriented programming (OOP) including properties and methods.
(3+0)

CYB210 Cybersecurity Programming 3 Cr. Hrs.

This course will teach students how to apply programming principles learned in other classes to create functional solutions. These solutions might be used to automate security tasks, support a secure infrastructure, or perform other security functions. This course will teach students to apply SDL (Secure Development Lifecycle) principles to their programming projects. Students will complete multiple lab projects intended to reinforce the learning topics covered.

(2+3)

Prerequisite: EET107

CYB220 Security Auditing 3 Cr. Hrs.

This course covers the topics of penetration testing and vulnerability assessment. This course focuses on the appropriate tools and methodologies necessary to test and assess an organization's security posture. Topics will include historical security incidents, current security incidents, the responsibilities, and ethics of performing penetration tests and vulnerability assessments and techniques of the trade. Students will complete multiple lab projects intended to reinforce the learning topics covered.

(2+3)

Co-requisite: CIT194

CYB230 Network Security 3 Cr. Hrs.

This course will introduce students to the concepts of network security. Students will learn to install and configure Intrusion Prevention Systems (IPS), Intrusion Detection Systems (IDS), firewalls, log managers, and network monitoring software. Students will become familiar with network security design best practices. Students will complete multiple lab projects intended to reinforce the learning topics covered.

(2+3)

Prerequisites: CIT194, CIT195

DBP110 ICDL Computer Technologies 1 Cr. Hr.

This course provides a thorough understanding of information and communication technologies (ICT). Students who successfully complete this course will have a solid foundation in core desktop computer applications including word processing, spreadsheets, database and presentation software. Students will also be exposed to foundational topics including Windows operating system, computer operations and internet usage. This is an online course that includes demonstrations and hands on exercises. Successful completion of the course will prepare students for the ICDL certification tests. ICDL (International Computer Driving License) is the US arm of the ECDL Foundation and is an internationally recognized computer certification.

(0+2)

DBP121 Computer Systems II 3 Cr. Hrs.

This course moves beyond the PC application environment and focuses on client-server systems and software development. The student will learn two models for the software development lifecycle as well as foundational programming concepts such as data types and variables. The student will also be exposed to a variety of client and server environments. Introduction to both cloud computing and open-source applications are included in this program.

(2+2)

DBP130 IT Customer Service and Communication 3 Cr. Hrs.

IT professionals need the skills to communicate with other IT personnel as well as end users. Students will be taught to assist clients through effective electronic and verbal communication skills with a focus on the differences in communicating with each group. Students will also focus on professionalism in the workplace. There is an emphasis on email and phone etiquette, business manners, attention to detail in written and oral communication, presentation to specific audiences, value of listening to others, and conflict management. Students will also focus on the best ways to promote themselves in the employment market.

(2+2)

DBP150 Database Basics 3 Cr. Hrs.

This course is designed to move the student beyond the confines of PC based databases. The students will learn the basics of relational database systems including topics such as indexes and normalization. The focus of the course will then move to enterprise database management systems and include discussion of distributed computing and data warehousing. Finally, they will learn the fundamentals of querying using Structured Query Language (SQL).

(2+2)

DBP205 Discrete Structures 3 Cr. Hrs.

In this course the student will learn foundations that underlay programming in the majority of programming languages. Discrete structures such as Boolean logic, proof techniques, graphs, recurrence relations and functions will be covered. The class will then move into algorithms including sorting, binary search and flowcharting. Pseudo code will be used as a means to introduce programming that is non-language specific. The students will be introduced to the concept of screen flow as a way of analyzing how an end user will move through an application. Topics in this course will be reinforced with the assistance of Visual Logics software.

(2+2)

Prerequisite: DBP110

DBP210 Computer Programming I 3 Cr. Hrs.

In this course the student will learn foundations that underlay programming in the majority of programming languages. Discrete math such as sets, logic and proofs will be learned. The class will then move into algorithms including sorting, binary search and flowcharting. Pseudo code will be used as a means to introduce programming that is non-language specific. The students will be introduced to the concept of screen flow as a way of analyzing how an end user will move through an application. Finally, the students will move to the Visual Basic language to transfer their skills into a language to develop a variety of applications.

(2+2)

Prerequisite: DBP205

DBP220 Database Reporting 3 Cr. Hrs.

In this course the student will learn how to effectively pull information from a variety of database systems. The student will learn how to directly pull data from a database using a reporting tool and how to use SQL as an intermediate step in reporting to more effectively work with large stores of data. A heavy focus will be placed on the popular Crystal Reports (Pro, Server & Dashboard) software application.

(2+2)

Prerequisite: DBP150

DBP225 Computer Programming II 3 Cr. Hrs.

In this course the students will add to their knowledge of programming by focusing further on object oriented programming using the C# language. They will also learn how the .NET framework provides a structure for programs. Finally, they will be introduced to the widely used, class-based, object-oriented language Java. With these languages, students will learn about standalone applications as well as automating processes. Not only will students learn to write original code, they will be exposed to methods of debugging existing code.

(2+2)

Prerequisite: DBP210

ECD150 Infant & Toddler Development 3 Cr. Hrs.

This course engages participants in exploration and discussion about high-quality care giving and developmentally appropriate practices when engaging with infants and toddlers and their families. The importance of quality environments that support development, language and literacy, family engagement, advocacy, positive guidance, and professionalism are discussed as they relate to required standards and the care of infants and toddlers.

(3+0)

ECD 190 Fundamentals of Early Childhood 3 Cr. Hrs.

This course provides an overview of early learning environments and developmental characteristics for children age 0-8. An emphasis will be placed on the history of early childhood education, theories and program models which influence program and curriculum development today. A weekly required field experience places the student in an early childhood program observing the development of young children. The student will learn appropriate observation methods and use a variety of tools to document children's development. *Career Technical Assurance Guide (CTAG) approved effective spring 2019 (CTECE001 - Introduction to Early Childhood Education).*

(2 + 3)

ECD201 Pre-Kindergarten Curriculum & Methods 3 Cr. Hrs.

This course focuses on the role of the teacher in connecting content, teaching and learning for preschool children when building curriculum based on best practices. Ohio's PreK Early Learning Standards will be used as students compare and contrast a variety of curriculum models. Students will apply understandings of how children learn to create healthy, respectful, supportive, and challenging learning environments for all children. Participation in a preschool classroom six hours each week will give students an opportunity to develop, implement and reflect on lesson plans that they selected and prepared to meet the needs of individual children and the group.

(2+6)

Prerequisites: EDU100, EDU150, and ECD190 with a grade of "B" or higher

ECD270 Special Topics in Early Childhood 3 Cr. Hrs.

An independent study course permitting the student to explore issues affecting children and families. May be required by ECD faculty to assist students in meeting requirements for the Ohio Department of Education Pre-Kindergarten Associate License.

(3+0)

Prerequisite: Determined by ECD Coordinator's recommendation

ECD280 Child Care Field Experience 3 Cr. Hrs.

A 60-hour field experience appropriate to student's focused interest area. May be required by ECD faculty to assist students in meeting requirements for the Ohio Department of Education Pre-Kindergarten Associate License.

(1+4)

Prerequisite: Determined by ECD Coordinator's recommendation

ECD290 Pre-Kindergarten Practicum 3 Cr. Hrs.

This is the capstone course of the Pre-Kindergarten associate degree program. Planning and carrying out specific teaching experiences requires participation in an early childhood learning program. Principles are assimilated through practical experiences with an established group of 3-5 year old children and a mentor teacher. All students complete a 200 hour placement in a Pre-Kindergarten classrom for the semester. To be recommended for the ODE Pre-Kindergarten Associate License, students must achieve a grade of B or higher, meet passing score of state of Ohio required assessment, and demonstrate that any remaining coursework in the degree program can be completed within 6 monts of completing.

(1+14)

Prerequisites: ECD190, EDU100, EDU150, ECD150, EDU220, EDU230, ECD201 with a grade of "B" or higher, EDU120, EDU 180, EDU140, EDU 240, EDU210, EDU270 with a grade of "B" or higher; Student must demonstrate that the PreK Associate Degree can be completed within 6 months of completing practicum.

Co-requisite: EDU250, EDU260

ECO211 Macroeconomics 3 Cr. Hrs.

Macroeconomics is a study of the U.S. economy emphasizing supply and demand, total production, total employment, and the general price level. Issues of inflation, recession, international trade, and federal budget deficits are also investigated. Economic solutions through fiscal policy and monetary policy are included. *Transfer Assurance Guide (TAG) approved effective fall 2005 (OSS005 - Macroeconomics).*

(3+0)

ECO212 Microeconomics 3 Cr. Hrs.

Microeconomics is a study of the U.S. economy emphasizing supply and demand, the individual firm, competition, and the industry. Issues of revenue, expense, profit, loss, and break-even are also investigated. Decisions such as price determination and production output are included. *Transfer Assurance Guide (TAG) approved effective fall 2005 (OSS004 - Microeconomics).*

(3+0)

EDP 160 Introduction to Paraprofessional Education 3 Cr. Hrs.

This foundational course introduces the role and responsibilities of the paraprofessional. A field experience occurs in an educational setting serving special needs populations from preschool to grade 12. Students interact as a member of a multidisciplinary team, observe and support instructional activities under the direction of a licensed teacher, and operate within the recommended standards for health, safety, and nutrition.

(2 + 3)

EDP202 Supporting Children with Severe Disabilities 3 Cr. Hrs.

This course focuses on the role of the paraprofessional learning how to work with, communicate, assist, and guide students with severe disabilities in a classroom setting (K-12). Participation in a special education classroom for students with severe disabilities (determined with the instructor) for 3 hours a week (45 hours total) will give students and opportunity to engage with students with severe disabilities as well as instructors and other paraprofessionals while acting as a paraprofessional throughout the lab experience.

(2+3)

Prerequisites: EDP160 with a grade of "B" or higher, EDU100, EDU150

Co-requisite: EDU 220

EDP290 Paraprofessional Internship 2 Cr. Hrs.

This experience requires the student to be available for a continuous experience in a school system for not less than 14 hours per week. Assignments will be coordinated through local schools so that the student has the opportunity to apply knowledge and develop skills appropriate to the role of the educational paraprofessional.

(0+14)

Prerequisites: EDP160, EDU100, EDU150, EDP202 with a grade of "B" or higher, EDU220, EDU230, EDU120, PSY230, EDU240, EDU210, EDU270 with a grade of "B" or higher, EDU140, EDU180

Co-requisite: EDU 250, EDU260

EDU100 Introduction to Teaching 3 Cr. Hrs.

This introductory course explores the purposes, organizations, and outcomes of schooling from the perspectives of the field of social foundations of education. Candidates undertake critical inquiry into teaching as a profession. Licensure requirements, teachers' legal responsibilities, and the accountability of public schools are also explored. Students must be available to make several school visits and access the internet to research relevant topics. *Transfer Assurance Guide (TAG) approved effective spring 2017 (OED007 - Introduction to Education).*

(3+0)

EDU120 Guidance & Classroom Management 3 Cr. Hrs.

Classroom management is a major concern of all educators from the preschool classroom through secondary education. This course explores various guidance theories providing a variety of techniques to be used in the development of a personal philosophy that can be put into practice in the classroom.

(3+0)

Prerequisite: PSY110

EDU 140 Strategies for Teaching Reading 3 Cr. Hrs.

Essential teaching methods and techniques of literacy instruction prepare the student for working with young readers as well as those with reading difficulties. Emphasis is placed on the understanding of phonics and its role in reading and writing instruction. Day time availability is required for a short term tutoring experience.

(3 + 0)

Prerequisites: EDU 100

EDU150 Child Development I 3 Cr. Hrs.
This course focuses on applying knowledge of the characteristics and needs of young children, prenatal to age eight, for the creation of healthy, respectful, supportive, challenging, and effective learning environments. Multiple and interrelated influences on the development and learning of young children will be examined. *Transfer Assurance Guide (TAG) approved effective summer 2020 (OED010 - Early Childhood Development).*
(3+0)

EDU180 Health, Safety, Nutrition 2 Cr. Hr
In this course, students will examine and discuss content and issues related to the health, safety, and nutrition of young children birth through age 5. Students will explore information that relates to the development of safe learning environments, healthy nutrition, and other positive interactions that support optimal growth and development for young children. Ways to engage the family in supporting these practices as well as licensing rules and information about required training will be included.
Career Technical Assurance Guide (CTAG) approved effective fall 2020 (CTECE002 - Health, Safety, and Nutrition).
(2+0)

EDU210 Creative Arts Curriculum 3 Cr. Hrs.
This course is designed to teach theory and practice supporting play to develop children's creative expression in music, drama, art, and movement. Principles and elements of the arts are introduced as the student advances own understanding of the arts and their contribution to child development and learning.
(3+0)
Prerequisite: EDU100

EDU220 Special Education 3 Cr. Hrs.
This is a survey course to prepare all educators to teach diverse learners, including those with exceptionalities. It covers developmental characteristics, assessment methods, intervention strategies, and ethical principles for students in education and community settings. *Transfer Assurance Guide (TAG) approved effective summer 2017 (OED009 - Individuals with Exceptionalities).*
(3+0)
Prerequisites: EDU100

EDU230 Family, School & Community 3 Cr. Hrs.
This course explores educational considerations for teachers including the policies, theories, practices, skills, and knowledge of home, school, and community partnerships. Candidates will examine: the multiple influences on the whole child; accessibility of community services and supports; ethical, practical, and culturally competent decisions to foster family engagement; knowledge and skills needed to address family structure, socio-cultural and linguistic backgrounds, identities and customs, and advocacy for children and families. (3+0)
Prerequisite: EDU100

EDU240 Educational Psychology 3 Cr. Hrs.
This course deals with the major theories of human development, motivation and learning. Planning of instruction, teaching strategies, assessment and classroom management are examined. Authentic pedagogical practices are used to gain an understanding of the teaching and learning process. *Transfer Assurance Guide (TAG) approved effective summer 2017 (OED008 - Educational Psychology).*
(3+0)
Prerequisites: PSY 110

EDU250 Education Seminar 2 Cr. Hrs.
This end of program course meets once a week placing ECD290 and EDP290 students together for discussions of practical daily classroom issues as well as professional development needs. Advocacy opportunities related to children and families will be emphasized. Students will organize materials and documentation useful for licensure, employment and transfer to baccalaureate programs.
(2 + 0)
Prerequisites: Permission of Education Department
Co-requisites: EDP 290 or ECD 290, EDU 260

EDU260 Instructional Technology 3 Cr. Hrs.
This is a hands-on course addressing technology's role in education at all grade levels. The focus is on processes and tools that are available to teachers to enhance classroom organization, instruction, and assessment. Students will research pedagogical issues regarding appropriate use of computers with young children and in the classroom.
(2+2)
Prerequisites: EDU100, OAS090, CIS090

EDU 270 Cultural & Linguistic Diversity 3 Cr. Hrs.
This course will prepare students to support learners from diverse backgrounds in an educational setting. Emphasis will be on culturally responsive and relevant teaching to English language learners and culturally diverse learners. A field experience consisting of 45 hours will be tailored to the student's program of study.
(2 + 3)
Prerequisites: EDC190 or EDP160 with a B or higher, EDU150, EDU120, EDU230, PSY110
Co-Requisites: EDU 220, EDU 240

EET107 Python Programming 3 Cr. Hrs.
This course teaches common programming topics using the Python programming language. Topics covered include programming terminology, the proper use of variables, input/output techniques, basic decisions, loops, lists, objects and more. Students will complete multiple lab projects intended to reinforce the learning topics covered.
(2+3)

EET121 DC Circuits**3 Cr. Hrs.**

In this course the student will learn the fundamental principles of electricity with emphasis on DC (direct current) circuits. The concepts of Ohm's Law, the Power Formula, and Kirchoff's Laws will be applied to series, parallel, and series-parallel circuits. Electrical quantities will be defined and the behavior of resistors, inductors, and capacitors under DC conditions will be studied. Complex circuits will be analyzed using the theorems of superposition, and Thevenin and Norton equivalent circuits. The relationship between electricity and magnetism will also be introduced. These topics will be learned through text, presentations, various exercises, and hands-on labs. *Transfer Assurance Guide (TAG) approved effective fall 2012. (OET001 - DC Circuits).*

(2+2)

Prerequisite: MTH090

EET122 AC Circuits**3 Cr. Hrs.**

In this course the student will continue to learn the fundamental principles of electricity with emphasis on AC (alternating current) circuits. The concepts of Ohm's Law, the Power Formula, and Kirchoff's Laws will be expanded to include steady-state AC circuits. The behavior of filter circuits and transformers will be studied along with the theorems of Superposition, and Thevenin and Norton equivalencies applied to AC networks. Complex numbers and phasors will be used to represent sinusoidal AC quantities. The course concludes with an introduction to electric power systems, power factor analysis, and poly-phase systems. These topics will be learned through text, presentations, various exercises, and hands-on labs. *Transfer Assurance Guide (TAG) approved effective fall 2012 (OET003 - AC Circuits).*

(2+2)

Prerequisite: EET121

EET221 Digital Circuits**4 Cr. Hrs.**

In this course the student will be introduced to the fundamentals of digital logic that forms the basis of digital electronic systems. Topics include number systems and codes, logic gates, Boolean algebra, and logic simplification using key theorems. Elementary digital circuits will be explored including: encoders, adders, multiplexers, flip-flops, counters, shift registers, and memory devices. Integrated circuit (IC) technologies and applications will also be discussed. These topics will be learned through text, presentations, various exercises, and hands-on labs. *Transfer Assurance Guide (TAG) approved effective fall 2012 (OET002 - Digital Circuits).*

(3+3)

Prerequisite: EET121

EET231 Microprocessors**4 Cr. Hrs.**

In this course the student will gain a fundamental understanding of the microprocessor and microcontroller. Microprocessor architecture and hardware including bus structures, memory, and input/output (I/O) will be studied. Operation of the microprocessor/controller will be programmed by the student using hardware specific Assembly language. Real-world applications using the microprocessor and microcontroller will also be discussed. These topics will be learned through text, presentations, various exercises, and hands-on labs.

(3+2)

Prerequisite: EET121

EET240 Engineering Programming**3 Cr. Hrs.**

This course is the study of the popular Visual Basic 6.0 programming language. The focus will be on the student learning statement language and visual programming. Projects and learning activities will include Engineering and Industrial Maintenance applications.

(2+2)

Prerequisite: MTH090

EET272 Networking I**3 Cr. Hrs.**

This is an introductory course in data networking focusing on cabling, Ethernet protocols, switching and routing. Discussion topics include the OSI model, Ethernet, TCP/IP, network hardware, data cabling, IPv4 and IPv6 addressing, designing TCP/IP networks, and troubleshooting. The course is mix of classroom learning and hands-on laboratory using real networking equipment.

(2+2)

Prerequisite: MTH090

EET277 Electronics**3 Cr. Hrs.**

This course is a study of the electronic devices used in modern day industrial machinery. Solid state switching devices will be discussed, that includes transistors, SCRs and Triacs, as well as the firing devices used in current controlled circuits. Power supply circuits and basic amplifier circuits using Operational Amplifiers will also be discussed. Students will focus on operation, application and troubleshooting of the various electronic devices. *Transfer Assurance Guide (TAG) approved effective fall 2012 (OET005 - Electronics).*

(2+2)

Prerequisite: EET121

EET282 Networking II**3 Cr. Hrs.**

This is an intermediate level networking course meant to be a second course in data networking. Discussion topics include, but are not limited to, spanning tree, configuring and installing routers, understanding IP routing, wide area networking implementation and technology, IPv4 and IPv6 routing protocols, network management and troubleshooting. The course is mix of classroom learning and hands-on laboratory using real networking equipment.

(2+2)

Prerequisite: CIT195

EET289 Systems Integration 3 Cr. Hrs.

This course is a capstone for the Manufacturing Maintenance, Industrial Electrical, PLC Certificate and Maintenance Technician/ Mechatronics Programs. Upon the completion of the requirements for the previously mentioned programs the learner will display his/her newly developed skills by designing an industrially related system, (electrical and pneumatic), install the appropriate electrical and mechanical devices and troubleshoot the system to 100% of the design specifications.

(2+2)

Prerequisites: PLC200 and IND134

EMS102 EMT Basic I 4 Cr. Hrs.

This course provides an overview of the Emergency Medical Services system and the roles and responsibilities of the Basic EMT. Topics include basic medical emergency management, patient assessment and triage, multi-system trauma management, patient stabilization and transportation. This course, along with successful completion of EMT Basic II, follows state and national guidelines for certification as a Basic EMT. The course requires hands-on laboratory and clinical experiences.

(3+2)

EMS103 EMT Basic II 3 Cr. Hrs.

This course provides training on special needs patients, including geriatric and pediatric patients as well as EMS Special Operations. Assessment based management of patients will be discussed. Laboratory experiences and clinical rotations are a required component of this course. Students must successfully complete EMT Basic I in order to enroll in this course.

(2 + 2)

Prerequisite: EMS 102

EMS202 EMT Advanced I 5 Cr. Hrs.

This course emphasizes the roles and responsibilities of the EMT-I and includes medical/legal considerations, basic pharmacology, medication administration, airway management, and advanced assessment techniques. The laboratory component includes procedures in IV therapy, shock management, cardiac management and EKG interpretation. This course, along with successful completion of EMT Intermediate II, follows state and national guidelines for certification as an EMT-I. Students must submit verification of current Ohio EMT-Basic certification.

(4+2)

Prerequisite: EMS103 and Current Ohio EMT-Basic Certification

EMS203 EMT Advanced II 3 Cr. Hrs.

This course provides the Intermediate EMT advanced training on emergency care of special needs patients, including geriatric and pediatric patients as well as a review of EMS Operations. Laboratory experiences and clinical rotations are a required component of this course. Students must successfully complete EMT Intermediate I in order to enroll in this course.

(2 + 2)

Prerequisite: EMS 202

ENG095 Integrated College Reading & Writing 4 Cr. Hrs.

ENG095 blends the strategies necessary for successful reading in college courses with the writing processes which will lead to clear and effective communication. The course will emphasize skills for efficient, independent learning from textbooks and other college reading materials, with the emphasis on vocabulary development. It reviews the steps for composing college-level paragraphs and essays, including a review of common grammatical structures used in formal academic writing.

(4+0)

Prerequisite: Satisfactory score on Course Placement Test

ENG099 Writing Skills Workshop 2 Cr. Hrs.

ENG 099 introduces basic strategies for effective written communication with an emphasis on grammar, punctuation, and syntax. It scaffolds topics and supplements knowledge of genre assignments from its required co-requisite course, ENG 111, in a hands-on, collaborative writing workshop meant to support and transition students to success in college level writing tasks in an accelerated environment.

(2+0)

ENG111 Composition I 3 Cr. Hrs.

An expository composition course emphasizing the expectations of college-level writing, including thesis development, support, and coherence. Students will gain experience using a variety of rhetorical modes. In addition to a number of full-length essays, a short documented paper, based on research materials and using parenthetical references, is required.

(3+0)

Prerequisite: ENG095, or concurrent in ENG099, or satisfactory score on Course Placement Test

ENG112 Composition II 3 Cr. Hrs.

Building on the skills learned in Composition I, this course further develops the student's writing and research experience, with an emphasis on analytical writing in response to critical reading and class discussion. Using MLA parenthetical documentation techniques, the student will write several short essays and a research paper.

(3+0)

Prerequisite: ENG111 with grade of "C" or better

ENG113 Speech 3 Cr. Hrs.

This course provides experience in public speaking. Organization of ideas, improvement of critical thinking skills, and the use of visual aids are important parts of the course. Student speeches are analyzed and critiqued for effectiveness. *Transfer Assurance Guide (TAG) approved effective spring 2018 (OCM013 - Basic Public Speaking/Oral Communication - Ohio Transfer Module TMCOM approved)*

(3+0)

ENG210 Technical Communications 3 Cr. Hrs.

This course develops written and oral communication skills needed in technical fields, focusing on producing documents, effectively conducting group discussions, and giving presentations. It includes formal individual and group technical reports as well as shorter documents common to technical fields, emphasizing clear, concise, and logical communication strategies, format and visual information.

(3+0)

Prerequisite: ENG111 with grade of "C" or better

ENG214 Discussion & Conference Method 3 Cr. Hrs.

Focuses on the elements of communication and small group theory as employed in a group discussion situation with emphasis on the individual's responsibility in the discussion setting. Focuses on the development of the leadership abilities within the group, including analysis of group interaction in the decision-making process for task-oriented groups. *Transfer Assurance Guide (TAG) approved effective summer 2007 (OCM003 - Small Group Communication).*

(3+0)

ENG217 Introduction to Creative Writing 3 Cr. Hrs.

A multi-genre writing course which explores poetry, fiction and drama. Students will write and workshop original works and learn the basics of craft for each area, including: imagery, meter/form, character, metaphor, dialogue, story, setting, and voice. Reading selections emphasize contemporary and historical writers, and students develop a writing portfolio of revised creative works across three genres.

(3+0)

Co-requisite: ENG111 with "C" or better

ENG223 Interpretation of Literature 3 Cr. Hrs.

Introduces the elements of critical reading of literature, specifically fiction, poetry, and drama. Topics such as structure, character, point of view, style, theme, tone, and symbolism first are defined, then applied to selected pieces of literature. Examines the importance of historical, cultural, and literary contexts for understanding literature. **Writing intensive.**

(3+0)

Co-Prerequisite: ENG111

ENG230 Children's Literature 3 Cr. Hrs.

Reading and evaluation of nonfiction and fiction, folklore, myth, poetry, and illustrated books for children and adolescents from critical and multi-cultural points of view. **Writing intensive.**

(3+0)

Prerequisite: ENG111

ENG240 Introduction to Poetry 3 Cr. Hrs.

Introduces the elements of critical reading of poetry, including poetic language, imagery, and forms. Focuses on poems as expressions of important themes of human experience and as products of their historical and cultural contexts. **Writing intensive.**

(3+0)

Prerequisite: ENG111

ENG241 Introduction to Fiction 3 Cr. Hrs.

Focuses on a critical reading of fiction, particularly short stories, examining formal elements, including plot, character, setting, point of view, and theme. Introduces various critical perspectives for the interpretation of fiction, including the importance of historical, cultural, and literary contexts for understanding fiction.

Writing intensive.

(3+0)

Prerequisite: ENG111

ENG250 American Literature I 3 Cr. Hrs.

Surveys American literary works ranging from recorded Native American oral traditions through the literature of the Civil War period. Places works in historical and cultural contexts, focusing on the development of major themes and movements in American literature. *Transfer Assurance Guide (TAG) approved effective fall 2005 (OAH250 - American Literature I).* **Writing intensive.**

(3+0)

Prerequisite: ENG111

ENG251 American Literature II 3 Cr. Hrs.

Surveys American literary works from the late nineteenth century through the contemporary period. Places works in historical and cultural contexts, focusing on the development of major themes and movements in American literature. *Transfer Assurance Guide (TAG) approved effective summer 2009 (OAH054 - American Literature II).* **Writing intensive.**

(3+0)

Prerequisite: ENG111

ENG260 British Literature I 3 Cr. Hrs.

This course focuses on British literature from the Old English period through the Restoration and eighteenth century examining writers and representative literary texts, including poetry, drama, and prose fiction and non-fiction, as they reflect cultural and historical contexts. *Transfer Assurance Guide (TAG) approved effective spring 2009 (OAH055 - British Literature I).* **Writing intensive.**

(3+0)

Prerequisite: ENG111

ENG261 British Literature II 3 Cr. Hrs.

This course focuses on British literature from the Romantic period through the twentieth century, examining writers and representative literary texts, including poetry, drama, and prose fiction and non-fiction, as they reflect cultural and historical contexts. *Transfer Assurance Guide (TAG) approved effective spring 2009 (OAH056 - British Literature II).* **Writing intensive.**

(3+0)

Prerequisite: ENG111

GSD100 Success Seminar 1 Cr. Hr.
This course is intended for college students of any age who want to create success both in college and in life. Throughout this course, students learn essential academic and life skills, as well as self-empowering techniques and strategies.

(1+0)

Required course for students who test into either developmental math or English courses. It is required for students on Academic Probation or those returning from Academic Suspension. This course is open to any student and could be used as 1 credit General Studies elective.

GSD120 Career and Life Planning 3 Cr. Hrs.

This class assists the student in examining the components of career choice. The focus is on career awareness, personal awareness, and educational awareness as they relate to the process of career choice. Planning skills and self-assessment instruments will help identify tentative career options. Decision-making strategies, resume writing, interviewing skills, and job search techniques will be reviewed.

(3+0)

HIS101 U.S. History Pre-1876 3 Cr. Hrs.

A study of the social, political, and economic development of the United States through the Post Civil War period. Several critical periods in early American History are examined: colonization, settlement, rebellions, revolutions, constitution making, Jeffersonian and Jacksonian democracy, slavery, the westward movement, the Indian problems, and the Civil War. *Transfer Assurance Guide (TAG) approved effective summer 2008 (OHS043 - U.S. American History I and OHS010 - U.S. American History Sequence, Course 1 of 2).* **Writing intensive.**

(3+0)

Co-requisite: ENG111

HIS102 U.S. History Post-1876 3 Cr. Hrs.

United States from the Reconstruction period to the present. Topics include reconstruction, impact of industrialization, agricultural revolution, populism, rise of monopoly capital in the "progressive" era, the age of imperialism, WWI, Great Depression, WWII, the New Deal, the Welfare State, the Vietnam War and the popular protests, the civil rights movement, the rejection of the welfare state and rise of Neo-Conservatism. *Transfer Assurance Guide (TAG) approved effective summer 2008 (OHS044 - U.S. American History II and OHS010 - U.S. American History Sequence, Course 2 of 2).* **Writing intensive.**

(3+0)

Co-requisite: ENG111

HIS203 U.S. Since 1945 3 Cr. Hrs.

A contemporary history of the United States which provides a balanced account of foreign affairs, domestic politics, and social and cultural change. Presents change from U.S. global hegemony to a truly global economy as the backdrop for the replacement of the liberal-welfare state with the neo-conservative state. Relates this important transition to the form and content of popular protest since 1945. Topics include the New Deal, the Cold War, confronting the Third World, struggles for equality, and mass media effects on popular culture. **Writing intensive.**

(3+0)

Co-requisite: ENG111

HIS210 The Modern World 3 Cr. Hrs.

This course joins a study of the history of the modern world with students' understanding of their place in the contemporary world. Competing histories of the modern world's origins are followed by a comparative study of western and non-western societies and the forces giving rise to modernism, reaction, revolution, and postmodern tendencies from the thirteenth century to the present times. **Writing intensive.**

(3+0)

Co-requisite: ENG111

HPF106 Beginning Western/English Horsemanship 1 Cr. Hr.

This course is designed for the novice or beginner who has had little or no exposure to horses or riding. Students will learn horses and riding from the "ground-up" in which the very basics of horsemanship is taught. The instructor tries to match each student's abilities with a specific horse while keeping in mind everyone's safety is of the highest concern. All classes are conducted at Sanderson Stables, located on the corner of Union and Washington Streets, Cygnet, Ohio 43413; phone 419-655-2253. Sanderson Stables owns and maintains horses, tack, and grounds specifically for appropriate instruction. This course can also be taken as many times as the student desires. This course is many times used to fulfill the physical education requirement at the university level

(1+0)

HPF107 Intermediate Rider 1 Cr. Hr.

This course is designed for Intermediate level riders who have mastered the HPF106 level skills and thus builds on those skills. The instructor tries to match each student's abilities with a specific horse while keeping in mind everyone's safety is the highest concern. The focus of this course is on handling the horse on the ground and in the saddle, as well as practicing the jog, lope and lead departures.

(1+0)

HPF108 Advanced Rider 1 Cr. Hr.

This course is designed for advanced level rider who has mastered the HPF107 level skills and thus builds on those skills. The focus of this course is on tack room procedures, as well as advanced riding methods, trail riding, trotting, buggies, carts and using a driving harness.

(1+0)

HST101 Principles of Human Services 3 Cr. Hrs.

An introduction to the field of human services, study of social work, social policy and social welfare organizations, their history & fields of practice. This course includes an introduction to various practice settings, roles of the social worker & social work assistant, NSW Code of Ethics, as well as the knowledge base and skills required for culturally competent generalist social work practice. An overview of various public and private Human Service agencies in the community and their organizational structure, client services and the role of social and economic justice in serving a diverse cross section of at-risk and vulnerable societal groups is also included.
(3+0)

HST105 Cultural Competence with Diverse Populations 3 Cr. Hrs.

This course identifies the special needs and issues involved in providing human services to diverse populations. Diversity includes but is not limited to race, ethnicity, gender, religion, sexual orientation, disability, age and socioeconomic status. The focus is on the inequalities affecting these groups, culturally relevant intervention strategies used at the micro, mezzo and macro levels of practice and advocacy strategies used in the pursuit of social, economic and environmental justice.
(3+0)
Prerequisite: HST 101 and PSY 110

HST112 Group Work in Human Services 3 Cr. Hrs.

This course is an introduction to basic knowledge, techniques, and skills used by Human Service workers in facilitating groups. Group dynamics, theory, leadership skills and techniques used in facilitating groups will be examined and applied to a variety of task and treatment groups utilized in Human Service settings with various target populations.
(3+0) S

HST208 Interviewing Techniques 3 Cr. Hrs.

This course is focused on helping students understand and develop basic interviewing skills used in working with clients in human service settings. Emphasis is placed on developing collaborative relationships with clients, understanding the role of nonverbal communication, use of appropriate verbal responses, conducting assessments, developing service plans and evaluation strategies used to measure progress. A segment of the course is devoted to developing crisis intervention skills and techniques.
(3+0)
Prerequisites: PSY110, HST101, and HST105

HST210 Human Services Methods 6 Cr. Hrs.

A practical, in-house lab experience meant to prepare students for their actual experience in a human service agency. Seminar format provides for discussion and integration of experiences with academic courses. Open only to Human Services Technology majors who have completed 18 credit hours of Human Services technical courses with a grade of "C" or better. Labs for this course will consist of supervised labs/lab hours to be arranged in-house along with field lab hours. Supervised by Master Level Social Worker, State Licensed.
(4+4)
Prerequisites: HST101, HST105, PSY210, and HST112
Co-requisite: HST208

HST212 Principles of Addiction 3 Cr. Hrs.

Presents substance abuse and addictive problems from an addictions model approach. A historical, cultural, and social context is presented as well as an overview of the theories of addiction. Other major topics: recognizing early signs and symptoms of substance abuse, differences in counseling strategies with substance abusers, and other derivative problems. This is a foundation course with a scientific base. Family systems are reviewed.
(3+0)

HST222 Ethics in the Helping Profession 3 Cr. Hrs.

The practice of counseling and related helping professions is regulated both by law and by professional standards of practice or codes of ethics, which provide only general guidelines. This course will look at historical and contemporary theories of relevant ethical theories and provide exposure to real-life ethical issues from a multi disciplinary approach.
(3+0)
Prerequisite: HST101

HST230 Introduction to Social Welfare Policy 3 Cr. Hrs.

This course surveys the history of social welfare policy, services, and the social work profession. It explores current social welfare issues in the context of their history and the underlying rational and values that support different approaches. Emphasis is placed on major fields of social work such as; income support, health care, child welfare, corrections, and services to the elderly. Analytic frameworks with regard to social welfare policies and services are presented. These frameworks identify strengths and weaknesses in the current social welfare system with respect to multiculturalism and diversity; social justice and social change; behavioral and social science theory and research; and social work relevant promotion, prevention, treatment, and rehabilitation programs and services related to diverse dimensions (including age, class, color, culture, ethnicity, family structure, gender(including gender identity and gender expression), marital status, national origin, race, religion or spiritually, sex and sexual orientation.)
(3+0)

HST240 Social Problems 3 Cr. Hrs.

An examination of the major social problems existing in western society and how various conditions within society come to be defined as social problems. Topics include such areas as poverty, racism, sexism, unemployment, AIDS, and abusive behaviors (physical, psychological, sexual abuse, and neglect). Analysis of each of these problems along with the social welfare system's responses and the role of the human services worker. *Transfer Assurance Guide (TAG) approved effective fall 2007 (OSS025 - Social Problems).*
(3+0)

HST242 Marriage and Family 3 Cr. Hrs.

A comprehensive look at relationships in which the content includes: marriage, cohabitation, singles, family dynamics (parenting, adoption, etc.), historical and cultural differences in both traditional and contemporary settings; life span development, divorce, domestic violence, death and dying issues. Theoretical frame works as well as practical application of those theories will be covered. *Transfer Assurance Guide (TAG) approved effective fall 2007 (OSS023 - Marriage and Family).*
(3+0)

HST290 Practicum I 6 Cr. Hrs.

Practical experience in a human services agency. Two-hour seminar provides for discussion and integration of experiences with academic courses. Open only to Human Services Technology majors who have completed a minimum of 45 credit hours of work and have completed 24 credit hours of Human Services technical courses with a grade of "C" or better.
(2+16)
Prerequisites: HST208 and HST210
Co-requisite: HST230

HUM209 Humanities & Cultures: Ancient & Medieval Worlds 3 Cr. Hrs.

Surveys Western and non-Western humanities of the ancient and medieval worlds. Examines creative expression, such as art, literature, and philosophy, as evidence of the evolution of ideas that serve as the roots of modern cultures. *Transfer Assurance Guide (TAG) approved effective summer 2008 (OHS041 - Western/World Civilization I and OHS009 - Western/World Civilization Sequence, Course 1 of 2).* **Writing intensive.**
(3+0)
Co-requisite: ENG111

HUM210 Humanities & Cultures: Renaissance to Present 3 Cr. Hrs.

Examines various Western and non-Western creative traditions, including art, literature, and philosophy, during and after the Renaissance. Focuses on the interaction of ideas and traditions in the modern world. *Transfer Assurance Guide (TAG) approved effective summer 2008 (OHS042 - Western/World Civilization II and OHS009 - Western/World Civilization Sequence, Course 2 of 2).* **Writing intensive.**
(3+0)
Co-requisite: ENG111

HUM221 Music Appreciation 3 Cr. Hrs.

The study of vocal and instrumental music from the standard repertoire primarily through listening. Previous music training is not required, but regular listening is part of the course. **Writing intensive.**
(3+0)
Co-requisite: ENG111

HUM230 Art Appreciation 3 Cr. Hrs.

Theories and philosophies of art history and aesthetics covering prehistoric art to modern art. Students will learn to analyze and respond actively to art, using appropriate artistic concepts and vocabulary. **Writing intensive.**
(3+0)
Co-requisite: ENG111

IND100 Precision Measurement 3 Cr. Hrs.

This course provides the student with theory and skills needed to perform dimensional inspections. Students will learn to study a part print, select, and use the proper measuring tool(s). Concepts introduced include precision, discrimination, accuracy, and calibration. Expands previously learned print reading skills to include Geometric Dimensioning and Tolerancing.
(2+2)

IND103 Applied Geometry & Trigonometry 3 Cr. Hrs.

Geometry includes definitions and descriptions of geometric terms, axioms, theorems, propositions dealing with straight lines, triangles, polygons, and circles, as well as perpendicular and parallel relationships. Trigonometry includes definitions of basic trigonometric functions, use of trigonometric tables, solutions of right triangle and oblique triangle problems, use of sine, cosine, tangent and their reciprocals in the solutions of unknown angles, logarithms, and practical shop problems.
(2+2)
Prerequisite: MTH080

IND105 Industrial Safety 2 Cr. Hrs.

This is a course in hazard recognition based on OSHA recommended standards. Although students learn to identify potential hazards in the workplace, they will also develop a greater awareness of hazards in their environment. Students will also certify in CPR through the American Heart Association.
(2+0)

IND107 Print Reading and Sketching 3 Cr. Hrs.

Print Reading and Sketching is designed to give a basic overview of the following: abbreviations, terminology, different line types, view identification, dimensioning practices, dimensioning calculations, tolerance calculations, and sketching including geometric construction, orthographic projection, isometric, section and auxiliary views.
(2+2)

IND110 Industrial Computing I 3 Cr. Hrs.
This course is a study of the application of computer systems as found in an industrial environment. The focus of this class will be on operating systems, networking and computer hardware. This class will be taught at an applied level for the Skilled Trades Person, Technician, and Engineer.
(2+2)

IND120 Industrial Electricity I 3 Cr. Hrs.
This is an introductory electricity course for skilled trade's personnel. The course is a study of DC and AC electricity principles, with a practical approach to applications in an industrial environment. The learner will obtain a knowledgeable understanding of the key symbols and abbreviations associated with the electrical trade, acquire a comprehensive understanding of basic electrical terminology, apply Ohm's Law to a number of relevant electrical applications, and synthesize a number of components into a working system involving series, parallel, and series parallel circuits.
(2+2)
Prerequisite: MTH050

IND121 Industrial Electricity II 3 Cr. Hrs.
This course is an advanced study of Industrial Electricity providing comprehensive coverage of the control devices used in contemporary industrial electrical systems. The focus of this course is to provide the architecture for acquiring the knowledge and skills required in an advanced manufacturing environment. The course continues with electrical and motor theory, building on circuit fundamentals and reinforcing these with practical hands-on labs designed to reinforce the concepts and provide control systems design experience. These topics will be learned through text, presentations, various exercises, and hands-on labs.
(2+2)
Prerequisite: IND120 or instructor permission

IND122 Industrial Wiring (NEC) 3 Cr. Hrs.
The primary purpose of this course is to acquaint the learner with a ready source of information relevant to the NEC (National Electric Code), IEC (International Electrotechnical Commission), AISI (American Iron and Steel Institute), NFPA, (National Fire Protection Association), ANSI (American National Standards Institute), UL (Underwriters Laboratories, Inc.), OSHA (Occupational Safety and Health Act), and various Local Codes. This information will focus primarily on the electrical design and engineering of most site work including, but not limited to, industrial, commercial, and residential occupancies.
(2+2)
Prerequisite: IND120

IND130 Rigging and Erecting 3 Cr. Hrs.
This course incorporates the basic laws of physics to moving, setting-up, and securing machinery. Leverage and mechanical advantage, and the care and selection of equipment are taken in consideration while calculating load weights based on various shapes and types of material. Upon completion learners will be able to calculate sling angle tension and how to apply relevant information to different rigging hitches while determining the correct size of rigging tools needed for the job. Learners will apply lecture material to lab applications including mobile crane safety, inspection, hand signals, and proper load chart usage.
(1+4)

IND131 Industrial Pipefitting 3 Cr. Hrs.
A study of the specifications, application, installation, and maintenance of various kinds of pipe, fittings, valves, pumps, and hand tools. The analysis of job requirements in terms of materials, time utilization and sequence of operation is discussed.
(2+2)
Prerequisite: MTH050

IND132 Bench Work 2 Cr. Hrs.
This is the first basic machine shop course in which students learn the use of hand tools. Students are required to select appropriate tools and identify machining processes with emphasis on safety, tooling, precision, and accuracy. Topics include: materials, mechanical fasteners, measurement, tolerance, fit, layout, hand tools, power tools, drilling, grinding, sharpening, hardening, deburring, filing, polishing, layout work on the bench, use of hand taps, and cutting threads with a die.
(2+0)

IND134 Industrial Fluid Power I 3 Cr. Hrs.
Fluid power is an efficient way to move energy without mechanical belts, chains, or levers. The physics of fluids, components, and troubleshooting and design applications for hydraulic and pneumatic systems are covered in this class.
(2+3)

IND140 Principles of Machining 3 Cr. Hrs.
The focus of this course is to provide the student with a basic foundation in the skills needed to perform basic machining methods. The student will develop key techniques that will aid in proper selection, identification, and application of machines and machining methods. Hands-on laboratory work with the lathes, mills, drills, grinders, fixture utilization, feeds and speeds, is emphasized. Special emphasis will be placed on safety, precision, accuracy, and teamwork in completion of assigned lab projects. The student will be required to interpret basic blueprints and manufacture parts to print specifications.
(2+3)
Co-requisite: IND107 or MET107

IND141 Metallurgy & Heat Treatment 2 Cr. Hrs.
A basic course covering the nature and behavior of metals, crystalline structure, theory of alloys, principles of heat treatment, properties of metals and alloys and testing applications. The Rockwell and Brinell hardness testers will be used.
(2+0)
Prerequisite: MTH080

IND220 Electrical Prints & Troubleshooting 3 Cr. Hrs.

This course is a study of the systematic elimination of the various parts of a system or process to locate a malfunctioning part. The learner will obtain a knowledgeable understanding of the key symbols and abbreviations associated with the electrical trade, acquire a comprehensive understanding of the various devices associated with an electrical circuit, synthesize a number of electrical components associated with a viable sequence of operation, recognize a malfunctioning circuit through proper meter application, and apply informed terminology while troubleshooting and restoring a malfunctioning system to its original intention promptly but safely.

(2+2)

Co-requisite: IND121

IND221 Instrumentation & Controls I 3 Cr. Hrs.

This course is a study of the operation and troubleshooting of Industrial Instrumentation systems. The focus will be on analog monitoring and controlled devices, connected to stand alone and PLC based controller systems. The concepts of temperature, pressure, level and flow will be discussed, as well as the transmitters that connect the analog sensor signals to the analog I/O.

(2+2)

Prerequisite: PLC200

IND223 Motors & Motor Controls 3 Cr. Hrs.

This course is an advanced study and laboratory for learners who have an understanding of electrical circuits, controls and desire practical hands-on experience of various motor and control devices. Coursework involves {hands-on} laboratory experience utilizing 120vac, 208/240 VAC as well as text study. Practical application of principles learned will be emphasized. Special topics in electricity will be introduced to the learners according to class interests. Topics of study will include ladder diagrams and their control of alternating and direct current motors. Motor starter sizing, circuit/overload protection, electrical motor branch wiring will also be introduced. The Variable Frequency Drive as a motor controller will also be introduced as well as the application of the programmable logic controller in motor control circuits. The learner will also be responsible for any outside assignments as well as the successful completion of all required laboratory demonstrations. These topics will be learned through text, presentations, various exercises, and hands on labs.

(2+2)

Prerequisite: IND121

IND232 Machine Repair 3 Cr. Hrs.

Basic fundamentals of methods and means to rebuild a production machine such as realignment of columns of tables, scraping of ways, replacing spindles, gears, bearings, gibs, etc.

(2+2)

Prerequisite: IND132

IND234 Industrial Fluid Power II 3 Cr. Hrs.

In this class, the student will use electro-pneumatic and electro-hydraulic components controlled by a programmable logic controller (PLC). The student will be able to construct, write, and troubleshoot a complete electro-pneumatic or electro-hydraulic circuit controlled by a PLC. The students will build, design, and troubleshoot machines using pneumatics, hydraulics, and electrical components.

(2+2)

Prerequisite: IND134

IND240 Machining Processes II 3 Cr. Hrs.

This class is intended to better the student's skills learned in IND140. This class is focused on the student applying their ability to use machine shop equipment to machine projects that apply to the machining, tooling and print reading technologies. Students will focus on machining industrial parts from well documented and professional prints, as well as from documented sketches created on a factory floor on their own. Projects should be more advanced than projects developed in IND140. Students will be assessed by their accuracy, efficiency and finished product using their abilities.

(2+2)

Prerequisite: IND140

IND241 Tooling & Fixtures – Lubricants & Coolants 3 Cr. Hrs.

Tooling, Jigs & Fixtures, Dies, Lubricants and Coolants are an integral part of modern machine practices. This course will provide the student with a basic foundation in Tooling, Jigs & Fixtures, and Die application and theory. Tool selection, tool application, tooling speeds and feeds will be emphasized. Jig & Fixture application will introduce the student to the use of Jigs & Fixtures in machining practices, datums of Jigs & Fixtures, and choice of Jigs & Fixtures for specific applications. Basic Die theory and design will be studied. The function, use, and types of lubricants and coolants will be covered in depth.

(2+2)

Prerequisite: IND140

IND250 Capstone Project (CNC Operations) 3 Cr. Hrs.

This course will focus on a comprehensive project that will require the student to utilize the knowledge and skill learned throughout the program, in order to prepare to work in a CNC production environment. This experiential learning will focus on an actual project setup by a company that would potentially hire students from this program. Students will interact with the instructor and possibly in a small group setting with other students in the class, yet be assessed independently. The end result will be the student setting up and maintaining a CNC machining process in a plant floor environment.

(2+3)

IND290 Industrial Tech. Internship 1-4 Cr. Hrs.

This co-op/internship is a job-related experience in which the student works in a position consistent with the program major. The student is expected to integrate skills learned in the educational program with job responsibilities, while applying work experience to classroom activities. Primary work duties are documented through a work log, incident summary, and a focused report. (1+0)

MEA101 Medical Assisting Clinical I 3 Cr. Hrs.

This course is designed to provide the basic knowledge for assisting physicians or medical office staff with medical exam room preparation, routine patient examination preparation, as well as assisting with basic clinical procedures. The basic concepts of ethical practice and decision making will be introduced (1+4)

Co-requisites: BIO150 and MEA105, MEA108

MEA105 Laboratory Techniques 3 Cr. Hrs.

This course introduces basic principles of laboratory safety, infection control; biological and chemical hygiene associated with CLIA waived testing techniques. Topics covered include the proper collection and processing of blood and non-blood specimens for therapeutic treatment, diagnostic procedures, or analysis. Identifying normal versus abnormal laboratory values, the purpose of common tests, and proper documentation procedures as well as common clinical complications associated with such practices will also be reviewed. (2+2)

Prerequisite: HS Biology with a "C" or better or BIO 101 with a "C" or better

MEA108 Administrative Medical Office 3 Cr. Hrs.

This course will provide a basic understanding of the administrative duties and responsibilities that pertain to the medical office. Students are introduced to the basic operation and maintenance of office equipment, inventory and supply. Application of computer usage within the health care setting, including simulated data entry for patients' medical and financial records, appointment scheduling, and other office transactions. Emphasis placed upon the professional role and communication with patients and members of the health care team. (2+2)

Co-requisite: OAS101 or CIS114, ENG111

MEA110 Pharmacology for a Allied Health Professional 3 Cr. Hrs.

The most common medications used and prescribed in a physician's office are studied. The actions, side effects, contraindications, and administration implications are emphasized. Content related to writing prescriptions, storing of meds, handling of narcotics and searching of pharmaceutical references is included. (3+0)

Prerequisite: MTH080
Co-requisite: BIO150

MEA200 Medical Assisting Administrative Externship 4 Cr. Hrs.

This course provides opportunities to observe, perform, and discuss various administrative competencies under supervision, with learning experiences obtained in selected physicians' offices, clinics or hospitals. (3+6)

Prerequisite: MEA201, OAS111, MEA283

MEA201 Medical Assisting Clinical II 3 Cr. Hrs.

Clinical II is a continuation of Clinical I. Following the Clinical II experience students will be able to administer enteral and parenteral medication (excluding IV), accurately document medication administration, explain and perform ECGs, explain and perform basic respiratory diagnostic testing, demonstrate use of oxygen therapy equipment, respond to emergency situations in a physician office setting, describe an ethical decision making process relating to issues throughout the human lifespan, and discuss professionalism and interview skills as related to a job search (1+4)

Prerequisites: MEA101, MEA105
Co-requisites: MEA110, MEA205

MEA202 Medical Assisting Clinical Externship/CMA Review 4 Cr. Hrs.

This course provides opportunities to observe, perform, and discuss various clinical competencies under supervision, with learning experiences obtained in selected physicians' offices, clinics or hospitals. This course will also review the following basic principles of psychology as they apply to the medical assistant: developmental stages of the life cycle, hereditary, cultural and environmental influences on behavior, mental health and applied psychology. In addition, this course addresses the preparation for the Certified Medical Assisting Exam, including a review of all three components of the CMA exam. This course presents an explanation of how the exam is scored and provides opportunities to take practice exams. (3+6)

Prerequisites: MEA 201
Corequisites: MEA 200

MEA205 Disease Conditions 3 Cr. Hrs.

This course presents the basic concepts of diseases, their courses and function disturbances as they relate to body systems. This course includes the precipitating risk factors and appropriate methods of patient education regarding various disease processes. (3+0)

Prerequisite: BIO150

MEA207 Phlebotomy Externship 6 Cr. Hrs.

This course provides the opportunity to discuss and perform phlebotomy procedures under supervision. The learning experiences will be obtained in selected laboratories, physician offices, clinics or hospitals.

(3+9)

Prerequisites: ENG111, CIS114, MEA105, MEA108, and BIO150 or BIO232

MEA229 Diagnostic and Procedural Coding 4 Cr. Hrs.

This course gives the student an introduction to the diagnostic and procedural coding processes for health insurance reimbursement purposes using the International Classification of Diseases (ICD) and Current Procedural Terminology (CPT) systems. Students develop an understanding of the format and organization of coding system manuals, and the conventions that guide their use. Students will use their knowledge of medical terminology, anatomy and physiology, disease conditions, and pharmacology to correctly assign diagnostic and procedural codes from documentation that link diagnoses to procedures performed.

(4+0)

Prerequisite: OAS180 and BIO 150 or BIO 232

Co-Requisite: MEA 205 and MEA 110

MEA283 Computerized Medical Insurance 3 Cr. Hrs.

This is a course that will cover the fundamentals of using medical office management software which includes: inputting patient data, processing insurance claims and payments, scheduling appointments, and printing medical reports. The computer skills gained will enable students to cross over to the workplace and use medical software in the health environment. *Transfer Assurance Guide (TAG) approved, effective spring 2017 (OHL022 - Health Information Technology).*

(3+0)

Co-rerequisite: OAS/MEA229

MET099 Engineering Math 3.5 Cr. Hrs.

The objective of this course is to increase students preparedness in basic algebra and trigonometry skills used in engineering. These concepts will be reviewed, refreshed, and mastered through application to engineering problems. This course is designed for students who have had some algebra and need a review of specific mathematical topics to prepare them for the engineering technologies course sequence.

(3+1)

Prerequisite: MTH080 or H.S. Algebra II with "C" or better

MET100 Intro to Engineering Technology 2-3 Cr. Hrs.

This course introduces the field of engineering to the student who is interested in engineering technologies. It explores multiple disciplines and careers available. Additionally, the student will solidify knowledge of basic mathematics, measurement systems, and computer skills necessary to succeed in an engineering environment.

(2 or 3+0)

Prerequisite: MTH050

MET107 Engineering Graphics & Sketching 3 Cr. Hrs.

Engineering Graphics and Sketching includes the introduction of various different types of Engineering drawings. Also the construction of various sketches of 3D parts using proper Orthographic Projection, Geometric Construction, Auxiliary Views, and Section Views will also be completed.

(3+0)

MET121 Manufacturing Processes 3 Cr. Hrs.

The focus of this course is to provide the student with an introduction to the theory of the common major manufacturing processes. The major manufacturing processes (methods used to convert raw materials into finished products) are described and compared. Emphasis is placed on how each process works and its relative advantages and disadvantages. Students will have the opportunity to observe processes via field trips as such opportunities are available. *Transfer Assurance Guide (TAG) approved effective summer 2008 (OET110 - Manufacturing Processes).*

(3+0)

MET134 Engineering Materials 3 Cr. Hrs.

This course combines major elements of ferrous and non-ferrous metallurgy with polymeric materials, organics and refractories. Student learns basic physical and chemical properties of common engineering materials and their design considerations. *Transfer Assurance Guide (TAG) approved effective spring 2013 (OET013 - Engineering Materials).*

(3+0)

MET222 Programming Computer Numerical Control 3 Cr. Hrs.

The student will view a blueprint of a mechanical part to determine the datum, the order of operations and appropriate fixtures to make the part in a CNC machine. G & M code programs will be written and loaded to the CNC mill or lathe which will create the machined surfaces of the part. Conversational programming will be demonstrated. A familiarity with geometry, trigonometry, computers, and CAD is helpful.

(2+3)

Prerequisites: IND140, or instructor permission

MET223 CAM I 4 Cr. Hrs.

This course is a study in the basic fundamentals of Computer-Aided-Manufacturing-Machining (CAM). The student will become proficient in the use of manipulating CAM software in a hands-on environment. Datums, tool selection, speeds, feeds, and part identification will be emphasized.

(3+3)

Prerequisites: MET222 or instructor permission

MET234 Strength of Materials 3 Cr. Hrs.

Learn how to analyze the mechanical and thermal loads on structures, beams, and columns, and how to calculate stress, strain, and deflection. Application of formulas and design considerations are stressed. *Transfer Assurance Guide (TAG) approved effective spring 2008 (OET008 - Strength of Materials).*

(3+0)

Prerequisites: MET235 and PHY251

MET235 Statics 3 Cr. Hrs.

A study of resolution of forces on rigid bodies using conditions of equilibrium and vector analysis. Includes the analysis of trusses, friction, and moments of inertia. *Transfer Assurance Guide (TAG) approved effective spring 2008 (OET007 - Statics).*

(2+2)

Prerequisite: PHY251

MET255 Fluid Mechanics 3 Cr. Hrs.

Fluid power is an efficient way to move energy without mechanical belts, chains, or levers. The physics of fluids, components, troubleshooting, and design applications for hydraulic and pneumatic systems are covered in this class. This class will introduce the student to both hydraulic and pneumatic components. This course will simulate an industrial environment; following all safety procedures will be required. Everyone will wear safety glasses while working in the lab! Failure to comply will result in not being able to work in lab and therefore lowering your lab grade(s). *Transfer Assurance Guide (TAG) approved effective spring 2009 (OET009 - Fluid Mechanics).*

(2+2)

Prerequisite: PHY251

MET260 CAM II 3 Cr. Hrs.

CAM II is a continuation of CAM I. This is an advanced course that introduces the student to Advanced milling, Solids, Surfaces, and 3D cutter-pathing. Lathe and 4th and 5th axis programming will be introduced as time allows. 3D drawings, solids and surfaces will be created by the student. Toolpaths and NC files will be created to the 3D drawings, solids and surfaces. The tool paths created will be used to create a part on a CNC machining center.

(2+2)

Prerequisite: MET223

MET262 CAD/CAM Project 4 Cr. Hrs.

This is a capstone class that requires the student to design, fabricate and test a working machine component. Solid Modeling and CAM technology will be the focus, with supporting CMM technology. The students will be required to apply the technology they learned in individual technology classes.

(3+2)

Prerequisites: CAD213, MET223, and QCT141

MET265 Machine Design 3 Cr. Hrs.

This course is designed to assist students with the basic approach to machine design through the analysis of static and dynamic stresses. The course will focus on the strength of materials and how they relate to machine design. Design projects will be included.

(3+0)

Prerequisite: MET234

MET290 Engineering Technology Co-op/Internship 2-4 Cr. Hrs.

The Co-op/Internship is a job-related experience in which the student works in a position consistent with the program major. The student is expected to integrate skills learned in the educational program with job responsibilities, while applying work experience to classroom activities. Primary work duties are documented through a work log, incident summary, and a focused report. Enrollment only with permission of the instructor. (1+10-30)

MGT110 Management 3 Cr. Hrs.

This course focuses on the principles of coordinating an organization's objectives. Major emphasis is devoted to the four management functions: planning, organizing, leading, and controlling. Issues such as decision making, communication, motivation, leadership, diversity, social responsibility and ethics, and global management are addressed.

(3+0)

MGT120 Supervision 3 Cr. Hrs.

This course focuses on the supervisor/employee relationship. Primary topics include motivation, goal setting, performance appraisal, and management of a team of employees.

(3+0)

MGT121 Entrepreneurship I and Small Business Management 3 Cr. Hrs.

This course provides an overview of Entrepreneurship, and small business management, and it introduces students to a rewarding and challenging career as an entrepreneur and small business owner. This course discusses innovative approaches in starting, acquiring, succeeding and franchising. The course provides a foundation for small business and an overview of business concepts such as theories of entrepreneurship, types and characteristics of entrepreneurship, the business life cycle, entrepreneurial economics, accounting and financial management, legal issues, marketing research and planning human resource management, ethics and social responsibility, product and service research development and acquisition and the use of technology.

(3+0)

MGT210 Human Resource Management 3 Cr. Hrs.
This course is a study of personnel management. Major topics include planning, job design, recruitment, employee selection, training, performance appraisal, and contract administration. Safety and government regulations are included.
(3+0)

MGT221 Entrepreneurship II 3 Cr. Hrs.
This course is a study of opportunities and challenges facing entrepreneurs in a dynamic marketplace. Topics include recognizing and exploiting viable business opportunities, writing a business plan, managing inventory, cash management, employee management (including hiring, training, and evaluation), marketing, and using technology. Emphasis is placed on self-employment and the issues of efficiently and effectively running a business.
(3+0)
Prerequisite: MGT121

MGT230 Retail Management 3 Cr. Hrs.
This course focuses on strategic and tactical issues for retailers, both large and small, domestic and international, selling both merchandise and services. Emphasis is placed on financial considerations and implementation through merchandise and store management.
(3+0)

MGT270 Strategic Management 3 Cr. Hrs.
This course provides students a foundation of fundamental knowledge in strategic management. Major topics include strategic leadership, PESTEL analysis, internal analysis of firms, gaining and maintaining competitive advantage, determining appropriate business strategies, boundaries of firms, expanding the scope of a firm, mergers, acquisitions, and strategic alliances.
(3+0)
Prerequisites: ACC112, BUS221, ECO212, ENG111, MGT210, and MKT110

MGT280 Business Climate Analysis 3 Cr. Hrs.
This course includes research, analysis, and summary of the business climate in a specific region. Students will assess regional, cultural, political, commercial, and financial issues. They will also investigate availability of labor, manufacturing, transportation, and technological resources. Students work on a team to collect information and develop a report which answers the question, "How To Do Business?" in that region. The finished product will be presented by a team of students.
(3+0)
Prerequisites: ACC111, ECO212, ENG112, MKT110, and MGT110 or BAN110
Co-requisite: MGT230

MGT290 Business Management Internship 1-3 Cr. Hrs.
This is a management experience related to the student's program of study. The student is accepted on the basis of academic progress and available work site. Enrollment only with instructor permission.
(1+20)

MKT110 Marketing 3 Cr. Hrs.
Marketing is an introductory course that exposes the student to the "marketing mix" (product, price, promotion, distribution). Topics include the global environment and social and ethical responsibilities; using technology and information to build customer relationships; target markets and customer behavior; product decisions; distribution decisions; promotion decisions; and pricing decisions. The topics are looked at from the profit and nonprofit viewpoint. Global as well as domestic strategies are examined. The student is introduced to the above topics through lecture, textbook readings, electronic media presentations, classroom discussions, and a team marketing project. *Transfer Assurance Guide (TAG) approved effective spring 2008 (OBU006 - Principles of Marketing Management).*
(3+0)
Co-requisite: ECO212

MKT210 Advertising 3 Cr. Hrs.
This course is a comprehensive analysis of the world of advertising and sales promotion. An understanding of the various modes of communications used in an advertising campaign and the importance of integration for advertising success will be stressed. *(TAG approved summer 2014 - OCM012 - Principles of Advertising).*
(3+0)

MKT225 Marketing Research 3 Cr. Hrs.
This course provides an understanding to the marketing student of how to answer marketing problems with marketing research. Understanding basic statistical methods including hypothesis testing, cross-tabulation, measures of central tendency and dispersion, Chi-square, t-test are addressed. Emphasis will be on a marketing research project: questionnaire design, tabulation, research reporting and presentation.
(3+0)
Prerequisite: MKT110, CIS113, STA120

MKT230 Professional Selling 3 Cr. Hrs.
This course focuses on many aspects of personal selling including both customer and buyer relationships, communication skills, prospecting, sales presentations, and sales management.
(3+0)

MTH050 Basic Mathematics 4 Cr. Hrs.
Designed to improve basic computational skills, as well as introduce the student to computational techniques related to their degree and preliminary algebraic concepts. The material will cover operations with whole numbers, fractions, decimals, ratio and proportions, percentages, integers, and application problems.
(4+0)

MTH080 Review of Beginning Algebra 3 Cr. Hrs.

This is an intensive first course in algebra. It is recommended only for students who are confident in their math skills or need a review of basic algebraic techniques before taking MTH090. The course introduces the properties, rules and basic techniques of algebra as well as translation between English and the language of algebra. Topics include linear equations, polynomials, factoring, graphing, systems of equations, and rational expressions.

(8 weeks)

Prerequisite: MTH050, high school equivalent, or satisfactory score on Course Placement Test.

MTH085 Math Literacy 3 Cr. Hrs.

Math Literacy is a one-semester course for non-calculus students bridging the gap between basic arithmetic and college-level statistics and quantitative reasoning courses. Students develop conceptual and procedural tools that support mathematical concepts in a variety of contexts. In this course, the relevancy of math is emphasized by analyzing and solving real-life problems before looking at the math tools beneath the surface. Topics include numeracy, proportional reasoning, algebraic reasoning, functions, and graphing. Successful completion of this course will prepare students for MTH105 or STA120. Students may also take MTH090 upon completion if they wish to prepare for MTH109.

(3+0)

Prerequisite: MTH050 or satisfactory score on Course Placement Test.

MTH090 Intermediate Algebra 3 Cr. Hrs.

Intended for those students who have passed a previous algebra class. Designed to review topics introduced in MTH080 but at an accelerated pace and with more depth and rigor. Introduces many new topics including functions, several types of inequalities, radical expressions and equations, rational exponents, complex numbers, and quadratic equations including completing the square and the quadratic formula.

(8 weeks)

Prerequisite: MTH080 or satisfactory score on Course Placement Test.

MTH099 Engineering Math 3.5 Cr. Hrs.

The objective of this course is to increase students preparedness in basic algebra and trigonometry skills used in engineering. These concepts will be reviewed, refreshed, and mastered through application to engineering problems. This course is designed for students who have had some algebra and need a review of specific mathematical topics to prepare them for the engineering technologies course sequence.

(3+1)

Prerequisite: MTH080 or H.S. Algebra II with "C" or better

MTH105 Quantitative Reasoning 4 Cr. Hrs.

The Quantitative Reasoning course is an alternative college-level mathematics pathway for students whose majors are neither calculus-based nor statistics-based. Course content is driven by the mathematical competencies of numeracy (logic; critical thinking and problem solving; rates, ratios, proportions, and percentages; personal finance), mathematical modeling (functions, linear and exponential models, logarithms), and probability and statistics (sampling strategies and bias, descriptive statistics, graphic displays of data, probabilities, risk assessment). Emphasis is placed on interpreting calculations and conveying results to others. (Ohio Transfer Module TMM011 approved)

(3+2)

Prerequisites: MTH050, highschool equivalent, or satisfactory Accuplacer or ACT score.

MTH109 College Algebra 3 Cr. Hrs.

Students successfully completing this class will be able to solve quadratic equations by factoring, completing the square, and using the quadratic formula. They will also be familiar with complex numbers and solving rational equations. College Algebra topics include: polynomial, rational, exponential, and logarithmic functions and graphs. Equations and inequalities are covered including solutions of systems of equations. Application problems build skills in problem solving. (Ohio Transfer Module TMM001 approved).

(3+0)

Prerequisite: MTH090 or satisfactory score on the Course Placement Test

MTH112 Trigonometry 3 Cr. Hrs.

This course is designed to follow MTH109 and replaces MTH110. Topics include both right triangle and circle definitions, solving all types of triangles, trigonometric identities and equations, selected vector and complex number problems, and the polar coordinate system. (Ohio Transfer Module TMM003 approved)

(3+0)

Prerequisite: MTH109 with a "C" or better or satisfactory score on the Course Placement Test.

MTH132 Discrete Structures 3 Cr. Hrs.

In this course the student will be introduced to the discrete structures used in computer science for software development including mathematical proof techniques, Boolean logic, graphs, trees, recurrence relations, and functions. Topics will be learned through text, presentations, and various exercises.

(3+0)

Prerequisites: MTH090

MTH151 Mathematics Review for Calculus 1 Cr. Hr.

This course is a review of algebra, trigonometry, and graphing calculator skills necessary for success in the Calculus sequence. Students completed MTH109 and MTH112 previously or a pre-calculus sequence in high school but have been away from the material for a time will have a chance to refresh their skills to make learning new material in Calculus easier. In addition students who are uncertain of the level of their preparation will benefit from taking this course before they attempt Calculus. Topics include an extensive review of algebraic manipulation skills, solving degree 1 and 2 equations, rational equations, exponential and logarithmic equations, functions and their graphs, composition and decomposition of functions, trigonometric functions and equations.

(1+0)

Prerequisite: MTH109 and MTH112, high school equivalent pre-Calculus preparation, or permission of the instructor

MTH213 Calculus I 5 Cr. Hr

Designed for those students who have mastered algebra and trigonometry and who are planning to pursue a four-year degree program. Topics include a review of functions, limits, derivatives of algebraic and transcendental functions, applications of derivative, and an introduction to integrals.

Transfer Assurance Guide (TAG) approved effective fall 2005 (OMT005 - Calculus I and OMT017 - Calculus I and II Sequence, Course 1 of 2).

(Ohio Transfer Module TMM005 approved)

(5+0)

Prerequisites: MTH112 with a "C" or better or satisfactory score on the Course Placement Test

MTH214 Calculus II 5 Cr. Hrs.

This course is designed for those students who have completed MTH213. Topics include techniques of integration, applications of integrals, sequences and series, introduction to differential equations, conics, and parametric and polar graphing. *Transfer Assurance Guide (TAG) approved effective fall 2005 (OMT006 - Calculus II and OMT017 - Calculus I and II Sequence, Course 2 of 2).*

(Ohio Transfer Module TMM006 approved)

(5+0)

Prerequisite: MTH213

NRS100 Nurse Aide Certificate 4 Cr. Hrs.

This course will prepare students for employment as a nurse aide. Students are eligible to take the state certification exam upon successful completion of program. This course is taught in cooperation with Four County Career Center and Vantage Career Center and includes 24 clinical hours held at a local long term healthcare facility.

(3.5+0.5)

NRS105 Math for Nurses 1 Cr. Hr.

This math course is designed for the student who will be in a nursing health care technology. It includes study of metric, apothecary, and household systems of weights and measures relating to the calculation and administration of medications. The course emphasizes solving oral and parenteral drug dosage problems as they might occur in the clinical area.

(1+0)

Prerequisite: MTH085

NRS133 Cardiopulmonary Resuscitation 1 Cr. Hr.

A basic course in cardiopulmonary resuscitation for cardiac arrest and respiratory emergencies. Includes infant, child, adult, and two-man CPR. Certificate issued upon completion.

(1+0)

NRS140 Professional Concept I 1 Cr. Hr.

This course introduces the student to selected professional nursing and patient-centered concepts. The student will examine concepts relevant to the professional nurse and patient-centered care such as professional identity, nursing process, technology, health promotion, patient education, communication, ethics and safety.

(1+0)

Prerequisites: Admission into Registered Nursing Program

Co requisites: NRS141, NRS144, BIO232

NRS141 Health & Illness Concepts I 6 Cr. Hrs.

This course introduces the student to concepts of nursing with the emphasis on health and illness. The student will apply basic care concepts such as nutrition, elimination, inflammation, infection, mobility, pain and sleep. The concepts will be applied in theory, lab and clinical settings.

(3+9)

Prerequisites: Admission into Registered Nursing Program

Co requisites: NRS 140, NRS144, BIO232

NRS142 Professional Concepts II 1 Cr. Hr.

This course introduces the student to selected professional nursing and patient-centered concepts. The student will examine concepts relevant to the professional nurse and patient-centered care such as development, functional ability, culture, spirituality, care coordination, collaboration, health care organizations, health care law and health care economy and policy.

(1+0)

Prerequisites: NRS140, NRS141, NRS144, BIO 232

Co requisites: NRS143, BIO234, BIO131

NRS143 Health & Illness Concepts II 7 Cr. Hrs.

This course introduces the student to concepts of nursing with the emphasis on health and illness. The student will apply concepts such as hormonal, cellular and thermal regulation, immunity, fluid and electrolytes, acid-base and stress and coping. The concepts will be applied in theory, lab and clinical settings.

(3+12)

Prerequisites: NRS140, NRS141, NRS144, BIO232

Co requisites: NRS142, BIO234, BIO131

NRS144 Pharmacology 2 Cr. Hrs.

This course introduces the principles of pharmacology, including drug classifications and their effects on the body. Emphasis is on the use of the nursing process when administering medications, including dosage calculation. This course provides the student with a foundation in pharmacology for application of concepts in nursing practice.

(2+0)

Prerequisites: Admission into Registered Nursing Program

Co requisites: NRS140, NRS141, BIO232

NRS150 Concepts in End of Life Care 1 Cr. Hr.

This course provides an overview of the knowledge necessary to provide optimal holistic care to clients at the end of life. Content covers the essential aspects of physical, psychosocial, and emotional nursing care as applied to clients and their families.

(1+0)

Prerequisite: NRS141 or PNE120

NRS160 Forensic Nursing 3 Cr. Hr.

This course provides the students with an overview of forensic nursing science focusing on the nurse's role, inter-professional collaboration and patient-centered care for victims and families of physical, psychological, and social abuse. Content includes epidemiology of violence, injury identification, techniques in evidence collection, types of violence, and legal/ethical issues.

(3+0)

Prerequisite: PNE123 or NRS143/231 or special permission from the Dean of Nursing & Allied Health

NRS220 Special Problems in Nursing I 1-4 Cr. Hrs.

An independent study which focuses on a topic or selected problem in nursing, subject to the approval and supervision of an assigned nursing instructor. Content and methodology to be arranged on an individual basis. Credit will be determined by the nature and extent of the independent study.

Prerequisite: Permission of the Dean of Nursing & Allied Health

NRS221 Special Problems in Nursing II 1-4 Cr. Hrs.

An independent study which focuses on a topic or selected problem in nursing, subject to the approval and supervision of an assigned nursing instructor. Content and methodology to be arranged on an individual basis. Credit will be determined by the nature and extent of the independent study.

Prerequisite: Permission of Dean of Nursing & Allied Health

NRS230 Transition to Professional Concepts in Nursing 2 Cr. Hrs.

This course will assist the student in transition from licensed practical nurse to registered nurse. It introduces the student to selected professional nursing and patient-centered concepts. The student will examine concepts relevant to the professional nurse and patient-centered care such as professional identity, leadership and clinical judgment, scope of RN practice, ethics, care coordination, collaboration, informatics and health care economics, policy and law.

(2+0)

Prerequisites: Admission to the LPN to RN program

Co requisites: NRS231, BIO234

NRS231 Transition to Health & Illness Concepts II 5 Cr. Hrs.

This course will assist the student in transition from the licensed practical nurse to registered nurse. It introduces the student to concepts of nursing with emphasis on health and illness. The student will apply concepts such as cellular, intracranial and hormonal regulation, immunity, fluid and electrolytes, acid-base and stress and coping. The concepts will be applied in theory, lab and clinical settings.

(3+6)

Prerequisites: Admission to the LPN to RN program

Co requisites: NRS230, BIO234

NRS240 Professional Concepts III 1 Cr. Hrs.

In this course the student will examine exemplars, reflecting problems or issues related to previously introduced concepts relevant to the professional nurse and patient-centered care.

(1+0)

Prerequisites: NRS142, NRS143, BIO131 & BIO234 or NRS230, NRS231 and BIO234

Co requisites: NRS241, BIO257, PSY230

NRS241 Health & Illness Concepts III 8 Cr. Hrs.

This course introduces the student to concepts of nursing with the emphasis on health and illness. The student will apply concepts such as anxiety, mood, cognition, psychosis, sexuality and reproduction. Exemplars, reflecting problems or issues related to previously introduced concepts will be examined. The concepts will be applied in theory, lab, and clinical settings.

(4+12)

Prerequisites: NRS142, NRS143, BIO131 & BIO234 or NRS230, NRS231 and BIO234

Co requisites: NRS240, BIO257, PSY230

NRS242 Professional Concepts IV 1 Cr. Hr.

In this course the student will continue to examine concepts and exemplars, reflecting problems or issues related to previously introduced concepts relevant to the professional nurse and patient-centered care.

(1+0)

Prerequisites: NRS240, NRS241, BIO257, PSY230

Co requisites: NRS243, STA120

NRS243 Health & Illness Concepts IV 8 Cr. Hrs.

In this course the student will examine exemplars, reflecting problems or issues related to previously introduced concepts of nursing with the emphasis on health and illness. The concepts will be applied in theory, lab, and clinical settings.

(4+12)

Prerequisites: NRS240, NRS241, BIO257, PSY230

Co requisites: NRS242, STA120

NRS298 Special Topics 1 Cr. Hr.
This course is an elective course designed to supplement the learning of current nursing students. It is a seminar course which focuses on current trends or issues affecting nursing practice.
(1+0)
Prerequisite: Permission of Dean of Nursing & Allied Health

OAS090 Keyboarding Basics 1 Cr. Hr.
This is a beginning keyboarding course on the computer designed for students in any program. Major objectives are to develop touch control of the keyboard and proper typing techniques, while building basic speed and accuracy. This course is useful for beginning keyboarding students as well as those who want to review the basics of the computer keyboard.
(0+2)
Course Placement Test is available

OAS101 Business Document Formatting & Skillbuilding 3 Cr. Hrs.
This course introduces students to basic keyboarding and formatting techniques, editing and proofreading of keyed copy, and the development of key stroking accuracy and speed. Correct format for keying business documents will be stressed.
(3+0)
Prerequisite: CIS090 and OAS090 or Satisfactory Score on Course Placement Tests

OAS102 Advanced Business Document Formatting & Skillbuilding 3 Cr. Hrs.
This is a comprehensive course based on the knowledge and skills necessary to perform duties in a modern office. Advanced keyboarding, refinement of formatting and editing of business documents using computer software, improved communication skills, and the continued development of higher keystroking accuracy and speed will be stressed. Practical experiences and simulated work experiences are included.
(3+0)
Prerequisite: OAS101

OAS103 Office Accounting 3 Cr. Hrs.
This course is designed for Office Administrative Services and Early Childhood Development majors. It may not be used as a substitute for ACC111. The primary emphasis of this course will be on a sole proprietorship operating a service business and a merchandising business. The course includes a study of the accounting cycle, beginning with the business transaction and ending with the preparation of the financial statements and all of the necessary end of the period procedures. Other topics include bank reconciliations, petty cash funds, and cash change funds. Considerable emphasis will also be placed on payroll. Students will be able to calculate payrolls and be familiar with all of the necessary payroll forms.
(3+0)

OAS105 Document Editing and Proofreading 2 Cr. Hrs.
This is a course in which the students develop skills in proofreading, editing, and formatting written business communications. Topics covered include use of possessives, spelling, capitalization, subject-verb agreement, pronouns, adjectives, verbs, sentence structure and wording, as well as proper use of punctuation marks.

The student will be more proficient in proofreading documents keyed in any word processing program on the computer. Editing of documents using proofreader's marks will also be stressed. There is no prerequisite, although basic computer knowledge will be helpful in completing at-the-computer editing projects.
(2+0)

OAS110 Records Management 3 Cr. Hrs.
This is a course in the field of records management emphasizing principles and practices for manual and automated records systems. A practice set is used in which students practice card filing and correspondence filing using the alphabetic, subject, numeric and geographic filing systems. Computer applications are used in applying alphabetic indexing rules to a computer records database.
(3+0)

OAS111 Electronic Health Records 3 Cr. Hrs.
This course will give students an understanding of practical knowledge of managing Electronic Health Records (EHR). It will give students a hands-on experience using SpringCharts EHR. This course will also familiarize students with the basic operations utilizing managerial features of SpringCharts including patient scheduling, tracking patient activity, and sending and receiving reminders, messages, and emails.
(3+0)
Co-requisite: OAS/MEA229

OAS160 Administrative Technology & Procedures 3 Cr. Hrs.
This class is designed to emphasize the roles and responsibilities of an effective administrative assistant such as professionalism; effective verbal and written communications; time, stress, and anger management; office supplies and inventory; travel arrangements; meetings and conferences; ethical behavior; customer service; workplace teams, and more. Self-development and problem solving are also included in this course. (CTAG approved spring 2017 - CTAPS001-Office Procedures).
(3+0)
Co-requisite: ENG111

OAS180 Medical Terminology 3 Cr. Hrs.
This is a study of prefixes, suffixes, and word roots used in developing a medical vocabulary. Special emphasis is placed upon the usage, spelling, and pronunciation of these terms as they apply to the major body systems in terms of health and disease. *Transfer Assurance Guide (TAG) approved effective summer 2007 (OHL005 - Medical Terminology).*
(3+0)

OAS200 Speedbuilding 1 Cr. Hr.
This course emphasizes the development of speed and accuracy at the keyboard through timed writings and corrective drills at the computer. It will provide intensive practice in speed and accuracy development through remediation, reinforcement, and skillbuilding. Students will also learn speed and accuracy development techniques and strategies.
(0+2)
Prerequisite: OAS102

OAS223 CCA Coding Exam Review 3 Cr. Hrs.

This course is for students who have already learned the basics of procedural and diagnostic coding. Students can utilize this course to review the subject matter briefly, as it relates to overall coding issues. A Certified Coding Associate candidate will want to take this course prior to the national CCS-P and CCS exam courses.

(3+0)

Prerequisites: OAS/MEA229

Co-requisite: OAS/MEA283

OAS224 CCS Hospital Coding Exam Review 3 Cr. Hrs.

This course is for students who have already learned the basics of procedural and diagnostic coding. Students can utilize this course to review the subject matter briefly as it relates to the hospital reimbursement process, and complete abstracting exercises. The exercises will simulate the day-to-day coding in the hospital setting.

(3+0)

Prerequisites: OAS180, OAS/MEA229

Co-requisite: OAS/MEA283

OAS225 CCS-P Physician Office Code Exam 3 Cr. Hrs.

This course is for students who have already learned the basics of procedural and diagnostic coding. Students can utilize this course to review the subject matter briefly as it relates to the physician's office, and then complete abstracting exercises. The exercises will simulate the day-to-day coding in a physician's office.

(3+0)

Prerequisites: OAS180, MEA/OAS229

Co-requisite: OAS/MEA283

OAS226 Home-Based Independent Medical Coder 3 Cr. Hrs.

This course is for students who have already learned the basics of procedural and diagnostic coding. In addition, students should have earned the CCA, CCS, and/or CCS-P credential prior to attempting the material in this course. This course will provide useful information regarding business start-ups, resource and alternative coding opportunities for coding specialists to utilize while pursuing successful independent careers.

(3+0)

Prerequisites: OAS180, OAS/MEA229

Co-requisite: OAS/MEA283

Recommended: Certification as CCA, CCS, CCS-P

OAS229 Diagnostic and Procedural Coding 4 Cr. Hrs.

This course gives the student an introduction to the diagnostic and procedural coding processes for health insurance reimbursement purposes using the International Classification of Diseases (ICD) and Current Procedural Terminology (CPT) systems. Students develop an understanding of the format and organization of coding system manuals, and the conventions that guide their use. Students will use their knowledge of medical terminology, anatomy and physiology, disease conditions, and pharmacology to correctly assign diagnostic and procedural codes from documentation that link diagnoses to procedures performed.

(4+0)

Prerequisites: OAS180 and BIO 150 or BIO 232

Co-requisites: MEA 205 and MEA 110

OAS249 Advanced Microsoft Suite 3 Cr. Hrs.

This is a comprehensive course stressing the refinement of word processing, spreadsheet, database management, and presentation concepts and procedures; along with reviewing workplace requirements, updating of skills, and prioritizing work assigned. The assignments will go beyond the mechanics of the software. Students will learn design layout, writing, problem-solving, analysis, critical thinking, and information management skills. This course is based on prior experience in Microsoft Office: Word, Excel, Access, PowerPoint, Outlook; keyboarding; records management; and office procedures.

(3+0)

Prerequisites: CIS112 and CIS113

OAS282 Medical Transcription 3 Cr. Hrs.

This course uses transcription equipment to develop skill for accurately transcribing medical dictation on a computer. Dictation will cover patient history and physical examinations, discharge summaries, surgical, pathology, and laboratory reports. Knowledge of medical terminology, keyboarding accuracy, and speed of transcription will be expanded.

(3+0)

Prerequisites: ENG111, OAS180, OAS101, and CIS112

OAS283 Computerized Medical Insurance 3 Cr. Hrs.

This is a course that will cover the fundamentals of using medical office management software which includes: inputting patient data, processing insurance claims and payments, scheduling appointments, and printing medical reports. The computer skills gained will enable students to cross over to the workplace and use medical software in the health environment. Transfer Assurance Guide (TAG) approved, effective spring 2017 (OHL022 - Health Information Technology).

(3+0)

Co-rerequisite: OAS/MEA229

OAS291 Internship I 1 Cr. Hr.

This internship is a continuation of the job-related office services experience. The student is responsible for actively seeking the position within the College or for an outside organization. Second-year student or instructor permission expected.

(0+10)

Prerequisite: ENG111

OAS292 Internship II 1 Cr. Hr.

This internship is a continuation of the job-related office services experience. The student is responsible for actively seeking the position within the College or from an outside organization. Second-year student or instructor permission expected.

(0+10)

Prerequisite: ENG111

PET110 Principles of Plastics 4 Cr. Hrs.

This class is an overview of the plastics industry. Topics covered include basic polymer construction, types, and properties. Different plastic manufacturing processes and the equipment used both primarily and for secondary operations. Quality, defects, causes and monitoring methods including testing. Safety and environmental issues affecting the plastics industry will also be covered.

(3+2)

PET115 Plastics Processes I 4 Cr. Hrs.

This class is a basic overview of the injection molding, extrusion, blow molding, and thermoforming processes. Topics covered will include the materials and properties important to the processes. The injection molding machine, extrusion machine, blow molding machine, support equipment, and tooling used in all the processes will be covered. Job setting and establishing the process will be a large focus of the class.

(3+2)

Co-requisite: PET110

PET215 Plastics Processes II 4 Cr. Hrs.

This class is a continuation of the Plastics Processes I class. Topics covered are process optimization, documentation and trouble shooting. Special Injection molding and extrusion processes including co-injection-compression, structural foam, corrugated pipe, blown film, compounding, and others will be discussed also. Knowledge of these topics will be gained through text computer simulation and hands-on lab exercises.

(2+4)

Prerequisite: PET115

PET231 Plastic Materials Testing 4 Cr. Hrs.

This class is an overview of the more common plastic material properties and performance tests used in industry today. The properties covered will include: mechanical, physical optical, and other properties including a section on color specification and color testing. ASTM and ISO standard test methods will be used to establish and document tests and results. The class will also cover methods of determining an unknown material and general quality standards. Knowledge of these topics will be gained through text, demonstrations and hands-on lab exercises.

(3+2)

Prerequisites: PET110 and MTH090

PET240 Injection Mold Tooling 4 Cr. Hrs.

An overview of the tooling used in injection molding. The study will cover general mold construction and materials used in the mold. Topics will include the different mold styles such as 2-plate, 3-plate, hot runner, and cold runner. The different systems of a mold including runners, gates, vents, cooling, and ejection will be studied. Part design for acceptable tooling along with tooling practices used in current industry will also be studied. Knowledge of these topics will be gained through text, lecture, and some lab time.

(3+2)

Prerequisites: PET210 and IND103 with a "C" or better

PET250 Plastics Secondary Operations 4 Cr. Hrs.

This course is an overview of the different secondary processes and equipment used in the plastics industry. Topics will include thermoforming equipment and processes. Fabrication methods including welding and bonding will be covered. Processes such as hot stamping, pad printing, and other methods of decorating will be covered. Also, secondary operations such as trimming and forming will be discussed. The course will be taught as a lecture with some demonstration and hands-on labs.

(3+2)

Prerequisite: PET110

Co-requisite: MTH090

PHI110 Critical Thinking & Logic 3 Cr. Hrs.

An introduction to the principles of valid reasoning, emphasizing both deductive and inductive logic. Includes analyzing and evaluating arguments, as well as creating arguments in the form of the short, argumentative essay. **Writing Intensive.**

(3+0)

Co-requisite: ENG111

PHI201 Introduction to Philosophy 3 Cr. Hrs.

Examines enduring human concerns such as religion, science, knowledge, identity, morality, and justice, using a variety of philosophical perspectives. *Transfer Assurance Guide (TAG) approved effective summer 2008 (OAH045 - Introduction to Philosophy).* **Writing Intensive.**

(3+0)

Co-requisite: ENG111

PHI210 Ethics 3 Cr. Hrs.

An introduction to basic ethical theories and their applications. Students examine the relationship between personal and social values in particular cultural contexts. *Transfer Assurance Guide (TAG) approved effective summer 2008 (OAH046 - Introduction to Ethics).* **Writing Intensive.**

(3+0)

Co-requisite: ENG111

PHI230 World Religions 3 Cr. Hrs.

Study and comparison of the major attitudes toward life, human existence and the world embodied in major religions of the world. Hinduism, Buddhism, Confucianism, Taoism, Judaism, Christianity, and Islam will be several of the religions examined along with the cultural backgrounds of lands of their development. **Writing Intensive.**

(3+0)

Co-requisite: ENG111

PHY100 The World of Science 3 Cr. Hrs.

For non-science majors, assuming no background knowledge. Students will learn to scrutinize and assess critically scientific information, historical and current, from popular information outlets. This is a science appreciation course (same as CHM100, PHY100). Course projects will be based on the course prefix chosen.

(3+0)

PHY101 Principles of Physical Science 4 Cr. Hrs.

An introduction to the basic principles of the physical sciences. Includes subjects of physics, chemistry, geology, astronomy, and meteorology. Understanding of basic concepts is developed through emphasis on scientific methods and basic laboratory procedures and report writing. Includes simple problem solving, lab work and a research paper.

(3+2)

Prerequisite: ENG095 and MTH080 or MTH085

PHY140 Astronomy 4 Cr. Hrs.

An introduction to the science of astronomy. The course will cover elements of the history and development of astronomy, our new understanding of the solar system, stellar astronomy, the galaxies and the structure of the universe. Laboratory reinforces and supplements lectures.

(3+2)

PHY150 Principles of Geology 4 Cr. Hrs.

An introduction to the field of geology and the study of the earth. Covers minerals and rocks and their formation within the context of the earth's geologic history. Emphasis on rocks, soils, and land formations, plate tectonics and natural disasters such as earthquakes. Lab includes field trips and the identification of rocks and minerals. Some chemistry is recommended.

(3+2)

PHY251 Physics: Mechanics & Heat 4 Cr. Hrs.

An algebra based course covering mechanics including force, work, energy, and simple machines, heat and basic thermodynamic concepts, wave motion and sound. It includes problem solving, laboratory work and the writing of technical lab reports. *Transfer Assurance Guide (TAG) approved effective fall 2005 (OSC014 - General Physics I - Not for Physics majors and OSC021 - General Physics Sequence - Not for Physics Majors, course 1 of 2).*

(3+3)

Prerequisites: MTH109 and MTH112

PHY252 Physics: Electricity & Magnetism 4 Cr. Hrs.

An algebra based course covering electricity and magnetism, light and optical concepts, and basic concepts of modern physics. It includes problem solving, laboratory work and the writing of technical lab reports. *Transfer Assurance Guide (TAG) approved effective fall 2005 (OSC015 - General Physics II - Not for Physics majors and OSC021 - General Physics Sequence - Not for Physics Majors, course 2 of 2).*

(3+3)

Prerequisites: MTH109 and MTH112

PLC120 Industrial Electricity IA 1 Cr. Hrs.

This is the first course in a sequence of 3 one credit hour courses. These three courses together are the equivalent to the IND120 Industrial Electricity. This is an introductory course on the study of basic electrical concepts and circuits. The course will be based on Direct Current (DC) and Alternating Current (AC) concepts, terminology, components, and basic series/parallel circuits. Students will learn how to calculate and measure voltage, current,

and resistance in basic series and parallel circuits. Students will learn how to utilize a Digital Multi-meter (DMM) to troubleshoot components in an electrical circuit, and test stand-alone components. The students will be introduced to DC and AC relay circuits, as well as electrical symbols that will be used on electrical prints. The course will have a heavy focus on troubleshooting concepts and techniques when working with electrical circuits.

(.5+.9)

Prerequisite: INT112

PLC121 Industrial Electricity IB 1 Cr. Hrs.

This is the second course in a sequence of 3 one credit hour courses. These three courses together are the equivalent to the IND120 Industrial Electricity. This is an introductory course on the study of basic electrical concepts and circuits. The course will be based on Direct Current (DC) and Alternating Current (AC) concepts, terminology, components, and basic series/parallel circuits. Students will learn how to calculate and measure voltage, current, and resistance in basic series and parallel circuits. Students will learn how to utilize a Digital Multi-meter (DMM) to troubleshoot components in an electrical circuit, and test stand-alone components. The students will be introduced to DC and AC relay circuits, as well as electrical symbols that will be used on electrical prints. The course will have a heavy focus on troubleshooting concepts and techniques when working with electrical circuits.

(.5+.8)

Prerequisite: PLC120

PLC122 Industrial Electricity IC 1 Cr. Hrs.

This is the third course in a sequence of 3 one credit hour courses. These three courses together are the equivalent to the IND120 Industrial Electricity. This is an introductory course on the study of basic electrical concepts and circuits. The course will be based on Direct Current (DC) and Alternating Current (AC) concepts, terminology, components, and basic series/parallel circuits. Students will learn how to calculate and measure voltage, current, and resistance in basic series and parallel circuits. Students will learn how to utilize a Digital Multi-meter (DMM) to troubleshoot components in an electrical circuit, and test stand-alone components. The students will be introduced to DC and AC relay circuits, as well as electrical symbols that will be used on electrical prints. The course will have a heavy focus on troubleshooting concepts and techniques when working with electrical circuits.

(.5+.8)

Prerequisite: PLC121

PLC123 Industrial Electricity IIA 1 Cr. Hrs.

This is the first course in a sequence of 3 one credit hour courses. These three courses together are the equivalent to the IND121 Industrial Electricity II. The purpose of PLC 123 is to develop the student's knowledge and skills in the area of electrical safety, DC/AC machine, and basic control circuits. The electrical safety module will focus on lockout/tagout, arc-flash standards, PPE, electrical panels, and overcurrent protection. The DC/AC machines will focus on the wiring and troubleshooting of DC shunt motors, single phase motors (split-phase, capacitor-start, and permant capacitor), dual volatage transformers, and three phase motors. The basic control circuits will consist of start/stop/jog, dual start/stop, sequence circuits, and reversing circuits. There will also be a module focused on the installation of a equipment and electrical prints to troubleshoot electrical systems.

(.5+.9)

Prerequisite: PLC122

PLC124 Industrial Electricity IIB 1 Cr. Hrs.

This is the second course in a sequence of 3 one credit hour courses. These three courses together are the equivalent to the IND121 Industrial Electricity II. The purpose of PLC 124 is to develop the student's knowledge and skills in the area of electrical safety, DC/AC machine, and basic control circuits. The electrical safety module will focus on lockout/tagout, arc-flash standards, PPE, electrical panels, and overcurrent protection. The DC/AC machines will focus on the wiring and troubleshooting of DC shunt motors, single phrase motors (split-phase, capacitor-start, and permant capacitor), dual volatage transformers, and three phase motors. The basic control circuits will consist of start/stop/jog, dual start/stop, sequence circuits, and reversing circuits. There will also be a module focused on the installation of a PLC system (based on the Micrologix 1200 PLC) Students will learn how to utilize test equipment and electrical prints to troubleshoot electrical systems.

(.5+.8)

Prerequisite: PLC123

PLC125 Industrial Electricity IIC 1 Cr. Hrs.

This is the third course in a sequence of 3 one credit hour courses. These three courses together are the equivalent to the IND121 Industrial Electricity II. The purpose of PLC 125 is to develop the student's knowledge and skills in the area of electrical safety, DC/AC machine, and basic control circuits. The electrical safety module will focus on lockout/tagout, arc-flash standards, PPE, electrical panels, and overcurrent protection. The DC/AC machines will focus on the wiring and troubleshooting of DC shunt motors, single phrase motors (split-phase, capacitor-start, and permant capacitor), dual volatage transformers, and three phase motors. The basic control circuits will consist of start/stop/jog, dual start/stop, sequence circuits, and reversing circuits. There will also be a module focused on the installation of a PLC system (based on the Micrologix 1200 PLC) Students will learn how to utilize test equipment and electrical prints to troubleshoot electrical systems.

(.5+.8)

Prerequisite: PLC124

PLC126 PLC IA 1 Cr. Hrs.

This is the first course in a sequence of 3 one credit hour courses. These three courses together are the equivalent to PLC 200 Programmable Contoller I. The course is a study of the installation , programming, and troubleshooting of programmable controlled systems currently used in an industrial environment. The focus will be on installation, programming, engineering, and maintenance tasks performed with PLC systems. The primary PLC used for this class will be the Allen Bradley SLC-500 and CompactLogix, using RSLogix 500, RSLogix5000 and RSLinx software. The topics presented will be learned thourgh online instructional material and hands-on labs.

(.5+.9)

Prerequisite: PLC125

PLC127 PLC IB 1 Cr. Hrs.

This is the second course in a sequence of 3 one credit hour courses. These three courses together are the equivalent to PLC 200 Programmable Contoller I. The course is a study of the installation , programming, and troubleshooting of programmable controlled systems currently used in an industrial environment. The focus will be on installation, programming, engineering, and maintenance tasks performed with PLC systems. The primary PLC used for this class will be the Allen Bradley SLC-500 and CompactLogix, using RSLogix 500, RSLogix5000 and RSLinx software. The topics presented will be learned thourgh online instructional material and hands-on labs.

(.5+.8)

Prerequisite: PLC126

PLC128 PLC IC 1 Cr. Hrs.

This is the third course in a sequence of 3 one credit hour courses. These three courses together are the equivalent to PLC 200 Programmable Contoller I. The course is a study of the installation , programming, and troubleshooting of programmable controlled systems currently used in an industrial environment. The focus will be on installation, programming, engineering, and maintenance tasks performed with PLC systems. The primary PLC used for this class will be the Allen Bradley SLC-500 and CompactLogix, using RSLogix 500, RSLogix5000 and RSLinx software. The topics presented will be learned thourgh online instructional material and hands-on labs.

(.5+.8)

Prerequisite: PLC127

PLC129 PLC IIA**1 Cr. Hrs.**

This is the first course in a sequence of 3 one credit hour courses. This course is an in depth study of the Allen Bradley CompactLogix system, and how to use RSLogix5000 programming software to program, monitor, and troubleshoot a system. The primary focus will be on the processor memory structure, the intermediate instruction set, analog I/O modules, and using the RSLogix5000 software. Students will learn all the data structures used across most industrial PLCs, as well as a tag-based system versus an address-based system (SLC-500). Learning how the instructions work within a program will be an essential part of skills development for troubleshooting. A critical part of this course is learning how to search for objects in the L5000 project with RSLogix5000 as a method of increasing troubleshooting efficiency. Students will also learn of the different programming languages used for the ControlLogix platform (Ladder Logic, Structured Text, Sequential Function Charts).

(.5+.9)

Prerequisite: PLC128

PLC130 PLC IIB**1 Cr. Hrs.**

This is the second course in a sequence of 3 one credit hour courses. This course is an in depth study of the Allen Bradley CompactLogix system, and how to use RSLogix5000 programming software to program, monitor, and troubleshoot a system. The primary focus will be on the processor memory structure, the intermediate instruction set, analog I/O modules, and using the RSLogix5000 software. Students will learn all the data structures used across most industrial PLCs, as well as a tag-based system versus an address-based system (SLC-500). Learning how the instructions work within a program will be an essential part of skills development for troubleshooting. A critical part of this course is learning how to search for objects in the L5000 project with RSLogix5000 as a method of increasing troubleshooting efficiency. Students will also learn of the different programming languages used for the ControlLogix platform (Ladder Logic, Structured Text, Sequential Function Charts).

(.5+.8)

Prerequisite: PLC129

PLC131 PLC IIC**1 Cr. Hrs.**

This is the third course in a sequence of 3 one credit hour courses. This course is an in depth study of the Allen Bradley CompactLogix system, and how to use RSLogix5000 programming software to program, monitor, and troubleshoot a system. The primary focus will be on the processor memory structure, the intermediate instruction set, analog I/O modules, and using the RSLogix5000 software. Students will learn all the data structures used across most industrial PLCs, as well as a tag-based system versus an address-based system (SLC-500). Learning how the instructions work within a program will be an essential part of skills development for troubleshooting. A critical part of this course is learning how to search for objects in the L5000 project with RSLogix5000 as a method of increasing troubleshooting efficiency. Students will also learn of the different programming languages used for the ControlLogix platform (Ladder Logic, Structured Text, Sequential Function Charts).

(.5+.8)

Prerequisite: PLC130

PLC132 PLC IIIA**1 Cr. Hrs.**

This is the first course in a sequence of 3 one credit hour courses. This is an advanced PLC course based on the Allen Bradley ControlLogix platform. The course consists of 3 sections: Ethernet communications and networking, DeviceNet networking, and Wonderware InTouch HMI development and communications. Students will use the Rockwell Automation Studio 5000 programming software, with RSLinx Gateway, to communicate with primarily ControlLogix L71 type processors. RSNetWorx for DeviceNet will also be used to configure a DeviceNet network. Students will focus on learning these advanced technologies as well as how to troubleshoot these networks and systems when communication fails. Students will also have access to their own Virtual Machine that will have all of the software available 24/7 that they can create and modify their projects from home. This will also include the Emulate 5000 software, which will allow students to run their programs in a processor outside of the on-campus PLC lab.

(.5+.9)

Prerequisite: PLC131

PLC133 PLC IIIB**1 Cr. Hrs.**

This is the second course in a sequence of 3 one credit hour courses. This is an advanced PLC course based on the Allen Bradley ControlLogix platform. The course consists of 3 sections: Ethernet communications and networking, DeviceNet networking, and Wonderware InTouch HMI development and communications. Students will use the Rockwell Automation Studio 5000 programming software, with RSLinx Gateway, to communicate with primarily ControlLogix L71 type processors. RSNetWorx for DeviceNet will also be used to configure a DeviceNet network. Students will focus on learning these advanced technologies as well as how to troubleshoot these networks and systems when communication fails. Students will also have access to their own Virtual Machine that will have all of the software available 24/7 that they can create and modify their projects from home. This will also include the Emulate 5000 software, which will allow students to run their programs in a processor outside of the on-campus PLC lab.

(.5+.8)

Prerequisite: PLC132

PLC134 PLC III C**1 Cr. Hrs.**

This is the third course in a sequence of 3 one credit hour courses. This is an advanced PLC course based on the Allen Bradley ControlLogix platform. The course consists of 3 sections: Ethernet communications and networking, DeviceNet networking, and Wonderware InTouch HMI development and communications. Students will use the Rockwell Automation Studio 5000 programming software, with RSLinx Gateway, to communicate with primarily ControlLogix L71 type processors. RSNetWorx for DeviceNet will also be used to configure a DeviceNet network. Students will focus on learning these advanced technologies as well as how to troubleshoot these networks and systems when communication fails. Students will also have access to their own Virtual Machine that will have all of the software available 24/7 that they can create and modify their projects from home. This will also include the Emulate 5000 software, which will allow students to run their programs in a processor outside of the on-campus PLC lab.

(.5+.8)

Prerequisite: PLC133

PLC135 Servo/Robotics A**1 Cr. Hrs.**

This is the first course in a sequence of 3 one credit hour courses. Students will use the Rockwell Automation Studio 5000 programming software, with RSLinx Gateway, to communicate with primarily ControlLogix L71 type processors. RSNetWorx for DeviceNet will also be used to configure a DeviceNet network. Students will focus on learning these advanced technologies as well as how to troubleshoot these networks and systems when communication fails. Students will also have access to their own Virtual Machine that will have all of the software available 24/7 that they can create and modify their projects from home. This will also include the Emulate 5000 software, which will allow students to run their programs in a processor outside of the on-campus PLC lab.

(.5+.9)

Prerequisite: PLC134

PLC136 Servo/Robotics B**1 Cr. Hrs.**

This is the second course in a sequence of 3 one credit hour courses. Students will use the Rockwell Automation Studio 5000 programming software, with RSLinx Gateway, to communicate with primarily ControlLogix L71 type processors. RSNetWorx for DeviceNet will also be used to configure a DeviceNet network. Students will focus on learning these advanced technologies as well as how to troubleshoot these networks and systems when communication fails. Students will also have access to their own Virtual Machine that will have all of the software available 24/7 that they can create and modify their projects from home. This will also include the Emulate 5000 software, which will allow students to run their programs in a processor outside of the on-campus PLC lab.

(.5+.8)

Prerequisite: PLC135

PLC137 Servo/Robotics C**1 Cr. Hrs.**

This is the third course in a sequence of 3 one credit hour courses. Students will use the Rockwell Automation Studio 5000 programming software, with RSLinx Gateway, to communicate with primarily ControlLogix L71 type processors. RSNetWorx for DeviceNet will also be used to configure a DeviceNet network. Students will focus on learning these advanced technologies as well as how to troubleshoot these networks and systems when communication fails. Students will also have access to their own Virtual Machine that will have all of the software available 24/7 that they can create and modify their projects from home. This will also include the Emulate 5000 software, which will allow students to run their programs in a processor outside of the on-campus PLC lab.

(.5+.8)

Prerequisite: PLC136

PLC200 Programmable Controller I**3 Cr. Hrs.**

The course is a study of the installation, programming and troubleshooting of programmable controlled systems currently used in an industrial environment. The focus will be on Installation, Programming, Engineering and Maintenance tasks performed with PLC systems. The primary PLC used for this class will be the Allen Bradley SLC-500, using RSLogix 500 and RSLinx software. The topics presented will be learned through text, presentations, various exercises, and hands on labs.

(2+2)

Prerequisite: IND120

PLC210 Programmable Controller II (AB)**3 Cr. Hrs.**

This course is an advanced study of the Programmable Automation Controller (PAC) instruction set, and programming of Allen Bradley Control Logix Processors, and hardware interface systems. The PLCs used in this course will be the Allen Bradley Control Logix and Compact Logix Programmable Automation Controllers. PAC networks such as DeviceNet and ControlNet are discussed, as well as Ethernet interfaces. Students will study industrial applications of the PACs focusing on problem solving and project completion. The topics presented will be learned through text, presentations, various exercises and hands-on labs.

(2+2)

Prerequisite: PLC200

PLC220 PLC III**3 Cr. Hrs.**

The class is a study of the Allen Bradley Panel View 600 hardware utilizing the Panel Builder 32 Programming software. PLC networks such as Ethernet and Device Net are discussed, as well as Ethernet interfaces. Students will study industrial applications of the Panel View, focusing on problem solving and project completion.

(2+2)

Prerequisite: PLC210 or instructor permission

PLC230 Servo/Robotic Systems 3 Cr. Hrs.

Servo/Robotics Systems is an introductory course in industrial robotics with emphasis on The Fanuc R-J3 series robot. The course is intended for students who wish to gain insight into robot operations in order to setup, test, run, and refine application programs for production. Students successfully completing the course will be able to: power up and jog the robot, execute production operations and recover from common faults, create and modify material handling programs and macros, and utilize robot input and output signals. The course consists of lectures, demonstrations, and a series of laboratory exercises using the Fanuc CERT training modules.

(2+2)

PNE105 Effective Communication Skills 1 Cr. Hrs.

The ability of health care professionals to communicate accurately and effectively in the context of a helping relationship is vital. The course provides tools with which to establish open therapeutic communication with clients, foster teamwork with colleagues, and deal with conflict and aggression in a constructive manner.

(1+0)

PNE110 Special Topics in PN 1-4 Cr. Hrs.

An independent study which focuses on a topic or selected problem in nursing, subject to approval and supervision of an assigned nursing instructor. Content and methodology to be arranged on an individual basis. Credit will be determined by the nature and extent of the independent study.

Prerequisite: Permission of the Dean of Nursing

PNE117 Pharmacology I 1.5 Cr. Hrs.

Pharmacological theory of broad classifications of common medications in current use with application to nursing. Includes federal drug legislation and the responsibility of drug administration. This is the first part of a 2-course sequence equating to PNE119.

(1.5+0)

Prerequisites: ENG111, PSY110, PNE120, BIO150 or BIO232

PNE118 Pharmacology II 1.5 Cr. Hrs.

Pharmacological theory of broad classifications of common medications in current use with application to nursing. Includes federal drug legislation and the responsibility of drug administration. This course is the 2nd part of a 2-course sequence equating to PNE119.

(1.5+0)

Prerequisite: PNE117

PNE119 Pharmacology 3 Cr. Hrs.

This course provides the student with a foundation for application of concepts of pharmacology in nursing practice. Drugs are presented by classification, groups and prototypes. Principles of drug action, interactions, contraindications, adverse effects, and nursing implications of each drug classification are discussed, as well as federal drug legislation and the responsibility of drug administration, including dosage calculation. The pharmacological aspects of nursing care are integrated using the nursing process. Nursing considerations and patient teaching for each prototype are emphasized.

(3+0)

Prerequisite: PNE120

PNE120 Essentials of Practical Nursing 8 Cr. Hrs.

An introduction to the body of nursing knowledge and skills essential for safe and accurate delivery of care utilizing the nursing process. Basic therapeutic communication, multicultural concepts, IV therapy, fluid and electrolyte balance, and ethical concepts are introduced.

(4+12)

Prerequisite: Admission to the Practical Nursing Program

Co-requisites: BIO150 or BIO232, ENG111, and PSY110

PNE121 Nursing Care of the Mother and Newborn 2.5 Cr. Hrs.

This course focuses on nursing care of women related to reproductive health patterns. Emphasis is placed on pregnancy, childbirth, postpartum, and the newborn with nursing care directed in a family-centered holistic approach. Selected women's health issues and potential complications are included that pertain to the childbearing cycle. Legal and ethical directives are reviewed. This is an eight week course.

(3+6)

Prerequisites: PNE123 and BIO150 or BIO232

Co-requisites: PSY230, PNE119 or PNE118, and PNE122

PNE122 Nursing Care of the Child 2.5 Cr. Hrs.

This course focuses on nursing care of the child from infancy through adolescence with health care needs. Emphasis is placed on growth and developmental concepts with nursing care directed in a family-centered holistic approach. Health promotion, maintenance, and restoration of the child are examined. Legal and ethical directives are reviewed. This is an eight week course.

(3+6)

Prerequisites: PNE123

Co-requisites: PSY230, PNE119 or PNE118, and PNE121

PNE123 Nursing Care: Adults I 4.5 Cr. Hrs.

Focuses on the care of adults with both acute and chronic medical and surgical conditions. A body systems approach is utilized. Mental health concepts and basic concepts of bioterrorism are introduced. Students continue to develop skills in problem solving through the use of the nursing process as applied to individual situations. This is an eight week course.

(6+9)

Prerequisite: ENG111, PSY110, PNE120 and BIO150 or BIO232

Co-requisite: PNE119 or PNE117

PNE124 Nursing Care: Adults II 5.5 Cr. Hrs.

This course builds on previous knowledge and concepts. Acute and chronic conditions of adults are presented over the remaining body systems. Legal issues in practical nursing are discussed as well as the leadership/management role of the practical nurse in caring for groups of individuals. This is an eight week course.

(6+15)

Prerequisites: PNE119 or PNE118, PNE121, PNE122, PNE123

Co-requisite: BIO131

PSY110 General Psychology 3 Cr. Hrs.

This course examines the complex individual, the many factors believed to drive the individual and the resulting behavior. Students discuss empirical investigation and learn how to use these methods as tools in the discovery of individual functioning.

This class also explores specific area of inquiry such as cognition, social and developmental psychology, learning, perception, consciousness, organizational, and health psychology. Personality, abnormal behavior, and psychological therapies are discussed. *Transfer Assurance Guide (TAG) approved effective summer 2007 (OSS015 - Introduction to the Fundamentals of Psychology).* **Writing Intensive.**

(3+0)

Co-requisite: ENG111

PSY210 Abnormal Psychology 3 Cr. Hrs.

This course is designed to provide students with an understanding of maladaptive behavior, its causes and consequences. Emphasis is on research methods and clinical assessment skills. Utilizing the DSMIV, special emphasis is placed on symptom recognition and treatment planning of psychological disorders. The impact of mental illness on the client's interpersonal relationships as well as cultural differences and societal response to mental illness will be explored. *Transfer Assurance Guide (TAG) approved effective spring 2007 (OSS017 - Abnormal Psychology).* **Writing Intensive.**

(3+0)

Prerequisite: PSY110, ENG111

PSY220 Social Psychology 3 Cr. Hrs.

This course provides students with the opportunity to explore the influences of other people, groups, and situations on the individual. Students should also gain a basic understanding of the research process and how it is used to investigate social psychological issues. Topics covered in this class include social perception and cognition, social influence, social relationships and applied social psychology. Students will have many opportunities to apply their new knowledge to critical thinking exercises and group projects. *Transfer Assurance Guide (TAG) approved effective fall 2005 (OSS016 - Social Psychology).* **Writing Intensive.**

(3+0)

Prerequisite: PSY110, ENG111

PSY230 Lifespan Development 3 Cr. Hrs.

This course addresses the study of human development over the entire life span. Topics included in this course are emotional, cognitive, moral, social, and biological development. In addition to these topics, this course offers an analysis of the interaction of human characteristics within the individual and the relationship between individuals, environment and culture at various stages of development. *Transfer Assurance Guide (TAG) approved effective spring 2008 (OSS048 - Life Span).* **Writing Intensive.**

(3+0)

Prerequisite: PSY110, ENG111

PSY250 Personality Psychology 3 Cr. Hrs.

This course examines the major perspectives of personality. Students discuss empirical investigation and learn how to use these methods as tools in the discovery of personality description, development, and assessment. *Transfer Assurance Guide (TAG) approved effective fall 2019 (OSS018 - Personality Psychology).* **Writing Intensive.**

(3+0)

Prerequisite: PSY110, ENG111

QCT100 Quality Concepts 3 Cr. Hrs.

This hybrid class combines on-line learning and lab work. It is an introduction to Quality and linear measurement for engineers and persons planning to work in a manufacturing or related environment. Students measure parts in the lab to obtain data. They work with the data to compute statistics and create charts and graphs that apply to theory. Students participate in team activities and on-line forums to share learning with each other and interact with the instructor. Students measure test parts to demonstrate instrument reading proficiency.

(3+0)

Prerequisite: MTH080

QCT131 Quality for Lean Manufacturing 3 Cr. Hrs.

This course deals with managing production operations in manufacturing plants. Two topics, "The 5S's: Workplace Organization" and "Mistake-Proof It!" prepare the student for a "Lean Manufacturing" project. Course is web based. Instructor is available for consultation via e-mail and telephone. Must have the ability to access web courses.

(2+2)

Prerequisites: QCT100 and ability to access web courses

QCT142 Advanced Concepts of GD & T 3 Cr. Hrs.

This second course in geometric dimensioning and tolerancing requires the student to already have an understanding of the basics of GD&T. There are more in depth discussions on select topics not covered in detail in fundamentals classes. Examples are more complex and include explanations of concepts that create problems in the workplace. A method for dealing with tolerance stacks, another layer of GD&T expertise, will be demonstrated and practiced.

(2+2)

Prerequisite: QCT141

QCT243 Advanced Quality Improvement 3 Cr. Hrs.

This course is one of a series of quality classes. The student learns more complex quality improvement methods by studying at least three of the following distinct topics: Advanced SPC; Six Sigma Start-Up; DOE: Screening Experiments; Measurement Systems Analysis; and Problem Solving. Topics are selected based on student's work experience and previously completed quality course content. All but two sessions may take place via the internet. Two, 3-hour laboratory workshops, are planned for Design of Experiment and Cp, CpK practice. Must have the ability to access web courses.

(2+3) On Demand

Prerequisite: QCT100 and ability to access web courses

QCT250 Certified Quality Technician 3 Cr. Hrs.

Review of the requirements and topics to become certified as an American Society for Quality Control Technician or Mechanical Inspector.

(3+0)

Prerequisites: QCT100 and QCT141

REA210 Real Estate Principles 3 Cr. Hrs.

This is an introductory course taught in accordance with guidelines set by the National and Ohio Real Estate Associations, and the Ohio Real Estate Commission. It is designed for professional real estate people, as well as the general public. The course covers elementary characteristics of real estate and various influences on real estate values and basic real estate math. It also is a foundation for further study and preparation of securing a sales license.

(3+0)

REA220 Real Estate Law 3 Cr. Hrs.

This is a study of all the areas of law dealing with real estate. Emphasis is on the law of agency as applied to real estate brokers and salespersons. Law of fixtures, estates, leases, conveying of real estate, real estate managers, license laws of Ohio, zoning, cooperatives, and condominiums are also included. This prepares students for sales license testing.

(3+0)

REA230 Real Estate Finance 3 Cr. Hrs.

This is an examination of the nature of financing real estate. Primary consideration is understanding mortgage loans and the mortgage market. The effects of governmental monetary and fiscal policies are also considered. Qualifying applicants and loan procedures are discussed throughout. This is a required course to prepare students for sales license testing.

(3+0)

REA240 Real Estate Appraisal 3 Cr. Hrs.

This course is an examination and research of the components and parameters of financing real estate. Primary consideration is given to understanding mortgage loans and the mortgage market. The effects of governmental monetary and fiscal policies are also considered. Qualifying buyers (applicants) and loan (financing) procedures are discussed throughout. This is a required course to prepare students for sales license testing in Ohio.

(3+0)

SCM200 Supply Chain Management 3 Cr. Hrs.

This course focuses on the flow of information and goods between a business, its suppliers and its customers. Special attention is given to the development of relationships with a firm and its suppliers. Both internal and external aspects of the supply chain are analyzed.

(3+0)

Prerequisite: SCM220 or instructor permission

SCM210 Purchasing & Materials Management 3 Cr. Hrs.

This course focuses on supplier identification, evaluation, selection, and measurement. The relationship between the purchasing function and the rest of the organization is explored along with the correlation between supplier performance and inventory levels.

(3+0)

Prerequisite: SCM220 or instructor permission

SCM220 Operations Management 3 Cr. Hrs.

This course focuses on the internal production process found in manufacturing facilities. Critical areas such as production planning, production line balancing, TOC analysis, lean, quality, MRP/MRP II, and inventory management are explored.

(3+0)

Prerequisite: MTH080

SCM230 Physical Distribution & Logistics 3 Cr. Hrs.

This course focuses on the management of the movement of goods between local, national and international locations. Shipping documentation and packaging requirements are explored. The various modes of transportation are examined in detail.

(3+0)

Prerequisite: SCM220 or instructor permission

<p>SPN111 Spanish I 4 Cr. Hrs. Introduction to Spanish through oral-aural drills, controlled conversations, reading and writing, with attention paid to grammatical structures and cultural awareness. Spanish I is the first half of a two-semester sequence designed primarily for beginners. (4+0)</p>	<p>SSC210 Cultural Diversity 3 Cr. Hrs. Explores ways that our society has served as a context for either more or less “cultural diversity.” Emphasizes how historical relations among different people have affected images of “self” and “others” in U.S. society. Topics include thinking about culture, historical patterns and methods, the “American dilemma,” race and class, and culture and gender. Writing Intensive. (3+0) Co-requisite: ENG111</p>
<p>SPN112 Spanish II 4 Cr. Hrs. Continuation of Introduction to Spanish with practice in speaking, reading, writing, and listening comprehension conducted within a culturally significant framework. (4+0) Prerequisite: SPN111 or instructor permission</p>	<p>STA120 Introduction to Statistics 3 Cr. Hrs. An introductory course introducing the student to the collection, analysis, and presentation of data. Presentation includes appropriate graphic, tabular, and numeric summaries of data. Major topics include Correlation and Regression, Hypothesis Testing, Analysis of Variance (ANOVA), and CHI Square analysis. Use the standard normal distribution to determine probabilities from z-values. Understand the Central Limit Theorem, and apply the addition and multiplication rules of probability. (3+0) Prerequisite: MTH085, or MTH080 with instructor permission, ACT score of 19+, or course placement score</p>
<p>SSC101 Sociology 3 Cr. Hrs. An introduction to the sociological perspective with a focus on the United States. Order and conflict theories are applied to broad areas of sociological concern, such as social inequality, sexual inequality, work and family, law and crime, race and ethnic relations, education and popular culture, modern urbanism, politics of food, health care, and the global society. <i>Transfer Assurance Guide (TAG) approved effective spring 2007 (OSS021 - Introduction to the Fundamentals of Sociology).</i> Writing Intensive. (3+0) Co-requisite: ENG111</p>	<p>STA222 Business Statistics 3 Cr. Hrs. A course introducing the student to the collection, analysis, and presentation of data. Major topics include: Descriptive and Inferential Parameters, Probability, Binomial, and Hypergeometric Distributions, Confidence Intervals, Hypothesis Testing, CHI-Squared analysis, and Linear Correlation and Regression. (3+0) Prerequisite: MTH109</p>
<p>SSC120 American Government 3 Cr. Hrs. A study of power as it occurs in the formation and implementation of public policy in the United States; based on the recognition that politics is an activity that creates the “realm of we” and molds personal identities. Special attention is given to the concepts of politics, justice, and democracy as a basis for examining our responsibility in the public realm. Topics covered are media, interest groups, political parties and campaigns, federal government structure and process, effects of power in domestic and foreign affairs, and making democracy. <i>Transfer Assurance Guide (TAG) approved effective spring 2007 (OSS011 - American Politics and Government).</i> Writing Intensive. (3+0) Co-requisite: ENG111</p>	<p>VCT103 Introduction to Visual Communication 3 Cr. Hrs. An overview designed to teach the student about the world of visual communication: how visual communication changes the world, how to use it effectively, and how it impacts the way we live. (2+2)</p>
<p>SSC130 Comparative Government 3 Cr. Hrs. A study of contemporary political systems, processes and policies of Western and non-Western countries. This will include aspects of political processes such as interest groups, political parties, elections, political socialization, and political culture. <i>Transfer Assurance Guide (TAG) approved effective spring 2007 (OSS013 - Comparative Government).</i> Writing Intensive. (3+0) Co-requisite: ENG111</p>	<p>VCT111 Layout & Design 3 Cr. Hrs. This course covers the relationship among various design elements: balance, proportion, typography, and layout. Message composition, art presentation, copy layouts, the design process, and page makeup will be analyzed using current layout software. Lab Fee. (2+2)</p>
	<p>VCT120 Vector Graphics 3 Cr. Hrs. This course focuses on the creation and editing of resolution-independent images. Students use digital drawing techniques to create vector graphics for use in other interactive media projects or as independent compositions. Topics range from the creation of vector graphics through choosing the appropriate output method for their intended use. (2+2)</p>

VCT182 Photography 3 Cr. Hrs.

An introductory course teaching basic photographic and digital editing techniques. Focus in on camera handling, lighting exposure, and composition. Experience includes creating digital files, digital editing, and image output techniques. Editing techniques will be limited to cropping, contrast and brightness, removal of unwanted flaws, and other correcting procedures. Photographic equipment required. *Transfer Assurance Guide (TAG) approved effective summer 2008 (OAH002 - Photography, Digital).* (1+4)

VCT204 Concepts of Visual Communication 3 Cr. Hrs.

Advanced visual communication concepts including problem solving, research, design, script writing, storyboarding, training techniques, proposal preparation, cost estimating, and analysis. Overall project management techniques and environmental factors are covered in depth. (2+2) S

VCT210 Essentials of Social Media 3 Cr. Hrs.

This course is designed to help the learner understand how communication has (and has not) changed due to the rise of social media and changes in various underlying contextual factors, such as dramatically increased speed of information dissemination across consumers and brands. It will equip the learner with the relevant knowledge, perspectives, and practical skills required to develop strategies and content that leverage the opportunities inherent in social media and consumer-to-consumer social interactions for achieving business and communication goals. (3+0)

VCT261 3D Computer Modeling 3 Cr. Hrs.

An introduction of computer modeling used to create 3-dimensional images. The student will be able to create realistic images using 3-dimensional modeling, textures, materials, lighting, and rendering. Computer experience required. Lab Fee. (2+2)

VCT266 Multimedia Production 3 Cr. Hrs.

Study of multimedia through student exploration and experimentation in various visual presentation technologies including digital media. Emphasis will be on design and production of total presentations by planning content and using a variety of software and hardware. (2+2)
Prerequisites: CIS129 or instructor permission

VCT268 Video Production 3 Cr. Hrs.

The study of video production is to provide a basic knowledge of the process used in pre-production, production, and post-production activities. Students plan, shoot, edit, and distribute a video as part of a production team. Topics include preparing a script, developing a shot list, videography, editing footage, adding sound tracks, and exporting and rendering video for various uses in various formats. *Transfer Assurance Guide (TAG) approved effective summer 2007 (OCM008 - Introduction to Single Camera Production).* (2+2)

VCT289 VCT Co-Op Experience 3 Cr. Hrs.

This is a work experience in visual communications. The student is accepted on the basis of academic progress and available work site at the College or an outside organization. Freelance work in the visual communication field also accepted. Enrollment with instructor permission. (1+20)
Prerequisites: VCT103, VCT111, VCT120, VCT182
Co-requisites: CIS129

WLD100 Blue Print & Weld Symbols 2 Cr. Hrs.

This course covers basic engineering drawing principles, fundamental concepts of welding specifications, symbols, and blueprint reading as used in industry, and types of welding equipment and operational safety issues. The student will learn to interpret blueprint (welding) design, welding blueprint symbols, understand prints and everything that's included in a print and to prepare ability of working with them. Also an understanding of standards set by American Welding Society will be taught. (2+0)
Attempt for a welder certification. (1+3)

WLD110 Introduction to Applied Welding Techniques 3 Cr. Hrs.

This course is an introductory course where the student will develop the knowledge and skill thru theory and lab practice in the basic welding processes which include SMAW, GMAW, OAW, PAC and OAC. Safety will be emphasized throughout the class and will be accordance with industry standards for manufacturing (2+2)

WLD120 Gas Metal Arc Welding 3 Cr. Hrs.

This course provides a basic understanding of the Gas Metal Arc Welding process and key variables that affect the quality of welds. Hands- on lab is provided to give the student the opportunity to become proficient at welding on a variety of metals, carbon steel, stainless steel and aluminum. Welding will be done on square groove and fillet welds using single pass, and multiple pass welds. (2+2)
Co-requisites: WLD100 and WLD110

WLD130 Flat and Horizontal Shield Metal Arc 3 Cr. Hrs.

This course is an introductory course where the student will develop the knowledge and skill thru theory and lab practice in the basic welding processes which include arc welding flat and horizontal positions. Safety will be emphasized throughout the class and will be accordance with industry standards for manufacturing. (2+2)
Prerequisites: WLD100 and WLD110

WLD140 Gas Tungsten Arc Welding 3 Cr. Hrs.

This course covers the basic principles and practices of Gas Tungsten Arc Welding or GTAW. The student will discuss basic welding terminology, safety and demonstrate a good working knowledge of TIG (Tungsten Inert Gas) welding principles. This course will identify basic AC/DC welding equipment, various ferrous and nonferrous metals. The Student will perform flat and out-of-position GTAW using the correct shielding gas and filler rods.

(2+2)

Prerequisites: WLD100 and WLD110

WLD150 Advanced Gas Metal Arc Welding 3 Cr. Hrs.

This course provides an advanced understanding of the Gas Metal Arc Welding process and key variables that affect the quality of welds. Hands - on lab is provided to give the student the opportunity to become proficient at welding on a variety of metals, carbon steel, stainless steel and aluminum. Welding will be done on square groove and fillet welds using single pass, and multiple pass welds.

(2+2)

Prerequisite: WLD120

WLD210 Vertical & Overhead SMAW 3 Cr. Hrs.

This course provides a basic understanding of the Shield Metal Arc Welding (SMAW) process and key variables that affect the quality of welds. Hands- on labs are provided to give the student the opportunity to become proficient at welding on a variety of metals including carbon steel, stainless steel, and aluminum. Welding will be done on square groove and fillet welds using single pass and multiple pass welds.

(1+3)

Prerequisite: WLD130

WLD220 Advanced Gas Tungsten Arc Welding 3 Cr. Hrs.

This course covers the advanced principles and practices of Gas Tungsten Arc Welding (GTAW). The student will learn advanced GTAW terminology, apply safety standards and develop a working knowledge of TIG (Tungsten Inert Gas) weld principles. This course will identify advanced AC/DC welding equipment used with stainless steel and aluminum metals.

(1+3)

Prerequisite: WLD140

WLD230 Welding Fabrications & Layout 3Cr. Hrs.

This course covers more engineering drawing principles, fundamental concepts of welding specifications, symbols, and blueprint reading as used in industry. Included are types of welding, welding equipment, and safety practices and precautions in the workplace. Emphasis is on print reading, interpretation, analysis, and demonstrations and uses of fabrication and knowledge of these skills.

(1+3)

WLD240 SMAW Plate Certification Procedures & Testing 3 Cr. Hrs.

This course provides instruction in welding and layouts to understand and achieve welder test methods. The students will work in a hands-on, instructor led environment, simulating actual manufacturing processes. Course evaluation will include a written assessment and psychomotor assessment of skills.

(1+3)

WLD250 Pipe Welding 3 Cr. Hrs.

This course provides instruction in welding and layout procedures for pipe welding. This will include pipe preparation, explanation and demonstration of pipe fit-up procedures, and discussion of pipe welding terms and definitions. The student will also demonstrate pipe welding acceptance criteria as related to the ASME Section IX welding code. Students will then apply welder certification code data, administer post plate procedure, and perform SMAW to certification skill level required to attempt for a welder certification.

(1+3)

WLD260 Pre-Pipe Certification 3 Cr. Hrs.

This course covers principles and practices used in the layout and welding and layout procedures involving Shielded Metal Arc Welding (SMAW) applications. Topics will include pipe layout, fit-up, preparation and welding. Pipe welding terms and welding procedures will be explored. Student laboratory experiences will include determining pipe welding acceptance criteria and fabrication to the ASME Section IX welding code prior to welder certification application.

(2+2)