

# COURSES

## ALL COURSES

### ACCOUNTING

#### **AC101 Accounting Fundamentals 3.0 UNITS**

If accounting sounds intimidating to you, you need to take this class. Accounting Fundamentals introduces the basics of accounting and builds on that knowledge. We will cover the purpose of accounting, the steps of the accounting process, T-accounts, debits, credits, the accounting equation, and reporting with the basic financial statements: income statement, statement of owner's equity, and balance sheet.

#### **AC177 Accounting I 3.0 UNITS**

You will develop a thorough knowledge of the fundamental accounting principles and basic accounting procedures applicable to the sole proprietorship form of business enterprise. You will learn basic principles and assumptions, cash receipts, cash payments, purchases, sales, receivables, payables, accruals and deferrals, fixed assets, depreciation, and inventory. You must achieve a grade of "C" or better to proceed to AC178/Accounting II.

#### **AC178 Accounting II 3.0 UNITS**

Prerequisite: AC 177/ Accounting I. This enables you to develop a solid understanding of liabilities, payroll and payroll tax reports, partnerships, limited liability companies, corporations, stocks, earnings per share, dividends, bonds, notes, investments, fair value accounting, statements of cash flows, financial statement analysis, and an introduction into Managerial Accounting. You must achieve a grade of "C" or better to proceed to AC257/ Managerial Accounting.

#### **AC219 QuickBooks 3.0 UNITS**

Do you plan on running a business one day? This class walks you through setting up and managing a business in QuickBooks Online, Intuit's cloud-based accounting software. We will walk through adding accounts, tracking inventory, customer information, vendor information, invoices, sales receipts, bills, purchases, payroll reporting, and more.

#### **AC257 Managerial Accounting 3.0 UNITS**

Prerequisite: AC178/Accounting II. You will develop analytical tools for accounting information necessary to manage a business and to make sound business decisions that are typically made in the business world. You will explore product and job costing, job-order costing, process costing, cost behavior, cost-volume-profit (breakeven) analyses, activity-based costing, budgeting, and budget variance analyses, and an introduction into cost accounting and finance. You must achieve a grade of "C" or better for this class to transfer to the university level.

### AGRICULTURE

#### **AG101 Agriculture Orientation 1.0 UNIT**

Starting off in your college career is a new and exciting experience. An orientation to CCC is designed to set students up for success by facilitating the transition into college life. You will be exposed to a regional study of agriculture and will consider career opportunities for graduates in agriculture and related areas as well as examining the role of the agricultural college in the industry.

#### **AG103 Agriculture Workplace Communication 1.0 UNIT**

Students will gain a basic understanding of Spanish pertaining to the agriculture industry. Students will acquire the skills necessary to speak the Spanish language as a form of communication for all aspects of the cattle feedlot industry.

#### **AG104 Feedlot Horsemanship 1.0 UNIT**

Students will be able to incorporate the use of horses and low stress handling techniques of livestock in a feedlot setting. Basic skills such as opening and closing gates, pen riding, and moving cattle will be obtained by the end of the course.

#### **AG105 Ag OSHA Certification 1.0 UNIT**

This course enables the student to receive their OSHA Certificate in agricultural equipment training so they are equipped and know how to safely

operate equipment that is typically used on a daily basis within an agricultural operation.

#### **AG106 Principles of Agricultural Economics 3.0 UNITS**

The principles of economics will challenge you to "think like an economist" in the context of agricultural issues; past, present, and future. You will become acquainted with the decisions that producers and consumers make in agricultural markets and the economic challenges of scarcity that they face. This understanding will lead to the discovery that markets will have in the production, distribution, and consumption of food and fiber in the U.S. economy.

#### **AG107 Crop Science (w/Lab) 4.0 UNITS**

For success in the field of agronomy, you will find this course beneficial. Principles underlying the practices used in the culture of grain and forage crops are studied. Crop classification, structure, growth, and improvement are also discussed. In addition, crop response to environmental factors, soils, pests, and associated management practices are addressed. Laboratories will enable you to discuss management decisions on planting, harvesting, irrigation, production economics, and problem-solving.

#### **AG109 Farm Records & Accounts 3.0 UNITS**

You will spend time learning the application of accounting concepts and principles to farms and other agribusiness firms. Cash and accrual accounting methods, whole-farm and enterprise analysis, income tax management, and electronic farm accounting technology are considered as well.

#### **AG117 Soils (w/Lab) 4.0 UNITS**

Prerequisite: AG107/Crop Science; CH176/Fundamentals of Chemistry or CH177/Chemistry I. A strong foundation in the study of soils is paramount to a degree in Agronomy. An introduction to the fundamentals of the physical, chemical, and biological properties of soils is the focus. In addition, soil development, classification, distribution, and management are included.

#### **AG118 Marketing of Agricultural Products 3.0 UNITS**

The practices and processes of marketing agricultural goods, cash and futures prices, and commodity marketing techniques are examined in this course. Attention is given to the market organization and price analysis, marketing functions, standards and grading, and specific marketing practices related to crops and livestock. Methods of price analysis and marketing strategies are developed.

#### **AG120 Beef Cattle Clipping and Handling 2.0 UNITS**

Preparing cattle for show and exhibition is a lucrative skill that can be beneficial to anyone interested in cattle production. You will hone your skills of halter breaking, training hair, and clipping cattle through hands-on teaching. CCC calves are used in the class to be included in the annual CCC bull sale.

#### **AG121 Beef Cattle Clipping and Handling II 2.0 UNITS**

Preparing cattle for show and exhibition is a lucrative skill that can be beneficial to anyone interested in cattle production. You will hone your skills of halter breaking, training hair, and clipping cattle through hands-on teaching. CCC calves are used in the class to be included in the annual CCC bull sale.

#### **AG124 Techniques of Livestock Selection 2.0 UNITS**

Prerequisite: AG149/Principles of Animal Science. Focus is given to livestock selection and evaluation of cattle, hogs, sheep, and goats. You will gain an understanding of form and function as it relates to livestock selection. Time is spent learning descriptive terminology, evaluating structural correctness, body capacity, balance, and muscularity. You will also gain an in-depth understanding of genetic tools used in each species to aid in evaluation such as Expected Progeny Differences. REQUIRED FOR LIVESTOCK JUDGING TEAM MEMBERS.

#### **AG125 Techniques of Livestock Selection 2.0 UNITS**

Prerequisite: AG149/Principles of Animal Science. Focus is given to beef selection and evaluation. You will gain an understanding of form and function as it relates to beef cattle selection. Time is spent learning structural correctness, body capacity, balance, and muscularity. You will also gain an in-depth understanding of genetic tools used in each species to aid in evaluation such as Expected Progeny Differences. In addition, the different beef breeds are evaluated for strengths and weaknesses.

**AG126 Principles of Livestock Nutrition 3.0 UNITS**

Corequisite: AG 149/Principles of Animal Science. An introduction to basic livestock nutrition is the emphasis of this course. You will learn the basic anatomy of the digestive system and the process of nutrition. Time is spent learning the origin, chemistry, and feeding value of different feeds, the nutritional requirements of different livestock species, and the theory of practical economics for the maintenance and growth of livestock.

**AG131 Range Management 3.0 UNITS**

This course emphasizes the principles and practices of grass management to be utilized for resource sustainability, and environmental stewardship. You will gain experience in identifying regional grasses, forbes, and invader plant species. In addition, you will gain knowledge of pasture management practices designed for maximum production and will learn to calculate stocking rates.

**AG149 Principles of Animal Science 3.0 UNITS**

The basic principles of animal science are of utmost importance for students interested in a career in any segment of animal agriculture. You will explore the different major production systems of cattle, swine, sheep, poultry, and horses. The broad field of animal science requires knowledge of the national and world livestock industry, purpose and products of livestock, nutrition, genetics, selection, reproduction, animal health, animal husbandry, marketing, and management.

**AG150 Principles of Animal Science Laboratory 1.0 UNIT**

Prerequisite or Corequisite: AG149/Principles of Animal Science. Students are encouraged to enroll in the lab section while taking the lecture part of Animal Science as topics in lecture are discussed in a practical sense. Hands-on experience and learning in Animal Science is the emphasis of the laboratory. The CCC Animal Science Unit is utilized to learn feeding, basic care, animal handling, selection, and evaluation. In addition, you will gain knowledge of breeds of livestock, meat science, reproduction, and animal agriculture sustainability in a changing world.

**AG151 Beef Cattle Science I 3.0 UNITS**

You will learn to incorporate best practices in beef production; emphasizing breeding herd management for purebred and commercial phases of the beef cattle industry. Included is a study of selection, breeding, reproduction, nutrition, marketing and other management practices.

**AG152 Introduction to Animal Health 1.0 UNIT**

Prerequisite: AG149/Principles of Animal Science. Basic knowledge of good animal health is important for any livestock producer. You will learn anatomy and physiology as it relates to animal health. Also, time will be spent on immunology, quality assurance plans, common animal diseases, vaccines, and vaccinations, along with different types of therapeutic drugs and treatments.

**AG153 Reproduction of Farm Animals 3.0 UNITS**

Prerequisite: AG149/Principles of Animal Science. An in-depth study of reproduction for the various livestock species is the focus of this course along with an emphasis of all phases of the reproductive stages and efficiency of cattle, horses, sheep/goats, and swine. You will have the opportunity to learn male and female anatomy, disease and infertility, artificial insemination, endocrinology, fertilization, gestation, parturition, lactation, and growth.

**AG154 Ultrasounding-Pregnancy Detection 2.0 UNITS**

This course will enable the student to successfully pregnancy diagnose their own cattle or at an operation for whom they work in a beef production setting utilizing an ultrasonography machine. Students will learn the female reproductive structures and have the ability and confidence to be able to identify if the female is pregnant or non-pregnant, locate the fetus if present, and age the fetus.

**AG157 Fundamentals of Hunt Seat Disciplines 1.0 UNIT**

You will learn the fundamentals of the riding disciplines and apply these fundamentals to the skills on horseback.

**AG158 Fundamentals of Western Disciplines 1.0 UNIT**

You will learn the fundamentals of the riding disciplines and apply these fundamentals to the skills used on horseback.

**AG162 Horsemanship for Horse Training III 1.0 UNIT**

You will ride college and privately-owned horses at the college farm to attain the skills necessary to properly exercise and train horses to prepare for

competition. Repetitive practice occurs to achieve the horsemanship skills covered in class. Instructor permission is required and the course fulfills a PE credit requirement. MANDATORY FOR EQUESTRIAN TEAM MEMBERS.

**AG163 Horsemanship for Horse Training I 1.0 UNIT**

You will ride college and privately-owned horses at the college farm to attain the skills necessary to properly exercise and train horses to prepare for competition. Repetitive practice occurs to achieve the horsemanship skills covered in class. Instructor permission is required and the course fulfills a PE credit requirement. MANDATORY FOR EQUESTRIAN TEAM MEMBERS.

**AG165 Horsemanship for Horse Training 1.0 UNIT**

You will ride college and privately-owned horses at the college farm to attain the skills necessary to properly exercise and train horses to prepare for competition. Repetitive practice occurs to achieve the horsemanship skills covered in class. Instructor permission is required and the course fulfills a PE credit requirement. MANDATORY FOR EQUESTRIAN TEAM MEMBERS.

**AG167 Horsemanship for Horse Training IV 1.0 UNIT**

You will ride college and privately-owned horses at the college farm to attain the skills necessary to properly exercise and train horses to prepare for competition. Repetitive practice occurs to achieve the horsemanship skills covered in class. Instructor permission is required and the course fulfills a PE credit requirement. MANDATORY FOR EQUESTRIAN TEAM MEMBERS.

**AG168 Equine Management Technology I 4.0 UNITS**

You will be involved in the daily management operations of the CCC Equine Unit in addition to acquiring specific management skills for the equine industry. You will learn health management, first aid, nutrition, and equine behavior in Tech I.

**AG169 Equine Management Technology II 4.0 UNITS**

Equine reproduction is the focus of Tech II. You will actively participate in foaling broodmares, breeding mares, collecting stallions, and processing the collection in the breeding lab at the CCC Equine Unit.

**AG176 Horse Production 3.0 UNITS**

You will gain an overview of the U.S. horse industry by covering equine technology and up-to-date management practices. You will explore and study breeds of horses along with a general overview of the following: genetics, anatomy and physiology, nutrition, reproduction, selection, marketing, business management, facilities and equipment, and health care.

**AG180 Feedlot Management Tech I 4.0 UNITS**

This course will enable the student to identify sick cattle and administer appropriate treatment. In addition, the student will also be able to incorporate the use of horses and low stress handling techniques of livestock in a feedlot setting at the college farm. An introduction to the latest in feedlot technology will also be covered.

**AG205 Agricultural Finance 3.0 UNITS**

You will study, in-depth, financial analysis and the financial institutions which serve agricultural businesses. For each particular type of financial institution, the course will study its sources of capital, its general loan criteria used to evaluate loan requests, and its financial performance. For agriculture borrowers, this course will also examine their financial condition, their projected cash flow, and the importance of risk management. In addition, you will explore property appraisal and valuation, machinery cost management, financial and commodity markets, personal and business insurance, private and corporate farm ownership, and estate planning.

**AG208 Agri-Business Management Techniques 4.0 UNITS**

You will gain work experience and exposure to management responsibilities related to decision-making in business.

**AG209 Agricultural law 2.0 UNITS**

You will study the laws that govern agriculture in a practical sense to include estate planning, contracts, leasing, water rights, fencing rights, tortes, and personal liability for the producer and agribusiness. As part of the course, there will be guest lectures from regional attorneys; this is an informative-type course.

**AG226 Applied Livestock Nutrition 3.0 UNITS**

Prerequisite: AG126/Principles of Livestock Nutrition. The application of livestock feeding is explored in this course. Knowledge gained in AG126 is built upon so that you are able to be familiar with formulating and calculating

diets for the various classes and species of farm livestock. Special emphasis is given to anatomical and physiological differences as they affect the use of particular feedstuffs for each species. Equal class time is devoted to ruminant and monogastric species.

**AG232 Beef Management Technology I 4.0 UNITS**

This course enables the student to identify sick cattle and administration of appropriate treatment. In addition, the student will also be able to incorporate low stress handling techniques of livestock in a feedlot setting at the college farm. Students will also formulate feed rations and operate large equipment needed for feeding cattle.

**AG233 Beef Management Technology II 4.0 UNITS**

This course enables the student to identify signs of calving and assist with difficult situations. In addition, the student will also be able to identify and manage different cattle production seasons such as calving, breeding, and weaning in a production setting. Students will also be able to formulate feed rations and operate large equipment needed for feeding cattle in a dry lot situation.

**AG236 Farm Welding 2.0 UNITS**

This course will enable students to apply welding processes including Arc, Oxy-Acetylene, TIG and MIG are taught in this course. Students learn to weld and cut the common metals used in agriculture. No previous welding experience is required. Students will also learn basic maintenance and repair large equipment typically used in the ranch and feedlot industries.

**AG240 Market Beef Production 3.0 UNITS**

This course enables the student to gain a better understanding of all the market beef production platforms. Student gains knowledge in management and marketing strategies from birth to consumption.

**AG245 Advanced Livestock Judging 2.0 UNITS**

Prerequisite: AG124/Techniques of Livestock Selection. Sophomore members of the livestock judging team are encouraged to take this course. An in-depth study of the principles of livestock selection and judging, analysis of animals, terminology, and procedures for giving reasons are the focus to become competitive in the livestock judging arena.

**AG246 Advanced Livestock Judging II 2.0 UNITS**

Prerequisite: AG245/Advanced Livestock Judging. Sophomore members of the livestock judging team are encouraged to take this course. An in-depth study of the principles of livestock selection and judging, analysis of animals, terminology, and procedures for giving reasons are the focus to become competitive in the livestock judging arena.

**AG247 Animal Breeding 1.0 UNIT**

Equine breeding is learned through hands-on practice at the CCC Equine Unit. This course emphasizes collecting a stallion and processing the collection in the breeding lab. You will learn mare anatomy and sterile artificial insemination of the mare using current breeding techniques.

**AG249 Artificial Insemination 2.0 UNITS**

This short course will enable the student to successfully incorporate estrous synchronization and artificial insemination methods into a beef production setting. The course also emphasizes the anatomy of the cow and artificial insemination procedures. Emphasis is placed on semen handling, breeding management and techniques.

**AG251 Applied Beef Practices 3.0 UNITS**

This course provides on-the-job training concerning various aspects of beef production. Students become involved with basic management techniques and practices. This course enables students a structured learning experience and is offered as an extension of the regular curriculum. This course requires a minimum of six (6) hours work experience at the college beef cattle unit.

**AG252 Beef Management Technology III 4.0 UNITS**

This course enables the student to apply hands-on training concerned with various phases of beef management. The student gets involved in specific management operations and decisions in addition to acquiring certain skills. Along with the instructor, students organize and host a production bull sale.

**AG253 Beef Management Technology IV 4.0 UNITS**

This course enables the student to gain on-the-job training related to specific areas of beef management. Students are assigned certain tasks associated with management of the cow herd and cattle marketing aspects of the Farm

and Ranch Program. Along with the instructor, students will organize and host a production bull sale.

**AG259 Equine Reproduction 1.0 UNIT**

Prerequisite: AG153/Reproduction of Farm Animals or instructor's permission. You will study reproductive processes and management techniques in the horse including semen collection and evaluation, artificial insemination, management of mares and stallions, and current research.

**AG260 Equine Nutrition 1.0 UNIT**

An understanding of nutrition is key for any horse owner. You will learn the basic nutrients, digestion and absorption, anatomy of equine, evaluation of feedstuffs, procedures in ration formulation, feed processing, factors affecting feed intake, and feeding horses.

**AG261 Equine Anatomy 1.0 UNIT**

Prerequisite: AG176/Horse Production or instructor's permission. You will learn the functional anatomy of the horse. You will also gain an understanding of the structural basis for locomotion and you will be able to properly communicate in regards to organs of locomotion, digestion, respiration, and reproduction.

**AG263 Beginning Equine Training 3.0 UNITS**

Prerequisite: Instructor permission required. You will learn the basic training of yearling and two-year-old horses. You are assigned one or more horses to train from groundwork including first saddling and riding through basic maneuvers such as stops, backing, circles, and side passes.

**AG265 Advanced Equine Training 3.0 UNITS**

Prerequisite: AG263/Beginning Equine Training or instructor's permission. You will train two-year-old and older horses from basic maneuvers through advanced maneuvers such as rollbacks, spins and lead changes. English horses may be started over fences and western horses may be started on cattle.

**AG268 Equine Management Technology III 4.0 UNITS**

You will gain on-the-job training at the CCC Equine Unit related to specific areas of horse production. You are assigned certain tasks associated with management operations and decisions of a working equine facility. You will be introduced to judging stock-type horses.

**AG269 Equine Management Technology IV 4.0 UNITS**

You will gain on-the-job training at the CCC Equine Unit related to specific areas of horse production. You are assigned certain tasks associated with management operations and decisions of a working equine facility. You will have an opportunity to complete riding instruction certification through the Certified Horsemanship Association. Discussion related to barn management and risk management of facilities takes place in this course.

**AG270 Equine Massage and Alternative Therapies 3.0 UNITS**

This course will enable the student to learn the basics of equine massage and be introduced to alternative therapies used in prevention of injury or rehabilitation of horses. This course emphasizes massage techniques to aid recovery of muscle, tendon, and ligament strains or injuries.

**AG290 Agriculture Equipment Safety 1.0 UNIT**

This course enables the student to apply safe operation techniques for all equipment used on the college farm on a daily basis and in an agricultural career.

**AG293 Agriculture Entomology 3.0 UNITS**

This course enables the student to gain an insight into insect identification and control. The morphology, physiology and ecology of insects are essential aspects that are covered in this course. It also includes the insect's life cycle, anatomy, classification and behavior in relationship to plant and animal control.

**AG299 Directed/Independent Study: Agriculture 4.0 UNITS**

Prerequisite: Approval of instructor. You will have a structured learning experience as an extension of the regular curriculum. It is intended to allow you to broaden your comprehension of the principles of, and grasp of, competencies associated with selected programs. Its purpose

## Courses

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is to supplement extant courses with individualized, in-depth learning experiences.

## ALLIED HEALTH

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### **AL101 Basic Nutrition 3.0 UNITS**

The focus of this course is to familiarize students with the classes of nutrients, the importance of nutrition in everyday life, and the growing importance of nutrition in treating conditions as well as preventing them.

### **AL102 Medical Terminology 1.0 UNIT**

This course enables the student to study basic word structure, organization of the body, prefixes, roots, suffixes which form the basics in the professional language of medicine. A variety of applications including written and verbal exercises are used as students help one another in the deciphering and understanding of medical language.

### **AL103 Medical Terminology 3.0 UNITS**

This course enables the student to study basic word structure, organization of the body, prefixes, roots, suffixes which form the basics in the professional language of medicine. A variety of applications including written and verbal exercises are used as students help one another in the deciphering and understanding of medical language.

### **AL104 Nurse Aide 5.0 UNITS**

Successful completion of this course enables the student to perform basic nursing skills in a supervised setting. The student applies the fundamental concepts of nursing care in a lab and clinical setting. The student prepares to meet basic physiological and psychological needs of individuals in a health care setting. The student explores the regulations and requirements for providing care in a nursing facility. The students successful complete of this 90-hour course enables them to take the Kansas Certified Nurse Aide exam for licensure.

### **AL110 Medication Aide 4.0 UNITS**

Prerequisites: Certified Nurse Assistant licensure and a reading level of eighth grade or above. Successful completion of this course will enable the student to take the Kansas Certified Medication Assistant exam for licensure. The student will perform mathematical functions. These include learning and converting both the metric and apothecary systems, and medication calculations. The student practices medication administration skills in a supervised setting, the student explores drug categories and basic pharmacology. The student will review body systems functions in this course.

### **AL125 Emergency Medical Training 12.0 UNITS**

This course will provide the student the opportunity to gain the knowledge and develop the skills necessary to administer basic life support to ill or injured patients. Upon successful completion, the student is eligible to take the National Registry EMT certification test.

### **AL136 Pharmacology 1.0 UNIT**

This course is designed to support and complement the knowledge base of persons in the health care field during their first semester of their ADN year. It explores pharmacology beyond the course content offered in the required health care curriculum. Prescription and over-the-counter drug classifications, drug formulations, and safe, effective drug therapies are examined as well as specific drug actions, indications for use and side effects. Legal, ethical, nutritional, and cultural considerations are examined and discussed.

### **AL190 LPN INTRAVENOUS THERAPY 3.0 UNITS**

This course prepares the Licensed Practical Nurse to perform intravenous therapy skills beyond the normal scope of practice for LPNs. This course follows Kansas State Board of Nursing mandates using the approved curriculum. Topics studied in this course include the legal aspects of intravenous therapy specific to LPN practice, anatomy and physiology of the circulatory system, venipuncture techniques, pharmacotherapeutic concepts and phlebotomy. This course includes a laboratory component.

### **AL236 Pharmacology 3.0 UNITS**

This course is designed to support and complement the knowledge base of persons in the healthcare field. It explores pharmacology beyond the course content offered in the required healthcare curriculum. Prescription and over-the-counter drug classifications, drug formulations and safe, effective, drug therapies are examined as well as specific drug actions, indications for use

and side effects. Legal, ethical, and cultural considerations are examined and discussed.

### **AL281 Pathophysiology 4.0 UNITS**

Prerequisite: Anatomy and Physiology: BI276 and BI277, or BI278 or equivalent with a "C" or better. You will be able to identify phenomena that produce alterations in human physiologic function and the resulting human response. You will gain an understanding of pathophysiological changes including how pathological processes are manifested, their progress in the body, and the primary and secondary effects of these changes, as well as an introduction to therapeutics.

## ALTERNATIVE ENERGY

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### **AE177 Energy Efficiency 3.0 UNITS**

Want to learn how to lower your utility bills? You will gain a fundamental understanding of energy conservation, energy efficiency, and energy auditing. You will also apply techniques including the utilization of a solar photovoltaic array and/or wind turbine that will not only reduce the customer's utility bill but your own!

### **AE178 AG/Rural Wind Applications 3.0 UNITS**

Produce your own wind on the farm! You will learn practical field applications through the usage of small wind turbines which supply electrical needs to many rural environments in the United States and throughout the world! An intensive, all-day, Saturday boot camp is strongly encouraged as part of this course. If you are unable to attend, an alternative assignment can be approved by your instructor. Industry experts are on-site to help with the instruction process and will give you the necessary skills to become a successful technician.

### **AE179 Community Wind 3.0 UNITS**

Become an emerging leader in your community! Learn the economics of incorporating community wind technology to reduce utility expenses for groups, organizations, or single entities. You will gain the skills necessary to properly size turbines and match the customer's electrical load to the required number of turbines. An intensive, all-day, Saturday boot camp is strongly encouraged as part of this course. If you are unable to attend, an alternative assignment can be approved by your instructor. Industry experts are on-site to help you gain the necessary skills to become a successful technician.

### **AE180 Wind/Solar PV Hybrid Systems 3.0 UNITS**

Solar and wind go together like bread and butter! When the sun goes down the wind blows more. This is the perfect marriage. You will learn to install hybrid, grid-direct systems. Additionally, exposure to battery-based hybrid systems will be explored. You will learn to incorporate all the systems into an overall renewable energy plan. An intensive, all-day, Saturday boot camp is strongly encouraged as part of this course. If you are unable to attend, an alternative assignment can be approved by your instructor. Industry experts are on-site to help with the instruction process to give you the necessary skills to become a successful technician.

### **AE181 Small Wind Turbine 3.0 UNITS**

Do you have the desire to learn how to install a small wind turbine? This class is for you! You will install, test, and troubleshoot a small wind turbine and will be exposed to both grid-direct and off-grid systems throughout this course. Site analysis for safety and maintenance will be a focus along with sizing types for towers and installation. Come away with the essential steps toward a successful wind electric system. An intensive, all-day, Saturday boot camp is strongly encouraged as part of this course. If you are unable to attend, an alternative assignment can be approved by your instructor. Industry experts are on-site to help with the instruction process to give you the necessary skills to become a successful technician.

### **AE182 Drones in Renewable Energy 3.0 UNITS**

This course will enable the student to fly a drone for a solar or wind site survey. The student will apply different flight techniques to capture the ideal photographs. This course will allow students to apply the theoretical knowledge in the course with a practical hands-on experience at the Boot Camp. (offered spring semester)

### **AE183 Wind, Battery-Based 3.0 UNITS**

This course will enable the student to install, test, and commission different wind turbine systems. The student will apply different battery wiring techniques to achieve the correct battery bank voltage and capacity required

for the different turbine they will be installing. This course will allow students to apply the theoretical knowledge in the course with a practical hands-on experience at the Boot Camp or lab days. (Offered spring semester)

**AE190 Electronics 3.0 UNITS**  
Power. Current. Voltage. Resistance. What does all of this mean? You will learn the basic electrical principles and laws associated with the electronics used in the field. The application of electrical fundamentals is an important component of both wind and solar PV systems. Additionally, there will be extensive coverage of charge controllers, inverters, grounding and bonding, and lock-out, tag-out requirements.

**AE199 Introduction to Construction 4.0 UNITS**  
Let the wind blow you into learning the components of construction! You will gain the necessary knowledge in the basic construction of wind and PV systems. Also, you will explore the fundamentals necessary to advance in different areas in the industry such as Solar Photovoltaic Systems Installer, Wind Turbine Maintenance Technician, and many more majors in the construction industry.

**AE200 Solar PV Battery-Based 3.0 UNITS**  
Tired of paying Uncle Sam? You will learn how to install a battery bank for multiple systems and will also learn about grid-tie with battery backup systems. You will wire and test battery banks to determine the correct voltage and capacity on each system and will gain real-world, hands-on experience with a multi-meter and other necessary tools. An intensive, all-day, Saturday boot camp is strongly encouraged as part of this course. If you are unable to attend, an alternative assignment can be approved by your instructor. Industry experts are on-site to help with the instruction process to give you the necessary skills to become a successful technician.

**AE201 Solar PV Technical Sales 3.0 UNITS**  
Can I interest you in buying a solar PV system? Find out what it takes to enter the solar PV industry. You will explore the solar business and financial aspects of the PV world. Exposure to marketing, sales, electrical savings rates, incentive structures, and financial benefits and options are a necessary part of this course. An intensive, all-day, Saturday boot camp is strongly encouraged as part of this course. If you are unable to attend, an alternative assignment can be approved by your instructor. Industry experts are on-site to help with the instruction process to give you the necessary skills to become a successful technician.

**AE241 Power Storage/Transmission & Conversion 3.0 UNITS**  
How does that work? You will gain knowledge of the battery-based system through wiring batteries and inverters. You will set up equipment in multiple configurations including series, parallel, and series-parallel. Strong emphasis is placed on performing basic calculations of voltage, wattage, amp-hours and watt-hours, and testing the components utilizing a multi-meter. You will explore, in depth, the safety and maintenance of the installation processes. An intensive, all-day, Saturday boot camp is strongly encouraged as part of this course. If you are unable to attend, an alternative assignment can be approved by your instructor. Industry experts are on-site to help with the instruction process to give you the necessary skills to become a successful technician.

**AE276 Introduction to Energy Technologies 3.0 UNITS**  
Which side of the energy debate are you on? You will increase your knowledge to solidify your argument by learning about technologies such as biomass, biofuels, nuclear power, wind power, and hydro. You will practice on both stand-alone and grid-tied photovoltaic and wind turbine systems and will become certified in CPR/First Aid and OSHA-10 through our hands-on one-day boot camp. An intensive, all-day, Saturday boot camp is strongly encouraged as part of this course. If you are unable to attend, an alternative assignment can be approved by your instructor. Industry experts are on-site to help with the instruction process to give you the necessary skills to become a successful technician.

**AE277 Solar PV Fundamentals and Applications 3.0 UNITS**  
Do you want to learn how to work on a solar PV system using standard industry tools such as a Solar Path Finder, angle finder, irradiance meter, multi-meter, and a temperature gun? This class is for you! You will acquire the necessary skills to effectively incorporate photovoltaic systems into stand-alone and interconnected electrical systems. You will also explore photovoltaic applications through installation planning, system components, and by preparing proposals. An intensive, all-day, Saturday boot camp is

strongly encouraged as part of this course. If you are unable to attend, an alternative assignment can be approved by your instructor. Industry experts are on-site to help with the instruction process to give you the necessary skills to become a successful technician.

**AE279 Solar PV Grid Direct 3.0 UNITS**  
Learn about solar photovoltaic from start to finish! You will explore cells, modules, arrays, batteries, charge controllers, inverters, system sizing, and mechanical integration and will gain hands-on skills through practice using an irradiancemeter, multi-meter, and temperature gun. Installation, troubleshooting, and testing system components will be explored in-depth. An intensive, all-day, Saturday boot camp is strongly encouraged as part of this course. If you are unable to attend, an alternative assignment can be approved by your instructor. Industry experts are on-site to help with the instruction process to give you the necessary skills to become a successful technician.

**AE297 Small Wind & Solar PV Installation Prof 5.0 UNITS**  
You will gain the necessary skills to become a small wind and solar photovoltaic professional. Through real-world hands-on experience, you will install a stand-alone solar PV system, wind system, and hybrid system and by learning to wire, test, and troubleshoot, you will be ready to show off your abilities to those in the industry. An intensive, all-day, Saturday boot camp is strongly encouraged as part of this course. If you are unable to attend, an alternative assignment can be approved by your instructor. Industry experts are on-site to help with the instruction process to give you the necessary skills to become a successful technician.

**AE298 Internship 4.0 UNITS**  
Show off your abilities to those in the industry! You will perform work in the solar photovoltaic and/or the wind turbine industry (or a closely related field approved by your instructor). You must seek employment with a company to gain experience through 160 hours of training which helps with the process that can lead to permanent placement in the industry.

## ART

**AR102 2-D Design 3.0 UNITS**  
Seyyed Hossein Nasr believes "we are as much in need of beauty as of the air that we breathe." What do we find beautiful and why? Learn about the visual elements and the principles of design on how to create an appealing composition, and how to effectively evaluate your work and that of others. This class is completely project-based and you will learn how to use the formal elements mentioned as you start and work through the completion of mostly two-dimensional compositions. No previous experience using these materials is necessary. Join us and enjoy the experience of learning, sharing your ideas, and creating with confidence.

**AR103 Drawing I 3.0 UNITS**  
Yes, you can draw....everyone can; it's no different than learning to ride a bike, a global skill. We start with the basic elements of drawing and build using graphite, chalk, charcoal, pen and ink, oil pastels, and any combination of these while also discussing good composition techniques. Learning to use value, contrast, perspective, and various subject matter will give you the confidence to continue with Drawing II, attend drawing workshops, and will spike your curiosity to continue toward personal growth and the formation of your style. No previous experience using these materials is necessary. Join us and enjoy the experience of learning, sharing your ideas, and creating with confidence.

**AR104 Watercolor Painting I 3.0 UNITS**  
Whether it's a landscape, portrait, or ideas of mystique and curiosity from your mind, watercolors are great to learn for on-the-go paintings; they are easy to start and come back to and create a great sense of freshness on paper. You will learn to use a variety of application techniques: dry brush, wet-on-wet/dry, mixed media, as well as build confidence with using transparent washes and further experimentation with the material alone and in combination with other materials. You will also use watercolors, watercolor pencils, acrylic wash, and gouache in combination with composition skills to create many beginning masterpieces. No previous experience using these materials is necessary. Join us and enjoy the experience of learning, sharing your ideas, and creating with confidence.

**AR105 Oil Painting 3.0 UNITS**  
Painting with oils! Sounds like a blast, and you get to be experimental with techniques, ideas, and applications. You will experiment with painting with a brush, palette knife, impasto, dripping, and a variety of other application

techniques. Learn to stretch your canvas and develop compositional strategies to express what's in your mind. Feel confident painting on canvas, wood backgrounds, working with opaque mediums, making frames, and introducing mixed medium into the composition. No previous experience using these materials is necessary. Join us and enjoy the experience of learning, sharing your ideas, and creating with confidence.

**AR106 Elementary Art Education 3.0 UNITS**

Art is important in learning! We will learn about the development of children's art, the importance of creativity in the elementary classroom, and empowering future educators with tools to pursue a thoughtful curriculum emphasizing the creativity of the student. This course focuses on incorporating art and creative activities into the regular education classroom to offer a varied learning style for all students. No previous experience using these materials is necessary. Join us and enjoy the experience of learning, sharing your ideas, and creating with confidence.

**AR111 Ceramics I 3.0 UNITS**

Therapy for your soul and relaxing for the mind, in this class you will create in clay using hand-built and wheel-thrown techniques. Previous experience is not required and this class is good for all ages. As a student, you will be exposed to all stages of clay creation: idea formation, working the clay, firing, glazing or color addition options, and presentation. Join us and enjoy the experience of learning, sharing your ideas, and creating with confidence.

**AR115 Beginning Sculpture 3.0 UNITS**

Do you like to work with your hands? Form your ideas with additive and subtractive techniques using clay, wood, various types of plaster, putty, paper, and more; create unique sculptures in the round and relief. No previous experience using these materials is necessary. Join us and enjoy the experience of learning, sharing your ideas, and creating with confidence.

**AR116 Lettering & Design 3.0 UNITS**

Learn how to create beautiful handwriting in various lettering styles. Experience writing with calligraphy pens, form your alphabet and create relief letters for printing, incorporate beautiful writing in other art forms integrating style and ideas, and more. Previous experience is not required; this class is good for all ages. Join us and enjoy the experience of learning, sharing your ideas, and creating with confidence.

**AR118 Synthetic & Mixed Media 3.0 UNITS**

Why work with just one material? Explore the combination of many materials to create your ideas. Acrylics, collage, and other combinations of medium will be used in an experimental combination; stretching the limits and use to complete a pleasing composition. Previous experience is not required; this class is good for all ages. Join us and enjoy the experience of learning, sharing your ideas, and creating with confidence.

**AR119 Printmaking 3.0 UNITS**

Why make only one; printmaking is the art of multiples. Express your ideas with confidence to create prints carved from linoleum, explore alternative lithograph techniques, engraving, and mono-prints. Also, explore the many ways to use printed materials or materials on which to print, even clay. Previous experience is not required; this class is good for all ages. Join us and enjoy the experience of learning, sharing your ideas, and creating with confidence.

**AR123 Introduction to Crafts 3.0 UNITS**

Cut glass with confidence and create sturdy stained-glass compositions while learning to grind glass, wrap with copper, and solder. You will also create a hard-covered book using the Coptic bookbinding method, dye a batik composition, build Native American pottery using the coil and paddle method, weave a tapestry, and express your inner wild in the making of a mask. Previous experience is not required; this class is good for all ages. Join us and enjoy the experience of learning, sharing your ideas, and creating with confidence.

**AR150 Beginning Photography 3.0 UNITS**

**CAPTURE THAT AMAZING SHOT!!** The first time. Learn how the camera works; all of its functions, film, digital, and how to make all of the adjustments you will need to shoot indoor/outdoor in full light/no light conditions. Then, take those cool shots into the studio and learn to enhance and edit in Lightroom and Photoshop. This class is perfect for beginners, graphic design and visual art students, and anyone wanting to know how to use that fancy camera they got for Christmas or a birthday to capture beautiful moments. Previous experience is not required and this class is good for all ages. Join us and enjoy the experience of learning, sharing your ideas, and creating with confidence.

**AR155 Advanced Photography 3.0 UNITS**

Prerequisite: GR105/Beginning Photography. What's shooting in raw and conceptual art? Take your photography skills to a new level, learn to incorporate meaning into a landscape or a portrait; shoot in raw rather than JPEG for better editing crispness and more control over color and values. Work on your style, build a portfolio, and learn to write constructively about the photos that you take. After editing, you will be printing your work on canvases, cups, or even towels, and will be sending pictures to the local paper for publishing with a description as a photojournalist would. You'll even show your work at area art shows. Join us and enjoy the experience of learning, sharing your ideas, and creating with confidence.

**AR175 Art Appreciation 3.0 UNITS**

This course is a great "get your feet wet" introduction to the creative side of art, history of art, artists, styles, and why it is so important to acknowledge the importance of art in our daily lives. No prior art experience is necessary for this general education class which is designed to create confidence and promote the uniqueness of every individual through the expression and discussion of art and culture. Join us and enjoy the experience of learning, sharing your ideas, and creating with confidence.

**AR176 Art History 3.0 UNITS**

Let's go back in history before Hobby Lobby and Michael's existed; where do you get the paint to express the excitement of bringing down a large elephant? We will discuss the first cave paintings and the importance of these images toward the progression of language. Did you know that the corbeled and round arch as well as post and lintel building methods all existed in the Neolithic Period? We will discuss the history of art: architecture, sculpting, painting, and other 2D media, as well as art concepts, terminology, and styles important to the understanding of visual arts from the beginning of written language from the Prehistoric Period through the Middle Ages leading into the Renaissance Period. Previous experience is not required; this class is good for all ages. Join us and enjoy the experience of learning, sharing your ideas, and your appreciation of history and how it is captured in art throughout the ages.

**AR177 Art History II 3.0 UNITS**

This class may be taken independently of AR 176 Art History I. Art History II is a study of the history of art, including architecture, sculpture, painting, and other 2-D media. Students learn art concepts, terminology, and styles necessary to understand the visual arts from the Renaissance Period through Modern Art.

**AR202 3-D Design 3.0 UNITS**

Prerequisite: AR102 2-D Design. Seyyed Hossein Nasr believes "the modern response is that you just create art for the sake of art; but this was never the answer of traditional civilizations where one created art for both the sake of attainment of inner perfection and for human need in the deepest sense - because the needs of man are not only physical, they are also spiritual. So, what do we find beautiful and why? Learn about the visual elements and the principles of design on how to create an appealing composition and how to effectively evaluate your work and that of others." This class is completely project-based and you will learn how to use the formal elements mentioned as you start and work through the completion of three-dimensional compositions. No previous experience using these materials is necessary. Join us and enjoy the experience of learning, sharing your ideas, and creating with confidence.

**AR203 Drawing II 3.0 UNITS**

Prerequisite: AR103/Drawing I. Let's stretch your knowledge and use of materials that you like to use to record with confidence when creating new compositions which express ideas and lots of content. The more you draw the more you develop your style. You will experiment with graphite, charcoal, pastels, pen and ink, oil pastels, and a combination of these materials on a variety of papers. Join us and enjoy the experience of learning, sharing your ideas, and creating with confidence.

**AR206 Problems in Painting 3.0 UNITS**

Prerequisites: AR103, AR104, AR105, and AR118. Build on your style, use all of the painting mediums, work on the expression of thoughts and ideas through the use or combinations of mediums. This class is designed around you and where you want to go in the learning process. Join us and enjoy the experience of learning, sharing your ideas, and creating with confidence.

**AR210 Advanced Oil Painting 3.0 UNITS**

This course is an advanced oil painting class where student and instructor will sit down and develop a direction for the course based upon student experience and areas that need to be developed. The student will use a

combination of these techniques scumbling, alla prima, glazing, chiaroscuro, impasto, grisaille, blocking in and blending using brushes, palette knives, and other application techniques. Composition, content, and creativity are major considerations in painting. This course enables the student to feel confident with working with opaque mediums, painting surfaces, stretching canvas, making frames, and introducing mixed media into the composition. The student will be expected to frame and complete each painting to the point where it is "show ready".

**AR214 Ceramics II 3.0 UNITS**

Prerequisite: AR111/Ceramics I. If you found peace and satisfaction in Ceramics I, you will enjoy the challenge and freedom of experimentation in this advanced clay class. Whether it be hand-building or wheel throwing, you will be encouraged to work toward a self-initiated exploration of artists, techniques, and styles working in the area of clay. Join us and enjoy the experience of learning, sharing your ideas, and creating with confidence.

**AR220 Projects in Ceramics 3.0 UNITS**

Prerequisite: AR111/Ceramics I and AR214/Ceramics II. Take your clay experience to the next level. Join advanced clay students in the creation process; experimenting with various types of clay, concept, and purpose in creation, glaze/color applications, and firing processes. Participate in area shows by taking your works from preparation to presentation stages, share your ideas with the community. Join us and enjoy the experience of learning, sharing your ideas, and creating with confidence.

## ATHROPOLOGY

**AN177 Cultural Anthropology 3.0 UNITS**

Cultures form the basis for human experience. Anthropology is the student of human diversity and cultural universals by examining worldviews of peoples and the areas where they live, from international and interdisciplinary perspectives. You will make a comparative study of past and present human societies and cultures and you will apply theories and practices of anthropology from field research. You will learn by doing and will express your skills and knowledge from practical experience, involvement, and investigation.

**AN185 Introduction to Forensic Anthropology 3.0 UNITS**

When human skeletal remains are discovered, the forensic anthropologist looks for the skull and lower jaw, especially the teeth, to help identify the person. Forensic anthropologists learn to read the bones and assemble the person's biological profile to determine cause of death. You will compare human biological diversity and commonalities and will examine the broad field of forensic anthropology from an international and interdisciplinary perspective. You will practice crime scene investigation, assessment, excavation, mapping, and documentation. You will learn to apply anthropological theories and methods to forensic work significant to the criminal justice system and will engage in using the theories and practices of forensic work in field research and experiential learning, involvement, and investigation. You will also gain practical, analytical, and interpretive skills in forensic archeology for training in discipline skills to pursue careers in Crime Scene Investigation (CSI) and Forensic Archeology. Forensic Anthropology is a significant element in efforts to control crime and, at the same time, maintain a high quality of justice. The course is particularly valuable for students in criminal justice, anthropology, history, and social science education, while providing an important knowledge base for other disciplines and areas of study. This disciplined experience will complement and enhance your academic program of study as well as influence your own life.

## BIOLOGY

**B1100 General Biology w/Lab 4.0 UNITS**

You will learn to apply basic biological principles to perceive the need for a continued inquiry into ecological practices as well as elucidation of biological advances and research that directly affects life. Application of the scientific method in both lecture and laboratory will take place with an emphasis on scientific thought, data handling, and problem-solving while learning to employ an analytical outlook whilst maintaining equipoise. This course is designed for non-science majors.

**B1177 Biology I w/Lab 5.0 UNITS**

You will learn about life characteristics common to both plants and animals to enhance the perception of the need for a continued inquiry into molecular biology practices, understanding of biological advances in various fields of relation to future student courses of study, comprehension of the impact of established biological concepts salient to future biological science research

to include select philosophical and political implications. Application of the scientific method in the laboratory to include an emphasis on scientific thinking, experimentation, data handling, and problem-solving will take place. This course is designed for students in areas of study that require a strong biology background.

**B1276 Anatomy & Physiology I w/Lab 4.0 UNITS**

You will learn to identify the basic biological concepts of structure and function of the human body. You will also study body systems including integumentary, skeletal, muscular, nervous systems, and special senses. You will be encouraged to develop an integrated understanding of homeostatic regulation within the human body. This introductory course is part one of a two-course continuum.

**B1277 Anatomy & Physiology II w/Lab 4.0 UNITS**

Prerequisite: B1276/Anatomy & Physiology I. This class is a continuation of Anatomy & Physiology I where you will explore the integral relationship between structure and function in the following organ systems: endocrine, cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive. The coursework emphasizes the process of homeostasis, metabolism, growth, and development.

**B1278 Anatomy & Physiology 5.0 UNITS**

You will develop a working knowledge of the structure and function of the human body. The coursework emphasizes the study of the function of the human body and a basic knowledge of gross anatomy. There are no prerequisites, however, biology, chemistry, and medical terminology are strongly encouraged as optional prerequisites

**B1279 Biology II w/Lab 5.0 UNITS**

Prerequisite: B1177/Biology I w/Lab with a "C" or better. You will apply the Theory of Evolution to comprehension of the unity and diversity of life while enabling yourself to gain a perception of necessity for the acquisition of the latest biological advances, comprehension of the impact of established biological concepts concerning future biological science advances, research explorations to include philosophical and political implications. The scientific method will be applied in both lectures and laboratory with an emphasis on scientific thinking, experimentation, data handling, and problem-solving. The course is designed for students in areas of study that require a strong biology background and may transfer as Biology II or as Zoology or Botany at universities that do not have a Biology II course. This course includes three hours of lecture and three hours of laboratory per week.

**B1280 Principles of Microbiology 5.0 UNITS**

You will gain an understanding of the major characteristics and life functions of microorganisms including bacteria, fungi, and viruses with emphasis upon the disease-producing effects of such microorganisms with a particular emphasis toward health and biological sciences. You will explore and apply microscopy techniques, culturing methods for microorganism diagnostic identification, and infection control. The course may transfer as a 200-level microbiology course.

## BUSINESS

**BU131 Principles of Leadership 3.0 UNITS**

This course will enable the student to focus on the process of influencing individuals and groups toward organizational goals including such topics as the evolution of leadership, leadership effectiveness, and situational leadership. The student will explore literature that defines leadership as setting and maintaining direction for an organization. Persons who lead do so with a vision and a purpose.

**BU141 Leading Organizational Change 3.0 UNITS**

This course will enable the student to develop the fundamental areas necessary to lead effective individual, team, and organizational change. The student will explore change as a vital component for the 21st century individual and organization.

**BU175 Personal Finance 3.0 UNITS**

Money tends to manage the lives of most individuals. We will work to reverse this condition by learning how we can manage our money toward accomplishing our personal short-and long-term life goals. Through both direct personal application and theoretical scenarios, you will come to understand the changing function of money as a tool in the different phases of life. In the end, you will be endowed with greater financial clarity in an increasingly uncertain world.

**BU176 Personal Finance 1.0 UNIT**  
 You will gain an overview of financial planning with an emphasis on budgeting, managing credit, debt management, and making purchasing decisions. This course is designed for non-business majors.

**BU178 Intro to Business 3.0 UNITS**  
 Want to major in business but not sure in which area of business your concentration should be? Want to start a business but not sure how to write a business plan? In this class, you will explore basic areas of business including global markets, business ethics, economic challenges, communication, ownership, E-business, management, leadership, human resources, marketing, technology, accounting, and finance. Putting it all together, you will create a business plan for your choice of business.

**BU179 eCommerce-Marketing on the Internet 3.0 UNITS**  
 This course studies the concepts of eCommerce and the promotion of a business on the Internet. Web page design and the techniques needed to create an effective web page will be emphasized. Internet marketing techniques such as blogging, newsgroups, and search engine optimization will be explored. Home based internet and e-bay businesses will be analyzed.

**BU212 Business Communications 3.0 UNITS**  
 No matter what career into which you want to go, this class will benefit you. Communication is essential in every aspect of life, especially the business environment. In this class we will walk through all aspects of the communication cycle including analyzing your audience, preparing the message, choosing the appropriate channel, and providing feedback. You will compose various business messages including letters, a report, presentation, resume, and cover letter.

**BU217 Legal Environment of Business 3.0 UNITS**  
 This course enables the student to receive an overview of the legal system including civil law, criminal law, and the legal environment. The student receives an overview of the court system and how it affects and regulates business. The student reviews current cases and learns to apply a critical thinking approach to the legal system. The student gains knowledge about dispute resolution, white collar crime, ethical responsibility, lease and contract law including the UCC, torts, product liability, and property relationship, including bankruptcy and consumer protection.

**BU221 Human Resource Management 3.0 UNITS**  
 Do you like working with people? People are the biggest resource a business has. Human Resource Management is the management of people in a business to accomplish the business's objectives. As the first point of contact, a human resource manager must understand the company culture, how to motivate employees, and manage conflict, in addition to the interview and hiring process. You will develop a personal development plan, conduct an interview, and much more.

**BU222 Customer Service 3.0 UNITS**  
 Customer service is a buzzword in the corporate world. You will explore strategies to handle angry customers, different generations, earn customer loyalty, write win-back messages, the requirements of internal and external customers, the enhancement of customer relationships, the significance of market research, and the design and redesign of customer service strategies.

**BU225 Marketing 3.0 UNITS**  
 Marketing is all around us. We are constantly being marketed to, so let us take a look at the marketing concept and the reasoning behind all of the adds with which we are bombarded daily. This class looks at marketing from the business perspective as well as the consumer's perspective. You will examine the consumer decision-making process, marketing research, market segmentation, target markets, the marketing mix, ethical obligations of marketers, and more. You will create an advertisement, conduct marketing research on a business of your choice, and gain knowledge of the tactics marketers use to connect with their target market.

**BU237 Principles of Management 3.0 UNITS**  
 Do you want to develop your management skills? You will practice teamwork, leadership, motivation, and the basic management functions of planning, organizing, leading, and controlling through class activities and a final team project. You will also explore current management topics such as globalization, diversity, ethics, social responsibility, quality, productivity, and participative management and will see how you fit into management techniques and philosophies.

**BU241 Management of Small Business 3.0 UNITS**  
 Managing a small business is a lot of work. This course is jam-packed with information about running a small business. You will explore the planning and organization of a business, marketing goods and services, managing and operating a business, and planning for the financial aspects of a small business. You will create your own business plan with the information discussed in class.

**BU244 Retail Management 3.0 UNITS**  
 Retail stores have become part of our day-to-day lives, but have you ever thought about what it takes to manage a retail store? You will learn about the importance of retail, types of retailing, internet retailing, choosing a retail site location, buying and pricing merchandise, and customer relationship management. You will observe and evaluate a store's layout, design, and visual merchandising techniques while assessing a retail company's strengths, weaknesses, opportunities, threats, and financial returns.

**BU245 Principles of Selling 3.0 UNITS**  
 Do you want to learn some selling tactics? Principles of Selling focuses on personal selling, from prospecting to sales dialogue, handling objections, making the presentation, closing the deal, and follow-up. You will prepare and present a sales presentation and will learn how to build quality, mutual relationships to accomplish sales goals.

**BU253 Business Finance 3.0 UNITS**  
 This course enables the student to develop skill in the mathematics of business and finance that provides the necessary foundation for a student interested in business careers. The student applies business math/finance concepts including fractions, percentages, bank services, payroll, taxes, insurance, purchasing merchandise, markup and markdown, interest, consumer credit and mortgages, metrics and currency, invoicing, depreciation, amortization and present value/future value.

**BU281 Effective Time Management 1.0 UNIT**  
 Most people struggle with time management. Juggling various responsibilities and tasks can be difficult. You will be able to recognize time-wasters, realize how you are spending your time, set goals, and prioritize.

**BU282 Cyber Security 3.0 UNITS**  
 This course will enable the student to have an introductory understanding of computer and Internet threats and response. The student will explore the importance of sound security policies in organizational management as well as in security design methodology associated with hardware, software, operating systems and networks.

**BU298 Seminar in Business 3.0 UNITS**  
 Are you ready for the workforce? Seminar in Business is the capstone course for our business management and administration degree. This course will prepare you to take on the workforce with confidence. You will complete a research project, create an e-portfolio, write a resume and cover letter, along with various employment documents related to your career goals.

## BUSINESS TECHNOLOGY

**BT212 Applied Office Procedures 3.0 UNITS**  
 You will develop the specialized skills and abilities needed to perform at both the operational and managerial levels in today's office. You will also gain knowledge regarding telephone dynamics, organizational structure, time management, meetings and travel arrangements, communication services, postal and private shipping services, records management, reference materials, supplies, human relations, and supervisory and administrative responsibilities utilizing current technologies.

**BT218 Advanced Word Processing 3.0 UNITS**  
 You will develop proficiency in Microsoft Word by building upon existing knowledge of Word to complete and solve business problems using complex Word techniques in merging, macros, graphics, and desktop publishing. Business-related projects utilizing critical thinking are included.

## CHEMISTRY

**CH150 Chemistry in Society 5.0 UNITS**  
 As a non-science major, you will be presented chemistry in order to function and make decisions in a society shaped by science and technology. This



course encourages chemistry knowledge in the context of environmental concerns, health and wellness, technology, and other current issues.

**CH176 Fundamentals of Chemistry 5.0 UNITS**

You will apply the basic principles, laws, and theories of chemistry. The course is designed for the student needing five or more hours of general chemistry and is recommended if you are a certain student of agriculture, home economics, nursing, biology, and general education.

**CH177 Chemistry I w/Lab 5.0 UNITS**

Prerequisite or corequisite: MA177/Intermediate Algebra. You will develop a working knowledge of chemical principles for subsequent courses. This course is the first in a two-semester series and is designed for students of chemistry, biological science, pre-pharmacy, pre-veterinary, pre-medicine, pre-dentistry, and medical technology.

**CH178 Chemistry II w/Lab 5.0 UNITS**

Prerequisite: CH177/Chemistry I. This course is a continuation of Chemistry I in which you will focus on the topics of electrochemistry, thermodynamics, chemical kinetics, chemical equilibrium, and acids and bases. Other topics that may be covered are environmental chemistry, nuclear chemistry, organic chemistry, polymers, and coordination chemistry.

**CH225 Organic Chemistry I w/Lab 5.0 UNITS**

Prerequisite: CH178, Chemistry II or concurrent enrollment. This course is the first of a two-semester sequence in organic chemistry where you will focus on organic structure and bonding, isomerization, chirality, conformation, alcohols, alkanes and alkenes, and alkynes. This course is for those of you wanting to study chemistry, biological sciences, pre-pharmacy, pre-veterinary, pre-medicine, pre-dentistry, and medical technology.

**CH235 Organic Chem II (w/Lab) 5.0 UNITS**

Prerequisite: CH225/Organic Chemistry I. This course is a continuation of Organic Chemistry I and will further your understanding of organic chemistry mechanisms and includes a discussion of oxidations, reductions, carbonyl chemistry, and organic acids and acid derivatives. Additional topics may include applications to biochemistry including a study of carbohydrates, amino acids, proteins, lipids, and nucleotides.

## COMPUTER CONCEPTS

**CO120 Computer Graphics I 3.0 UNITS**

You will use Adobe Photoshop software to develop projects while learning how to properly use Photoshop's tools, such as retouching images, applying selective color, and color correcting images. By the end of the course, you will be able to create, edit, and manipulate professional images.

**CO176 Int Comp Cncpts&Apps 3.0 UNITS**

Prior knowledge of keyboarding is essential. Minimum keyboarding: 25 wpm/5 errors/5 minutes is recommended. You will explain computing technology concepts and practice application software by completing projects using word processing, spreadsheets, presentations, database applications, and web browsers used in business and industry.

**CO218 Advanced Word Processing 3.0 UNITS**

You will develop proficiency in Microsoft Word by building upon existing knowledge of Word to complete and solve business problems using complex Word techniques in merging, macros, graphics, and desktop publishing. Business-related projects utilizing critical thinking are included.

**CO223 Advanced Electronic Spreadsheets 3.0 UNITS**

This course develops proficiency in Microsoft Excel. You will build on existing knowledge of Excel and will gain experience using analysis tools, analyzing data with pivot tables, exchanging data with other programs, and programming Excel macros using Visual Basic applications.

**CO276 Webpage Design 3.0 UNITS**

You will use HTML programming language and WYSIWYG software to create basic websites that meet various business needs and will explore style sheets, database-driven sites, forms, tags, tables and frames, basic design principles, color and typography, scripting, hosting, and web mastering concepts.

## CRIMINAL JUSTICE

**CJ110 Intro to Criminal Justice 3.0 UNITS**

Justice is at the heart of the U.S. democratic system. Today's criminal justice system faces increasingly complex issues. Enter Criminal Justice studies where career options expand through a variety of fields. Be informed about the work of professionals in each field. Study past and present internal and external issues of the various components of the criminal justice system including police, corrections, and the courts; see how these interrelated components result in the administration of justice today. Graduates of our Criminal Justice Program and professionals with careers involving criminal justice share their experiences with our students about important issues that criminal justice professionals tackle every day.

**CJ210 Juvenile Delinquency and Justice 3.0 UNITS**

Low-risk youth entering a high-risk system that makes them worse - the costs begin to outweigh the benefits. Delinquent youth in the juvenile justice system confront changed circumstances that call into question legal precedents courts have followed for years. You will study Juvenile Delinquency and Justice to be informed about adolescent development and juvenile offenders, critique cases, and consider current controversies. Current social trends in juvenile crime, gang activity, and premeditated violence will be discussed in this course. As an introduction to the American system of juvenile justice, we will cover the relationships between juveniles and the criminal justice system, including law enforcement, juvenile diversion programs, courts, probation and parole, service organizations, and the correctional system. You will examine the historical precedents and philosophical reasons for treating juveniles differently from adults and review empirical evidence about child development that can illuminate the reasons for their special status within the system. We will study the major theories that have been proposed as explanations of delinquent behavior and will also provide a detailed overview of the juvenile justice system, from its beginnings to the current state of the institution.

**CJ211 Law Enforcement Operations and Procedures 3.0 UNITS**

Examine the role of police in modern society and the application of key concepts to policing scenarios; identify, discuss, and assess critical police practices and processes which include deployment, arrest procedures, search strategies, and other operational considerations.

**CJ212 Intro to Corrections 3.0 UNITS**

Focus on the relation of corrections to the criminal justice system, theories underlying correctional practice, and the role of institutions within the corrections system. Explore the principles and practices of treatment accorded to offenders in various types of correctional settings.

**CJ214 Principles of Investigation 3.0 UNITS**

Explore issues including the effective interview and interrogation techniques, crime scene management and lab processes, crime scene documentation methods, case preparation, and court presentation.

**CJ215 Criminal Law 3.0 UNITS**

Examine the history, scope, and nature of law. Focus on the parties to a crime, classification of offenses, criminal acts and intent, the capacity to commit a crime, and criminal defenses along with the elements of misdemeanor and felony crimes.

**CJ216 Interviewing and Report Writing 3.0 UNITS**

Focus on the unique types of writing required in a criminal justice career. Gather pertinent information and then record that information by writing a variety of report narratives representative of those prepared by individuals working in a profession within the criminal justice system.

**CJ222 Introduction to Forensics Science 3.0 UNITS**

In this course the student examines the basic science concepts and techniques used in a forensic science laboratory. Students explore the nature and significance of physical evidence and the underlying chemical and biological principles of the scientific techniques employed for analysis and interpretation. The student considers the basics of career options in forensic science and its application in criminal cases through various scientific forensic disciplines such as pathology, anthropology, engineering, and bloodstain pattern analysis.

**CJ223 Criminalistics 3.0 UNITS**  
 In this course the student explores the underlying principles to understand the laboratory procedures of forensic science. The student recognizes the potential value and limitations of evidence recovery and analysis as practiced in laboratory settings. Students participate in simulations and mock crime scene investigation. The student articulates informed opinions about crime scene analysis and investigative response.

**CJ224 Medicolegal Death Investigation 3.0 UNITS**  
 Analyze the systems and methods of determining time, cause, and means of death in criminal investigations and trials. The legal and criminalistic concepts and procedures for the medicolegal investigation of death due to natural, accidental, suicidal, or criminal causes are studied. Examine basic concepts of forensic science and crime-solving techniques of establishing identity through human remains.

**CJ227 Victimology 3.0 UNITS**  
 This course enables the student the conceptual boundaries and basic concepts and literature of Victimology as a subfield of criminology. The student examines the historical and emerging roles of Victimology and apply personal experiences with the human dimensions of victimization.

**CJ233 Criminal Law & Procedures 3.0 UNITS**  
 Learn about the basic court system procedures and the jurisdiction of the courts along with constitutional and other legal requirements that affect law enforcement practices and procedures. Specific topics include confessions and interrogations, identification procedures, arrest, search and seizure, and admissibility of evidence.

**CJ237 Prof Responsibility in Criminal Justice 3.0 UNITS**  
 You will explore the major components involved in the study of ethics, particularly as it applies to the field of criminal justice. The focus is on the code of conduct and the ethics of the criminal justice profession and the standards to which they are held in their professional roles. The course aims to produce professionals who are not only critical thinkers but who have the skills necessary to pursue sound ethics in their day-to-day decisions and activities.

**CJ240 Agency Administration and Management 3.0 UNITS**  
 You will focus on practical analysis of legal issues, liabilities, modern administration theory, and supervisory management principles and their application to the unique operating problems of criminal justice organizations.

**CJ262 Internship in Criminal Justice 12.0 UNITS**  
 You will gain exposure to the work environment and/or apply classroom learning to the worksite as a precursor to future employment.

**DENTAL HYGIENE**

**DH100 Dental Hygiene Orientation 1.0 UNIT**  
 This course assists entering college students adjust to college life and prepares them for success in college and in the work place.

**DH103 Dental Health Safety 1.0 UNIT**  
 This course prepares dental auxiliary students to respond proactively to dental emergencies, control infection, prevent disease, adhere to OSHA Standards, and safely manage hazardous materials. Students also take patient vital signs and collect patient medical/dental histories. CPR certification is a prerequisite. Students will be required to show proof of certification before beginning the course. This course is WTCS aligned.

**DH104 Dental Hygiene Process I 2.0 UNITS**  
 Introduces dental hygiene students to the basic technical/clinical skills required for practicing dental hygienist including use of basic dental equipment, examination of patients, and procedures within the dental unit. Under the direct supervision of an instructor, students integrate hands-on skills with entry-level critical thinking and problems-solving skills. The course also reinforces the application of Dental Health Safety skills.

**DH105 Dental Materials 1.0 UNIT**  
 Prepares dental auxiliary students to handle and prepare dental materials such as liners, bases, cements, amalgam, resin restorative materials, gypsum

products, and impression materials. They also learn to take alginate impressions and clean removable appliances.

**DH109 Dental Radiography 1.0 UNIT**  
 Discuss and apply basic principles of the nature, effects, generation, control, and use of dental x-rays. Radiation safety, operation of equipment, film placement, exposure, processing, mounting, and interpreting dental x-rays. Attainment of correct x-ray taking techniques on mannequins and clinical patients.

**DH112 Dental Hygiene Process II 3.0 UNITS**  
 This clinical course builds on and expands the technical/clinical skills student dental hygienists develop in Dental Hygiene Process I. Under the direct supervision of an instructor, students apply patient care assessment, planning, implementation, and evaluation skills to provide comprehensive care for calculus case type 1 and 2 patients and perio case type 0, I and II patients. Dental Hygiene Process II introduces the application of fluoride and desensitizing agents, whole mouth assessments, comprehensive periodontal examinations, application of sealants, and patient classification. Students also begin performing removal of supragingival stain, dental plaque, calcified accretions, and deposits. In addition, they gain further experience in exposing radiographs on patients. The course also reinforces the application of Dental Health Safety skills.

**DH122 Oral Anatomy, Embryology, and Histology 1.0 UNIT**  
 Prepares dental hygiene students to apply detailed knowledge about oral anatomy to planning, implementation, assessment, and evaluation of patient care. Students identify distinguishing characteristics of normal and abnormal dental, head, and neck anatomy and its relationship to tooth development, eruption, and health.

**DH203 Dental Hygiene Transition into Practice 1.0 UNIT**  
 Co- or Prerequisite: DH212 (Process IV). This course prepares the learner or graduate for licensure. Simulated written and practical examinations, individualized study plans, stress/test anxiety management strategies, and dental hygiene licensure obtainment are addressed. Course goal is to strengthen learner performance on written board and clinical practical examinations. No challenge test is available for this course.

**DH210 Dental Hygiene Process III 4.0 UNITS**  
 This clinical course builds on and expands the technical/clinical skills student dental hygienists developed in Dental Hygiene Process II. In consultation with the instructor, students apply independent problem-solving skills in the course providing comprehensive care for calculus case type 1, 2, and 3 patients and perio case type 0, I, II, and III patients. Dental Hygiene Process III introduces root detoxification using hand and ultrasonic instruments, manipulation of files, use of oral irrigators, selection of dental implant prophylaxis treatment options, and administration of chemotherapeutic agents. Students also adapt care plans in order to accommodate patients with special needs.

**DH212 DH Process IV Lab 4.0 UNITS**  
 This clinical course builds on and expands the technical/clinical skills student dental hygienists developed in Dental Hygiene Process I, II, and III. With feedback from the instructor, students manage all aspects of cases in the course of providing comprehensive care for calculus case type 0, 1, 2, and 3 patients and perio case type 0, I, II, and III patients. This course also emphasizes the maximization of clinical efficiency and effectiveness. Prepares student dental hygienists to demonstrate their clinical skills in a formal examination situation.

**DH215 Dental Pain Management 1.0 UNIT**  
 This course encompasses basic and current concepts in administration of local anesthesia and pain management. Principles of drug interactions, emphasizing dental related therapeutics and drugs associated with common system disorders; information on the selection of professional anesthesia armamentarium; and principles necessary for administering local anesthesia will be incorporated in the learning process. Content for this course meets educational requirements for certification in the state of Kansas. There is no challenge test available for this course.

**DH298 Dental Hygiene Biochemistry 4.0 UNITS**  
 Provides students with skills and knowledge of organic and biological chemistry necessary for application within Nursing and other Allied Health careers. Emphasis is placed on recognizing the structure, physical properties and chemical reactions of organic molecules, body fluids, and acids.

Additional emphasis is placed on biological functions and their relationships to enzymes, proteins, lipids, carbohydrates and DNA.

## DRAMA

### **DR120 Theatre Appreciation 3.0 UNITS**

Get ready to explore the world of theatre in all its exciting aspects! Theatre Appreciation is offered for all general education students and satisfies a humanities requirement. You will increase your knowledge and understanding of theatre through readings, assignments, and discussions.

### **DR130 Performance I 3.0 UNITS**

Students participate in the performing arts of theatrical production. This includes character development, appropriate singing style, acting study, and any dance requirements for the production.

### **DR140 Performance II 3.0 UNITS**

Students participate in the performing arts of theatrical production. This includes character development, appropriate singing style, acting study, and any dance requirements for the production.

### **DR145 Theatre Practicum II 3.0 UNITS**

Students participate in all aspects of theatrical production (excluding acting or performing). These include building and painting scenery, lighting, costumes, makeup, gathering properties, designing, stage managing, assistant directing, box office and design research.

### **DR230 Performance III 3.0 UNITS**

Students participate in the performing arts of theatrical production. This includes character development, appropriate singing style, acting study, and any dance requirements for the production.

### **DR240 Performance IV 3.0 UNITS**

Students participate in the performing arts of theatrical production. This includes character development, appropriate singing style, acting study, and any dance requirements for the production.

### **DR271 Introduction to Acting Experience 3.0 UNITS**

Are you interested in acting? You will learn the fundamentals of acting, even if you have little to no experience. All of the tools used by actors will be explored, including improvisation, vocal, physical and psychological warm-ups, building trust, relaxation, and discipline techniques.

## ECONOMICS

### **EC276 Principles of Macroeconomics 3.0 UNITS**

Macroeconomic statistics and institutions are frequently reported on in the news; their decisions and impact influencing your daily life. At the same time, economics continues to be an enigma to most people. You will unravel this mystery as you explore the structure and dynamics of the macroeconomy, how economic data is compiled and reported, and the way data guides important policy institutions such as Congress and the Federal Reserve.

### **EC277 Principles Microeconomics 3.0 UNITS**

The principles of economics will challenge you to "think like an economist" in the context of societal issues; past, present, and future. You will become acquainted with the decisions of consumers and producers as they face the core economic challenge of scarcity. This understanding will lead you to discover the impact of market structure and public policy on the production, distribution, and consumption of goods and services in the U.S. economy.

## EDUCATION

### **ED177 Found of Modern Ed 3.0 UNITS**

This course is an introductory course for the students considering teaching as a career. Covered in this course are the historical, philosophical and sociological foundations, and the organization of teaching and learning. Includes a variety of classroom activities. Students examine and develop basic concepts and attitudes toward teaching. Some critical issues of education are examined.

### **ED199 Problems in Education 3.0 UNITS**

This course provides the student the opportunity to explore changing trends and challenges in America's schools and to address current issues affecting

education. Educational issues on the national agenda, state and national initiatives, and/or important developments in areas such as curriculum, instruction, assessment, or technology are also discussed.

### **ED226 Storytelling 3.0 UNITS**

This course will help you develop communications, research, and writing skills through exploration of traditional and contemporary stories. Storytelling can be used with both children and adults to educate, entertain, excite or calm, and to convey important information in a memorable way. You will learn to leverage the power of engaging narrative and effective visuals so you can harness the power of effective storytelling in the digital age. We will focus on the storytelling and technical production of multimedia content for a digital audience.

### **ED236 Observ & Particip 3.0 UNITS**

Prerequisite: ED177 Foundations of Modern Education. This course allows the student to be placed in an internship with competent teachers in areas of special interests. Credit is earned on the basis of time spent in the classroom and work with the supervising teacher and college coordinator. Faculty supervised and coordinated.

### **ED277 Children's Lit 3.0 UNITS**

Would you like the chance to step back into your childhood? This is the course for you! You will explore the different genres of children's literature, ranging from beginning books to chapter books. Even if you do not aspire to teach, this class will open your eyes to the importance of early childhood literacy. You will also learn how to choose literature for a classroom library, gain knowledge of award-winning children's books, and have fun with class projects.

### **ED299 Directed Independent Study 3.0 UNITS**

This course is designed for the student who desires to study selected topics in a specific field. The student will investigate a topic that is one not normally investigated in depth in existing courses.

### **ED300 Intro to Childhood Trauma & Its Effects 3.0 UNITS**

In this introductory course, the focus will be on building the student's awareness around trauma, adverse childhood experiences, the impact on brain development, relationships, and learning. Being trauma-aware helps change the way we interact and respond to challenging children and adolescent behaviors. This course is beneficial for anyone who is interested in learning more about how trauma can negatively affect an individual physically, cognitively, socioemotionally, and neurologically. This class is important for teachers, early learning professionals, parents, social workers, and anyone who works with or interacts with children and youth or adults who were impacted by childhood trauma.

### **ED301 Trauma-Informed Strategies and Practices 3.0 UNITS**

The implementation of a trauma-informed approach requires a profound paradigm shift that deepens and unfolds over time. Individuals and organizations move through stages as they strive to meet students' needs and become fully trauma-informed. This course is an overview of how trauma looks in the classroom. Students will acquire foundational skills and will learn how to look beyond the behavior to find and treat the stressor instead of using traditional methods and practices. Students will apply trauma-informed practices to classroom scenarios and case studies as well as their own classrooms to improve discipline policies, student resilience, and educational outcomes.

### **ED302 The Trauma-Informed Classroom 3.0 UNITS**

This course answers the essential question, "What is the trauma-informed classroom?" Students will explore a comprehensive set of components and criteria to help schools create, sustain, and assess trauma-informed classrooms. The rationale, research, and five domains of a trauma-informed classroom are explored in-depth. These domains provide an organizing system of where to start and how to continually create and sustain an effective classroom designed to meet the needs of all students, especially those who have been impacted by trauma.

### **ED303 Suicide Prevention, Intervention, & Post 3.0 UNITS**

Suicide is the second leading cause of death for youth between the ages of 10 and 19. Because students spend so much time in the school, either in person or virtually, teachers and staff are on the front lines of suicide prevention. In this course, students will explore the basics in suicide prevention, intervention, and postvention and beyond, for school personnel. Students will learn how to strengthen protective factors by creating a culture

## Courses

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of caring and will also learn to identify risk factors, recognize warning signs, and to know what action to take.

### **ED304 Special Topics in Trauma-Informed Persp 3.0 UNITS**

This course offers an in-depth study of specialized topics and practices in the field of trauma and trauma-informed perspectives. This course will: provide students the opportunity to explore the most current knowledge possible by introducing the latest perspectives, practices, and challenges; and, encourage students to discuss these topics with an eye toward applying them in practice.

### **ED305 Topics in Trauma-Informed Perspect & Pra 1.0 UNIT**

The Trauma-Informed Classroom, and ED303; A culture of Caring, and ED304; The Educator as a Whole Person. This course offers an in-depth study of specialized topics and practices in the field of trauma and trauma-informed perspectives.

## **ENGLISH**

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### **EN076 Fundamentals of Reading and Writing 3.0 UNITS**

This course is for students who test into it through Accuplacer, ACT, or SAT. This course is designed to prepare students for the demands of college level reading and writing through emphasis on basic organization, sentence skills, and reflection. This course does not fulfill graduation requirements.

### **EN107 Creative Writing 3.0 UNITS**

This course will enable the student to use an imaginative and satisfying form of self-expression and will help the student prepare work for publication. The student explores the writing of poetry, fiction, drama, and nonfiction.

### **EN176 English Composition I 3.0 UNITS**

Prerequisite: Appropriate ACT, SATT, or ACCUPLACER score or successful completion of EN076/Fundamentals of Reading and Writing with a "C" or better if test scores warranted. Reading and writing skills are necessary throughout your life and important to the success of your college classes and professional career. Good written communication skills allow others to read and understand you. In this class, you will write a variety of papers ranging from personal to source-based essays and will learn how to organize your thoughts and find, state, and support main ideas. In addition, you will learn how to properly credit your sources.

### **EN177 English Composition II 3.0 UNITS**

Prerequisite: EN176/English Composition I with a "C" or better. Any academic field of study requires research; English Composition II is designed to teach you how to find and use quality sources in your research. In this course, you will write a variety of source-based papers and will learn how to present logical arguments. You will also learn how to combine your words with quoted material and how to properly document a variety of sources.

### **EN202 American Literature I 3.0 UNITS**

This course enables the student to read and examine American literature up to the Civil War. The student studies representative works in nonfiction, prose, and poetry with emphasis placed upon those writers whose works still affect and illustrate modern American thought.

### **EN203 American Literature II 3.0 UNITS**

This course enables the student to survey American literature from the Civil War to the present. The student studies representative works in prose and poetry with emphasis placed upon those writers whose works still affect and illustrate modern American thought.

### **EN219 Introduction to Literature 3.0 UNITS**

The goal of Introduction to Literature is to expose you to different styles of literature. Being well-read will help you build better communication skills and comprehend varying forms of expression. In this class, you will read several short stories, plays, and poems. You will play investigator searching for the author's meanings behind the words using your reactions to better understand human nature.

### **EN222 World Literature 3.0 UNITS**

The goal of this class is to expose you to literature from around the world. This will help you better understand different cultures and prepare you to live in our global society. In this class, you will read short stories, plays, and poems.

You will discover not only the differences in cultures but also the similarities we humans share regardless of where we come from.

## **GEOGRAPHY**

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### **GE176 World Regional Geography 3.0 UNITS**

How would you get the most out of travel experiences? Geography allows you to explore answers; to decide when and whether you head to a mountainside, seaside, or lakeview. You will develop an understanding of the "where" of places and events; why there? In addition, you will develop a mental map of your community, province, territory, or a country with the world. Geography shapes the course of world history; study geography to better understand history. This course is an interdisciplinary study that bridges the humanities and the physical and social sciences. You will increase your student scholarship, initiative, and innovation in the subject of world regional geography and will reason with and reason about geography. One aim is to develop your skills and knowledge to answer geographic questions while another is to understand and appreciate the interdependence, interconnectedness, and interrelationships of peoples, places, and environments.

## **HISTORY**

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### **HI104 World Civilization to 1660 3.0 UNITS**

What characteristics define a civilization? Pre-modern societies in the Ancient Near East first began exhibiting the hallmarks identified with "civilization" around 1500 years before the birth of Christ. These hallmarks include written languages, urban centers, monumental art and architecture, diversified labor forces with social stratification, and bureaucracies. Throughout this course, you will investigate major civilizations beginning with the ancient Sumerians and continue through the era of European exploration. You will learn about the past through the study of economic and cultural developments, empire-building endeavors, and major world religions.

### **HI175 History of the Holocaust 3.0 UNITS**

The demonization of outgroups is a common feature in many societies; at times, this comes with disastrous results. HI175 surveys one egregious example--the Holocaust. Beginning with a survey of European Jewry and the origins of European antisemitism, the course then moves to examine the conditions that contributed to the rise of Adolf Hitler and Nazism which are key to understanding this event. In this course, you will also investigate the ways survivors, historians, filmmakers, and governments have memorialized this event in their attempts to ensure such genocides never happen again.

### **HI176 American History to 1865 3.0 UNITS**

The United States is...? The United States is...? The history of the United States to the Civil War involves the transformation of one of the world's oldest nation-states from a confederation of thirteen largely independent states into a modern industrial power. You will learn about pre-Columbian native societies, European exploration, and the development of thirteen very different colonies. The origins of American independence and constitutionalism have long-standing British antecedents, and you will investigate relevant primary sources that justified American views of government and society. These ideas originated in England, yet they also led to a break with the mother country. The course will also provide you with an overview of political, economic, and cultural developments in the antebellum United States that eventually led to the American Civil War and the end of slavery.

### **HI177 American History 1865 to Present 3.0 UNITS**

How should we reunite the country after four years of increasingly bloody warfare? That was the question that dominated the political landscape in the years following the Civil War. In the intervening years, the United States became a global industrial power. You will investigate the rise of industrialism in the Gilded Age and the Populist and Progressive reactions to new relations between labor and capital. The United States emerged on the world stage in the twentieth century and became a leader in the drive for increased democracy in nations around the globe during the world wars. However, you will also investigate how strained race relations diverged from this American ideal.

### **HI204 World Civilization Since 1660 3.0 UNITS**

Eighteenth- and nineteenth-century Whig historians frequently viewed the arc of history as one of continuous progress. Onward and upward was a common refrain. In this course, you will learn about the rise of new scientific and political theories that coincided with the end of absolute monarchies and

the rise of more democratic forms of Protestantism. These developments contributed to the Western belief in unlimited human progress and its impact on the rest of the world. However, global war and the rise of totalitarian states and anti-imperialist movements in the twentieth century forced scholars to question the reality and desirability of universal progress. You will conduct an investigation into the impact of the Cold War and the increased globalization that accompanied its end.

## MATHEMATICS

### **MA076 Beginning Algebra 3.0 UNITS**

Algebra is a foundational skill for exploring the physical world and predicting real life events. The goal of the Beginning Algebra and Intermediate Algebra series is to teach you the basic essentials of algebra needed to succeed in future math and science classes. This series prepares you for College Algebra, a course that is required to succeed in most science and technology classes. Beginning Algebra covers the first half of the essential algebra topics needed to continue into more advanced courses. The second half of these topics is covered in Intermediate Algebra (MA 177). THIS COURSE DOES NOT SATISFY A GRADUATION REQUIREMENT.

### **MA109 Math for Veterinary Nurses 2.0 UNITS**

Prerequisite: ACT math score of 14 or above or equivalent. This course will enable you to improve your understanding of fractions, decimals, percents, ratios and proportions, and systems of measure. This course will enable you to accurately determine solutions, medications, and dosage in a clinical setting.

### **MA169 Survey of Mathematics 3.0 UNITS**

You will learn to solve the fundamental operations on the set of real numbers, the basic concepts of elementary algebra, mathematical formulas, metric measure, geometry, and consumer interest problems.

### **MA177 Intermediate Algebra 3.0 UNITS**

Prerequisite: Either "C" or above in MA076/Beginning Algebra or a high enough score on testing determined by the Mandatory Placement Guide. Algebra is a foundational skill for exploring the physical world and predicting real events. The goal of the Beginning Algebra and Intermediate Algebra series is to teach you the essentials of algebra needed to succeed in future math and science classes. Topics include properties of real numbers, linear and quadratic equations, absolute value equations and inequalities, systems of linear equations and inequalities, operations on polynomials and factoring, operations on rational equations, graphs of functions, integer and rational exponents, and radicals. Intermediate Algebra covers the second half of the essential algebra topics needed to continue into more advanced courses. The first half of these topics is covered in Beginning Algebra (MA076).

### **MA178 College Algebra 3.0 UNITS**

Prerequisite: MA177/Intermediate Algebra with a grade of "C" or better or high enough score on testing determined by the Mandatory Placement Guide. Algebra is a foundational skill for exploring the physical world and predicting real events. This is a foundational course needed to understand most science, technology, education, and mathematics courses, both at Colby Community College and other schools. Regardless of your major, you will learn real-life skills such as understanding compound interest, which is used in auto loans, home mortgages, and retirement accounts. Topics include solving equations, sketching graphs, and solving inequalities for linear, quadratic, polynomial, rational, logarithmic, exponential, and absolute value functions. Transformations of graphs, symmetries, function arithmetic, and complex numbers. If time permits systems of inequalities and systems of equations, including matrices will be explored.

### **MA185 Plane Trigonometry 3.0 UNITS**

Prerequisite: MA178/College Algebra with a grade of "C" or better or the equivalent. In your career, you will encounter many problems that will have a repeating pattern. Trigonometry is designed to handle these problems and you will also see it used in the design and measure of large-scale constructions and physical phenomenon. Topics include unit circle and right triangle properties, identities, trigonometric functions, trigonometric inverses, solving equations, graphing, solving triangles, polar coordinates, and complex numbers. This course, along with College Algebra, prepares you for understanding the ideas of Calculus.

### **MA190 Pre-Calculus 3.0 UNITS**

Prerequisite: MA178/College Algebra with a grade of "C" or better or the equivalent. Pre-Calculus reviews the topics of College Algebra and Trigonometry in preparation for the Analytical Geometry & Calculus series.

Topics include linear, quadratic, absolute value, and rational equations and inequalities; polynomial, rational, exponential, and logarithmic functions; complex numbers; linear and non-linear systems of equations and inequalities; unit circle and right triangle trigonometry; law of sines and cosines; graphs of trigonometric functions; and verifying trigonometric identities. This is an accelerated course with a fast pace and heavy workload.

### **MA205 Elements of Statistics 3.0 UNITS**

Prerequisite: MA178/College Algebra with a grade of "C" or better or the equivalent. Statistics and data science predict and explain almost all aspects of our society. You will learn how political polls, medical studies, and scientific experiments are designed, analyzed, and verified. You will also learn how to spot common statistical and logical errors and how to prevent them. Additionally, you will learn the ideas used to build games of chance such as poker, blackjack, and lotteries. Topics include sampling and blocking methods, measures of center and variation, data plots (scatterplot, histograms, bar plots, time series, ...), probability, probability distributions (binomial, geometric, normal,...), Central Limit Theorem, confidence intervals, hypothesis testing for means and proportion, correlation, and regression.

### **MA210 Calculus: for Business & Liberal Arts 3.0 UNITS**

Prerequisite: MA178/College Algebra with a grade of "C" or better or the equivalent. Calculus is used to predict and explain many business, economic, and social changes in both the future and the past. You will learn techniques for analyzing cost and profit as well as the study of growth and decline in populations. Topics include limits, derivatives, and integration applied to business and the sciences. This course does not include any topics from Trigonometry and will not prepare you for Analytical Geometry & Calculus II (MA230).

### **MA220 Analytical Geometry & Calculus I 5.0 UNITS**

Prerequisite or Co-requisite: MA178/College Algebra and MA122/Plane Trigonometry or equivalent. Calculus is used to model and predict the way physical phenomena change over time. You will use the ideas of Calculus to understand and fully participate in the scientific and engineering communities. In this course, you will learn how to use limits, derivatives, and integrals. Extensive examples from the physical sciences are explored through the lens of Calculus, such as radioactive decay and rates of change. An early transcendentals approach is used. Topics include limits, limit laws, derivatives, derivative rules (sum, product, quotient, chain rule, ...), implicit differentiation, hyperbolic functions, mean-value theorem, definite integration, fundamental theorem of calculus, introductory integration method including the substitution method, application of definite integrals including area, volume, and average values. The Calculus series is continued in Analytical Geometry & Calculus II (MA230).

### **MA230 Analytical Geometry & Calculus II 5.0 UNITS**

Prerequisite: MA185/Plane Trigonometry and MA220/Analytical Geometry & Calculus I. Calculus is used to model and predict the way physical phenomena change over time. You will use the ideas of Calculus to understand and fully participate in the scientific and engineering communities. In this course, you will learn how to use integration and series. Extensive examples from the physical sciences are explored through the lens of Calculus such as hydrostatic forces, properties of complex geometric shapes, and estimating quantities that are difficult or impossible to calculate exactly. An early transcendentals approach is used. Topics include advanced integration methods (integration by parts, trigonometric substitutions, partial fraction decomposition,...), improper integrals, applications of integration (arc length, surface area, hydrostatic pressure, center of mass,...), differential equations, parametric equations, polar coordinates, sequences, series, and Taylor series. The Calculus series is continued in Analytical Geometry & Calculus III (MA240).

### **MA240 Analytical Geometry & Calculus III 5.0 UNITS**

Prerequisite: MA 230/Analytical Geometry & Calculus II. Calculus is used to model and predict the way physical phenomena change over time. You will use the ideas of Calculus to understand and fully participate in the scientific and engineering communities. In this course, you will use the ideas from previous Calculus courses to explore similar topics in higher dimensional contexts. Extensive examples from the physical sciences are explored through the lens of Calculus such as three-dimensional motion, magnetic fields, and volumes of complex shapes. Topics include vector dot and cross product applications, vector and non-vector representation of curves and surfaces in three dimensions, derivatives and integrals of vector functions, applications of vector functions in arc length/curvature/velocity/acceleration, limits and continuity in functions of several variables, partial derivatives, tangent planes, chain rule, directional derivatives, gradients, optimizations, Lagrange multipliers, multiple integrals, applications of multiple integrals including surface area/volume/center of mass, change of variables in

multiple integration, line integrals, curl, divergence, Green's Theorem, surface integrals, Stoke's Theorem, and the Divergence Theorem.

**MA245 Differential Equations 3.0 UNITS**

Prerequisite: MA240/Analytical Geometry & Calculus III. Differential equations explore how to calculate a model based on how a phenomenon is changing over time. You will expand on the ideas from Calculus to model complex systems such as fluid motion, population growth, radioactive decay, and harmonic motion. Topics include direction fields, separation of variables, first-order linear differential equations, Euler's method, some special higher order differential equations, Laplace transforms, and applications from physics and engineering including population models, Newton's law of cooling, and harmonic motion. If time permits, some introductory Linear Algebra (matrices, vector spaces, linear functions, Eigen values and vectors, ...) topics are covered to discuss solving systems of differential equations and higher order linear differential equations. These topics are not a replacement for a Linear Algebra course.

**MUSIC**

**MU102 Harmony I 3.0 UNITS**

If you are wanting to gain basic knowledge and skills in music theory you will find this class enriching. Whether you are a music major or a hobbyist, you can learn the basics of music in this study. You will learn the rudiments of note and rhythm reading, intervals, key signatures, scales, primary triads, and seventh chords as well as an introduction to basic part-writing procedures, analysis, and simple harmonization of melodies.

**MU103 Ear Training I 2.0 UNITS**

If you are looking to major in music, this is one of the classes that you are expected to take to complete the degree program. Music Theory is a co-requisite for this course. You will learn to listen to and analyze what your hear and how it relates to the other musicians around you. Whether you are a vocal or instrumental student, these are the vital skills to learn whether you end up in music education, performance, technology, and/or music theory. Here, you will have the opportunity for a more individualized program and be able to take advantage of smaller class sizes.

**MU104 Voice Class I 1.0 UNIT**

Voice class is designed for students wishing to improve their singing skills. The class provides an opportunity for students to develop solo performance skills in a friendly atmosphere. Classes consist of group singing as well as private coaching. Although primarily designed for non-majors, entering voice majors may be asked to enroll in this class.

**MU108 Fundamentals of Music 3.0 UNITS**

This course enables the student to fully understand the rudiments of music and skills of simple notation (basic note and rhythm reading). Musical terms, intervals, chords, key signatures, and scales are introduced. The student applies this knowledge in their respective ensemble classes as well as demonstrating basic proficiency on the piano.

**MU113 Choir I 1.0 UNIT**

This course enables the student to perform a wide range of music in various styles and present in concerts during each semester. There is an emphasis on high performance standards through the achievement of good choral blend, intonation, diction, tone, quality, musical interpretation, and excellence of ensemble. Public performance is considered part of the course requirement. Enrollment is open to all students who wish to sing.

**MU114 Concert Band I 1.0 UNIT**

This course enables the student to work effectively within a group setting using a team approach. This performance ensemble is open to the instrumental student wishing to expand his or her knowledge of wind ensemble literature. Quality of musicianship is emphasized. Public performance is considered part of the course requirement.

**MU115 Chorale I 1.0 UNIT**

This course enables the student to place an emphasis on superior performance standards. The music is selected for its broad public appeal. There are numerous public performances throughout the school year. This group is also known as the Sunflower Singers. College choir members audition for this group.

**MU116 Instrumental Ensemble I 1.0 UNIT**

This course enables the student to hone his or her technique on a selected instrument. This performing group is open to all qualified wind and percussion players. The nature of the ensemble varies according to enrollment (examples: brass, quintet, clarinet choir). Public performance is considered part of the course requirement.

**MU118 Jazz Ensemble I 1.0 UNIT**

This class enables the student to recognize harmonic progressions and construct and basic improvisational solos, within an ensemble setting. The student is expected to operate within this atmosphere with a "team-first" approach. This performing group is open to all qualified wind and percussion players selected by audition. Emphasis is given to a broad spectrum of jazz styles and improvisation. Public performance is considered part of the course requirement.

**MU119 Pep Band I 1.0 UNIT**

This performing group is open to all qualified wind and percussion players. The pep band student helps create school spirit and enthusiasm during basketball games. Attention is given to the performance of current popular tunes.

**MU121 Keyboard Skills I 1.0 UNIT**

This course is designed for students wishing to improve their piano skills. Emphasis is placed on helping the students gain sufficient knowledge and skills to use the piano in a functional manner. This includes proficiency in all major and minor scales, chord progressions, harmonization, and sight-reading.

**MU122 Keyboard Skills II 1.0 UNIT**

This course is designed for students wishing to improve their piano skills. Emphasis is placed on helping the students gain sufficient knowledge and skills to use the piano in a functional manner. This includes proficiency in all major and minor scales, chord progressions, harmonization, and sight-reading.

**MU123 Choir II 1.0 UNIT**

This course enables the student to perform a wide range of music in various styles and present in concerts during each semester. There is an emphasis on high performance standards through the achievement of good choral blend, intonation, diction, tone, quality, musical interpretation, and excellence of ensemble. Public performance is considered part of the course requirement. Enrollment is open to all students who wish to sing.

**MU124 Concert Band II 1.0 UNIT**

This course enables the student to work effectively within a group setting using a team approach. This performance ensemble is open to the instrumental student wishing to expand his or her knowledge of wind ensemble literature. Quality of musicianship is emphasized. Public performance is considered part of the course requirement.

**MU125 Chorale II 1.0 UNIT**

This course enables the student to place an emphasis on superior performance standards. The music is selected for its broad public appeal. There are numerous public performances throughout the school year. This group is also known as the Sunflower Singers. College choir members audition for this group.

**MU126 Instrumental Ensemble II 1.0 UNIT**

This course enables the student to hone his or her technique on a selected instrument. This performing group is open to all qualified wind and percussion players. The nature of the ensemble varies according to enrollment (examples: brass, quintet, clarinet choir). Public performance is considered part of the course requirement.

**MU128 Jazz Ensemble II 1.0 UNIT**

This class enables the student to recognize harmonic progressions and construct and basic improvisational solos, within an ensemble setting. The student is expected to operate within this atmosphere with a "team-first" approach. This performing group is open to all qualified wind and percussion players selected by audition. Emphasis is given to a broad spectrum of jazz styles and improvisation. Public performance is considered part of the course requirement.

<b>MU129</b>	<b>Pep Band II</b>	<b>1.0 UNIT</b>	on-one instruction at a time that you work out with your instructor, once per week. This can easily be done to accommodate your class schedule.
This performing group is open to all qualified wind and percussion players. The pep band student helps create school spirit and enthusiasm during basketball games. Attention is given to the performance of current popular tunes.			
<b>MU150</b>	<b>Music Literature</b>	<b>3.0 UNITS</b>	
This course is recommended for the second year student in preparation for a four-year institution. Depending upon the student's needs, the course covers key events in history, composers, and literature. The student obtains critical listening skills to identify key components in music literature, studies music scores, listens to recordings, observes in the classroom, and attends live performances.			
<b>MU152</b>	<b>Harmony II</b>	<b>3.0 UNITS</b>	
You will expand your development of music theory skills including diatonic chord vocabulary, understanding chord inversions, non-harmonic tones, and part writing procedures as a continuation of Theory I. You will also analyze appropriate scores including those from performing groups.			
<b>MU153</b>	<b>Ear Training II</b>	<b>2.0 UNITS</b>	
If you are looking to major in music, this is one of the classes that you are expected to take to complete the degree program. Music Theory is a co-requisite for this course. You will learn to listen to and analyze what you hear and how it relates to the other musicians around you. Whether you are a vocal or instrumental student, these are the vital skills to learn whether you end up in music education, performance, technology, and/or music theory. Here, you will have the opportunity for a more individualized program and be able to take advantage of smaller class sizes.			
<b>MU160</b>	<b>Applied Music Voice I</b>	<b>1.0 UNIT</b>	
Voice lessons are for those of you who wish to improve your singing voice with one-on-one instruction. You will explore literature from the late 17th through the 20th centuries, including musical theatre, and you will study techniques in breathing, placement, diction, and interpretation.			
<b>MU161</b>	<b>Applied Music Voice II</b>	<b>1.0 UNIT</b>	
Voice lessons are for those of you who wish to improve your singing voice with one-on-one instruction. You will explore literature from the late 17th through the 20th centuries, including musical theatre, and you will study techniques in breathing, placement, diction, and interpretation.			
<b>MU162</b>	<b>Applied Music Piano I</b>	<b>1.0 UNIT</b>	
Private piano lessons are offered for those of you wishing to develop skills in playing the piano or keyboard. You do not need background in playing as instruction is geared to your individual needs and interests.			
<b>MU163</b>	<b>Applied Music Piano II</b>	<b>1.0 UNIT</b>	
Private piano lessons are offered for the hobbyist or those of you wishing to continue your musicianship skills on the piano or keyboard as well as to cultivate an appreciation for music in general. At each level, your background and expertise are assessed and then your instruction is outlined to suit your interests and needs.			
<b>MU166</b>	<b>Applied Music Woodwind I</b>	<b>1.0 UNIT</b>	
If you are looking to improve on your instrument, learn a new one, or pick up another instrument, this class would be perfect for you! You will receive one-on-one instruction at a time that you work out with your instructor, once per week. This can easily be done to accommodate your class schedule.			
<b>MU167</b>	<b>Applied Music Woodwind II</b>	<b>1.0 UNIT</b>	
If you are looking to improve on your instrument, learn a new one, or pick up another instrument, this class would be perfect for you! You will receive one-on-one instruction at a time that you work out with your instructor, once per week. This can easily be done to accommodate your class schedule.			
<b>MU168</b>	<b>Applied Music Brass I</b>	<b>1.0 UNIT</b>	
If you are looking to improve on your instrument, learn a new one, or pick up another instrument, this class would be perfect for you! You will receive one-on-one instruction at a time that you work out with your instructor, once per week. This can easily be done to accommodate your class schedule.			
<b>MU169</b>	<b>Applied Music Brass II</b>	<b>1.0 UNIT</b>	
If you are looking to improve on your instrument, learn a new one, or pick up another instrument, this class would be perfect for you! You will receive one-			
<b>MU170</b>	<b>Applied Music Percussion I</b>	<b>1.0 UNIT</b>	
If you are looking to improve on your instrument, learn a new one, or pick up another instrument, this class would be perfect for you! You will receive one-on-one instruction at a time that you work out with your instructor, once per week. This can easily be done to accommodate your class schedule.			
<b>MU171</b>	<b>Applied Music Percussion II</b>	<b>1.0 UNIT</b>	
If you are looking to improve on your instrument, learn a new one, or pick up another instrument, this class would be perfect for you! You will receive one-on-one instruction at a time that you work out with your instructor, once per week. This can easily be done to accommodate your class schedule.			
<b>MU176</b>	<b>Introduction to Music</b>	<b>3.0 UNITS</b>	
Introduction to Music explores music from early history to the present and satisfies a humanities requirement if you are a transfer student. You will increase your knowledge and understanding of music through interactive listening and performance experiences.			
<b>MU202</b>	<b>Harmony III</b>	<b>3.0 UNITS</b>	
Building on the basic music theory skills you learned in Theory I and II, you will study chromatic harmony including secondary dominant and secondary diminished chords, augmented sixth chords, and other altered chords. You will also analyze modulatory techniques and appropriate scores.			
<b>MU203</b>	<b>Ear Training III</b>	<b>2.0 UNITS</b>	
If you are looking to major in music, this is one of the classes that you are expected to take to complete the degree program. Music Theory is a co-requisite for this course. You will learn to listen to and analyze what you hear and how it relates to the other musicians around you. Whether you are a vocal or instrumental student, these are the vital skills to learn whether you end up in music education, performance, technology, and/or music theory. Here, you will have the opportunity for a more individualized program and be able to take advantage of smaller class sizes.			
<b>MU219</b>	<b>Voice Class III</b>	<b>1.0 UNIT</b>	
<b>MU221</b>	<b>Keyboard Skills III</b>	<b>1.0 UNIT</b>	
This course is designed for students wishing to improve their piano skills. Emphasis is placed on helping the students gain sufficient knowledge and skills to use the piano in a functional manner. This includes proficiency in all major and minor scales, chord progressions, harmonization, and sight-reading.			
<b>MU222</b>	<b>Keyboard Skills IV</b>	<b>1.0 UNIT</b>	
This course is designed for students wishing to improve their piano skills. Emphasis is placed on helping the students gain sufficient knowledge and skills to use the piano in a functional manner. This includes proficiency in all major and minor scales, chord progressions, harmonization, and sight-reading.			
<b>MU233</b>	<b>Choir III</b>	<b>1.0 UNIT</b>	
This course enables the student to perform a wide range of music in various styles and present in concerts during each semester. There is an emphasis on high performance standards through the achievement of good choral blend, intonation, diction, tone, quality, musical interpretation, and excellence of ensemble. Public performance is considered part of the course requirement. Enrollment is open to all students who wish to sing.			
<b>MU234</b>	<b>Concert Band III</b>	<b>1.0 UNIT</b>	
This course enables the student to work effectively within a group setting using a team approach. This performance ensemble is open to the instrumental student wishing to expand his or her knowledge of wind ensemble literature. Quality of musicianship is emphasized. Public performance is considered part of the course requirement.			
<b>MU235</b>	<b>Chorale III</b>	<b>1.0 UNIT</b>	
This course enables the student to place an emphasis on superior performance standards. The music is selected for its broad public appeal. There are numerous public performances throughout the school year. This group is also known as the Sunflower Singers. College choir members audition for this group.			

**MU236 Jazz Ensemble III 1.0 UNIT**

This course enables the student to hone his or her technique on a selected instrument. This performing group is open to all qualified wind and percussion players. The nature of the ensemble varies according to enrollment (examples: brass, quintet, clarinet choir). Public performance is considered part of the course requirement.

**MU238 Jazz Ensemble III 1.0 UNIT**

This class enables the student to recognize harmonic progressions and construct and basic improvisational solos, within an ensemble setting. The student is expected to operate within this atmosphere with a "team-first" approach. This performing group is open to all qualified wind and percussion players selected by audition. Emphasis is given to a broad spectrum of jazz styles and improvisation. Public performance is considered part of the course requirement.

**MU239 Pep Band III 1.0 UNIT**

This performing group is open to all qualified wind and percussion players. The pep band student helps create school spirit and enthusiasm during basketball games. Attention is given to the performance of current popular tunes.

**MU243 Choir IV 1.0 UNIT**

This course enables the student to perform a wide range of music in various styles and present in concerts during each semester. There is an emphasis on high performance standards through the achievement of good choral blend, intonation, diction, tone, quality, musical interpretation, and excellence of ensemble. Public performance is considered part of the course requirement. Enrollment is open to all students who wish to sing.

**MU244 Concert Band IV 1.0 UNIT**

This course enables the student to work effectively within a group setting using a team approach. This performance ensemble is open to the instrumental student wishing to expand his or her knowledge of wind ensemble literature. Quality of musicianship is emphasized. Public performance is considered part of the course requirement.

**MU245 Chorale IV 1.0 UNIT**

This course enables the student to place an emphasis on superior performance standards. The music is selected for its broad public appeal. There are numerous public performances throughout the school year. This group is also known as the Sunflower Singers. College choir members audition for this group.

**MU246 Instrumental Ensemble IV 1.0 UNIT**

This course enables the student to hone his or her technique on a selected instrument. This performing group is open to all qualified wind and percussion players. The nature of the ensemble varies according to enrollment (examples: brass, quintet, clarinet choir). Public performance is considered part of the course requirement.

**MU248 Jazz Ensemble IV 1.0 UNIT**

This class enables the student to recognize harmonic progressions and construct and basic improvisational solos, within an ensemble setting. The student is expected to operate within this atmosphere with a "team-first" approach. This performing group is open to all qualified wind and percussion players selected by audition. Emphasis is given to a broad spectrum of jazz styles and improvisation. Public performance is considered part of the course requirement.

**MU249 Pep Band IV 1.0 UNIT**

This performing group is open to all qualified wind and percussion players. The pep band student helps create school spirit and enthusiasm during basketball games. Attention is given to the performance of current popular tunes.

**MU252 Harmony IV 3.0 UNITS**

Continuing to expand on the music theory skills of previous classes, you will be introduced to 20th century harmonic practices including quartal and quintal harmony, polytonality, twelve-tone techniques, and others. You will analyze compositions from the 20th century to the present.

**MU253 Ear Training IV 2.0 UNITS**

If you are looking to major in music, this is one of the classes that you are expected to take to complete the degree program. Music Theory is a co-requisite for this course. You will learn to listen to and analyze what you hear

and how it relates to the other musicians around you. Whether you are a vocal or instrumental student, these are the vital skills to learn whether you end up in music education, performance, technology, and/or music theory. Here, you will have the opportunity for a more individualized program and be able to take advantage of smaller class sizes.

**MU260 Applied Music Voice III 1.0 UNIT**

Voice lessons are for those of you who wish to improve your singing voice with one-on-one instruction. You will explore literature from the late 17th through the 20th centuries, including musical theatre, and you will study techniques in breathing, placement, diction, and interpretation.

**MU261 Applied Music Voice IV 1.0 UNIT**

Voice lessons are for those of you who wish to improve your singing voice with one-on-one instruction. You will explore literature from the late 17th through the 20th centuries, including musical theatre, and you will study techniques in breathing, placement, diction, and interpretation.

**MU262 Applied Music Piano III 1.0 UNIT**

Private piano lessons are offered for the hobbyist or those of you wishing to continue your musicianship skills on the piano or keyboard as well as to cultivate an appreciation for music in general. At each level, your background and expertise are assessed and then your instruction is outlined to suit your interests and needs.

**MU263 Applied Music Piano IV 1.0 UNIT**

Private piano lessons are offered for the hobbyist or those of you wishing to continue your musicianship skills on the piano or keyboard as well as to cultivate an appreciation for music in general. At each level, your background and expertise are assessed and then your instruction is outlined to suit your interests and needs.

**MU266 Applied Music Woodwind III 1.0 UNIT**

If you are looking to improve on your instrument, learn a new one, or pick up another instrument, this class would be perfect for you! You will receive one-on-one instruction at a time that you work out with your instructor, once per week. This can easily be done to accommodate your class schedule.

**MU267 Applied Music Woodwind IV 1.0 UNIT**

If you are looking to improve on your instrument, learn a new one, or pick up another instrument, this class would be perfect for you! You will receive one-on-one instruction at a time that you work out with your instructor, once per week. This can easily be done to accommodate your class schedule.

**MU268 Applied Music Brass III 1.0 UNIT**

If you are looking to improve on your instrument, learn a new one, or pick up another instrument, this class would be perfect for you! You will receive one-on-one instruction at a time that you work out with your instructor, once per week. This can easily be done to accommodate your class schedule.

**MU269 Applied Music Brass IV 1.0 UNIT**

If you are looking to improve on your instrument, learn a new one, or pick up another instrument, this class would be perfect for you! You will receive one-on-one instruction at a time that you work out with your instructor, once per week. This can easily be done to accommodate your class schedule.

**MU270 Applied Music Percussion III 1.0 UNIT**

If you are looking to improve on your instrument, learn a new one, or pick up another instrument, this class would be perfect for you! You will receive one-on-one instruction at a time that you work out with your instructor, once per week. This can easily be done to accommodate your class schedule.

**MU271 Applied Music Percussion IV 1.0 UNIT**

If you are looking to improve on your instrument, learn a new one, or pick up another instrument, this class would be perfect for you! You will receive one-on-one instruction at a time that you work out with your instructor, once per week. This can easily be done to accommodate your class schedule.

**NURSING**

**NS100 KSPN Foundations of Nursing 4.0 UNITS**

Prerequisite: Admission into the Practical Nursing Program. This course provides introduction to practical nursing and roles of the practical nurse as well as professional- and client-related care concepts. Emphasis is placed on the knowledge and skills needed to provide safe, quality care. The theoretical



foundation for basic data collection and nursing skills are presented and an introduction to the nursing process provides you with a framework for decision making.

**NS101 KSPN Foundations of Nursing Clinical 2.0 UNITS**

**NS102 LPN Nursing Role Transition Seminar I 1.0 UNIT**

**NS103 LPN Nursing Role Transition Seminar II 1.0 UNIT**

**NS112 KSPN Care of Aging Adults 2.0 UNITS**

Prerequisite: NS156/KSPN Mental Health Nursing I with a "C" or better. This course is designed to explore issues related to aging adults. Course content addresses the impact of ageism, alterations in physiological and psychosocial functioning, and the role of the practical nurse in caring for older adult clients across a continuum of care.

**NS122 KSPN Fundamentals of Pharmacology and Safe Medication Administration 2.0 UNITS**

Prerequisite: NS100/KSPN Foundations of Nursing and NS100/KSPN Foundations of Nursing Clinical with a grade of "C" or better. This course provides an introduction to the principles of pharmacology. Emphasis is placed on nursing care related to the safe calculation and administration of medications to clients across the life span.

**NS145 KSPN Maternal Child Nursing I 2.0 UNITS**

Prerequisite: NS122/KSPN Fundamentals of Pharmacology and Safe Medication Administration with a grade of "C" or better. This course provides an integrative, family-centered approach to the care of childbearing women, newborns, and children. Emphasis is placed on care of the pregnant woman and newborn, normal growth and development, and common pediatric disorders.

**NS146 KSPN Maternal Child Nursing I Clinical 1.0 UNIT**

**NS156 KSPN Mental Health Nursing I 2.0 UNITS**

Prerequisite: NS145/KSPN Maternal Child Nursing I and NS145/Maternal Child Nursing Clinical I with a "C" or better. This course explores basic concepts and trends in mental health nursing. Therapeutic modalities and client behavior management are discussed. Emphasis is placed on using the nursing process and meeting the basic human needs of the client with a mental health disorder.

**NS167 KSPN Nursing Care of Adults I 4.0 UNITS**

Prerequisite: NS112/KSPN Care of Aging Adults with a "C" or better. This course focuses on the care of adult clients experiencing common medical/surgical health alterations with predictable outcomes. Emphasis is placed on the care of clients with alterations in cardiac output and tissue perfusion, oxygenation, regulation and metabolism, and integument. Principles of pre- and post-operative care and IV therapy are also addressed.

**NS168 KSPN Nursing Care of Adults I Clinical 2.0 UNITS**

**NS178 KSPN Nursing Care of Adults II 4.0 UNITS**

Prerequisite: NS167/KSPN Nursing Care of Adults I and NS167/KSPN Nursing Care of Adults I Clinical with a "C" or better. This course focuses on the care of adult clients experiencing common medical/surgical health alterations with predictable outcomes. Emphasis is placed on the care of clients with alterations in cognition and sensation, mobility, elimination, immunity and hematology, and reproduction. Principles related to emergency preparedness are also addressed.

**NS179 KSPN Nursing Care of Adults II Clinical 2.0 UNITS**

Prerequisite: NS167 KSPN Nursing Care of Adults I and NS167 KSPN Nursing Care of Adults I Clinical with a grade of "C" or better. This course focuses on the care of adult clients with common medical/surgical health problems. The clinical laboratory experience given students the opportunity to apply theoretical concepts from Nursing Care of Adults I and II and implement safe client care in selected settings. Students are also given the opportunity to practice leadership skills while managing a caseload of clients.

**NS189 KSPN Leadership, Roles, and Issues I 1.0 UNIT**

Prerequisite: NS178/KSPN Nursing Care of Adults II and NS178/KSPN Nursing Care of Adults II Clinical with a "C" or better. This course provides orientation

to leadership roles of the LPN and related responsibilities. It also introduces issues to you that you will encounter in the workplace.

**NS191 Board Exam Review PN 2.0 UNITS**

This course is designed to assist graduates of Practical Nursing programs to prepare for the NCLEX-PN exam. A concentrated review of test-taking skills, pharmacology and the core clinical areas of nursing are included.

**NS201 Nursing Role Transition Seminar 1.0 UNIT**

Prerequisite: Admission to Level II Nursing program and CH176 (Fund of Gen Chemistry) or high school chemistry within the last ten years. This course is designed for the student entering the Level II Nursing program as a PN. The role of the associate degree nurse is explored. Socialization to the program and to associate degree nursing is emphasized. Program philosophy as well as the conceptual framework and the concept of professionalism are examined.

**NS202 ADN Nursing Role Transition Seminar II 1.0 UNIT**

Prerequisite: Admission to Level II Nursing program and CH176 (Fund of Gen Chemistry) or high school chemistry within the last ten years. This course is designed for the student entering the Level II Nursing program as a PN. The role of the associate degree nurse is explored. Socialization to the program and to associate degree nursing is emphasized. Program philosophy as well as the conceptual framework and the concept of professionalism are examined.

**NS203 RRT/MICT to ADN ConcADN Concepts of Care 2.0 UNITS**

Prerequisite: Current MICT or RRT license and admission into the Associate Degree Nursing Program. This course enables you to expand on the concepts necessary to provide a safe and caring environment for clients whose psychosocial and physiological integrity is compromised. The course explores care that supports homeostatic regulation for clients with endocrine, oncologic, metabolic, surgical care needs, and tissue perfusion concerns in a culturally-diverse population. Course experiences will incorporate the nursing process and critical thinking while caring for patients in diverse settings. Communication and documentation skills are applied to the multi-disciplinary health care team. Didactic and clinical experience will integrate teaching and learning activities that enhance wellness, health promotion, and maintenance.

**NS205 Nsg Care Adults III 3.0 UNITS**

Prerequisite: Current LPN, MICT, or RRT license and admission in the Associate Degree Nursing Program. The course explores advanced intravenous therapy and health alterations in the adult client with an emphasis on homeostasis, neurovascular, musculoskeletal, gastrointestinal, and integumentary in the adult client. The major concepts of the ADN program; patient-centered care, professionalism and leadership, teamwork and collaboration, evidence-based practice, informatics, safety and quality improvements, and communication, will be incorporated throughout the course. Clinical experiences in a variety of settings will enable you to apply theoretical knowledge and provide safe and effective client care; laboratory components are included (lab fee required).

**NS206 Nursing Care of Adults III Clinical 2.0 UNITS**

Pre-requisite - Current LPN, MICT or RRT license and admission into the Associate Degree Nursing Program. The course explores advanced intravenous therapy and health alterations in the adult client with emphasis on homeostasis, neurovascular, musculoskeletal, gastrointestinal and integumentary in the adult client. The major concepts of the ADN program: patient-centered care, professionalism and leadership, teamwork and collaboration, evidence-based practice, informatics, safety and quality improvement, and communication, will be incorporated throughout the course. Clinical experiences, in a variety of settings, enable the student to apply theoretical knowledge and provide safe, effective client care. Laboratory components are included (lab fee required). (offered fall semester)

**NS210 Mental Health Nursing II 2.0 UNITS**

Prerequisite: NS205 and NS206/Nursing Care of Adults III and Clinical with a "C" or better. This course explores mental health alterations across the lifespan utilizing a nursing process. The major concepts of the ADN program; patient-centered care, professionalism and leadership, teamwork and collaboration, evidence-based practice, informatics, safety and quality improvements, and communication, will be incorporated throughout the course. Clinical experiences in a variety of settings will enable you to apply theoretical knowledge and provide safe and effective client care; laboratory components are included (lab fee required).

**NS211 Mental Health Nursing II Clinical 1.0 UNIT**  
 Pre-requisite: NS205 Nursing Care of Adults III and NS206 Nursing Care of Adults III Clinical with a grade of "C" or better. This course explores mental health alterations across the lifespan utilizing a nursing process. The major concepts of the ADN program; patient-centered care, professionalism and leadership, teamwork and collaboration, evidence-based practice, informatics, safety and quality improvement, and communication, will be incorporated throughout the course. Clinical experiences, in a variety of settings, enable students to apply theoretical knowledge and provide safe, effective client care. Laboratory components are included (lab fee required). (offered fall semester)

**NS215 Leadership, Roles, and Issues II 1.0 UNIT**  
 Prerequisites: NS210 Mental Health Nursing II and NS211 Mental Health Nursing II Clinical with "C" or better. This course explores your transition into practice with an emphasis on current nursing practice, roles and responsibilities, and legal and ethical issues. The major concepts of the ADN program; patient-centered care, professionalism and leadership, teamwork and collaboration, evidence-based practice, informatics, safety and quality improvements, and communication, will be incorporated throughout the course.

**NS220 Maternal Child Nursing II 3.0 UNITS**  
 Prerequisite: NS210/Mental Health Nursing II with a "C" or better. This course explores health alterations of obstetrical, newborn, and pediatric clients. The major concepts of the ADN program; patient-centered care, professionalism and leadership, teamwork and collaboration, evidence-based practice, informatics, safety and quality improvements, and communication, will be incorporated throughout the course. Clinical experiences in a variety of settings will enable you to apply theoretical knowledge and provide safe and effective client care; laboratory components are included (lab fee required).

**NS221 Maternal Child Nursing II Clinical 2.0 UNITS**  
 Prerequisite: NS215 Leadership, Roles, and Issues II with a grade of "C" or better. This course explores health alterations of obstetrical, newborn, and pediatric clients. The major concepts of the ADN program; patient-centered care, professionalism and leadership, teamwork and collaboration, evidence-based practice, informatics, safety and quality improvement, and communication, will be incorporated throughout the course. Clinical experiences, in a variety of settings, enable students to integrate theoretical knowledge and provide individualized safe, effective family centered client care. Laboratory components are included (lab fee required). (offered spring semester)

**NS235 Nursing Care of Adults IV 4.0 UNITS**  
 Prerequisite: NS220/Maternal Child Nursing II with a "C" or better. This course explores health alterations in adult clients with an emphasis on immunology, endocrine, cardiovascular, respiratory, genitourinary, and triage while incorporating knowledge from previous courses. The major concepts of the ADN program; patient-centered care, professionalism and leadership, teamwork and collaboration, evidence-based practice, informatics, safety and quality improvements, and communication, will be incorporated throughout the course. Clinical experiences in a variety of settings will enable you to apply theoretical knowledge and provide safe and effective client care; laboratory components are included (lab fee required).

**NS236 Nursing Care of Adults IV Clinical 2.0 UNITS**  
 Pre-requisite: NS220 Maternal Child Nursing II and NS221 Maternal Child Nursing II Clinical with a grade of "C" or better. This course explores health alterations in adult clients with emphasis on: immunology, endocrine, cardiovascular, respiratory, genitourinary, and triage, while incorporating knowledge from previous courses. The major concepts of the ADN program; patient-centered care, professionalism and leadership, teamwork and collaboration, evidence-based practice informatics, safety and quality improvement, and communication, will be incorporated throughout the course. Clinical experiences, in a variety of settings, enable students to integrate theoretical knowledge and provide safe, effective client care. Laboratory components are included (lab fee required). (offered spring semester)

**NS240 Health Assessment 3.0 UNITS**  
 The course is designed to help you acquire the skills you need to perform assessments in today's health care environment. Content includes collection of objective and subjective data and use of critical thinking skills to detect client problems.

**NS245 NCLEX-RN Exam Preparation 1.0 UNIT**  
 Prerequisite: NS235/Nursing Care of Adults IV with a grade of "C" or better. This course is designed to prepare you to take the NCLEX-RN exam. This course consists of a review of nursing content areas, test-taking strategies, critical thinking exercises, Q&A practice, study plan, and remediation. This course utilizes the ATI Live Review and the Virtual ATI NCLEX Review which is individualized and aligned with the NCLEX Test Plan.

**PHILOSOPHY**

**PI101 Introduction to Philosophy 3.0 UNITS**  
 This course enables the student to explore the love of wisdom as reflected in philosophical language, distinctions, and concepts; examines major historical, contemporary thinkers, issues and traditions of philosophy (metaphysics, epistemology, value-theory, ethics, and aesthetics); discusses relevant issues, and shows connections, roots and influences of contemporary philosophy.

**PI200 Philosophy of Thought and Logic 3.0 UNITS**  
 Learn the distinction between logic and rhetoric, the distinction between deductive and inductive arguments, the analysis of ambiguities, and the nature of common fallacies in reasoning. Through the works of great philosophers, you will develop a system of symbolic logic, probabilistic reasoning, and evaluation of deductive arguments. You will look at extensions of classical logic (such as modallogic, epistemic and deontic logics, and multi-valued logic) as well as discuss some fundamental issues about the nature of reasoning and logic more generally. You will develop skills in analysis and evaluation of reasoning in everyday situations while improving insights into argument construction and exact methods of proof.

**PI276 Introduction to Ethics 3.0 UNITS**  
 This course takes up the central problems of thinking rationally about moral questions and critically examines the best-known efforts by philosophers to deal with problems. Issues to be explored include ethical relativism, diversity of moral rules, and determinism.

**PHILOSOPHY**

**RE104 World Religions 3.0 UNITS**  
 This is a survey course of major world religions from the prehistoric to the modern world along with comparative studies of contemporary religions.

**RE106 Survey of the New Testament 3.0 UNITS**  
 This course is a systematic study of the logic and major philosophical topics proposed in the New Testament. This course includes a historical perspective of the times and persons involved in the New Testament of the Bible.

**PHYSICAL EDUCATION**

**PE064 Physical Activity-Water Exercise 0.5 UNITS**  
 THIS COURSE DOES NOT MEET GRADUATION REQUIREMENTS. By the end of this course, the student performs water exercises combining stretching, swimming, and a variety of movements providing low to medium intensity.

**PE177 Personal & Community Health 3.0 UNITS**  
 By the end of this course students explain the following: proper nutrition, fitness, environmental health, psychological health, sexual disease and avoidance, body composition, and drug abuse and avoidance. The course looks at these areas through a global perspective.

**PE185 First Aid & Personal Safety 3.0 UNITS**  
 This class teaches students to recognize the need for first aid and to perform basic emergency techniques.

**PE219 Lifeguard Training 2.0 UNITS**  
 The course enables the student to develop the skill and knowledge necessary for non-surf lifeguarding. Successful completion of the course leads to American Red Cross certification at the lifeguard training level. Students must be at least 15 years of age by the completion date.

**PE255 Rodeo I 1.0 UNIT**  
 PE Varsity Sport Class. All varsity athletes must enroll in their sport class to be eligible for participation. Only athletes with their names on the official roster can enroll in the class.

**PE268 Varsity Baseball I 1.0 UNIT**

PE Varsity Sport Class. All varsity athletes must enroll in their sport class to be eligible for participation. Only athletes with their names on lthe official roster can enroll in the class.

**PE272 Varsity Men's Cross Country 1.0 UNIT**

PE Varsity Sport Class. All varsity athletes must enroll in their sport class to be eligible for participation. Only athletes with their names on lthe official roster can enroll in the class.

**PE273 Varsity Women's Cross Country 1.0 UNIT**

PE Varsity Sport Class. All varsity athletes must enroll in their sport class to be eligible for participation. Only athletes with their names on lthe official roster can enroll in the class.

**PE276 Varsity Men's Basketball 1.0 UNIT**

PE Varsity Sport Class. All varsity athletes must enroll in their sport class to be eligible for participation. Only athletes with their names on lthe official roster can enroll in the class.

**PE277 Varsity Women's Basketball 1.0 UNIT**

PE Varsity Sport Class. All varsity athletes must enroll in their sport class to be eligible for participation. Only athletes with their names on lthe official roster can enroll in the class.

**PE280 Varsity Wrestling I 1.0 UNIT**

PE Varsity Sport Class. All varsity athletes must enroll in their sport class to be eligible for participation. Only athletes with their names on lthe official roster can enroll in the class.

**PE284 Varsity Men's Track 1.0 UNIT**

PE Varsity Sport Class. All varsity athletes must enroll in their sport class to be eligible for participation. Only athletes with their names on lthe official roster can enroll in the class.

**PE285 Varsity Women's Track 1.0 UNIT**

PE Varsity Sport Class. All varsity athletes must enroll in their sport class to be eligible for participation. Only athletes with their names on lthe official roster can enroll in the class.

**PE288 Varsity Volleyball I 1.0 UNIT**

PE Varsity Sport Class. All varsity athletes must enroll in their sport class to be eligible for participation. Only athletes with their names on lthe official roster can enroll in the class.

**PE295 Varsity Softball I 1.0 UNIT**

PE Varsity Sport Class. All varsity athletes must enroll in their sport class to be eligible for participation. Only athletes with their names on lthe official roster can enroll in the class.

**PHYSICAL EDUCATION****PK100 PE Skill General Education 1.0 UNIT**

Physical Education Skill General Education Tranfser Credit

**PHYSICAL EDUCATION****PL100 PE Lifestyle General Education 1.0 UNIT**

Physical Education Lifestyle General Education Transfer Credit

**PHYSICAL SCIENCE****PH101 Our Physical World (w/Lab) 5.0 UNITS**

Our Physical World is a course for those of you who have little to no previous physical science experience. You will develop a conceptual understanding of the themes of physics such as Newton's Laws, momentum, energy, gravity, and the mechanics of orbital motion followed by fluids, heat, and electricity. You will also explore the nature of sound and light as well as atoms and the source of atomic energy. Ample laboratory activities are included right within the weekly lessons.

**PH103 Earth Science w/Lab 5.0 UNITS**

This course includes three hours of lecture and three hours of laboratory per week. The student explores basic principles of geology, meterology, and astronomy. The geology portion includes rocks and minerals, erosion processes, plate tectonics, earthquakes, and geologic time. The meterology portion includes oceans, Earth's atmosphere, atmosperic moisture, pressure, wind, fronts, and storms. The astronomy portion includes the solar system, stars, galaxies, cosmology, and relativity. The student practices these principles in the laboratory. This course is not intended for science majors.

**PH176 Physical Science w/Lab 5.0 UNITS**

This course is a basic introduction to physical science and is intended for students with little or no science background. It will present an integrated approach to topics in physics and chemistry which will include the scientific method, laws of motion, energy, heat and temperature, electricity and magnetism, light, atoms, molecules, chemical reactions, and the atomic nucleus. Laboratory exercises will illustrate the practical applications of the course content.

**PH177 Introduction to Geology w/Lab 5.0 UNITS**

Introduction to Geology is a course directed toward geology, science education, renewable energy, and those of you who are non-science majors looking to fulfill general education requirements. You will learn about a range of topics such as the origins and development of landscapes, earthquakes, volcanoes, sustainability, glaciers, water composition and processes, floods, groundwater flow, and the interaction between humans and the planet. You must purchase a lab kit which includes hands-on science labs, virtual learning tools, and a customized digital curriculum. This kit includes labs and exercises ranging from analyzing nine minerals and eighteen rocks to plate techtonics, mapping, and Earth surface processes.

**PH180 Descriptive Astronomy w/Lab 4.0 UNITS**

Descriptive Astronomy is a course directed toward those of you who are physical science majors and those of you who might be non-science majors looking to fulfill general education requirements. Astronomy is more than simply a mapping of stars and planets into outlines of gods and magical creatures. It is the scientific study of the contents of the entire Universe; stars, planets, comets, asteroids, galaxies, and space and time, as well as its history. In addition to learning the scientific concepts of astronomy, you will gain stargazing tips and resources you will need to see the glories that light up the heavens helping you become a "backyard astronomer". You must purchase an astronomy lab kit that supports the learning experience containing an interactive manual, instructional videos, hands-on labs, and other digital assets such as NASA images and videos.

**PH207 College Physics I w/Lab 5.0 UNITS**

Prerequisite: MA185/Plane Trigonometry. General Physics I is the first of two introductory, algebra-based physics courses most often taken by those of you who major in biology, environmental science, or who intend to become a health professional. PH207 is similar to PH208 in most respects; the most important distinctions between them are the level of mathematics used and a few differences in content. Knowledge of algebra and trigonometry is essential. Key concepts include kinematics, Newton's Laws, conservation of momentum and energy, rotational motion, and waves. Approximately 25% of instructional time is spent in hands-on laboratory work which provides you with opportunities to demonstrate the foundational physics principles and to apply the science practices. The two-semester PH207/227 sequence is designed to meet the requirements of area pre-professional programs. This is a transfer course which meets the college's requirements for associate degree programs and meets transfer requirements of area colleges and universities, but does not normally fulfill the requirement of engineering programs.

**PH208 Engineering Physics I w/Lab 5.0 UNITS**

Prerequisite: MA220/Analytical Geometry & Calculus I or concurrent enrollment. Engineering Physics is the first of two introductory, calculus-based physics courses required for those of you majoring in physics, engineering, chemistry, and biochemistry. PH208 is similar to PH207 in most respects; the most important distinctions between them are the level of mathematics used and a few differences in content. Knowledge of calculus and trigonometry are essential. Key concepts include kinematics, Newton's Laws, conservation of momentum and energy, rotational motion, and waves. Approximately 25% of instructional time is spent in hands-on laboratory investigations which provide you with opportunities to demonstrate the foundational physics principles and to apply the science practices. The two-semester PH208/228 sequence is designed to meet the requirements of area physics and engineering programs. This is a transfer course which meets the college's requirements for associate degree programs and meets transfer requirements of area colleges and universities.

**PH227 General Physics II w/Lab 5.0 UNITS**

Prerequisite: PH207/General Physics I. General Physics II is the second of two introductory, algebra-based physics courses most often taken by those of you who major in biology, environmental science, or who intend to become a health professional. PH227 is similar to PH228 in most respects; the most important distinctions between them are the level of mathematics used and a few differences in content. Knowledge of algebra and trigonometry are essential. Key concepts include introductory electricity, circuits, magnetism, waves, sound, and optics. Approximately 25% of instructional time is spent in hands-on laboratory work with an emphasis on inquiry-based investigations which provide you with opportunities to demonstrate the foundational physics principles and to apply the science practices. The two-semester PH207/227 sequence is designed to meet the requirements of area pre-professional programs. This is a transfer course which meets the college's requirements for associate degree programs and meets transfer requirements of area colleges and universities, but it does not normally fulfill the requirement of engineering programs.

**PH228 Engineering Physics II w/Lab 5.0 UNITS**

Prerequisite: PH208/Engineering Physics I. Engineering Physics II is the continuation of Engineering Physics I. PH228 is similar to PH227 in most respects; the most important distinctions between them are the level of mathematics used and a few differences in content. Knowledge of calculus and trigonometry are essential. Key concepts include introductory electricity, circuits, magnetism, waves, sound, and optics. Approximately 25% of instructional time is spent in hands-on laboratory work with an emphasis on inquiry-based investigations which provide you will opportunities to demonstrate the foundational physics principles and to apply the science practices. The two-semester PH208/228 sequence is designed to meet the requirements of area physics and engineering programs. This is a transfer course which meets the college's requirements for associate degree programs and meets transfer requirements of area colleges and universities.

**PH249 Statics 3.0 UNITS**

Prerequisite: MA220/Analytical Geometry & Calculus I and PH208/Engineering Physics I. Statics is typically the first course in engineering problem-solving, and it provides the foundation for many future engineering courses. Taking this course before transferring will quicken your way to a B.S. in Engineering. Statics will introduce you to the mechanics of rigid bodies in static equilibrium where you will solve practical engineering problems involving the loads carried by structural components using vector analysis (both 2D and 3D) applied to rigid body systems and subsystems. Content includes static equilibrium, force and moment resultants, free body diagrams, distributed loads, trusses, frames and machines, internal forces, shear and moment diagrams, and friction.

**PHYSICAL SCIENCE**

**SC100 Science General Education 5.0 UNITS**

Science General Education Transfer Credit

**PHYSICAL THERAPY**

**PT101 Intro to Physical Rehabilitation w/Lab 6.0 UNITS**

Introduces the physical therapist assistant student to introductory applications of rehabilitation. This course engages the student in hands-on application of rehabilitation and exposes the student to critical components necessary for safe and effective intervention.

**PT111 Func Musculoskeletal Anat for PT w/Lab 6.0 UNITS**

Introduces the physical therapist assistant student to the foundations of anatomy and functional musculoskeletal concepts. Students will have the opportunity to learn and gain appreciation of the mechanics and physiology of the human body.

**PT121 Physical Agents w/Lab 3.0 UNITS**

Exposes the physical therapist assistant to research based therapeutic interventions to allow for safe and effective clinical application of electrical, thermal, sound, electromagnetic, and mechanical based modalities.

**PT131 Physical Therapy Documentation 2.0 UNITS**

Introduces the physical therapist assistant student to legal, moral, and ethical medical record keeping. The student will gain critical awareness in the art of defensible documentation.

**PT141 Professional Issues & Ethics in PT 2.0 UNITS**

Explores legal, moral, and ethical situations and dilemmas common in the realm of healthcare. This course provides insight to special considerations regarding professional behavior, fraud, litigation, and scope of practice.

**PT215 Clinical Education I 4.0 UNITS**

Prerequisite: Admission to PTA Program. The clinical portion requires passing these courses with a "C" or better: PT210, PT220, and PT239. You will learn the foundational skills in the clinical setting including documentation, time management, professional behavior, self-management, legal issues, safety, and patient rights. You will implement this training, along with your other PTA courses, into a 3-week (120 hours) clinical experience.

**PT222 Medical Lectures 5.0 UNITS**

Prerequisites: PT210, PT215, PT220, and PT239. You will be introduced to the pathology of orthopedic, medical, neurological, and surgical problems as they relate to the physical therapy plan of care written by a physical therapist. With this information, you will be able to correctly consider and recommend appropriate PT intervention for the common pathologies covered.

**PT225 Clinical Affiliations II 3.0 UNITS**

Prerequisite: PT215. You will learn the following concepts: applying for the professional licensure, professional goal-setting, the responsibilities of a new staff member, diversity in clinical settings, resume and interview skills, billing and reimbursement, and ethical issues. You will put these new concepts and the new techniques and pathology you've been learning into practice by completing a 4-week (160 hour) clinical rotation.

**PT226 Clinical Education III 1.0 UNIT**

Prerequisite: PT225. You will learn additional applications of physical therapy regulations and guidelines with emphasis on interviews, resumes, professional organizations, stress and burnout, and patient care during the dying and death process.

**PT227 Clinic Education IV 8.0 UNITS**

Prerequisite: Completion of all PTA coursework. You will finish the final ten weeks in the clinical setting by completing two different five-week rotations in clinical settings under the supervision of a qualified clinical instructor.

**PT230 Physical Therapy Procedures III (w/Lab) 6.0 UNITS**

Prerequisite: PT215. You will develop the skills, clinical decision-making, and responsibilities necessary for the neurological rehab PTA. Also, you will learn the clinical competence in the following procedures: developmental sequence, PNF, neurologic rehabilitation, motor control and learning, cardiopulmonary rehabilitation, and therapeutic exercise as it pertains to neurological and medical conditions.

**PT231 Physical Therapy Procedures IV (w/Lab) 6.0 UNITS**

Prerequisite: PT215. You will develop the skills, clinical decision-making, and responsibilities necessary for the acute and outpatient PTA. Also, you will learn clinical competence in the following procedures: therapeutic exercise as it pertains to orthopedics and surgical conditions, goniometry, MMT, joint mobilization, stretching, and postural examination.

**PT242 Physical Therapy Seminar 1.0 UNIT**

Prerequisite: Completion of Clinical Education IV. You will return to campus for a two-day capstone course in which you will participate and explore additional topics not covered in the entry-level curriculum. By the completion of this course, you will be able to summarize, critique, and apply additional PT techniques in the clinical setting. You will express in the written and verbal form, a program critique before receiving your diploma for completion.

**POLITICAL SCIENCE**

**PO105 State & Local Government 3.0 UNITS**

State and local governments are vital components of the American political system. While the activities of national-level actors, such as the president and Congress, tend to be most visible to the average citizen (especially through the news media), actors at the state and local level frequently make political decisions that impact our daily lives. In addition, states and localities often experiment with innovative policies in an attempt to address social, economic, and environmental problems. Given the importance of states and localities in American politics, this course is designed to provide you with an understanding of the structure, functions, and responsibilities of state and local governments. You will explore the impacts of decisions made at the state and local levels, compare and contrast policies across various states

and localities, and learn about how the levels of government function and interact with each other. You will apply that knowledge of state and local politics to current issues such as economic development, criminal justice, and budgeting.

**PO110 Introduction to Political Science 3.0 UNITS**  
Survey the basic principles, terminology, and methods of political science in this course, which combines a historical study of the discipline's greatest thinkers with an analysis of contemporary issues.

**PO176 American Government 3.0 UNITS**  
An introduction to American government, its historical foundations, institutions, and political processes will teach you about the institutions, practices, and history of politics and government in the United States. You will examine some of the leading perspectives in political science, discuss the Constitution, the three branches of the federal government, interest groups, public opinion, campaigns, elections, and parties.

**PO210 Comparative Politics 3.0 UNITS**  
Survey of the governments and politics of many of the world's most important countries. Explores political leadership, representative mechanisms, legal processes, and the extra-institutional behaviors of voting, culture, ethnic conflict, and corruption.

## PSYCHOLOGY

**PS176 General Psychology 3.0 UNITS**  
This course enables the student to be introduced to a basic study of behavior and the mental process. The student surveys methods, data, and principles of psychology combined with the practical use of psychology for everyday living.

**PS214 Abnormal Psychology 3.0 UNITS**  
What is normal behavior? This course answers that question by defining normality vs. abnormality. You will study the classification, description, and treatment of human psychological disorders. You will also examine factors applicable to an individual diagnosed with a psychological disorder such as culture, public attitudes, community resources, and ethical issues.

**PS230 Adolescent Psychology 3.0 UNITS**  
This course is a study of adolescents functioning in a complex society. The course includes a practical look at adolescent problems, needs, and potentialities. Specific attention is directed toward adolescents and their relationships, development, growth, and interest of the age groups. (Offered spring semester)

**PS265 Criminal Profiling 3.0 UNITS**  
This course enables the student to learn the techniques of sociological and behavioral profiling to establish leads and detect patterns of criminal behavior. Students apply the principles of forecasting and assessing typology, patterns, personality, and demographics. Students rely on case studies to analyze details.

**PS276 Developmental Psychology 3.0 UNITS**  
This course introduces you to human development through the lifespan from conception to death. Each stage of development is discussed in the context of socioemotional, cognitive, intellectual, linguistic, and physical development. You will also discuss major theories, debates, and theorists.

**PS280 Child Development 3.0 UNITS**  
Prerequisite: PS 176, General Psychology. This course is a survey of the development of the individual from birth through childhood. The student explores development from the behavioral, social, emotional, intellectual, and linguistic areas.

## SOCIOLOGY

**SO123 Criminology 3.0 UNITS**  
You will develop and understanding of the science of crime by examining the roles of social, cultural, economic, political, psychological, chemical, biological, and ideological factors in causing criminal behavior.

**SO135 Women's Studies: A Transnational View 3.0 UNITS**  
This course enables students to study women's lives and examines how social, cultural, and political constructions of gender, race, class, sexuality, ability, and nation intersect to shape those lives. This particular course is designed

to expose students to the breadth of issues and perspectives, as well as the methods and concepts that are encompassed by women's studies as an interdisciplinary academic discipline. This course is designed to achieve a disciplinary balance with an emphasis on transnational issues relating to women's studies.

**SO176 Introduction to Sociology 3.0 UNITS**  
What is society? How have societies developed historically? How do they distribute wealth, income, and other resources? How do they organize political authority and economic power? How do they coordinate work? How do they socialize people to "fit in" with those around them? How do they produce popular culture? This course provides answers to these questions in ways that introduce the field of sociology. You will explore a broad range of theories and research showing how sociologists think about and study these questions.

**SO181 Career Development 3.0 UNITS**  
Career Development outlines the many aspects of career planning and helps prepare you in the areas needed to effectively find and obtain a position in their desired career field. You will develop your resume, letter of application, and will practice interviewing using skills learned in the course.

**SO182 Sociology of Families 3.0 UNITS**  
This course explores the concepts, issues, and theories that point to change and continuity in the field of family. Cultural diversity and gender-inclusive issues will point students toward realistic family experiences. A sociological emphasis will investigate how family adjustment and managing family conflict within the context of the attributes of healthy families will define the psychological nature of people in relation to cultural differences.

**SO186 Social Problems 3.0 UNITS**  
Daily news reports direct much of our attention to social problems such as crime, poverty, prejudice, and political corruption, yet rarely are such reports accompanied by a discussion of the systematic causes of these problems. More often, we become witness to an endless stream of media coverage reporting seemingly isolated incidents. Seldom are we informed of the decision-making process by which some social problems become selected for coverage while others are ignored. The purpose of this course is to subject the coverage of modern social problems to an in-depth, critical analysis. You will attempt to answer such questions as: "How does a social problem become defined as such?" and "What are the causes or sources of various social problems?"

**SO210 Sociology of Discrimination 3.0 UNITS**  
Persistent inequality in employment, housing, credit markets, consumer interactions, and a wide range of other social domains have renewed interest in the possible role of discrimination. And yet, unlike in the pre-civil rights era, when prejudice and discrimination were overt and widespread, today, discrimination is less readily identifiable, posing problems for social scientific conceptualization and measurement. We begin by defining discrimination and discussing relevant methods of measurement. We then provide an overview of major findings from studies of discrimination; and, finally, we turn to a discussion of the individual, organizational, and structural mechanisms that may underlie contemporary forms of discrimination.

## SPEECH

**SP101 Fundamentals of Oral Communication 3.0 UNITS**  
You will explore and evaluate your speaking skills in a workplace environment and will also explore the areas of group and individual communication skills. You will practice the best ways to organize and present speeches while evaluating your speech skills, work relationships, and specific skills to improve oral communication.

**SP106 Interpersonal Communications 3.0 UNITS**  
This course enables students to focus on communication between two or more persons. The students work on understanding self-concept, exhibiting listening behavior, and understanding how verbal and non-verbal communications affect relationships-topics are covered by lecture, text, and structured exercises in class.

**SP176 Public Speaking 3.0 UNITS**  
You will increase your awareness of the importance of public speaking in today's society. You will present speeches while using proper language, knowledge, and presentation skills. This course is designed to give you the

skills necessary through direct practice while emphasizing delivery skills to develop as a competent speaker.

## VETERINARY NURSING

### VM101 Pre-Vet Medicine Orientation 1.0 UNIT

You will discover career opportunities available to veterinarians within the fast-paced field of veterinary medicine and learn about applying to a college of veterinary medicine. You will also be introduced to campus resources available to students and learn about basic personal finance.

### VM108 Obedience Training 1.0 UNIT

Prerequisite: Current standing as a student in the On-Campus Veterinary Nursing Program. You will practice training dogs basic obedience commands and will be introduced to showmanship skills.

## VETERINARY NURSING

### VN115 Introduction to Veterinary Nursing 1.0 UNIT

You will discover career and degree opportunities available within the fast-paced field of veterinary nursing. You will also be introduced to campus resources available to students and will learn about basic personal finance.

### VN119 Breeds of Domestic Animals 1.0 UNIT

Have you ever wondered what breed a dog was or why a horse cribs? You can learn to recognize all breeds of dogs recognized by the American Kennel Club, cat breeds approved by the Cat Fanciers Association, and common breeds of horses, cattle, sheep, goats, and swine. In addition, you will learn about some common domestic animal behaviors, both normal and abnormal.

### VN120 Animal Facility Management I 1.0 UNIT

Prerequisite: Current standing as a freshman in veterinary nursing. You will apply experience and practice techniques in-hospital team interactions including care of animals, walking dogs, sanitation of animal facilities, and feeding of animals.

### VN121 Medical Records & Vet Office Skills 2.0 UNITS

Have you ever wondered how a veterinary practice operates? You will learn the legal aspects of medical record-keeping and the business aspects of veterinary practice including ethical and legal considerations, client communications, public relations, accounting, scheduling, records management, and telephone skills. You will also gain exposure to computer applications including spreadsheets and veterinary office management software while learning how to document physical exam findings in medical records.

### VN122 Anatomy and Physiology for Vet Nurses 4.0 UNITS

Prerequisites: AG149/Principles of Animal Science; and BI100/General Biology w/Lab, BI177/ Biology I w/Lab, or BI179/Biology II w/Lab; and CH176/ Fundamentals of Chemistry w/Lab or CH177/ Chemistry I w/Lab. You will learn the fundamentals of comparative anatomy in domestic animal species with an emphasis on identifying anatomical regions and landmarks. You will also learn the general physiology of major body systems in domestic animals.

### VN123 Basic Nutrition of Domestic Animals 1.0 UNIT

Prerequisite: AG149/Principles of Animal Science. Prerequisite or Co-requisite: VN122/ Anatomy and Physiology for Veterinary Nurses OR VN140/ Anatomy and Physiology of Domestic Animals. There is more to animal nutrition than most people understand. You will learn how to evaluate pet food and feed for livestock effectively and critically. This will include maintenance feeding, nutritional aspects of the disease, and therapeutic intervention for both small and large animals, and client education.

### VN124 Mentorship Preparation 1.0 UNIT

You will develop the skills necessary to prepare for mentorship and veterinary clinical experience positions under the supervision of a licensed veterinarian and credentialed veterinary nurse for the upcoming semesters. You will learn how to search for a position, practice writing a resume and cover letter, and prepare for a job interview. You will also learn about the employer-employee relationship, veterinary laws and ethics, euthanasia, and grief.

### VN126 Veterinary Medical Terminology 1.0 UNIT

Have you ever wished you could understand the medical jargon used by veterinarians and veterinary nurses? Now you can! In this class, you will learn a new language - veterinary medicine. You will learn the basic word structure,

organization of the body, prefixes, roots, and suffixes that form the basics of veterinary terms so that you can apply them in a variety of settings.

### VN130 Veterinary Clinical Procedures 2.0 UNITS

Prerequisite: Current standing as a freshman in veterinary nursing. Co-requisite: VN131/ Veterinary Clinical Procedures Laboratory. You will learn the basic skills of a veterinary nurse in practice such as restraint and handling, medication administration, injections, venipuncture, nursing skills, sterile procedure and operating room techniques, radiographic positioning, emergency medicine, and anesthetic machine function. You will also learn how to apply for a preceptorship position under the supervision of a licensed veterinarian and credentialed veterinary nurse for the upcoming summer semester. In addition, you will learn how to search for a preceptorship position, practice writing a resume and cover letter, and prepare for a job interview. You will also learn about the employer-employee relationship, veterinary laws and ethics, euthanasia, and grief.

### VN131 Veterinary Clinical Procedures Lab 2.0 UNITS

Prerequisite: Current standing as a freshman in veterinary nursing. Co-requisite: VN130/Veterinary Clinical Procedures and VN120/Animal Facility Management I. You will gain hands-on experience with the basic skills of a veterinary nurse in preparation for the upcoming summer preceptorship. You will practice skills such as: restraint and handling of domestic animals, medication administration, injections, venipuncture, radiographic positioning, non-sterile surgical assistance, pack preparation, incision site preparation, teeth cleaning, basic anesthetic machine care, and crash cart maintenance.

### VN134 Veterinary Immunology 1.0 UNIT

Prerequisite or Co-requisite: VN122/Anatomy and Physiology for Veterinary Nurses. You will learn the basic concepts of basic immunology, vaccination, core and non-core vaccinations, and diseases commonly prevented through vaccination in both small and large animals.

### VN135 Small Animal Clinic Procedures 3.0 UNITS

Prerequisites: VN122/Anatomy and Physiology for Veterinary Nurses and VN124/Mentorship Preparation. Co-requisite: VN136/Small Animal Clinical Procedures Mentorship. You will learn the basic responsibilities and duties of the small animal veterinary nurse with emphasis on small animal nursing and restraint. You will also gain an understanding of laws relating to veterinary medicine.

### VN136 Sm Animal Clinical Procedures Mentorship 0.0 UNITS

Prerequisites: VN122/Anatomy and Physiology for Veterinary Nurses and VN124/Mentorship Preparation. Co-requisite: VN135/Small Animal Clinical Procedures. You will gain hands-on experience with essential small animal skills for the veterinary nurse including restraint and handling, physical examination, nail trimming, anal gland expression, otic examination, enema administration, venipuncture, and administration of medications in the dog and cat.

### VN137 Animal Facility Mgmt and Sanitation 1.0 UNIT

Prerequisites: VN119/Breeds of Domestic Animals and VN124/Mentorship Preparation. Co-requisite: VN138/Animal Facility Management and Sanitation Mentorship. You will learn the principles of general sanitation and basic veterinary hospital sanitation in regards to both large and small animal facilities. You will also learn about appropriate interactions with veterinary health care team members and routine animal care procedures, including animal behavior issues that arise in a group housing setting.

### VN138 Ani Facility Mgmt/Sanitation Mentorship 0.0 UNITS

Prerequisite: VN119/Breeds of Domestic Animals and VN124/Mentorship Preparation. Co-requisite: VN137/Animal Facility Management and Sanitation. You will gain experience concerning practical techniques in veterinary health care team interactions, sanitation of hospital facilities, and routine animal care in the veterinary hospital setting.

### VN140 Anatomy & Physiology of Domestic Animals 3.0 UNITS

Prerequisite: BI100/General Biology with Lab, BI177/Biology I with Lab, or BI179/Biology II with Lab; current standing as a freshman in veterinary nursing. Co-requisite: VN141/Anatomy & Physiology of Domestic Animals Laboratory. Humorous or humerus! This challenging class will enlighten you about common domestic animal anatomy and physiology.

**VN141 Anatomy & Physiology Domestic Animal Lab 1.0 UNIT**

Co-requisite: VN140 Anatomy and Physiology of Domestic Animals and current standing as a freshman in veterinary nursing. This is a hands-on class in which you will dissect a canine or feline cadaver to inspect the skeletal, muscular, and vascular systems. In addition, you will explore each organ system and get a deep dive into understanding the anatomy of domestic animals.

**VN143 Veterinary Parasitology 3.0 UNITS**

Prerequisite: VN122/Anatomy and Physiology for Veterinary Nurses and VN124/Mentorship Preparation. Co-requisite: VN144/Veterinary Parasitology Mentorship. You will learn common parasites of domestic animals and their life cycles, method of transmission, basic pathogenesis, clinical manifestation, and control methods. You will also learn to identify parasites and parasitic zoonotic diseases.

**VN144 Veterinary Parasitology Mentorship 0.0 UNITS**

Prerequisite: VN122/Anatomy and Physiology for Veterinary Nurses and VN124/Mentorship Preparation. Co-requisite: VN143/Veterinary Parasitology. You will practice techniques for sample analysis and will identify common domestic animal parasites.

**VN145 Veterinary Clinical Pathology I 1.0 UNIT**

Prerequisite: Current standing as a freshman in veterinary nursing. Co-requisite: VN146/Veterinary Clinical Pathology I Laboratory. Are you interested in the "gross" part of veterinary medicine? You will learn about internal parasites, fecal analysis, urinalysis, hematology, and cytology of both small and large animals.

**VN146 Veterinary Clinical Pathology I Lab 2.0 UNITS**

Prerequisite: Current standing as a freshman in veterinary nursing. Co-requisites: VN145/Veterinary Clinical Pathology I and VN120/Animal Facility Management I. You will apply the knowledge gained in the lecture course to practice and perform clinical techniques that are commonplace in most veterinary clinics.

**VN148 Veterinary Clinical Chemistry 2.0 UNITS**

Prerequisites: VN122/Anatomy and Physiology for Veterinary Nurses and VN124/Mentorship Preparation. Co-requisite: VN149/Veterinary Clinical Chemistry Mentorship. You will learn essential skills necessary for the veterinary nurse in the area of clinical chemistries.

**VN149 Veterinary Clinical Chemistry Mentorship 0.0 UNITS**

Prerequisite: VN122/Anatomy and Physiology for Veterinary Nurses and VN124/Mentorship Preparation. Co-requisite: VN148/Veterinary Clinical Chemistry. You will gain hands-on experience in the area of veterinary clinical chemistries.

**VN150 Veterinary Nursing Pharmacology I 1.0 UNIT**

Prerequisite: Current standing as a freshman in veterinary nursing. You will learn appropriate methods of drug administration and dispensing medications in the veterinary hospital, the appropriate federal regulations that apply, and the abbreviations and language commonly used in drug orders. With this, you will be capable of educating clients on the indications, method of action, and potential adverse side effects of medications in veterinary practice.

**VN151 Veterinary Nursing Pharmacology II 3.0 UNITS**

Prerequisite: VN150/Veterinary Nurse Pharmacology I. You will learn about selected drug groups, mechanisms of action, and side effects of medications commonly used in veterinary practice.

**VN152 Physical Rehabilitation for Vet Nurses 1.0 UNIT**

Prerequisites: VN130/Veterinary Clinical Procedures and VN131/Veterinary Clinical Procedures Lab. Have you ever wanted to learn more about physical rehabilitation in animals? In this class, you will learn about this rapidly growing field of veterinary medicine.

**VN167 Cooperative Education Experience I 3.0 UNITS**

Prerequisite: VN130/Veterinary Clinical Procedures and VN131/Veterinary Clinical Procedures Lab. You will obtain real-world work experience under the supervision of a licensed veterinarian and credentialed veterinary nurse in a veterinary practice setting. Veterinary nursing students are required

to complete this work experience between the third and fifth terms of the program (summer).

**VN199 Directed/Independent Study Vet Nursing 1.0 UNIT**

Prerequisite: Current standing as a student in the On-Campus or Distance Learning Veterinary Nursing Program. You will discuss trends affecting credentialed veterinary nurses, economic impacts currently affecting veterinary practice, the role of social media in veterinary practices, and the effect that credentialed veterinary nurses have on revenue streams in veterinary hospitals. You will gain familiarity with veterinary continuing education and other topics affecting veterinary nurses.

**VN210 Veterinary Nurse National Exam Prep 1.0 UNIT**

Prerequisite: Current standing as a spring semester sophomore in veterinary nursing. The biggest exam of your life (at this point) will be the Veterinary Technician National Examination (VTNE). You will learn techniques on how to be successful in applying your knowledge and gain confidence in taking the VTNE.

**VN230 Large Animal Medicine and Surgery 1.0 UNIT**

Prerequisite: AG149/Principles of Animal Science and current standing as a fall semester sophomore in veterinary nursing. You will learn about large animal medicine and surgery including anesthesia, surgical procedures, reproduction, preventive medicine, and poisonous plants.

**VN236 Principles of Anesthesiology & Radiology 4.0 UNITS**

Prerequisites: VN130/Veterinary Clinical Procedures, VN131/Veterinary Clinical Procedures Lab, and current standing as a fall semester sophomore in veterinary nursing. Co-requisite: VN237/Principles of Anesthesiology and Radiology Lab. You will learn principles of anesthesia and radiology, including various types of anesthetics, anesthesia machine operation, anesthetic monitoring, anesthetic machine maintenance techniques, radiographic positioning, exposure factors, various diagnostic imaging modalities, and medical record keeping.

**VN237 Principles of Anesthes & Radiology Lab 2.0 UNITS**

Prerequisites: VN130/Veterinary Clinical Procedures, VN131/Veterinary Clinical Procedures Lab, and current standing as a fall semester sophomore in veterinary nursing. Co-requisites: VN236/Principles of Anesthesiology and Radiology and VN250, Animal Facility Management II. You will administer and observe various anesthetics when given to domestic animals, become proficient with IV catheter insertion, decipher monitoring numbers, and learn to take excellent quality diagnostic radiographs.

**VN240 Veterinary Clinical Pathology II 2.0 UNITS**

Prerequisites: VN145/Veterinary Clinical Pathology I, VN146/Veterinary Clinical Pathology I Lab, and current standing as a fall semester sophomore in veterinary nursing. Co-requisite: VN241/Veterinary Clinical Pathology II Lab. In this course you will review and improve your understanding of fecal examination, urinalysis, blood tests, and cytological examination.

**VN241 Veterinary Clinical Pathology II Lab 2.0 UNITS**

Prerequisites: VN145/Veterinary Clinical Pathology I, VN146/Veterinary Clinical Pathology I Laboratory, and current standing as a fall semester sophomore in veterinary nursing. Co-requisites: VN240/Veterinary Clinical Pathology II and VN250/Animal Facility Management II. You will learn essential skills for the veterinary nurse in the areas of parasitology, urinalysis, and hematology.

**VN246 Lab Animal & Exotic Animal Medicine Lab 1.0 UNIT**

Prerequisites: VN130/Veterinary Clinical Procedures, VN131/Veterinary Clinical Procedures Laboratory, and current standing as a fall semester sophomore in veterinary nursing. Co-requisites: VN268/Laboratory Animal and Exotic Pet Medicine and VN250/Animal Facility Management II. Have you ever wondered how to hold a hedgehog or how to give a rabbit a pill? You will gain hands-on experience with basic veterinary nursing skills and will also gain experience with a variety of laboratory animals, exotic pets, and birds.

**VN250 Animal Facil Mgmt II 1.0 UNIT**

Prerequisites: VN120/Animal Facility Management I and current standing as a fall semester sophomore in veterinary nursing. You will apply experience and practice techniques in-hospital team interactions including care of animals, walking dogs, sanitation of animal facilities, and feeding of animals.

**VN260 Large Animal Nursing 1.0 UNIT**  
 Prerequisites: VN130/Veterinary Clinical Procedures, VN131/Veterinary Clinical Procedures Laboratory, and current standing as a fall semester sophomore in veterinary nursing. You will gain hands-on experience with a variety of large animal veterinary nursing skills.

**VN261 Advanced Large Animal Nursing 1.0 UNIT**  
 Prerequisites and/or Co-requisites: VN230/Large Animal Medicine and Surgery and VN260/Large Animal Nursing, and current standing as a fall semester sophomore in veterinary nursing. Want a deeper dive into large animal nursing? Then, this course is for you! You will gain additional hands-on experience with advanced large animal nursing skills.

**VN262 Advanced Large Animal Nursing 1.0 UNIT**  
 Prerequisites: VN230/Large Animal Medicine and Surgery, VN260/Large Animal Nursing, and current standing as a spring semester sophomore in veterinary nursing. Want a deeper dive into large animal nursing? Then, this course is for you! You will gain hands-on experience with advanced large animal nursing skills.

**VN263 Large Animal Clinical Procedures 3.0 UNITS**  
 Prerequisites: VN122/ Anatomy and Physiology for Veterinary Nurses and VN124/Mentorship Preparation. Co-requisite: VN264/Large Animal Clinical Procedures Mentorship. You will learn the basic responsibility and duties of large animal veterinary nurses with emphasis on large animal nursing and restraint. You will learn various aspects of large animal medicine and surgery including instruments commonly used in large animal practice, physical examinations, identification methods, anesthesia monitoring, surgical procedures, reproduction, neonatal care, preventative medicine, and external coaptation. You will also learn about plants poisonous to large animals and necropsy techniques.

**VN264 Lg Animal Clinical Procedures Mentorship 0.0 UNITS**  
 Prerequisites: VN122/Anatomy and Physiology for Veterinary Nurses and VN124/Mentorship Preparation. Co-requisite: VN263/Large Animal Clinical Procedures. You will gain hands-on experience with essential large animal tasks for the veterinary nurse such as restraint of large animals and administration of medications.

**VN265 Animal Facility Management III 1.0 UNIT**  
 Prerequisites: VN250/Animal Facility Management II and current standing as a spring semester sophomore in veterinary nursing. You will apply experience and practice techniques in-hospital team interactions including care of animals, walking dogs, sanitation of animal facilities, and feeding of animals. You will also train and supervise the freshmen veterinary nursing students on the procedures of animal well-being and care.

**VN267 Cooperative Education Experience II 3.0 UNITS**  
 Prerequisites: VN130/Veterinary Clinical Procedures and VN131 Veterinary Clinical Procedures Lab. You will obtain real-world work experience under the supervision of a licensed veterinarian and credentialed veterinary nurse in a veterinary practice setting. Veterinary nursing students are required to complete this work experience between the third and fifth terms of the program (summer).

**VN268 Laboratory Animal & Exotic Pet Medicine 2.0 UNITS**  
 Prerequisite: VN130/Veterinary Clinical Procedures, VN131/Veterinary Clinical Procedures Lab, and current standing as a fall semester sophomore in veterinary nursing. Co-requisite: VN246/ Laboratory Animal and Exotic Pet Medicine Lab. Do you like animals that slither, chirp, or squeak? If so, this course is for you! You will learn basic veterinary nursing skills for a variety of laboratory animals, exotic pets, and birds.

**VN269 Lab Animal & Exotic Pet Med Mentorship 1.0 UNIT**  
 Prerequisite: VN135/Small Animal Clinical Procedures and VN136/Small Animal Clinical Procedures Mentorship. Co-requisite: VN268/Laboratory Animal and Exotic Pet Medicine. Have you ever wondered how to hold a hedgehog or give a rabbit a pill? You will gain hands-on experience with basic veterinary nursing skills and gain experience with a variety of laboratory animals, exotic pets, and birds.

**VN272 Veterinary Clinical Experience I 2.0 UNITS**  
 Prerequisites or Co-requisites: VN121/Medical Records and Veterinary Office Skills and VN135/Small Animal Clinical Procedures, VN136/Small

Animal Clinical Procedures Mentorship, VN137/Animal Facility Management and Sanitation, and VN138/Animal Facility Management and Sanitation Mentorship. You will gain hands-on veterinary clinical experience which is required of all Distance Learning Veterinary Nursing Program students. You will obtain veterinary clinical experience under the supervision of a licensed veterinarian and credentialed veterinary nurse in a veterinary hospital setting.

**VN273 Veterinary Hematology 3.0 UNITS**  
 Prerequisites: VN122/Anatomy and Physiology for Veterinary Nurses and VN124/Mentorship Preparation. Co-requisite: VN274/Veterinary Hematology Mentorship. You will learn the theory, principles, and practice of performing laboratory tests on blood and also to understand veterinary coagulation and transfusion medicine.

**VN274 Veterinary Hematology Mentorship 0.0 UNITS**  
 Prerequisites: VN122/Anatomy and Physiology for Veterinary Nurses and VN124/Mentorship Preparation. Co-requisite: VN273/Veterinary Hematology. You will gain hands-on experience with essential skills necessary for the veterinary nurse in the area of hematology and veterinary coagulation and transfusion medicine.

**VN275 Veterinary Surgical Nrsng & Clin Skills 4.0 UNITS**  
 Prerequisites: VN236/Principles of Anesthesiology and Radiology, VN237/Principles of Anesthesiology and Radiology Lab, and current standing as a spring semester sophomore in veterinary nursing. Co-requisite: VN276/Veterinary Surgical Nursing and Clinical Skills Lab. During this intensive course, you will learn surgical nursing principles, equipment and instrument care, critical care and common veterinary emergencies, small animal dentistry, basic immunology, and vaccination protocols for dogs and cats.

**VN276 Vet Surg Nrsng & Clin Skills Lab 2.0 UNITS**  
 Prerequisites: VN236/Principles of Anesthesiology and Radiology, VN237/Principles of Anesthesiology and Radiology Lab, and current standing as a spring semester sophomore in veterinary nursing. Co-requisites: VN275/Veterinary Surgical Nursing and Clinical Skills and VN265/ Animal Facility Management III. You will practice skills necessary for surgical assisting, both as a sterile and non-sterile assistant. You will suture incisions and will learn patient management, surgical team roles, and post-operative management.

**VN277 Veterinary Nursing Microbiology 2.0 UNITS**  
 Prerequisite: Current standing as a fall semester sophomore in veterinary nursing. Co-requisite: VN286/Veterinary Nursing Microbiology Lab. Explore the life function of the bacteria, fungi, protists, and viruses. Apply this knowledge to solve pathogenic clinical cases that are provided along with those that arise throughout the semester.

**VN278 Vet Nursing Microbiology Mentorship 0.0 UNITS**  
 Prerequisites: BI100/General Biology with Lab, BI177/Biology I with Lab, or BI179/Biology II with Lab; and VN122/Anatomy and Physiology for Veterinary Nurses, and VN124, Mentorship Preparation. Co-requisite: VN277/Veterinary Nursing Microbiology. You will explore and apply microscopy techniques, bacteria staining techniques, methods for microorganism identification, and methods involved in handling, culturing, and controlling microorganisms.

**VN279 Veterinary Clinical Experience II 2.0 UNITS**  
 Prerequisites: VN135/Small Animal Clinical Procedures, VN136/Small Animal Clinical Procedures Mentorship, and VN272/Veterinary Clinical Experience I. You will gain hands-on veterinary clinical experience which is required of all Distance Learning Veterinary Nursing Program students. You will obtain veterinary clinical experience under the supervision of a licensed veterinarian in a veterinary hospital setting.

**VN280 Veterinary Clinical Pathology III 2.0 UNITS**  
 Prerequisites: VN240/Veterinary Clinical Pathology II, VN241/Veterinary Clinical Pathology II Lab, and current standing as a spring semester sophomore in veterinary nursing. Co-requisite: VN281/Veterinary Clinical Pathology III Lab. Round out your pathological clinical skills in blood chemistries, coagulation testing, blood typing, crossmatching, serologic tests, cytology, and other body fluid examinations.

**VN281 Veterinary Clinical Pathology III Lab 2.0 UNITS**  
 Prerequisites: VN240/Veterinary Clinical Pathology II, VN241/Veterinary Clinical Pathology II Lab, and current standing as a spring semester sophomore in veterinary nursing. Co-requisites: VN280/Veterinary Clinical Pathology III and VN265/Animal Facility Management III. Apply your skills



to perform cytology, blood chemistries, coagulation testing, crossmatching, blood typing, serologic tests, and other body fluid examinations.

**VN283 Veterinary Anesthesiology and Analgesia 5.0 UNITS**

Prerequisites: VN135/Small Animal Clinical Procedures, VN136/Small Animal Clinical Procedures Mentorship, and VN151/Veterinary Nursing Pharmacology II. Co-requisite: VN284/Veterinary Anesthesiology and Analgesia Mentorship. You will learn principles of anesthesia, including various types of anesthetics and anesthetic adjuncts, preanesthetic procedures, endotracheal intubation, anesthetic machine operation, anesthetic monitoring, and anesthetic machine maintenance techniques. You will learn the management of anesthetic emergencies and various aspects of pain management.

**VN284 Vet Anesthesiology& Analgesia Mentorship 0.0 UNITS**

Prerequisites: VN135/Small Animal Clinical Procedures, VN136/Small Animal Clinical Procedures Mentorship, and VN151/Veterinary Nursing Pharmacology II. Co-requisite: VN283/Veterinary Anesthesiology and Analgesia. You will gain hands-on experience with essential skills necessary for the veterinary nurse in the area of anesthesiology, including anesthesia monitoring, endotracheal tube intubation, and pain management.

**VN286 Veterinary Nursing Microbiology Lab 0.0 UNITS**

Prerequisite: Current standing as a fall semester sophomore in veterinary nursing. Co-requisite: VN277/Veterinary Nursing Microbiology. You will explore and apply microscopy techniques, bacteria staining techniques, methods for microorganism identification, and methods involved in handling, culturing, and controlling microorganisms.

**VN287 Veterinary Cytology 2.0 UNITS**

Prerequisites: VN122/Anatomy and Physiology for Veterinary Nurses and VN124/Mentorship Preparation. Co-requisite: VN288/Veterinary Cytology Mentorship. You will learn normal and abnormal cytology in domestic animals.

**VN288 Veterinary Cytology Mentorship 0.0 UNITS**

Prerequisite: VN122/Anatomy and Physiology for Veterinary Nurses and VN124/Mentorship Preparation. Co-requisite: VN287/Veterinary Cytology. You will gain hands-on experience with essential skills necessary for the veterinary nurse in the area of cytology.

**VN289 Common Animal Disease 2.0 UNITS**

Prerequisites: VN140/Anatomy and Physiology of Domestic Animals and VN267/Cooperative Education Experience II. Would you like to learn more about diseases such as kennel cough, ringworm, and foot rot? You will learn about these and other diseases of both small and large animals. You will also learn about zoonotic diseases as part of this class.

**VN290 Veterinary Imaging 3.0 UNITS**

Prerequisites: VN135/Small Animal Clinical Procedures and VN136/Small Animal Clinical Procedures Mentorship. Co-requisite: VN291/Veterinary Imaging Mentorship. Prerequisites or Co-requisites: VN263/Large Animal Clinical Procedures, VN264/Large Animal Clinical Procedures Mentorship, VN268/Laboratory Animal and Exotic Pet Medicine, and VN269/Laboratory Animal and Exotic Pet Medicine Mentorship. You will learn about radiographic positioning and exposure factors concerning dogs, cats, horses, birds, and laboratory animals. You will also learn about digital radiography, ultrasonography, endoscopy, and advanced imaging modalities.

**VN291 Veterinary Imaging Mentorship 0.0 UNITS**

Prerequisites: VN135/Small Animal Clinical Procedures VN136/Small Animal Clinical Procedures Mentorship. Co-requisite: VN290/Veterinary Imaging. Prerequisites or Co-requisites: VN263/Large Animal Clinical Procedures, VN264/Large Animal Clinical Procedures Mentorship, VN268/Laboratory Animal and Exotic Pet Medicine, and VN269/Laboratory Animal and Exotic Pet Medicine Mentorship. You will practice essential skills required of veterinary nurses in the area of veterinary imaging.

**VN292 Veterinary Dentistry 1.0 UNIT**

Prerequisites or Co-requisites: VN283/Veterinary Anesthesiology and Analgesia, VN284/Veterinary Anesthesiology and Analgesia Mentorship, and VN290/Veterinary Imaging, and VN291/Veterinary Imaging Mentorship. Co-requisite: VN293/Veterinary Dentistry Mentorship. You will learn dental

charting, dental instruments, teeth cleaning, and dental radiographic positioning of companion animals.

**VN293 Veterinary Dentistry Mentorship 0.0 UNITS**

Prerequisites or Co-requisites: VN283/Veterinary Anesthesiology and Analgesia, VN284/Veterinary Anesthesiology and Analgesia Mentorship, VN290/Veterinary Imaging, and VN291/Veterinary Imaging Mentorship. Co-requisite: VN292/Veterinary Dentistry. You will gain hands-on experience with skills relating to veterinary dentistry including dental charting, teeth cleaning, and dental radiography.

**VN296 Veterinary Surgical Nursing 3.0 UNITS**

Prerequisites or Co-requisites: VN283/Veterinary Anesthesiology and Analgesia and VN284/Veterinary Anesthesiology and Analgesia Mentorship. Co-requisite: VN297/Veterinary Surgical Nursing Mentorship. You will learn veterinary surgical nursing procedures including general nursing care, surgical assisting, and equipment and instrument care.

**VN297 Vet Surgical Nursing Mentorship 0.0 UNITS**

Prerequisites or Co-requisites: VN283/Veterinary Anesthesiology and VN284/Veterinary Anesthesiology and Analgesia Mentorship. Co-requisite: VN296/Veterinary Surgical Nursing. You will gain hands-on experience with surgical assisting, both as a sterile and non-sterile assistant. You will also learn about patient management, surgical team roles, and post-operative management.

**VN298 Vet Critical Care and Clinical Skills 3.0 UNITS**

Prerequisites or Co-requisites: VN283/Veterinary Anesthesiology and Analgesia and VN284/Veterinary Anesthesiology and Analgesia Mentorship. Co-requisite: VN299/Veterinary Critical Care and Clinical Skills Mentorship. You will learn about veterinary critical care and clinical skills including emergency medicine, triage, the crash cart, shock, oxygen therapy, fluid therapy, ventilation, electrocardiograms, and ophthalmology.

**VN299 Critical Care Clinical Skills Mentorship 0.0 UNITS**

Prerequisites or Co-requisites: VN283/Veterinary Anesthesiology and Analgesia and VN284/Veterinary Anesthesiology and Analgesia Mentorship. Co-requisite: VN298/Veterinary Critical Care and Clinical Skills. You will practice hands-on skills related to critical care and clinical skills including placement of nasogastric tubes, urinary catheterization, oxygen therapy, and ophthalmology.