

Course Descriptions

**ENGLISH AS A SECOND LANGUAGE
ALABAMA LANGUAGE INSTITUTE (ALI)**

- ALI 030 COMPOSITION I (3T) 3 credits**
This course is the beginner course in writing for non-native English speakers. This course provides instruction in basic sentence patterns and progresses through fully developed essays. Upon completion, students will demonstrate improvement in use of standard written English.
- ALI 040 READING AND VOCABULARY I (3T) 3 credits**
This course is the beginning reading and comprehension course for non-native English speakers. This course provides instruction in a variety of technical, literary and recreational readings. Upon completion, students will demonstrate improvement in English and reading and comprehension.
- ALI 050 CONVERSATIONAL ENGLISH I (3T) 3 credits**
This course is the beginner course in oral communication for non-native English speakers. This course provides instruction in practice dialogues and grammatical exercises as well as free conversation. Upon completion, students will demonstrate improvement in oral communication skills.

FIRE SERVICES MANAGEMENT (FSC)

- FSC 101 INTRODUCTION TO THE FIRE SERVICE (3T) 3 credits**
This course is a survey of the philosophy and history of fire protection, loss of property and life by fire, review of municipal fire defenses, and the organization and function of federal, state, county, city, and private fire protection.
- FSC 200 FIRE COMBAT TACTICS AND STRATEGY (3T) 3 credits**
This course is a review of fire chemistry, equipment and manpower, basic fire fighting tactics and strategy, methods of attack and preplanning fire problems.
- FSC 210 BUILDING CONSTRUCTION FOR THE FIRE SERVICE (3T) 3 credits**
This course highlights and assesses the problems and hazards to fire personnel when a building is attacked by fire or is under stress from other factors dealing with collapse.
- FSC 240 FIRE CAUSE DETERMINATION (3T) 3 credits**
This course covers the burning characteristics of combustibles, interpretation of clues, burn patterns leading to points of origin, identification of incendiary indications, sources of ignition and ignited materials, and preservation of fire science evidence.
- FSC 292 ELEMENTS OF SUPERVISION/FIRE SERVICE SUPERVISION (3T) 3 credits**
This course covers the responsibility of supervisors, organization, human relations, grievance training, rat-

ing, promotion, quality-quantity control, and management-employee relations.

FRENCH (FRN)

- FRN 101 INTRODUCTORY FRENCH I (4T) 4 credits**
This course provides an introduction to French. Topics include the development of basic communication skills and the acquisition of basic knowledge of the cultures of French-speaking areas.
- FRN 102 INTRODUCTORY FRENCH II (4T) 4 credits**
PREREQUISITE: FRN 101 or equivalent.
This continuation course includes the development of basic communication skills and the acquisition of basic knowledge of the cultures of French-speaking areas.
- FRN 201 INTERMEDIATE FRENCH I (3T) 3 credits**
PREREQUISITE: FRN 102 or equivalent
This course includes a review and further development of communication skills. Topics include readings of literary, historical, and/or cultural texts.
- FRN 202 INTERMEDIATE FRENCH II (3T) 3 credits**
PREREQUISITE: FRN 201 or equivalent
This continuation course includes a review and further development of communication skills. Topics include readings of literary, historical, and/or cultural texts.

GEOGRAPHIC INFORMATION SYSTEMS TECH (GIS)

- GIS 101 INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS TECHNOLOGY (2T) 2 credits**
This is an introductory GIS course focusing on maps, map analysis, and an introduction to computers. Emphasis is placed on raster GIS capabilities, data acquisition, spatial databases, and using GIS and GIS trends. Upon completion, students will demonstrate the ability to use GIS in spatial analysis, output, graphics output design issues, modes of user/GIS interaction, generating complex products and GIS for archives. (Taught on Demand)

GEOGRAPHY (GEO)

- GEO 100 WORLD REGIONAL GEOGRAPHY (3T) 3 credits**
This course surveys various countries and major regions of the world with respect to location and landscape, world importance and political status, population, type of economy, external and internal organization and relations, problems and potentials.
- GEO 101 PRINCIPLES OF PHYSICAL GEOGRAPHY I (3T, 2E) 4 credits**
Physical Geography I is the first in a two-part

sequence including topics such as weather and climate relative to the earth and relationships between the earth and sun. Laboratory is required. (Natural Science course)

GEO 102 PRINCIPLES OF PHYSICAL GEOGRAPHY II (3T, 2E) 4 credits
Physical Geography II is the second in a two-part sequence including topics such as landforms, landscapes, soil and vegetation of the earth. Laboratory is required. (Natural Science course)

GEO 200 GEOGRAPHY OF NORTH AMERICA (3T) 3 credits
PREREQUISITE: GEO 100
This course is a survey of the geography of the United States and Canada with special emphasis on land usage, mineral resources, industrial development, and social and economic adaptation of man and the natural environment.

GEO 201 PRINCIPLES OF HUMAN GEOGRAPHY (3T) 3 credits
PREREQUISITE: GEO 100
This course surveys the science of location, with emphasis on human activities as it relates to agricultural and industrial activities, and cities as market and production centers. Emphasis will be placed on human networks.

GEO 220 PRINCIPLES OF PHYSICAL GEOGRAPHY (3T) 3 credits
This course is an introduction to natural features of the earth. It concentrates on weather, climate, soil, and vegetation associations, on landforms and on the forces that have been active in shaping the earth's surface.

GERMAN (GRN)

GRN 101 INTRODUCTORY GERMAN I (4T) 4 credits
This course provides an introduction to German. Topics include the development of basic communication skills and the acquisition of basic knowledge of the cultures of German-speaking areas.

GRN 102 INTRODUCTORY GERMAN II (4T) 4 credits
PREREQUISITE: GRN 101 or equivalent
This continuation course includes the development of basic communication skills and the acquisition of basic knowledge of the cultures of German-speaking areas.

GRN 201 INTERMEDIATE GERMAN I (3T) 3 credits
PREREQUISITE: GRN 102 or equivalent
This course includes a review and further development of communication skills. Topics include readings of literary, historical, and/or cultural texts.

GRN 202 INTERMEDIATE GERMAN II (3T) 3 credits
PREREQUISITE: GRN 201 or equivalent
This continuation course includes a review and further development of communication skills. Topics include readings in literary, historical and/or cultural texts.

HEALTH EDUCATION (HED)

HED 221 PERSONAL HEALTH (3T) 3 credits
This course introduces principles and practices of personal and family health. It includes human reproduction, growth and development, psychological dimensions of health, human sexuality, nutrition and fitness, aging, death and dying.

HED 222 COMMUNITY HEALTH (3T) 3 credits
This course introduces principles and practices of community health. It includes drug use and abuse, communicable diseases, cardiovascular diseases, cancer, consumer health, health organization, and environmental concerns.

HED 226 WELLNESS (1-3T) 1-3 credits
This course provides health-related education to those individuals seeking advancement in the area of personal wellness. This course has 5 major components: (1) fitness and health assessment, (2) physical work capacity, (3) education, (4) reassessment and (5) retesting.

HED 230 SAFETY AND FIRST AID (3T) 3 credits
HED 230 is divided into two parts. The first part concerns itself with the development of a safety education program within an organization (i.e. school, office, shop, etc.). The second part deals with physical injuries, emergency care, and treatment of those injuries. CPR certification and Standard Red Cross cards are given upon successful completion of American Red Cross requirements.

HED 231 FIRST AID (3T) 3 credits
This course provides instruction to the immediate, temporary care which should be given to the victims of accidents and sudden illnesses. It also includes standard and advanced requirements of the American Red Cross and/or the American Heart Association. CPR training also is included.

HED 277 CPR RECERTIFICATION (1T) 1 credit
In this course, instruction and review of up-dated information concerning cardio-pulmonary resuscitation (CPR) is presented. The student must satisfactorily execute skills needed to meet requirements for recertification in Basic Cardiac Life Support (BCLS) as required by the American Heart Association.

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HISTORY (HIS)

- HIS 101 WESTERN CIVILIZATION I (3T) 3 credits**
This course is a survey of social, intellectual, economic, and political developments which have molded the modern western world. The course covers the ancient and medieval periods and concludes in the era of the Renaissance and Reformation.
- HIS 102 WESTERN CIVILIZATION II (3T) 3 credits**
This course is a continuation of HIS 101; it surveys development of the modern western world from the era of the Renaissance and Reformation to the present.
- HIS 111 TECHNOLOGY AND CIVILIZATION I (3T) 3 credits**
This course introduces the interaction between technology and culture in World History from prehistoric times to 1750. While the course provides a basic survey of World History, primary emphasis is placed on technological change and its consequences.
- HIS 112 TECHNOLOGY AND CIVILIZATION II (3T) 3 credits**
This course is a continuation of HIS 111. It surveys technology and culture in World History from 1750 to the present. The course provides a basic survey of modern world history. The course places primary emphasis on technological change and its consequences.
- HIS 121 WORLD HISTORY I (3T) 3 credits**
This course surveys social, intellectual, economic, and political developments which have molded the modern world. Focus is on both non-western and western civilizations from the prehistoric to the early modern era.
- HIS 122 WORLD HISTORY II (3T) 3 credits**
This course is a continuation of HIS 121; it covers world history, both western and non-western, from the early modern era to the present.
- HIS 201 UNITED STATES HISTORY I (3T) 3 credits**
This course surveys United States history during colonial, Revolutionary, early national, and antebellum periods. It concludes with the Civil War and Reconstruction.
- HIS 202 UNITED STATES HISTORY II (3T) 3 credits**
This course is a continuation of HIS 201; it surveys United States history from the Reconstruction era to the present.
- HIS 216 HISTORY OF WORLD RELIGIONS (3T) 3 credits**
This course presents a comparison of the major religions of the world from an historical perspective. Emphasis is placed on the origin, development, and social influence of Christianity, Judaism, Islam, Hinduism, Buddhism, and others.

- HIS 220 CONTEMPORARY STUDIES (3T) 3 credits**
This course provides a survey of contemporary problems and issues within an historical context. Topics might include nationalism, the rise of Islam as a powerful influence in the post-Cold War environment, environmental issues, and the impact of colonialism on modern, Third World society.
- HIS 256 AFRICAN-AMERICAN HISTORY (3T) 3 credits**
This course focuses on the experience of African-American people in the Western Hemisphere, particularly in the United States. It surveys the period from the African origins of the slave trade during the period of exploration and colonization to the present. The course presents a comparison between the African experience in the United States and in Mexico and South America.
- HIS 260 ALABAMA HISTORY (3T) 3 credits**
This course surveys development of the state of Alabama from its prehistoric times to the present. The course presents material on the discovery, exploration, colonization, territorial period, antebellum Alabama, Reconstruction, and modern history.
- HIS 299 DIRECTED STUDIES IN HISTORY (1-3T) 1-3 credits**
This course affords students opportunities to study selected topics of an historical nature either as part of class or on an individual basis.
- HIS 299A HISTORY OF THE ANTEBELLUM SOUTH (1-3T) 1-3 credits**
This is a special History section in that it revolves around a 2-day field trip in the Antebellum South. The trip will consist of visiting several antebellum plantations/homes in the South. Two major topics will be addressed in this course and on the trip; (1) Life in/on southern antebellum plantations, and (2) the Jacksonian Era. In the readings for this course, the student will be introduced to a variety of peoples, places, and events that played an integral part in shaping the antebellum south. On the trip, the student will see numerous sites ranging from Rippavilla Plantation to The Hermitage. This trip back through time will, among other things, enable the student to perceive the past as it was experienced by those at the time and acquire both a comprehension of diverse cultures and of shared humanity.
- HIS 299B SOUTHERN CIVIL WAR HISTORY (1-3T) 1-3 credits**
This is a special History section in that it revolves around a 2-day field trip to southern Civil War locations. The trip will consist of visiting several locations that were important in the South's attempt at independence from the Union. Two major topics will be addressed in this course and on the trip; (1) Life in the south before, during, and after the Civil War, and (2) some of the battles that took place in the South. In the readings for this course, the student will be introduced to a variety of peoples, places, and events that

played an integral part in shaping the South's struggle for independence. On the trip, the student will see numerous sites ranging from Carnton House to the Shiloh Battlefield. This trip back through time will, among other things, enable the student to perceive the past as those at the time experienced it and acquire both a comprehension of diverse cultures and of shared humanity.

Cold War; international and domestic issues and conflicts from the 1940s to the 1990s. The twentieth century saw many individuals and events that changed the course of American history with dramatic speed and force. Two World Wars, the presidency of Franklin Roosevelt, the Cold War, Hollywood, Civil Rights, the Kennedy years, the Clinton presidency-the period holds an abundance of themes and topics ripe for historical and investigative support by swathes of textual and experiential evidence.

HIS 299C

**NATCHEZ TRACE HISTORY
(1-3T)**

1-3 credits

This is a special History section in that it revolves around a 3-day field trip down the Natchez Trace Parkway. The trip will consist of visiting several locations that were important in development and growth of the Natchez Trace. Two major topics will be addressed in this course and on the trip; (1) Life and travel along the Old Natchez Trace, and (2) Mounds and Mound Builders along the Old Natchez Trace. In the readings for this course, the student will be introduced to a variety of peoples, and in some cases, specific individuals, who traveled, settled, lived, and died along this historic path. On the trip, the student will see numerous historic markers and sites ranging from pre-Columbian Indian mounds to early 19th century stands. This trip back through time will, among other things, enable the student to perceive the past as those at the time experienced it and acquire both a comprehension of diverse cultures and of shared humanity.

HEALTH SCIENCE (HPS)

HPS 100

**SAFETY ISSUES FOR CLINICAL PRACTICE
(1T)**

1 credit

PREREQUISITE: ENG 101, SPH 107, PSY 200, MTH 100 or MTH 112 or MTH 116 (FOR NUR STUDENTS; ONLY) or Permission of instructor.
COREQUISITE: BIO 201, PSY 210, NUR 110, NUR 131, NUR 241 (FOR NUR STUDENTS ONLY).

This course focuses on microbial and physical safety for clinical practice. Emphasis is placed on guidelines established by the Occupational Safety and Health Administration (OSHA) and the Alabama State Department of Public Health: topics include prevention of transmission of blood-borne and air-borne pathogens as well as prevention of injuries during clinical practice. Upon completion of this course, the student should be able to participate in the clinical setting implementing measures which will prevent injuries and using appropriate universal precautions.

HIS 299D

**HISTORY THROUGH FILM
(1-3T)**

1-3 credits

What, if anything, can you learn about history by watching movies? This course looks at critical historical moments and issues of conflict and change, through the vehicle of film. The course is designed to teach students how to use films as historical evidence and how to analyze films as historical documents. This course analyzes relationships between film and history, that is, the ways in which films recreate, distort, interpret, and communicate historic events and personalities. We will look at issues of authenticity and voice, some of the pitfalls of using film to understand history, and the role of cinema in the creation of national and popular memory. Although most of these films have been analyzed on many levels, the emphasis of this particular course will be on content and social or political vision, rather than film theory, technique, or aesthetics. By watching, discussing, and writing about these films, we will examine how motion pictures create a window into society. Students will learn how to read films as cultural texts that help us better understand our history and culture. One of the two weekly class meetings will be a film showing; in addition to required readings, there will sometimes be a second film assigned to watch outside of class.

HPS 105

**MEDICAL TERMINOLOGY
(2T, 2E)**

3 credits

PREREQUISITE: As required by program.

This course is an application for the language of medicine. Emphasis is placed on terminology associated with health care, spelling, pronunciation, and meanings associated with prefixes, suffixes, and roots as they relate to anatomical body systems. Upon completion of this course, the student should be able to correctly abbreviate medical terms and appropriately use medical terminology in verbal and written communication.

HPS 113

**SPANISH FOR HEALTH CARE
PROFESSIONALS (3T)**

3 credits

This course provides an introduction to Spanish with a focus on the basic communication skills and vocabulary needed by health professionals when a non-English speaking Hispanic enters a health care setting. Topics include soliciting identification information, history taking, performance of physical exam and giving instructions on general care and follow-up.

HIS 299E

**TWENTIETH-CENTURY AMERICA
(1-3T)**

1-3 credits

This course looks at critical historical moments and issues in America's twentieth century, such as, the origins and consequences of World War II; the Truman administration and the Fair Deal; the origins of the

HPS 114

BASIC PHARMACOLOGY (2T)

2 credits

PREREQUISITE: As required by program.

This course is an introduction to basic pharmacology. Content includes classifications, indications, contraindications, desired effects, and side effects of medications used during diagnostic procedures and the prevention and treatment of common illnesses. Upon completion of the course, the student should be able

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to relate basic pharmacological concepts to the maintenance of health.

variables. This study includes an introduction to instrumentation and control mathematics. This course also provides instruction in the fundamental concepts of pressure, force, weight, motion, liquid level, fluid flow and temperature.

INTERDISCIPLINARY STUDIES (IDS)

IDS 114 INTERDISCIPLINARY SEMINAR: CURRENT TOPICS IN HUMAN CONCERNS (1-2T) 1-2 credits
PREREQUISITE: Permission of the instructor.
 This course is a seminar/discussion course designed to provide an opportunity for the student to conduct an in-depth investigation of selected topics. The particular topic selected will include issues from two or more disciplines and is determined by faculty and student interest. Classroom experiences emphasize and help develop skills in organizing and presenting information as well as explaining and defending ideas and conclusions. An oral seminar presentation is required. IDS 114 may be repeated for credit.

ILT 180 SPECIAL TOPICS FORMERLY ILT 109 (3M) 3 credits
COREQUISITE: ILT 108

This course is designed to allow students an opportunity to study directly-related topics of particular interest which require the application of technical knowledge and technical skills. Emphasis is placed on the application of skills and knowledge with practical experiences. Upon completion, students should be able to solve job related problems using technical skills and knowledge.

ILT 201 INDUSTRIAL ELECTRONICS FORMERLY: ELT 222 AND ILT 163 (3T) 3 credits
PREREQUISITE: ELT 221

This course covers applications of electronics in the industry with a major emphasis on microprocessors as applied to data acquisitions and machine control. Topics include A/D and D/A conversion, signal conditioning, sensors and transducers, control devices, stepper motors, and microprocessor interfacing. Upon completion of this course, students should be able to describe the operation of various sensors, signal conditioning, A/D and D/A conversion, and control devices, as well as perform necessary calculations.

INDUSTRIAL ELECTRONICS TECHNOLOGY (ILT)

ILT 103 INTRODUCTION TO INSTRUMENTATION TECHNOLOGY (1T, 6M) 3 credits
PREREQUISITE: ELT 105 or permission of instructor
 This course introduces various hand and power tools, basic blueprint reading, basic rigging and basic math that will be used in the electronic, instrumentation and electrical trades. Emphasis is placed on basic hand tool and power tool safety and procedures for selecting, inspecting, using and maintaining these tools. Upon completion, students should be able to identify and use various hand and power tools, read a blueprint and know how to perform basic rigging.

ILT 202 INDUSTRIAL ELECTRONICS LAB (4E) 2 credits
COREQUISITE: ILT 201

This course demonstrates the concepts, devices, and applications of electronics in industrial processes. Upon completion of this course, students should be able to construct, evaluate and calibrate basic industrial sensing and control circuits.

ILT 104 INDUSTRIAL INSTRUMENTATION (3T) 3 credits
PREREQUISITE: ILT 103
COREQUISITE: MTH 104
 This course provides a study of instrumentation circuits/systems. Topics include the use of transducers, detectors, actuators, and/or other devices and equipment in industrial applications. Upon completion, the student should be able to apply principles of instrumentation circuits and systems.

ILT 216 INDUSTRIAL ROBOTICS (3T) 3 credits
PREREQUISITE : ILT 108 and ILT 109
COREQUISITE: ILT 217

This course covers principles of electro-mechanical devices. Topics include the principles, concepts, and techniques involved in interfacing microcomputers to various electro-mechanical devices to produce geographical movement. Upon completion, students should be able to apply the principles of electro-mechanical devices.

ILT 105 INDUSTRIAL INSTRUMENTATION LAB (6M) 2 credits
COREQUISITE: ILT 104
 A companion to ILT 104, this lab includes the use of transducers, detectors, actuators, and/or other devices and equipment in industrial application. Upon completion of the course, the student should be able to apply principles of instrumentation circuits and systems.

ILT 217 INDUSTRIAL ROBOTICS LAB (4E) 2 credits
COREQUISITE: ILT 216

This lab covers the principles, concepts, and techniques involved in interfacing microcomputers to various electro-mechanical devices to produce geographical movement. Upon completion students should be able to apply the principles of electro-mechanical devices.

ILT 108 INTRODUCTION TO INSTRUMENTS AND PROCESS CONTROL (2T, 2E) 3 credits
PREREQUISITE: ILT 104, ILT 105
 This course is an introductory study of the control devices and methods used in industry for the control and transmission of information pertaining to process

INDUSTRIAL MAINTENANCE TECHNOLOGY (INT)

INT 112 INDUSTRIAL MAINTENANCE SAFETY PROCEDURES (3T) 3 credits
This course is an in-depth study of the health and safety practices required for maintenance of industrial production equipment. Topics include traffic, ladder, electrical, and fire safety, safe work in confined spaces, electrical and mechanical lock-out procedures, emergency procedures, OSHA regulations, MSDS Right-to-Know law, hazardous materials safety, and safety equipment use and care. Upon course completion, students will be able to implement health and safety practices in an industrial setting.

INT 234 PRINCIPLES OF INDUSTRIAL MAINTENANCE WELDING AND METAL CUTTING TECHNIQUES FORMERLY INT 233 (1T, 6M) 3 credits
This course provides instruction in the fundamentals of acetylene cutting and the basics of welding needed for the maintenance and repair of industrial production equipment. Topics include oxy-fuel safety, choice of cutting equipment, proper cutting angles, equipment setup, cutting plate and pipe, hand tools, types of metal welding machines, rod and welding joints, and common welding passes and beads. Upon course completion, students will demonstrate the ability to perform metal welding and cutting techniques necessary for repairing and maintaining industrial equipment.

MACHINE TOOL TECHNOLOGY (MTT)

MTT 107 MACHINING CALCULATIONS I FORMERLY MTT 104 (3T) 3 credits
PREREQUISITES: MTT 147 and MTT 149 or Permission of Instructor
This course introduces basic calculations as they relate to machining occupations. Emphasis is placed on basic calculations and their applications in the machine shop. Upon completion, students should be able to perform basic shop calculations. This course is aligned with NIMS certification standards.

MTT 108 MACHINIST HANDBOOK FUNCTIONS I FORMERLY MTT 110 (3T) 3 credits
PREREQUISITES: MTT 107 or Permission of Instructor
This course covers the machinist's handbook. Emphasis is placed on formulas, tables, usage and related information. Upon completion, students should be able to use the handbook in the calculation and set up of machine tools. This course is aligned with NIMS certification standards.

MTT 109 ORIENTATION TO COMPUTER ASSISTED MANUFACTURING FORMERLY: MTT 242 (2T, 2E) 3 credits
PREREQUISITE: MTT 126, MTT 139, or Permission of Instructor
This course is preparation for the more advanced CAM courses. Emphasis is placed on computer parts and accessories, DOS fundamentals, file management, graphics programming, and standard (CAM) machine codes. Upon completion, students should be able to apply basic computer functions to machine tool projects.

MTT 126 BLUEPRINT READING FOR MACHINISTS FORMERLY MTT 121 (3T) 3 credits
PREREQUISITES: Permission of Instructor
This course covers the basic principles of blueprint reading and sketching. Topics include multiview drawings; interpretation of conventional lines; and dimensions, notes, and thread notations. Upon completion, students should be able to interpret basic drawings, visualize parts, and make pictorial sketches. This is a CORE course and is aligned with NIMS certification standards.

MTT 127 METROLOGY FORMERLY MTT 131 (2T, 2E) 3 credits
PREREQUISITES: MTT 126 and MTT 128 or Permission of Instructor
This course introduces the use of precision measuring instruments. Emphasis is placed on the inspection of machine parts and use of a wide variety of measuring instruments. Upon completion, students should be able to demonstrate correct use of measuring instruments. This is a CORE course and is aligned with NIMS certification standards.

MTT 128 GEOMETRIC DIMENSIONING & TOLERANCING I FORMERLY MTT 143 (3T) 3 credits
PREREQUISITES: MTT 126 or Permission of Instructor
This course is designed to teach students how to interpret engineering drawings using modern conventions, and symbols, datums, datum targets and projected tolerance zones. These new methods are extremely useful for the specification of precise information on engineering drawings but cannot be used to exclude the traditional methods of coordinate dimensions and tolerances. This course is aligned with NIMS certification standards.

MTT 129 LATHE OPERATIONS FORMERLY MTT 105 (2T, 8E) 6 credits
PREREQUISITES: MTT 149 and MTT 150 or Permission of Instructor
This course includes more advanced lathe practices such as taper turning, threading, boring, and set-up procedures. Emphasis is placed on safety procedures

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and the machinist responsibility in the set-up and operation of lathes. Upon completion, students should be able to apply lathe techniques to produce tool projects. This course is aligned with NIMS certification standards.

**MTT 136 MILLING OPERATIONS
FORMERLY MTT 106
(2T, 8E) 6 credits
PREREQUISITES: MTT 149 and MTT 107 or
Permission of Instructor**

This course provides basic knowledge of milling machines. Emphasis is placed on types of milling machines and their uses, cutting speed, feed calculations, and set-up procedures. Upon completion, students should be able to apply milling techniques to produce machine tool projects. This course is aligned with NIMS certification standards.

**MTT 139 INTRODUCTION TO COMPUTER NUMERICAL CONTROL
FORMERLY MTT 217
(2T, 2E) 3 credits
PREREQUISITES: Permission of Instructor**

This course introduces the concepts and capabilities of computer numeric control machine tools. Topics include setup, operation, and basic applications. Upon completion, students should be able to explain operator safety, machine protection, data input, program preparation, and program storage. This course is aligned with NIMS certification standards.

**MTT 140 BASIC COMPUTER NUMERICAL CONTROL TURNING I
FORMERLY MTT 214
(1T, 4E) 3 credits
PREREQUISITES: MTT 126, MTT 129, MTT 139 or
Permission of Instructor**

This course introduces the programming, setup, and operation of CNC turning centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC turning centers. This course is aligned with NIMS certification standards.

**MTT 141 BASIC COMPUTER NUMERICAL CONTROL MILLING I
FORMERLY MTT 215
(1T, 4E) 3 credits
PREREQUISITES: MTT 126, MTT 136, MTT 139 or
Permission of Instructor**

This course introduces the programming, setup, and operation of CNC turning centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC milling techniques. This course is aligned with NIMS certification standards.

**MTT 142 ADVANCED MACHINING
CALCULATIONS (2T) 2 credits
PREREQUISITE: MTT 104**

This course combines mathematical functions with practical machine shop applications and problems. Emphasis is placed on gear ratios, lead screws, indexing problems, and their applications in the machine shop. Upon completion, students should be able to calculate solutions to machining problems.

**MTT 144 ELECTRIC DISCHARGE MACHINING I
FORMERLY MTT 200
(1T, 4E) 3 credits
PREREQUISITES: MTT 109, MTT 126, MTT 139 or
Permission of Instructor**

This course introduces the student to the concepts of Electrical Discharge Machining (EDM) and the importance of EDM in an industrial setting. Emphasis is placed on safety procedures and machinist responsibility in the setup and operation of EDM machines and electrode manufacturing. Upon completion, students should be able to produce basic machine products. This course is aligned with NIMS certification standards.

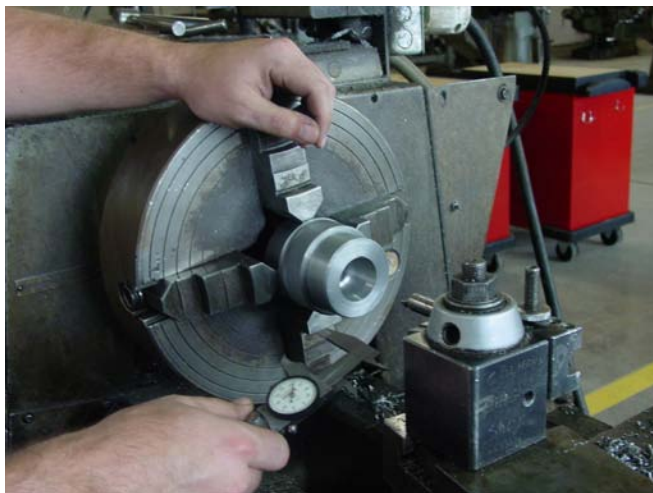
**MTT 146 PRECISION GRINDING MACHINES I
FORMERLY MTT 201
(2T, 8E) 6 credits
PREREQUISITES: MTT 136 or Permission of
Instructor**

This course is the study of precision grinding machines and their operations. The course will also focus on the different types of grinding machines, different setup procedures, grinding wheel characteristics and selection, and surface finish requirements and characteristics. This course is aligned with NIMS certification standards.

**MTT 147 INTRODUCTION TO MACHINE SHOP I
FORMERLY MTT 101
(2T, 2E) 3 credits
PREREQUISITE: Permission of Instructor
COREQUISITE: MTT 148**

This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, drilling machines, saws, milling machines, bench grinders, and layout instruments. Upon completion, students will be able to perform the basic operations of measuring, layout, drilling, sawing, turning, and milling. This is a CORE course and taught in conjunction with MTT 148.

COURSE DESCRIPTIONS



MTT 148	<p>INTRODUCTION TO MACHINE SHOP I LAB (6E) 3 credits PREREQUISITE: Permission of Instructor COREQUISITE: MTT 147</p> <p>This course provides practical application of the concepts and principles of machining operations learned in MTT 147. Topics include machine shop safety, measuring tools, lathes, drilling machines, saws, milling machines, bench grinders, and layout instruments. Upon completion, students will be able to perform the basic operations of measuring, layout, drilling, sawing, turning, and milling. This is a CORE course and is taught in conjunction with MTT 147.</p>	MTT 213	<p>ADVANCED COMPUTER NUMERICAL CONTROL MILLING FORMERLY CNC 213 3 credits (1T, 4E) PREREQUISITES: MTT 141 or Permission of Instructor</p> <p>This course covers advanced methods in setup and operation of CNC machining centers. Emphasis is placed on programming and production of complex parts. Upon completion, students should be able to demonstrate skills in programming, operations, and setup of CNC machining centers.</p>
MTT 149	<p>INTRODUCTION TO MACHINE SHOP II FORMERLY MTT 102 3 credits (2T, 2E) PREREQUISITE: MTT 147 and MTT 148 or Permission of Instructor COREQUISITE: MTT 150</p> <p>This course provides additional instruction and practice in the use of measuring tools, lathers, milling machines, and grinders. Emphasis is place on setup and operation of machine tools including the selection of work holding devices, speeds, feeds, cutting tools and coolants. Upon completion, students should be able to perform basic procedures of precision grinding and advanced operations of measuring, layout, drilling, sawing turning and milling. This is a CORE course and taught in conjunction with MTT 150.</p>	MTT 214	<p>COMPUTER NUMERICAL CONTROL GRAPHICS PROGRAMMING TURNING (3T, 6M) 3 credits PREREQUISITE: MTT 105, CNC 111, CNC 115</p> <p>This course introduces Computer Numerical Control graphics programming and concepts for turning center applications. Emphasis is placed on the interaction of menus to develop a shape file in a graphics CAM system to develop tool path geometry and part geometry. Upon completion, students should be able to develop a job plan using CAM software, include machine selection, tool selection, operational sequence, speed, feed, and cutting depth.</p>
MTT 150	<p>INTRODUCTION TO MACHINE SHOP II LAB (6E), 3 credits PREREQUISITE: MTT 147 and MTT 148 or Permission of Instructor COREQUISITE: MTT 149</p> <p>This course provides additional instruction and practice in the use of measuring tools, lathers, milling machines, and grinders. Emphasis is placed on setup and operation of machine tools including the selection of work holding devices, speeds, feeds, cutting tools and coolants. Upon completion, students should be able to perform basic procedures of precision grinding and advanced operations of measuring, layout, drilling, sawing turning and milling. This is a CORE course and taught in conjunction with MTT 149.</p>	MTT 218	<p>COMPUTER INTEGRATED MANUFACTURING (CIM) (2T, 2E) 3 credits PREREQUISITES: MTT 219, MTT 220 or Permission of Instructor</p> <p>This course covers standard CIM processes. This course provides the opportunity for hands-on training using the equipment available at the laboratory. Students will operate a robot and set-up a manufacturing cell.</p>
MTT 150	<p>INTRODUCTION TO MACHINE SHOP II LAB (6E), 3 credits PREREQUISITE: MTT 147 and MTT 148 or Permission of Instructor COREQUISITE: MTT 149</p> <p>This course provides additional instruction and practice in the use of measuring tools, lathers, milling machines, and grinders. Emphasis is placed on setup and operation of machine tools including the selection of work holding devices, speeds, feeds, cutting tools and coolants. Upon completion, students should be able to perform basic procedures of precision grinding and advanced operations of measuring, layout, drilling, sawing turning and milling. This is a CORE course and taught in conjunction with MTT 149.</p>	MTT 219	<p>COMPUTER NUMERICAL CONTROL GRAPHICS: TURNING FORMERLY CNC 222 3 credits (1T, 4E) PREREQUISITES: MTT 109 or Permission of Instructor</p> <p>This course introduces computer numerical control graphics programming and concepts for turning center applications. Emphasis is placed on the interaction of menus to develop a shape file in a graphics cam system and to develop tool path geometry and part geometry. Upon completion, students should be able to develop a job plan using CAM software, include machine selection, tool selection, operational sequence, speed, feed, and cutting depth. This course is aligned with NIMS certification standards.</p>
MTT 212	<p>ADVANCED COMPUTER NUMERICAL CONTROL TURNING FORMERLY CNC 212 3 credits (1T, 4E) PREREQUISITES: MTT 140 or Permission of Instructor</p> <p>This course covers advanced methods in setup and operation of CNC turning centers. Emphasis is placed on programming and production of complex parts. Upon completion, students should be able to demonstrate skills in programming, operations, and setup of CNC turning centers.</p>	MTT 220	<p>COMPUTER NUMERICAL CONTROL GRAPHICS: MILLING FORMERLY CNC 223 3 credits (1T, 4E) PREREQUISITES: MTT 219 or Permission of Instructor</p> <p>This course introduces computer numerical control graphics programming and concepts for machining center applications. Emphasis is placed on developing</p>

Course Descriptions

a shape file in a graphics cam system and transferring coded information from CAM graphics to the CNC milling center. Upon completion, should be able to develop a job plan using CAM software to create a multi axis CNC program. This course is aligned with NIMS certification standards.

**MTT 235 CNC MILLING LAB I
FORMERLY CNC 113
(6E) 3 credits**
PREREQUISITE: MTT 213 or Permission of Instructor
Student applies CNC principles of operation and programming to transfer blueprints to the computer which controls machine operations.

**MTT 236 CNC MILLING LAB II
FORMERLY CNC 181
(6E) 3 credits**
PREREQUISITES: MTT 235 or Permission of Instructor
Student applies advanced CNC principles of operation and programming to transfer blueprints to the computer which controls machine operations.

**MTT 243 CNC PROGRAMMING LAB I
FORMERLY CNC 112
(6E) 3 credits**
PREREQUISITE: MTT 212 or Permission of Instructor
Practical application of the principles of CNC operations to produce metal parts, determine proper speeds and feeds, and to describe the "G" codes and their application. Students manually set-up and operate the milling machine and write programs for straight milling, radius cutting, drilling, tapping, boring, and auto-routines.

**MTT 244 CNC PROGRAMMING LAB II
FORMERLY CNC 230
(6E) 3 credits**
PREREQUISITE: MTT 243 or Permission of Instructor
Advanced application of the principles of CNC operations to produce metal parts, determine proper speeds and feeds, and to describe the "G" codes and their application. Students manually set-up and operate the milling machine and write the programs for straight milling, radius cutting, drilling, tapping, boring, and auto-routines.

**MTT 281 SPECIAL TOPICS IN MACHINE TOOL TECHNOLOGY
FORMERLY CNC 211
(1T, 4E) 3 credits**
PREREQUISITE: MTT 244 or Permission of Instructor
This course is a guided independent study of special projects in machine tool technology. Emphasis is placed on student needs. Upon completion, students should be able to demonstrate skills developed to meet specific needs.

MASS COMMUNICATIONS (MCM)

**MCM 113, 114, 115 STUDENT PUBLICATIONS
(2-4E) 1-2 credits each**
These courses offer practical experience in journalism skills through working on the staff of the student publications.

MCM 130 NEWS REPORTING (3E) 3 credits
PREREQUISITE: Typing ability.
This course includes instruction and practice in news-gathering and newswriting techniques including methodology, observation, interviews, and use of sources.

**MCM 213, 214, 215 STUDENT PUBLICATIONS
(2-4E) 1-2 credits each**
These courses offer practical experience in journalism skills through working on the staff of the student publications.

**MCM 250 MASS COMMUNICATIONS PRACTICUM
(3T) 3 credits**
This course provides practical experience in media through supervised part or full-time employment with a newspaper, radio or television station, or public relations/advertising agency.

MATHEMATICS (MTH)

MATHEMATICS COURSE NUMBERS DO NOT NECESSARILY REFLECT THE DIFFICULTY OF THE COURSE.

MTH 080 MATHEMATICS LABORATORY (1T) 1 credit
PREREQUISITE: As required by program
This course is designed to offer supplemental help to students in mathematics. Students work in a laboratory situation under qualified instructors. This course may be repeated as needed. Emphasis is on arithmetic and algebra as determined by the individual need of the students.

MTH 090 BASIC MATHEMATICS (3T) 3 credits
PREREQUISITE: None
This is a developmental course reviewing arithmetical principles and computations designed to help the student's mathematical proficiency for selected curriculum entrance.

**MTH 091-092 DEVELOPMENTAL ALGEBRA I AND II
(3T) 3 credits each**
PREREQUISITE: A grade of "C" or better in MTH 090 or appropriate mathematics placement score. (Placement score will determine where student begins in sequence.)
This sequence of developmental courses provides the student with a review of arithmetic and algebraic skills designed to provide sufficient mathematical proficiency necessary for entry into Intermediate College Algebra.

MTH 098 ELEMENTARY ALGEBRA (4T) 4 credits
PREREQUISITE: A grade of "C" or better in MTH 090 (Basic Mathematics) or appropriate mathematics placement score

This course is a review of the fundamental arithmetic and algebra operations. The topics include the numbers of ordinary arithmetic and their properties; integers and rational numbers; the solving of equations; polynomials and factoring; and an introduction to systems of equations and graphs.

MTH 100 INTERMEDIATE COLLEGE ALGEBRA (3T) 3 credits
PREREQUISITE: A grade of "C" or better in MTH 092 (Developmental Algebra II) or MTH 098 (Elementary Algebra) or appropriate mathematics placement score

This course provides a study of algebraic techniques such as linear equations and inequalities, quadratic equations, systems of equations, and operations with exponents and radicals. Functions and relations are introduced and graphed with special emphasis on linear and quadratic functions. This course does not apply toward the general core requirement for mathematics for AS degrees.

MTH 103 INTRODUCTION TO TECHNICAL MATHEMATICS (3T) 3 credits
PREREQUISITE: A grade of "C" or better in MTH 092 (Developmental Algebra II) or MTH 098 (Elementary Algebra) or appropriate mathematics placement score

This course is designed for the student in technology needing simple arithmetic, algebraic, and right triangle trigonometric skills.

MTH 104 PLANE TRIGONOMETRY (3T) 3 credits
PREREQUISITE: A grade of "C" or better in MTH 100 (Intermediate College Algebra)

This course emphasizes such topics as the solution of triangles, vectors, geometric concepts and complex numbers.

MTH 110 FINITE MATHEMATICS (3T) 3 credits
PREREQUISITE: A minimum prerequisite of high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score. An alternative to this is that the student should successfully pass with a "C" or higher (S if taken as pass/fail) MTH 100 - Intermediate College Algebra

This course is intended to give an overview of topics in finite mathematics together with their applications, and is taken primarily by students who are not majoring in science, engineering, commerce or mathematics (i.e., students who are not required to take Calculus). This course will draw on and significantly enhance the student's arithmetic and algebraic skills. The course includes sets, counting, permutations, combinations, basic probability (including Bayes' Theorem), and introduction to statistics (including work with Binomial Distributions and Normal Distributions), matrices and their applications to Markov chains and decision theo-

ry. Additional topics may include symbolic logic, linear models, linear programming, the simplex method and applications.

MTH 112 PRECALCULUS ALGEBRA (3T) 3 credits
PREREQUISITE: A minimum prerequisite of high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score. An alternative to this is that the student should successfully pass with a "C" or higher (S if taken as pass/fail) MTH 100- Intermediate College Algebra.

This course emphasizes the algebra of functions—including polynomial, rational, exponential, and logarithmic functions. The course also covers systems of equations and inequalities, quadratic inequalities, and the binomial theorem. Additional topics may include matrices, Cramer's Rule, and mathematical induction.

MTH 113 PRECALCULUS TRIGONOMETRY (3T) 3 credits
PREREQUISITE: A minimum prerequisite of high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score is required. An alternative to this is that the student should successfully pass with a "C" or higher (S if taken as a pass/fail) MTH 112-Precalculus Algebra

This course includes the study of trigonometric (circular functions) and inverse trigonometric functions, and includes extensive work with trigonometric identities and trigonometric equations. The course also covers vectors, complex numbers, DeMoivre's Theorem, and polar coordinates. Additional topics may include conic sections, sequences, and using matrices to solve linear systems.

MTH 115 PRECALCULUS ALGEBRA & TRIGONOMETRY (4T) 4 credits
PREREQUISITE: A minimum prerequisite of high school Algebra I, Geometry, and Algebra II, with an appropriate mathematics placement score is required. An alternative to this is that the student should successfully pass with a "C" or higher (S if taken as pass/fail) MTH 100 (Intermediate College Algebra) and receive permission from the department chairperson.

This course is a one-semester combination of Precalculus Algebra and Precalculus Trigonometry intended for superior students. The course covers the following topics: the algebra of functions (including polynomial, rational, exponential, and logarithmic functions), systems of equations and inequalities, quadratic inequalities, and the binomial theorem, as well as the study of trigonometric (circular functions) and inverse trigonometric functions, and includes extensive work with trigonometric identities and trigonometric equations, vectors, complex numbers, DeMoivre's Theorem, and polar coordinates.

MTH 116 MATHEMATICAL APPLICATIONS (3T) 3 credits
PREREQUISITE: MTH 090 (Basic Mathematics) or appropriate mathematics placement score

This course provides practical applications of mathematics and includes selected topics from consumer

Course Descriptions

math and algebra. Some topics included are integers, percent, interest, ratio and proportion, metric system, probability, linear equations, and problem solving. This is a terminal course designed for students seeking an AAS degree and does not meet the general core requirement for mathematics for AS degrees.

MTH 117 COLLEGE MATHEMATICS WITH APPLICATIONS (3T) 3 credits
PREREQUISITE: MTH 092 or MTH 098 or appropriate placement score.

This is an applied course designed to meet mathematics requirements for some students in certificate and two-year terminal programs. Emphasis is placed on percent, interest, proportions, functions, graphing, systems of equations, logarithmic and exponential functions, quadratics, and linear programming as used to solve applied problems in selected programs of study. This course does not meet the general core requirement for mathematics.

MTH 118 TECHNICAL MATHEMATICS (3T) 3 credits
PREREQUISITE: MTH 100 or appropriate mathematics placement score.

This course includes selected topics from algebra, analytic geometry, and trigonometry with emphasis on applications to engineering technology. Topics may include variation, determinants, conic sections, exponential and logarithmic functions, and solutions of right triangles. This course does not apply toward the general core requirement for mathematics.

MTH 120 CALCULUS AND ITS APPLICATIONS (3T) 3 credits
PREREQUISITE: A minimum prerequisite of high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score is required. An alternative to this is that the student should successfully pass with a "C" or higher MTH 112-Precalculus Algebra.

This course is intended to give a broad overview of calculus and is taken primarily by students majoring in Commerce and Business Administration. It includes differentiation and integration of algebraic, exponential, and logarithmic functions and applications to business and economics. The course should include functions of several variables, partial derivatives (including applications), Lagrange Multipliers, L'Hopital's Rule, and multiple integration (including applications).

MTH 125 CALCULUS I (4T) 4 credits
PREREQUISITE: A minimum prerequisite of high school Algebra I, Geometry and Algebra II with an appropriate mathematics placement score is required. An alternative to this is that the student should successfully pass with a "C" or higher MTH 113 (Precalculus Trigonometry) or MTH 115 (Precalculus Algebra & Trigonometry).

This is the first of three courses in the basic calculus sequence taken primarily by students in science, engineering, and mathematics. Topics include the limit of a function; the derivative of algebraic, trigonometric, exponential, and logarithmic functions; and the defi-

nite integral and its basic applications to area problems. Applications of the derivative are covered in detail, including approximations of error using differentials, maximum and minimum problems, and curve sketching using calculus.

MTH 126 CALCULUS II (4T) 4 credits
PREREQUISITE: MTH 125 (Calculus I)

This is the second of three courses in the basic calculus sequence. Topics include vectors in the plane and in space, lines and planes in space, applications of integration (such as volume, arc length, work and average value), techniques of integration, infinite series, polar coordinates, and parametric equations.

MTH 227 CALCULUS III (4T) 4 credits
PREREQUISITE: MTH 126 (Calculus II)

This is the third of three courses in the basic calculus sequence. Topics include vector functions, functions of two or more variables, partial derivatives (including applications), quadratic surfaces, multiple integration, and vector calculus (including Green's Theorem, Curl and Divergence, surface integrals, and Stokes' Theorem).

MTH 231 MATHEMATICS FOR THE ELEMENTARY TEACHER I (3T) 3 credits
PREREQUISITE: MTH 090 (Basic Mathematics)

This course is designed to provide appropriate insights into mathematics for students majoring in elementary education and to ensure that students going into elementary education are more than proficient at performing basic arithmetic operations. Topics include logic, sets and functions, operations and properties of whole numbers and integers including number theory, and use of manipulatives by teachers to demonstrate abstract concepts and by students while learning these abstract concepts as emphasized in the class. Upon completion, students are required to demonstrate proficiency in each topic studied as well as to learn teaching techniques that are grade level and subject matter appropriate, and test for mathematical proficiency and the learning of teaching concepts.

MTH 232 MATHEMATICS FOR THE ELEMENTARY TEACHER II (3T) 3 credits
PREREQUISITE: MTH 231 (Mathematics for the Elementary Teacher I)

This course is the second of a three-course sequence and is designed to provide appropriate insights into mathematics for students majoring in elementary education and to ensure that students going into elementary education are more than proficient at performing basic arithmetic operations. Topics include numeration skills with fractions, decimals and percentages, elementary concepts of probability and statistics, and analytic geometry concepts associated with linear equations and inequalities. The use of manipulatives and calculators in the teaching and learning process is stressed. Upon completion, students will test for mathematical proficiency and the learning of teaching concepts. Students also will

demonstrate an appropriate teaching technique by preparing a lesson and teaching it to the class for their final exam grade.

MTH 237 LINEAR ALGEBRA (3T) 3 credits
PREREQUISITE: MTH 126 (Calculus II)
This course introduces the basic theory of linear equations and matrices, real vector spaces, bases and dimension, linear transformations and matrices, determinants, eigenvalues and eigenvectors, inner product spaces, and the diagonalization of symmetric matrices. Additional topics may include quadratic forms and the use of matrix methods to solve systems of linear differential equations.

MTH 238 APPLIED DIFFERENTIAL EQUATIONS I (3T) 3 credits
COREQUISITE: MTH 227 (Calculus III)
An introduction to numerical methods, qualitative behavior of first order differential equations, techniques for solving separable and linear equations analytically, and applications to various models (e.g. populations, motion, chemical mixtures, etc.); techniques for solving higher order linear differential equations with constant coefficients (general theory, undetermined coefficients, reduction of order and the method of variation of parameters), with emphasis on interpreting the behavior of solutions, and applications to physical models whose governing equations are of higher order; the Laplace transform as a tool for the solution of initial value problems whose inhomogeneous terms are discontinuous.

MTH 265 ELEMENTARY STATISTICS (3T) 3 credits
PREREQUISITE: MTH 100 (Intermediate College Algebra) or appropriate mathematics placement score
This course provides an introduction to methods of statistics, including the following topics: sampling, frequency distributions, measures of central tendency, graphic representation, reliability, hypothesis testing, confidence intervals, analysis, regression, estimation, and applications. Probability, permutations, combinations, binomial theorem, random variables, and distributions may be included.

MUSIC (MUL) (MUP) (MUS)

MUL 192-193A PIANO ENSEMBLE (2-4E) 1 credit
MUL 292-293A PREREQUISITE: Audition and Permission of instructor
This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Performances are assigned.

MUL 101-02 CLASS PIANO I, II (2E) 1 credit each
These courses, to be taken in sequence, present fundamentals of keyboard technique for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and

general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in playing and a knowledge of music fundamentals.

MUL 111-12 CLASS VOICE I, II, III, IV (2E) 1 credit each
MUL 211-12
These courses must be taken in sequence. Emphasis is placed on fundamentals of correct breathing, tone production, and diction for students with little or no previous voice training. Literature appropriate for class level is studied. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing and a knowledge of music fundamentals. A minimum grade of "C" is required to progress to next level.

MUL 161-63 CLASS FRETTED INSTRUMENTS I, II, III (2E) 1 credit each
These courses must be taken in sequence. These courses include basic techniques, chords, scales, fingering, rhythm, strumming, and playing simple melodies. They are designed for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in playing and a knowledge of music fundamentals.

MUL 180-81 CHORALE (2-4E) 1-2 credits
MUL 280-81 PREREQUISITE: Permission of instructor
These courses are selected performing ensembles open to all students. Chorale is required for voice majors and minors. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Performances are assigned.

MUL 182-83 MADRIGAL SINGERS (2-4E) 1-2 credits
MUL 282-83 PREREQUISITE: Permission of instructor and audition
This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. This course is a select a cappella performing ensemble. Enrollment is limited. Performances are assigned.

MUL 184-85 CONNECTION (2-4E) 1-2 credits
MUL 284-85 PREREQUISITE: Permission of instructor and audition
This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by ensemble. Performances are assigned.

MUL 192-93B GUITAR ENSEMBLE (2-4E) 1-2 credits
MUL 292-93B PREREQUISITE: Permission of instructor
This course provides ensemble experience for guitar students in playing standard literature and arrange-

Course Descriptions

ments and transcriptions for classical technique. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Performances are assigned. This course is open to all students and is required for guitar majors.

MUL 196-97 JAZZ BAND (2-4E) 1-2 credits
MUL 296-97 PREREQUISITE: Permission of instructor

This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. Performances are assigned.

MUP 101 PIANO (0.5-1E) 1-2 credits
102, 201 PREREQUISITE: MUL 101, 102 or Permission of instructor
202

Individual study, minimum grade of "B" is required to progress to next level. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. At the conclusion of the last semester of study, a sophomore recital is required.

MUP 103 ORGAN (0.5-1E) 1-2 credits
104, 203, 204

Individual study, minimum grade of "B" is required to progress to next level. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. At the conclusion of the last semester of study, a sophomore recital is required.

MUP 111 VOICE (0.5-1E) 1-2 credits
112, 211 PREREQUISITE: MUL 111
212

Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.

MUP 133 GUITAR (0.5-1E) 1-2 credits
134, 233 PREREQUISITE: MUL 161, 162
234

Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum

of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. Minimum grade of "B" is required to progress to the next level.

MUP 141 FLUTE (0.5 – 1E) 1-2 credits
142, 241 242

Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. Minimum grade of "B" is required to progress to the next level.

MUP 143 CLARINET (0.5 – 1E) 1-2 credits
144, 243 244

Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.

MUP 145 CLARINET (0.5 – 1E) 1-2 credits
146, 245 246

Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.

MUP 151 OBOE (0.5 – 1E) 1-2 credits
152, 251 252

Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.

MUP 153 BASSOON (0.5 – 1E) 1-2 credits
154, 253, 254

Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.

MUP 161 TRUMPET (0.5 – 1E) 1-2 credits
162, 261 262

Individual instruction to include the study of standard literature and technique. Emphasis is placed on

developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.

MUP 163
164, 263
264

FRENCH HORN (0.5 – 1E) 1-2 credits
Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.

MUP 171
172, 271
272

TROMBONE (0.5 – 1E) 1-2 credits
Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.

MUP 173
174, 273
274

EUPONIUM (0.5 – 1E) 1-2 credits
Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.

MUP 175
176, 275
276

TUBA (0.5 – 1E) 1-2 credits
Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.

MUP 181
182, 281,
282

PERCUSSION (0.5-1E) 1-2 credits
Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.

MUS 101

MUSIC APPRECIATION (3T) 3 credits
This course is designed for non-music majors and requires no previous musical experience. It is a survey course that incorporates several modes of instruction including lecture, guided listening, and similar experiences involving music. The course will cover a minimum of three (3) stylistic periods, provide a multi-cultural perspective, and include both vocal and instrumental genres. Upon completion, students should be able to demonstrate a knowledge of music fundamentals, the aesthetic/stylistic characteristics of historical periods, and an aural perception of style and structure in music. This course is offered in a telecourse, self-paced and lecture format.

MUS 103

SURVEY OF POPULAR MUSIC (1-2T) 1-2 credits
This course provides a study of the origins, development and existing styles of popular music. Topics include ragtime, jazz, rhythm and blues, rock, country and western, folk and world music. Upon completion, students should be able to demonstrate a knowledge, understanding and an aural perception of the stylistic characteristics of popular music. This course is offered in a self-paced and lecture format.

MUS 105

READING/LISTENING IN MUSIC APPRECIATION (1T) 1 credit
This course is an independent study reading and listening course in which the student will become familiar with selected musical works and eras. The student will meet periodically with the instructor to discuss or assess assigned materials.

MUS 110

BASIC MUSICIANSHIP (3T) 3 credits
This course is designed to provide rudimentary music knowledge and skills for the student with a limited music background. Topics include a study of notation, rhythm, scales, keys, intervals, chords and basic sight singing and ear training skills. Upon completion, students should be able to read and understand musical scores and demonstrate basic sight singing and ear training skills for rhythm, melody and harmony. Required for music majors or acceptable score on placement test (75%).

MUS 111

MUSIC THEORY I (3T) 3 credits
PREREQUISITE: Minimum grade of "C" in MUS 110 or acceptable score on placement test (75%)
COREQUISITE: MUS 113
This course introduces the student to the diatonic harmonic practices in the Common Practice Period. Topics include fundamental musical materials (rhythm, pitch, scales, intervals, diatonic harmonies) and an introduction to the principles of voice leading and harmonic progression. Upon completion, students should be able to demonstrate a basic competency using diatonic harmony through analysis, writing, sight singing, dictation and keyboard skills. Open lab required. Spring; Decatur campus.

MUS 112

MUSIC THEORY II (3T) 3 credits
PREREQUISITE: Minimum grade of "C" in MUS 111
COREQUISITE: MUS 114
This course completes the study of diatonic harmonic

Course Descriptions

COURSE DESCRIPTIONS

- practices in the Common Practice Period and introduces simple musical forms. Topics include principles of voice leading used in three- and four- part triadic harmony and diatonic seventh chords, non-chord tones, cadences, phrases and periods. Upon completion, students should be able to demonstrate competence using diatonic harmony through analysis, writing, sight singing, dictation and keyboard skills. Open lab required. Fall; Decatur campus.
- MUS 113** **MUSIC THEORY LAB I (1E)** **1 credit**
PREREQUISITE: MUS 110 or suitable placement score or permission of instructor
COREQUISITE: MUS 111
 This course provides the practical application of basic musical materials through sight singing; melodic, harmonic and rhythmic dictation; and keyboard harmony. Topics include intervals, simple triads, diatonic stepwise melodies, basic rhythmic patterns in simple and compound meter and four-part triadic progressions in root position. Upon completion, students should be able to write, sing and play intervals, scales, basic rhythmic patterns, diatonic stepwise melodies, simple triads and short four-part progressions in root position. Spring; Decatur campus.
- MUS 114** **MUSIC THEORY LAB II (1E)** **1 credit**
PREREQUISITE: MUS 113
COREQUISITE: MUS 112
 This course continues the practical application of diatonic musical materials through sight singing; melodic, harmonic and rhythmic dictation; and keyboard harmony. Topics include intervals, scales, diatonic melodies with triadic arpeggiations, more complex rhythmic patterns in simple and compound meter and four-part diatonic progressions in all inversions. Upon completion, students should be able to write, sing and play all intervals, rhythmic patterns employing syncopations and beat divisions, diatonic melodies and four-part progressions. Fall; Decatur campus.
- MUS 211** **MUSIC THEORY III (3T)** **3 credits**
PREREQUISITE: Minimum grade of "C" in MUS 112
COREQUISITE: MUS 213
 This course introduces the student to the chromatic harmonic practices in the Common Practice Period. Topics include secondary functions, modulatory techniques, and binary and ternary forms. Upon completion, students should be able to demonstrate competence using chromatic harmony through analysis, writing, sight singing, dictation and keyboard skills. Open lab required. Spring; Decatur campus.
- MUS 213** **MUSIC THEORY LAB III (1E)** **1 credit**
PREREQUISITE: MUS 114
COREQUISITE: MUS 211
 This course provides the practical application of chromatic musical materials through sight singing; melodic, harmonic and rhythmic dictation; and keyboard harmony. Topics include melodies with simple modulations, complex rhythms in simple and compound meter, and secondary function chords. Upon completion, students should be able to write, sing and play
- modulating melodies, rhythmic patterns with beat subdivisions and four-part chromatic harmony. Spring; Decatur campus.
- MUS 251** **INTRODUCTION TO CONDUCTING (3T)** **3 credits**
PREREQUISITE: MUS 110 or acceptable score on placement test (75%)
 This course introduces the fundamentals of conducting choral and/or instrumental ensembles. Topics include a study of simple and compound meters, score reading and techniques for conducting effective rehearsals. Upon completion, students should be able to prepare and conduct a choral and/or instrumental score in a rehearsal or performance setting.
- MUS 270** **ORGANIZATION OF THE CHURCH MUSIC PROGRAM (2-3T)** **2-3 credits**
 This course is designed to explore administrative models of a comprehensive church music program. Topics include leadership, administrative structure, music personnel, facilities, equipment, vestments, music library, budgeting, planning, vocal and instrumental ensembles and scheduling for a music program. Upon completion, students should be able to demonstrate how to plan, coordinate and administer a comprehensive church music program.
- MUS 271** **CHURCH MUSIC LITERATURE (2-3T)** **2-3 credits**
 This course provides an historic survey of traditional church music from the 17th century to the present and introduces contemporary Christian styles. Topics include criteria for choosing appropriate music for graded church choirs at easy, medium and advanced levels of difficulty, and a survey of publishing resources and cataloging systems. Upon completion, students should be able to demonstrate a knowledge and understanding of church music literature.
- MUS 272** **THE CHILDREN'S CHOIR (2-3T)** **2-3 credits**
 This course is designed to provide techniques for working with the child's voice in a choral setting. Topics include working with children's voices, rehearsal techniques, selecting literature, vestments and organizing a graded choir program. Upon completion, students should be able to demonstrate how to plan, coordinate and administer a graded choir program in a church.
- MUS 290** **INTRODUCTION TO COMMERCIAL MUSIC (2-3T)** **2-3 credits**
 This course provides an introduction to the commercial music industry and the types of careers in commercial music. Topics include music publishing, recording, contracts, agents and managers, copyrights, unions, music companies and dealers. Upon completion, students should be able to demonstrate a basic knowledge and understanding of the different components of the commercial music industry and the various career options.

MUS 291 MUSICAL ACOUSTICS (2-3T) 2-3 credits
PREREQUISITE: Permission of instructor
 This course is designed to acquaint the student with the nature of musical acoustics and the science of sound. Topics include terminology, symbols, the nature and transmission of sound, vibration, frequency, pitch, intervals, harmonies, resonance, consonance and dissonance. Upon completion, students should be able to demonstrate an understanding of the basic skills and concepts through the successful presentation of an individual project in musical acoustics.

MUS 292 SONG WRITING (3T) 3 credits
PREREQUISITE: As required by program
 This course provides an introduction to song writing and marketing techniques. Topics include lyric writing, song structures, preparing a lead sheet, notation, rhythmic and melodic dictation, key signatures, basic chord structures, recording, basic copyright laws and publishing. Upon completion, students should be able to compose a song, prepare a lead sheet and demo tape, apply for a copyright and market a song.

MUSIC INDUSTRY COMMUNICATIONS (MIC)

MIC 100 INTRODUCTION TO MASS COMMUNICATIONS 3 credits
 This course provides the student with general study of mass communications and journalism. This course includes theory, development, regulation, operation, and effects upon society. Upon completion of this class, students should be able to decide which field of mass communications on which to focus.

MIC 153 INTRODUCTION TO RECORDING TECHNOLOGY (3T) 3 credits
 This course is designed to acquaint the student with basic recording fundamentals. Emphasis is placed on microphone techniques, recording principals, musician and recording engineers' code. Upon completion, students should be able to do basic analog recordings.

MIC 201 PUBLISHING FOR THE RECORDING INDUSTRY (3T) 3 credits
 This course is an introduction to the operation and functions of publishing in the recording industry.

MIC 250 MASS COMMUNICATIONS PRACTICUM (3T) 3 credits
PREREQUISITE: MIC 153 or instructor approval
 This course provides practical experience in media through supervised part- or full-time employment with a newspaper, radio or television station, recording studio, or public relations/advertising agency. Upon completion, students should be able to receive employment based on demonstration of their skills in their subject area.

MIC 251 RECORDING STUDIO PRODUCTION (3T) 3 credits
PREREQUISITE: MIC 153 or instructor approval
 This course is designed to acquaint the student with the functional roles of the commercial recording studio. Emphasis will be placed on studio production projects, and include a study of contracts, managers, agents, recording rights, copyright laws, unions, publishers, and music companies. Upon completion, students should be able to produce studio quality recordings and have an understanding of the music industry.

MIC 253 COMPUTER LITERACY FOR THE MUSICIAN I (3T) 3 credits
 This course is designed to teach musicians how to use computers for music writing, ear training, theory, and sequencing. Topics include an introduction to MIDI, sequencing, Master Tracks Pro, Studio 3.1 and 4.0, Cakewalk and Musicator. Upon completion, students should have an understanding of MIDI, Charting and Sequencing on the computer.

MIC 254 COMPUTER LITERACY FOR THE MUSICIAN II (3T) 3 credits
PREREQUISITE: MIC 253 or instructor approval
 This course is designed to teach advanced computer sequencing techniques. Emphasis is placed on projects and the use of computer sequencing software and hardware. Students should be able to sequence and perform advanced editing using MIDI.

MIC 255 DIGITAL RECORDING (3T) 3 credits
PREREQUISITE: MIC 253 or instructor approval
 This course is designed to teach Digital Recording using hard disk wave recording techniques. Emphasis is placed on projects and the use of Digital Recording software and hardware. Upon completion, students should be able to do recordings on the "Special Audio Engine" and other software with masters of digital quality.

MIC 293 MUSIC NOTATION (3T) 3 credits
PREREQUISITE: MIC 253 or instructor approval
 This course is designed to teach students the music program for charting and writing music. Emphasis will be placed on the use of the software program "FINALE". Upon completion, students should be able to chart and write music using industry standards.



Course Descriptions

NURSING (ADN/LPN)

NUR 101 BODY STRUCTURE AND FUNCTION (4T) 4 credits

PREREQUISITE: Admission to the program.

This course provides students with basic knowledge of the normal structure and function of the human body. Major content focuses on the interrelations among the organ systems and the relationship of each organ system to homeostasis. Medical terminology is integrated throughout course content. Upon completion of this course, students will be able to demonstrate basic knowledge of body systems, their interrelationships and associated medical terminology.

NUR 102 FUNDAMENTALS OF NURSING (3T, 2S/1C) 6 credits

PREREQUISITE: As required by program.

This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students learn concepts and theories basic to the art and science of nursing. The role of the nurse as a member of the healthcare team is emphasized. Students are introduced to the concepts of client needs, safety, communication, teaching/learning, critical thinking, ethical-legal, cultural diversity, nursing history, and the program's philosophy of nursing. Additionally, this course introduces psychomotor nursing skills needed to assist individuals in meeting basic human needs. Skills necessary for maintaining microbial, physical, and psychological safety are introduced along with skills needed in therapeutic interventions. At the conclusion of this course, students demonstrate competency in performing basic nursing skills for individuals with common health alterations.

NUR 103 HEALTH ASSESSMENT (1S) 1 credit

PREREQUISITE: As required by program.

This course is designed to provide students the opportunity to obtain a health history and perform a physical examination for individuals of all ages. The focus is on symptom analysis along with physical, psychosocial, and growth and development assessments. Students will be able to utilize critical thinking skills in identifying health alterations, formulating nursing diagnoses and documenting findings appropriate to nursing.

NUR 104 INTRODUCTION TO PHARMACOLOGY (1S) 1 credit

PREREQUISITE: As required by program.

This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. This course introduces students to basic principles of pharmacology and the knowledge necessary to safely administer medication. Course content includes legal implica-

tions, pharmacokinetics, pharmacodynamics, calculations of drug dosages, medication administration, and an overview of drug classifications. Students will be able to calculate and administer medications.

NUR 105 ADULT NURSING (5T, 1S/2C) 8 credits

PREREQUISITE: As required by program.

This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Emphasis is placed on providing care to individuals undergoing surgery, fluid and electrolyte imbalance, and common alterations in respiratory, musculoskeletal, gastrointestinal, cardiovascular, endocrine, and integumentary systems. Nutrition, pharmacology, communication, cultural, and community concepts are integrated.

NUR 106 MATERNAL AND CHILD NURSING (4T, 1C) 5 credits

PREREQUISITE: As required by program.

This course focuses on the role of the nurse in meeting the physiological, psychosocial, cultural and developmental needs of the maternal and child client. Course content includes antepartal, intrapartal, and postpartal care, complications of pregnancy, newborn care, human growth and development, pediatric care, and selected pediatric alterations. Nutrition, pharmacology, cultural diversity, use of technology, communication, anatomy and physiology review, medical terminology, critical thinking, and application of the nursing process are integrated throughout this course. Upon completion of this course, students will be able to provide and manage care for maternal and pediatric clients in a variety of settings.

NUR 107 ADULT/CHILD NURSING (5T, 3C) 8 credits

PREREQUISITE: As required by program.

This course provides students with opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process in a variety of settings. Emphasis is placed on providing care to individuals experiencing complex alterations in: sensory/perceptual, reproductive, endocrine, genitourinary, neurological, immune, cardiovascular, and lower gastrointestinal systems. Additional instruction is provided for care for clients experiencing burns, cancer, and emergent conditions. Impacts on maternal and child clients in relationship to nutrition, pharmacology, therapeutic communication, community, cultural diversity, health promotion, error prevention, and critical thinking are integrated throughout the course.

NUR 108 PSYCHOSOCIAL NURSING (2T, 1C) 3 credits

PREREQUISITE: As required by program.

This course is designed to provide an overview of psychosocial adaptation and coping concepts used when

caring for clients with acute and chronic alterations in mental health in a variety of settings. Topics include therapeutic communication skills, normal and abnormal behaviors, treatment modalities, and developmental needs. Upon completion of this course, students will demonstrate the ability to assist clients in maintaining psychosocial integrity through the use of the nursing process.

NUR 109 ROLE TRANSITION FOR THE PRACTICAL NURSE 3 credits
(2T, 1S)

PREREQUISITE: As required by program.
This course provides students with opportunities to gain knowledge and skills necessary to transition from student to practicing nurse. Content includes a discussion of current issues in health care, practical nursing leadership and management, professional practice issues, and transition into the workplace. Emphasis is placed on NCLEX-PN test-taking skills, computer-assisted simulations and practice tests, development of a prescriptive plan for remediation, and review of selective content, specific to the practice of practical nursing.

NSG 200 NURSING CAREER MOBILITY ASSESSMENT (3T, 3S) 6 credits

This course is designed to provide LPN mobility students self-directed opportunities to prepare for placement into the third semester of the ADN program. Emphasis is on assessment and validation of selected theory, process, and skills covered in NUR 102, 103, 104, 105, and 106. Upon successful completion of assessments, students are eligible for entry into NUR 201. Students who successfully complete this course are awarded 18 non-traditional hours at the completion of the LPN mobility curriculum.

NUR 201 NURSING THROUGH THE LIFESPAN (3T, 2C) 5 credits

PREREQUISITE: As required by program.
This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students manage and provide collaborative care to clients who are experiencing selected alterations in gastrointestinal, reproductive, sensory, and endocrine systems in a variety of settings. Additional instruction is provided for oncology, mental health, teaching/learning concepts, and advanced dosage calculations, nutrition, pharmacology, communication, cultural, and community concepts are integrated.

NUR 202 NURSING THROUGH THE LIFESPAN II (3T, 4C) 7 credits

PREREQUISITE: As required by program.
This course builds upon previous instruction and provides additional opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students manage and provide

NUR 203 NURSING THROUGH THE LIFESPAN III (4T, 2C) 6 credits

PREREQUISITE: As required by program.
This course builds upon previous instruction and provides additional opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students manage and provide collaborative care to clients who are experiencing selected alterations in cardiovascular, respiratory, and neurological systems in a variety of settings. Additional instruction is provided care for selected mental health disorders, selected emergencies, multiple organ dysfunction syndrome and related disorders. Teaching/learning concepts, advanced dosage calculations, nutrition, pharmacology, communication, cultural, and community concepts are integrated.

NUR 204 ROLE TRANSITION FOR THE REGISTERED NURSE (2T, 1C) 3 credits

PREREQUISITE: As required by program.
This course provides students with opportunities to gain knowledge and skills necessary to transition from student to registered nurse. Content includes current issues in health care, nursing leadership and management, professional practice issues for registered nurses, and transition into the workplace. Additional instruction is provided for preparing for the NCLEX-RN.



Course Descriptions

OFFICE ADMINISTRATION (OAD)

COURSE DESCRIPTIONS

- OAD 100 BASIC KEYBOARDING (1-3T) 1-3 credits**
This course is designed to enable the student to develop touch keyboarding skills for efficient use of the typewriter or microcomputer through classroom instruction and outside lab. Emphasis is on speed and accuracy in keying alphabetic, symbol, and numeric information. Upon completion, the student should be able to demonstrate proper technique while keying on a typewriter or microcomputer keyboard.
- OAD 102 KEYBOARDING SKILL BUILDING (3T) 3 credits**
PREREQUISITE: OAD 100 or OAD 101 or equivalent
This course enables students to correct speed and accuracy deficiencies by first identifying the causes of such deficiencies and by providing individualized descriptive practice for correcting the deficiencies.
- OAD 101 BEGINNING KEYBOARDING (3T) 3 credits**
This course is designed to enable the student to use the touch method of keyboarding through classroom instruction and outside lab. Emphasis is on speed and accuracy in keying alphabetic, symbol, and numeric information using the typewriter or microcomputer keyboard. Upon completion, the student should be able to demonstrate proper technique and an acceptable rate of speed and accuracy, as defined by the course syllabus, in the production of basic business documents such as memos, letters, reports, and tables.
- OAD 103 INTERMEDIATE KEYBOARDING (3T) 3 credits**
PREREQUISITE: OAD 101 or Keyboarding/Typing Skills Recommended
This course is designed to assist the student in increasing speed and accuracy using the touch method of keyboarding through classroom instruction and outside lab. Emphasis is on the production of business documents such as memoranda, letters, reports, tables, and outlines. Upon completion, the student should be able to demonstrate proficiency and an acceptable rate of speed and accuracy, as defined by the course syllabus, in the production of business documents.
- OAD 104 ADVANCED KEYBOARDING (3T) 3 credits**
PREREQUISITE: OAD 103 or Permission of instructor
This course is designed to assist the student in continuing to develop speed and accuracy using the touch method of keyboarding through classroom instruction and outside lab. Emphasis is on the production of business documents using decision-making skills. Upon completion, the student should be able to demonstrate proficiency and an acceptable rate of speed and accuracy, as defined by the course syllabus, in the production of high-quality business documents.
- OAD 125 WORD PROCESSING (3T) 3 credits**
PREREQUISITE: OAD 101 or Keyboarding/Typing Skills Recommended
This course is designed to provide the student with

basic word processing skills through classroom instruction and outside lab. Emphasis is on the utilization of software features to create, edit and print common office documents. Upon completion, the student should be able to demonstrate the ability to use industry-standard software to generate appropriately formatted, accurate, and attractive business documents such as memos, letters and reports.

- OAD 126 ADVANCED WORD PROCESSING (3T) 3 credits**
PREREQUISITE: OAD 125
This course is designed to increase student proficiency in using the advanced word processing functions through classroom instruction and outside lab. Emphasis is on the use of industry-standard software to maximize productivity. Upon completion, the student should be able to demonstrate the ability to generate complex documents such as forms, newsletters, and multi-page documents.
- OAD 138 RECORDS/INFORMATION MANAGEMENT (3T) 3 credits**
This course is designed to give the student knowledge about managing office records and information. Emphasis is on basic filing procedures, methods, systems, supplies, equipment, and modern technology used in the creation, protection, and disposition of records stored in a variety of forms. Upon completion, the student should be able to perform basic filing procedures.
- OAD 200 MACHINE TRANSCRIPTION (3T) 3 credits**
PREREQUISITE: Keyboarding/Typing Skills Recommended
This course is designed to develop marketable skills in transcribing various forms of dictated material through classroom instruction and outside lab. Emphasis is on the use of microcomputers and a commercial word processing package. Upon completion, the student should be able to accurately transcribe documents from dictated recordings.
- OAD 211 MEDICAL TERMINOLOGY (3T) 3 credits**
This course is designed to familiarize the student with medical terminology. Emphasis is on the spelling, definition, pronunciation, and usage of legal terms. Upon completion, the student should be able to communicate effectively using medical terminology.
- OAD 212 MEDICAL TRANSCRIPTION (3T) 3 credits**
PREREQUISITE: Keyboarding/Typing skills recommended
This course is designed to orient students to standard medical reports, correspondence, and related documents transcribed in a medical environment through classroom instruction and outside lab. Emphasis is on transcribing medical records and operating a transcribing machine efficiently. Upon completion, the student should be able to accurately transcribe medical documents from dictated recordings.

OAD 214 MEDICAL OFFICE PROCEDURES (3T) 3 credits
PREREQUISITE: Keyboarding/Typing skills recommended

This course is designed to provide an awareness of the responsibilities and opportunities of professional support personnel in a medical environment through classroom instruction and outside lab. Emphasis is on medical terms, the production of appropriate forms and reports, and the importance of office procedures and practices. Upon completion, the student should be able to perform office support tasks required for employment in a medical environment.

OAD 215 HEALTH INFORMATION MANAGEMENT (3T) 3 credits

This course is designed to promote an understanding of the structure, analysis and management of medical records through classroom instruction and outside lab. Emphasis is on filing and managing medical records; coding of diseases, operations and procedures; and the legal aspects of medical records. Upon completion, the student should be able to maintain medical records efficiently.

OAD 217 OFFICE MANAGEMENT (3T) 3 credits

This course is designed to develop skills necessary for supervision of office functions. Emphasis is on issues relating to the combination of people and technology in achieving the goals of business in a culturally diverse workplace, including the importance of office organization, teamwork, workplace ethics, office politics, and conflict-resolution skills. Upon completion, the student should be able to demonstrate use of the tools necessary for effective supervision of people and technology in the modern office.

OAD 230 ELECTRONIC PUBLISHING (3T) 3 credits

This course is designed to introduce the student to the elements and techniques of page design, layout and typography through classroom instruction and outside lab. Emphasis is on the use of current commercial desktop publishing software, graphic tools, and electronic input/output devices to design and print high-quality publications such as newsletters, brochures, catalogs, forms, and flyers. Upon completion, the student should be able to utilize proper layout and design concepts in the production of attractive desktop published documents.

OAD 232 THE ELECTRONIC OFFICE (3T) 3 credits

This course is designed to enable the student to develop skill in the use of integrated software through classroom instruction and outside lab. Emphasis is on the use of computerized equipment, software, networking, and communications technology. Upon completion, the student should be able to satisfactorily perform a variety of office tasks using current technology.

OAD 233 TRENDS IN OFFICE TECHNOLOGY (3T) 3 credits

This course is designed to address current trends in office technology through classroom instruction and

outside lab. Emphasis is on technology relevant to the office environment such as electronic mail, multimedia interaction, presentation hardware and software, and Internet use. Upon completion, the student should be able to demonstrate an awareness of current technological applications for the modern office.

OAD 247 SPECIAL PROJECTS (3T) 3 credits

This course is designed to provide the student with an opportunity for the expansion of knowledge in an area of special interest under the direct supervision of the instructor. Emphasis is on the student's use of modern technology to study, research and/or accumulate additional knowledge or improve skills in a specialized office support area. Upon completion, the student should be able to demonstrate enhanced knowledge and/or skills gained through an individualized project.

ORIENTATION (ORI)

ORI 101 ORIENTATION TO COLLEGE (1) 1 credit

This course aids new students in their transition to the institution; exposes new students to the broad educational opportunities of the institution; and integrates new students into the life of the institution.

ORI 103 ORIENTATION (STUDY SKILLS) (2T) 2 credits

This course helps students develop practical knowledge and skills toward a successful college experience, both academically and personally. Topics include time management, reading, memory, notes, tests, diversity, thinking, writing, relationships, health, and career planning.

ORIENTATION/TECHNICAL (ORT)

ORT 100 ORIENTATION TO COLLEGE 1(2) 1 credit

This course is designed to introduce the beginning student to college life. It provides the student with information on what the college expects from the student and what the student should expect from the college. The course also addresses student attitudes and goals as well as safety and other issues pertinent for technical students. For non-degree programs only.

PHYSICAL EDUCATION (PED)

PED 100 FUNDAMENTALS OF FITNESS (3T) 3 credits

This lecture course includes the basic principles of physical education and physical fitness. It explores psychological and physiological effects of exercise and physical fitness, including effects on the human skeleton, muscle development, respiration and coordination. It is reviewed as an introduction to such laboratory courses as slimnastics, weight training, and conditioning. This course may also include fitness evaluation, development of individual fitness programs, and participation in fitness activities.

Course Descriptions

COURSE DESCRIPTIONS

- PED 101 SLIMNASTICS (Beginning) (2A) * 1 credit**
This course provides an individualized approach to physical fitness, wellness, and other health-related factors. Emphasis is placed on the scientific basis for setting up and engaging in personalized physical fitness programs. Upon completion, students should be able to set up and implement an individualized physical fitness program.
- PED 102 SLIMNASTICS (Intermediate) (2A) * 1 credit**
This course is an intermediate-level class. Topics include specific exercises contributing to fitness and the role exercise plays in developing body systems, nutrition, and weight control. Upon completion, students should be able to implement and evaluate an individualized physical fitness program.
- PED 103 WEIGHT TRAINING (Beginning) (2A) * 1 credit**
This course introduces the basics of weight training. Emphasis is placed on developing muscular strength, muscular endurance, and muscle tone. Upon completion, students should be able to establish and implement a personal weight-training program.
- PED 104 WEIGHT TRAINING (Intermediate) * (2A) 1 credit**
This course covers advanced levels of weight training. Emphasis is placed on meeting individual training goals and addressing weight training needs and interests. Upon completion, students should be able to establish and implement an individualized advanced weight-training program.
- PED 105 PERSONAL FITNESS * (2A) 1 credit**
This course is designed to introduce basic fitness and to improve the student's understanding of wellness. Fitness levels will be improved through aerobics and aerobic activities.
- PED 106 AEROBICS (2A) * 1 credit**
This course introduces a program of cardiovascular fitness involving continuous, rhythmic exercise. Emphasis is placed on developing cardiovascular efficiency, strength, and flexibility and on safety precautions. Upon completion, students should be able to select and implement a rhythmic aerobic exercise program.
- PED 107 AEROBICS DANCE (Beginning) (2A) + 1 credit**
This course introduces the fundamentals of step and dance aerobics. Emphasis is placed on basic stepping up, basic choreographed dance patterns, cardiovascular fitness, and upper body, floor, and abdominal exercises. Upon completion, students should be able to participate in basic dance aerobics.
- PED 108 AEROBICS DANCE (Intermediate) (2A) + 1 credit**
PREREQUISITE: PED 107 or Permission of instructor
This course provides a continuation of step aerobics. Emphasis is placed on a wide variety of choreographed step and dance patterns; cardiovascular fitness; and upper body, abdominal, and floor exercises.
- Upon completion, students should be able to participate in and design an aerobics routine.
- PED 109 JOGGING (2A) * 1 credit**
This course covers the basic concepts involved in safely and effectively improving cardiovascular fitness. Emphasis is placed on walking, jogging, or running as a means of achieving fitness. Upon completion, students should be able to understand and appreciate the benefits derived from these activities.
- PED 118 GENERAL CONDITIONING (Beginning) (2A)* 1 credit**
This course provides an individualized approach to general conditioning utilizing the five major components. Emphasis is placed on the scientific basis for setting up and engaging in personalized physical fitness and conditioning programs. Upon completion, students should be able to set up and implement an individualized physical fitness and conditioning program.
- PED 119 GENERAL CONDITIONING * (Intermediate) (2A) 1 credit**
PREREQUISITE: PED 118 or Permission of instructor
This course is an intermediate-level fitness and conditioning program class. Topics include specific exercises contributing to fitness and the role exercise plays in developing body systems. Upon completion, students should be able to implement and evaluate an individualized physical fitness and conditioning program.
- PED 120 TECHNIQUES OF DUAL AND INDIVIDUAL * SPORTS (2T) 2 credits**
This course introduces the fundamentals of popular dual and individual sports. Emphasis is placed on rules, equipment, and motor skills used in various sports. Upon completion, students should be able to demonstrate knowledge of the sports covered.
- PED 121 BOWLING (Beginning) (2A) * 1 credit**
This course introduces the fundamentals of bowling. Emphasis is placed on ball selection, grips, stance, and delivery along with rules and etiquette. Upon completion, students should be able to participate in recreational bowling.
- PED 122 BOWLING (Intermediate) (2A) * 1 credit**
PREREQUISITE: PED 121 or Permission of instructor
This course covers more advanced bowling techniques. Emphasis is placed on refining basic skills and performing advanced shots, spins, pace, and strategy. Upon completion, students should be able to participate in competitive bowling.
- PED 123 GOLF (Beginning) (2A) * 1 credit**
This course emphasizes the fundamentals of golf. Topics include the proper grips, stance, alignment, swings for the short and long game, putting, and the rules and etiquette of golf. Upon completion students should be able to perform the basic golf shots and demonstrate a knowledge of the rules and etiquette of golf.

- PED 124 GOLF (Intermediate) (2A) * 1 credit**
PREREQUISITE: PED 123 or Permission of instructor
This course covers the more advanced phases of golf. Emphasis is placed on refining the fundamental skills and learning more advanced phases of the game such as a club selection, trouble shots, and course management. Upon completion, students should be able to demonstrate the knowledge and ability to play a recreational round of golf.
- PED 125 SKATING (2A) 1 credit**
This course introduces the fundamentals of skating. Emphasis is placed on basic positioning, balance, and form. Upon completion, students should be able to demonstrate skills necessary for recreational skating.
- PED 126 RECREATIONAL GAMES (2A) + 1 credit**
This course is designed to give an overview of a variety of recreational games and activities. Emphasis is placed on the skills and rules necessary to participate in a variety of lifetime recreational games. Upon completion, students should be able to demonstrate an awareness of the importance of participating in lifetime recreational activities.
- PED 127 ARCHERY (2A) * 1 credit**
This course introduces basic archery safety and skills. Topics include proper techniques of stance, bracing, drawing, and releasing as well as terminology and scoring. Upon completion, students should be able to participate safely in target archery.
- PED 129 EQUITATION (2A) * 1 credit**
This course is designed to give advanced riding experiences in a variety of specialized situations. Emphasis is placed on the development of skills such as jumping, rodeo games, and trail riding. Upon completion, students should be able to demonstrate control and management of the horse and perform various riding techniques.
- PED 131 BADMINTON (Beginning) (2A) * 1 credit**
This course covers the fundamentals of badminton. Emphasis is placed on the basics of serving, clears, drops, drives, smashes and the rules and strategies of singles and doubles. Upon completion, students should be able to apply these skills in playing situations.
- PED 133 TENNIS (Beginning) (2A) * 1 credit**
This course emphasizes the fundamentals of tennis. Topics include basic strokes, rules, etiquette, and court play. Upon completion, students should be able to play recreational tennis.
- PED 134 TENNIS (Intermediate) (2A) * 1 credit**
PREREQUISITE: PED 133 or Permission of instructor
This course emphasizes the refinement of playing skills. Topics include the development of fundamentals, learning advanced serves, strokes and pace and

strategies in singles and doubles play. Upon completion, students should be able to play competitive tennis.

- PED 140 SWIMMING (BEGINNING) (2A) 1 credit**
This course is designed for non-swimmers and beginners. Emphasis is placed on developing confidence in the water, learning water safety, acquiring skills in floating, and learning elementary strokes. Upon completion, students should be able to demonstrate safety skills and be able to tread water, back float, and use the crawl stroke for 20 yards.
- PED 143 AQUATIC EXERCISE (2A) 1 credit**
This course introduces rhythmic aerobic activities and aquatic exercises performed in water. Emphasis is placed on increasing cardiovascular fitness levels, muscular strength, muscular endurance, and flexibility. Upon completion, students should be able to participate in an individually paced exercise program.
- PED 145 SPORT AND RECREATIONAL SCUBA DIVING (2A) 1 credit**
This course provides basic instruction in fundamental skills and safety procedures for scuba diving. Emphasis is placed on the history, theory, and principles of diving; development of diving skill; and care and maintenance of equipment. Upon completion, students should be able to demonstrate skills, knowledge, and techniques of scuba diving in preparation for diver certification.
- PED 150 TAI CHI (2A) 1 credit**
Tai Chi is an ancient martial art form through which the student will improve flexibility, balance, strength, and mental discipline. By learning the slow and elaborate movements of Tai Chi, the student will develop proper breathing and relaxation techniques and enhance joint flexibility. Tai Chi skills are a combination of stretching, isometrics, and isotonic movements in combination with diaphragmatic breathing and postural maintenance.
- PED 151 JUDO (BEGINNING) (2A) 1 credit**
This course introduces the basic discipline of judo. Topics include proper breathing, relaxation techniques, and correct body positions. Upon completion, students should be able to demonstrate the procedures of judo.
- PED 153 KARATE (BEGINNING) (2A) 1 credit**
This course introduces the martial arts using the Japanese Shotokan form. Topics include proper conditioning exercise, book control, proper terminology, historical foundations, and etiquette relative to karate. Upon completion, students should be able to perform line drill techniques and Kata for various ranks.
- PED 155 SELF DEFENSE (2A) 1 credit**
This course is designed to aid students in developing rudimentary skills in self-defense. Emphasis is placed

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	on stances, blocks, punches, and kicks as well as non-physical means of self-defense. Upon completion, students should be able to demonstrate basic self-defense techniques of a physical and non-physical nature.		
PED 160	SOCIAL DANCE (2A) + This course introduces the fundamentals of popular social dance. Emphasis is placed on basic social dance techniques, dances, and a brief history of social dance. Upon completion, students should be able to demonstrate specific dance skills and perform some dances.	1 credit	
PED 163	SQUARE DANCING (2A) + This course introduces the terminology and skills necessary to perform square dancing. Topics include working from squared sets-squared circles to squared throughs, right and left throughs, and Dixie Chains. Upon completion, students should be able to perform square dance routines and recognize the calls made for all formations.	1 credit	
PED 171	BASKETBALL (Beginning) (2A) # This course covers the fundamentals of basketball. Emphasis is placed on skill development, knowledge of the rules, and basic game strategy. Upon completion, students should be able to participate in recreational basketball.	1 credit	
PED 172	BASKETBALL (Intermediate) (2A) # PREREQUISITE: PED 171 or Permission of instructor This course covers more advanced basketball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to play basketball at a competitive level.	1 credit	
PED 176	VOLLEYBALL (Beginning) (2A) # This course covers the fundamentals of volleyball. Emphasis is placed on the basics of serving, passing, setting, spiking, blocking, and the rules and etiquette of volleyball. Upon completion, students should be able to participate in recreational volleyball.	1 credit	
PED 177	VOLLEYBALL (Intermediate) (2A) # PREREQUISITE: PED 176 or Permission of instructor This course covers more advanced volleyball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to participate in competitive volleyball.	1 credit	
PED 181	BASEBALL (Beginning) (2A) # This course covers the fundamentals of baseball. Emphasis is placed on skill development, knowledge of the rules and basic game strategy. Upon completion, students should be able to participate in recreational baseball.	1 credit	
PED 182	BASEBALL (Intermediate) (2A) # This course covers more advanced baseball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to play baseball at a competitive level.	1 credit	
PED 186	SOFTBALL (Beginning) (2A) # This course introduces the fundamental skills and rules of softball. Emphasis is placed on proper techniques and strategies for playing softball. Upon completion, students should be able to participate in recreational softball.	1 credit	
PED 187	SOFTBALL (Intermediate) (2A) # This course presents advanced skills and competitive practice in softball. Emphasis is placed on proper techniques and strategies for playing softball. Upon completion, students should be able to participate in competitive softball.	1 credit	
PED 188	YOGA (2A) + This course introduces basic instruction in yoga for beginners. Emphasis is placed on instruction in gentle stretching, breathing practices, progressive deep relaxation, and posture. Upon completion, students should be able to participate in and appreciate the benefits of the activity.	1 credit	
PED 190	WELLNESS LITERACY FOR SENIOR ADULTS (2A) This is a "hands on" introduction to wellness literacy with emphasis placed on maintaining a healthy body to prevent premature deaths. This course provides students with a fitness evaluation, health assessment, and participation in fitness activities of their choice.	1 credit	
PED 191	TEAM SPORTS (2A) # This course covers the basic concepts involved in team sport competition. Emphasis will be placed on refining basic skills, rules and regulations, officiating, and team play. Upon completion, students should be able to participate and implement an intramural program.	1 credit	
PED 200	FOUNDATIONS OF PHYSICAL EDUCATION (3T) In this course, the history, philosophy, and objectives of health, physical education, and recreation are studied with emphasis on the physiological, sociological, and psychological values of physical education. It is required of all physical education majors.	3 credits	
PED 216	SPORTS OFFICIATING (3T) This course surveys the basic rules and mechanics of officiating a variety of sports, including both team and individual sports. In addition to classwork, students will receive at least 3 hours of practical experience in officiating.	3 credits	
PED 226	HIKING (2A) * This course provides instruction on how to equip and care for one's self on the trail. Topics include clothing, hygiene, trail ethics, and necessary equipment. Upon completion, students should be able to successfully participate in nature trail hikes.	1 credit	
PED 227	ANGLING (2A) * This course introduces the sport of angling. Emphasis is placed on fishing with the use of artificial lures. Upon completion, students should be able to cast and retrieve	1 credit	

using baitcaster and spinning reels and identify the various types of artificial lures.

- PED 236 CANOEING (2A) *** **1 credit**
This course provides basic instruction for the beginning canoeist. Emphasis is placed on safe and correct handling of the canoe and rescue skills. Upon completion, students should be able to demonstrate basic canoeing, safe-handling, and self-rescue skills.
- PED 245 CYCLING (2A) *** **1 credit**
This course is designed to promote physical fitness through cycling. Emphasis is placed on selection and maintenance of the bicycle gear shifting, pedaling techniques, safety procedures, and conditioning exercises necessary for cycling. Upon completion, students should be able to demonstrate safe handling of a bicycle for recreational use.
- PED 246 CAMPING (2A) *** **1 credit**
This course is designed to acquaint the beginning camper with outdoor skills. Topics include camping techniques such as cooking and preserving food, safety, and setting up camp. Upon completion, students should be able to set up camp sites in field experiences using proper procedures.
- PED 251 VARSITY BASKETBALL I (2A) #** **1 credit**
PREREQUISITE: Permission of instructor
This course covers advanced fundamentals of basketball. Emphasis is placed on skill development, knowledge of the rules and basic game strategy. Upon completion, students should be able to participate in competitive basketball.
- PED 252 VARSITY BASEBALL I (2A) #** **1 credit**
PREREQUISITE: Permission of instructor
This course covers advanced baseball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to play baseball at a competitive level.
- PED 254 VARSITY SOFTBALL I (2A) #** **1 credit**
PREREQUISITE: Permission of instructor
This course introduces the fundamental skills and rules of softball. Emphasis is placed on proper techniques and strategies for playing softball. Upon completion, students should be able to play competitive softball.
- PED 257 VARSITY CHEERLEADING (2A) #** **1 credit**
PREREQUISITE: Permission of instructor
This course covers advanced cheerleader techniques. Emphasis is placed on proper techniques, refining skills and developing more advanced stunts. Upon completion, students should be able to perform at a competitive level.

*Individual and Dual Sport Activity
+ Rhythms
Team Sport

PHOTOGRAPHY AND FILM (PFC)

Also see ART

- PFC 173 PHOTOGRAPHY I (2T, 2E)** **3 credits**
This course is an introduction to photography. Emphasis is placed on aesthetic as well as technical aspects of photography. Upon completion, students will be able to produce well composed photographs.
- PFC 174 PHOTOGRAPHY II (2T, 2E)** **3 credits**
PREREQUISITE: Permission of instructor
This is a sequence to Photography I and serves as an introductory photography course. Emphasis is placed on aesthetic as well as technical aspects of photography. Upon completion, the student will be able to produce well composed photographs.
- PFC 176 FILMMAKING (6E)** **3 credits**
This course provides a knowledge of the basics of filmmaking. Emphasis is placed on procedure, equipment, editing and sound. Upon completion, students should demonstrate a basic knowledge of filmmaking through critical analysis and film projects.
- PFC 177 COLOR PHOTOGRAPHY (2T, 2E)** **3 credits**
PREREQUISITE: ART 173 or ART 176 or Permission of instructor
This course covers the primary materials and processes of color photography. Emphasis is placed on the correct exposure, processing, creative color usage, and printing of both positive/negative color materials through exploration of films, filters, processes, and color temperature. Upon completion, students should be able to correctly execute the technical controls of color materials and explore the creative possibilities of color photography.
- PFC 178 AUDIO-VISUAL TECHNIQUES (1T, 2E)** **2 credits**
This course is an exploration of the area of linkage between the visual and auditory senses. Work with sound and recording equipment, projected images and multimedia hardware and software is included. Students will produce finished multimedia pieces.
- PFC 187 PHOTOGRAPHY, FILM, AND MEDIA I (1T, 2E)** **2 credits**
PREREQUISITE: ART 173 or PFC 177 or Permission of instructor
This course is designed to help the student explore creative approaches to photography, film, and related media. Problems in darkroom techniques, laboratory techniques, and special effects are included. Upon completion, the student should be able to apply these techniques to professional quality finished pieces.
- PFC 188 PHOTOGRAPHY, FILM, AND MEDIA II (1T, 2E)** **2 credits**
PREREQUISITE: PFC 187 or Permission of instructor
This course is designed to help the student explore creative approaches to photography, film, and related media in greater depth. Problems in darkroom techniques, laboratory techniques, and special effects are

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included. Upon completion, the student should be able to apply these techniques to professional quality finished pieces.

PFC 258 PHOTOGRAPHIC AND MEDIA PROBLEMS (1T, 2E) 2 credits
This course deals with special problems in the student's area of interest. Emphasis is placed on design, technique and results. Upon completion, the student will be able to produce professional quality photographs in one particular area of photography.

PFC 273 STUDIO PHOTOGRAPHY I (2T, 2E) 3 credits
This course stresses image-making problems requiring studio or other controlled environment solutions. Lights, props, and related equipment and techniques are utilized. The student will produce quality photographs using studio techniques.

PFC 274 STUDIO PHOTOGRAPHY II (2T, 2E) 3 credits
PREREQUISITE: PFC 273 or Permission of instructor
This course deals with advanced problems requiring studio or other controlled environment solutions. Lights, props, and related equipment and techniques are utilized. The student will produce quality photographs using studio techniques.

PFC 276 FILMMAKING II (2T, 2E) 3 credits
PREREQUISITE: PFC 176 or Permission of instructor
This course is a continuation of the study of film production. Emphasis is on various aspects of filmmaking which may include design, special effects, digital and linear production techniques, and machine control. Upon completion, students should have hands-on experience and an understanding of professional filmmaking.

PFC 277 FILMMAKING III (2T, 2E) 3 credits
PREREQUISITE: PFC 276 or Permission of instructor
This course is a continuation of the study of film pro-

duction. Emphasis is on various aspects of filmmaking which may include design, special effects, digital and linear production techniques, and machine control. Upon completion, students should have hands-on experience and an understanding of professional filmmaking.

PHILOSOPHY (PHL)

PHL 106 INTRODUCTION TO PHILOSOPHY (3T) 3 credits
This course is an introduction to the basic concepts of philosophy. The literary and conceptual approach of the course is balanced with emphasis on approaches to ethical decision making. The student should have an understanding of major philosophical ideas in an historical survey from the early Greeks to the modern era.

PHL 116 LOGIC (3T) 3 credits
This course is designed to help students assess information and arguments. The focus of the course is on logic and reasoning. The student should be able to understand how inferences are drawn, be able to recognize ambiguities and logical and illogical reasoning.

PHL 206 ETHICS AND SOCIETY (3T) 3 credits
This course involves the study of ethical issues which confront individuals in the course of their daily lives. The focus is on the fundamental questions of right and wrong, of human rights, and of conflicting obligations. The student should be able to understand and be prepared to make decisions in life regarding ethical issues.

PHL 210 ETHICS AND THE HEALTH SCIENCES (3T) 3 credits
This course is a study of ethical issues related to the health sciences such as contraception, abortion, and eugenics; human experimentation; truth in drugs and medicine; death and dying; and other health-related issues. The student should be able to clarify relevant ethical considerations and have a philosophical basis for decisions on right and wrong, good and bad, rights and responsibilities.

PHYSICAL GEOGRAPHY (GEO)
(Courses qualify as Natural Science electives)

GEO 101 PRINCIPLES OF PHYSICAL GEOGRAPHY I (3T, 2E) 4 credits
Physical Geography I is the first in a two-part sequence including topics such as weather and climate relative to the earth and relationships between the earth and sun. Laboratory is required.

GEO 102 PRINCIPLES OF PHYSICAL GEOGRAPHY II (3T, 2E) 4 credits
Physical Geography II is the second in a two-part sequence including topics such as landforms, landscapes, soil and vegetation of the earth. Laboratory is required.

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PHYSICAL SCIENCE (PHS)

PHS 111 PHYSICAL SCIENCE (3T, 2E) 4 credits
This course provides the non-technical student with an introduction to the basic principles of geology, oceanography, meteorology, and astronomy. Laboratory is required.

PHS 112 PHYSICAL SCIENCE II (3T, 2E) 4 credits
PREREQUISITE: MTH 098 Elementary Algebra
This course provides the non-technical student with an introduction to the basic principles of chemistry and physics. Laboratory is required.

PHS 120 ENVIRONMENTAL SCIENCE (3T, 2E) 4 credits
PHS 120 is an interdisciplinary course intended for non-science majors who desire an introduction to environmental science. The environment will be studied with an emphasis on such topics as air, soil, water, wildlife, forestry, and solid waste pollution. Laboratory will include both field studies and experimentation.

PHS 121 APPLIED PHYSICAL SCIENCE I (3T, 2E) 4 credits
PREREQUISITE: As required by program.
This course introduces the general principles of physics and chemistry. Topics include measurement, motion, Newton's laws of motion, momentum, energy, work, power, heat, thermodynamics, waves, sound, light, electricity, magnetism, and chemical principles. Upon completion, students should be able to demonstrate an understanding of the physical environment and be able to apply the scientific principles to observations experienced. Laboratory is required.

PHS 230 INTRODUCTION TO METEOROLOGY (3T, 2E) 4 credits
This course is an introductory survey of meteorology emphasizing the hydrologic cycle, cloud formation, weather maps, forecasting, and wind systems. Local weather systems will be given detailed study. Laboratory is required.

PHYSICS (PHY)

PHY 115 TECHNICAL PHYSICS (3T, 2E) 4 credits
PREREQUISITE: MTH 100
Technical physics is an algebra-based physics course designed to utilize modular concepts to include: motion, forces, torque, work energy, heat wave/sound, and electricity. Results of physics education research and physics applications in the workplace are used to improve the student's understanding of physics in technical areas. Upon completion, students will be able to define motion and describe specific module concepts; utilize microcomputers to generate motion diagrams; understand the nature of contact forces and distinguish passive forces; work cooperatively to set-

up laboratory exercises; and demonstrate applications of module-specific concepts. Laboratory is required.

PHY 201 GENERAL PHYSICS I- TRIG BASED (3T, 2E) 4 credits
PREREQUISITE: MTH 104 or MTH 113 or Equivalent
This course is designed to cover general physics at a level that assumes previous exposure to college algebra and basic trigonometry. Specific topics include mechanics, properties of matter and energy, thermodynamics, and periodic motion. Laboratory is required.

PHY 202 GENERAL PHYSICS II – TRIG BASED (3T, 2E) 4 credits
PREREQUISITE: PHY 201
This course is designed to cover general physics using college algebra and basic trigonometry. Specific topics include wave motion, sound, light, optics, electrostatics, circuits, magnetism and modern physics. Laboratory is required.

PHY 205 RECITATION IN PHYSICS I (1T) 1 credit
One hour weekly purely for problem solving.

PHY 206 RECITATION IN PHYSICS II (1T) 1 credit
One hour weekly purely for problem solving.

PHY 213 GENERAL PHYSICS WITH CALCULUS I (3T, 2E) 4 credits
PREREQUISITE: MTH 125 or Permission of instructor
This course provides a calculus-based treatment of the principal subdivisions of classical physics: mechanics and energy. Laboratory is required.

PHY 214 GENERAL PHYSICS WITH CALCULUS II (3T, 2E) 4 credits
PREREQUISITE: PHY 213
This course provides a calculus-based study in classical physics. Topics included are simple harmonic motion, waves, sound, light, optics, electricity and magnetism. Laboratory is required.

PHY 216 RECITATION IN PHYSICS WITH CAL I (1T) 1 credit
One hour weekly purely for problem solving.

PHY 217 RECITATION IN PHYSICS WITH CAL II (1T) 1 credit
One hour weekly purely for problem solving.

PROCESS TECHNOLOGY (PCT)

PCT 100 FUNDAMENTALS OF PROCESS TECHNOLOGY (3T) 3 credits
This course provides an overview or introduction into the field of Process Operation. An overview of basic operating concepts and process control principles used within the process industries will be introduced and investigated.

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PCT 105 SAFETY, HEALTH AND ENVIRONMENT (3T) 3 credits
This course provides an overview or introduction into the field of Safety, Health and Environment within the process industry. Students will be introduced to various types of plant hazards, safety and environmental systems and equipment and regulations under which plants are governed.

PCT 110 PROCESS TECHNOLOGY I, EQUIPMENT (3T, 2E) 4 credits
PREREQUISITE: PCT 100
This course provides an overview or introduction into the field of process technology equipment within the process industry. Students will be introduced to many process industry related equipment concepts including purpose, components, operation, and Process Technicians' role for operating and troubleshooting the equipment.

PCT 115 INSTRUMENTATION I (2T, 2E) 3 credits
PREREQUISITE: PCT 100
This course covers process variables and various instruments used to sense, measure, transmit and control these variables. Introduces the students to control loops and the elements that are found in different types of loops, such as controllers, regulators and final control elements. Concludes with a study of instrumentation drawings and diagrams and a unit on troubleshooting instrumentation.

PCT 215 INSTRUMENTATION II (3T, 3M) 4 credits
PREREQUISITES: PCT 110 and PCT 115
This course introduces the student to switches, relays and annunciators systems and moves on to discuss signal conversion and transmission. Students move on to learn about digital control, programmable logic control and distributed control systems before ending the course with a discussion of instrumentation power supplies, emergency shutdown systems and instrumentation malfunctions.

PCT 220 PROCESS TECHNOLOGY II, SYSTEMS (3T, 3M) 4 credits
PREREQUISITES: PCT 105 and PCT 110
This course is a study of the interrelations of process equipment and process systems. Students will be able to arrange process equipment into systems, describe the purpose and function of specific process systems, explain how factors affecting process systems are controlled under normal conditions, and recognize abnormal process conditions. Students are also introduced to the concept of system process control and manufacturing plant process economics.

PCT 225 QUALITY PROCESSES AND QUALITY MANAGEMENT (3T) 3 credits
PREREQUISITE: PCT 110
This course provides an overview or introduction to the field of Quality within the process industry. Students will be introduced to many industry-related

quality concepts including operating consistency, continuous improvement, plant economic skills and statistical process control and process charting.

PCT 230 PROCESS TECHNOLOGY III, OPERATIONS (3T, 3M) 4 credits
PREREQUISITES: PCT 215 and PCT 220
This course provides an overview or introduction into the field of operations within the process industry. Students will use existing knowledge of equipment, systems and instrumentation to understand the operation of an entire unit including using a Process Control simulator.

PCT 234 INDUSTRIAL CO-OP TRAINING (15M) 3 credits
PREREQUISITE: Permission of Instructor
This course provides a supervised work experience on a part-time basis at an approved industrial facility. Students will work in a job directly related to the process technology industry. A training plan will be arranged to assure the student's opportunity to apply and/or expand principles and concepts in the field. The employer evaluates the student's performance, and the student will submit a descriptive report of his/her work experiences.

PCT 240 PROCESS TROUBLESHOOTING (3T, 3M) 4 credits
PREREQUISITES: PCT 215 and PCT 220
This course involves instruction in different types of troubleshooting techniques, procedures, and methods used to solve process problems. Topics include application of data collection and analysis, cause-effect relationships and reasoning. In addition to troubleshooting static equipment problems as presented within a textbook, dynamic problems will also be presented via a process simulator for problem resolution by the student.

PRODUCTIVITY MANAGEMENT AND CONTROL TECHNOLOGY (PMC)

PMC 101 INDUSTRIAL MATHEMATICS I (3T) 3 credits
This course covers the fundamental concepts of math and algebra with applications in technical and industrial settings. Emphasis is placed on number systems, fractions, percents, signed numbers, measurement systems, powers and roots, algebra coverage, adding/subtracting simple equations, graphing, equations, exponents, logarithms and use of calculator. Upon completion, students should be able to perform fundamental concepts of math and algebra.

PMC 102 INDUSTRIAL MATHEMATICS II (3T) 3 credits
PREREQUISITE: PMC 101 or MTH 103 or Higher
This course is a continuation of PMC 101 and covers basic algebra and plane trigonometry. Emphasis is placed on technical and industrial applications. Topics to include quadratic equations, variation, intro

to geometry, polygon, triangles, circles, solid geometry, intro to trig functions, right triangles, graphics, and oblique triangles. Upon completion, students should be able to perform concepts of algebra, geometry and trigonometry.

- PMC 104 ELEMENTARY STATISTICS (3T) 3 credits**
PREREQUISITE: PMC 102 or MTH 103 or Higher
 This course is an introduction to methods of statistics. Emphasis is on descriptive or applied statistics, with topics to include sampling, frequency distributions, measures of central tendency, graphic representation, reliability, hypotheses testing, regression, estimation, and applications. Probability, permutations, combinations, binomial theorem, random variables, and distributions may be included. Upon completion, students should be able to solve statistical problems and apply to interpreting data.
- PMC 105 MEASUREMENTS (3T) 3 credits**
 This course is a study of the common units of measurement used in technical and industrial settings. Emphasis is placed on units, metric linear, surface, bulk motion, force, temperature, fluid and electrical measurements. Upon completion, students should be able to solve problems involving measurements.
- PMC 108 FLUID POWER (3T) 3 credits**
 This course is a study of the basic principles of fluid power (hydraulics and pneumatics) and its application in industry. Emphasis is placed on a review of basic mechanics, basic science, fluids, pumps, actuators, fittings, seals, fluid selection, common circuits, and control systems. Upon completion, students should have an understanding of fluid power and its applications.
- PMC 112 INDUSTRIAL BLUEPRINT READING (3T) 3 credits**
 This course is an introduction to the fundamental concepts required to develop the techniques and skills of visualization and interpretation of symbols and other representations commonly used in mechanical/manufacturing type drawings. Emphasis is placed on basic drafting language, orthographic projection, auxiliary views, types of drawings, freehand technical sketching, dimensions and tolerances, section views, pictorial drawings, data sections of a print, machine specifications, numerical control drawings, welding drawings, and geometric tolerancing. Upon completion, students should be able to read, understand and use blueprints.
- PMC 114 MECHANICAL DRIVES AND BEARINGS (2T, 3M) 3 credits**
 This course is a survey course of the various mechanical drive systems and components used in industry. Emphasis is placed on application with topics to include couplings, alignment, belts and chains, gears, gear boxes, clutches, brakes, motors, types, plain, ball, roller, noodle, maintenance, principles of seals, dynamic, static, oil, rings, gaskets, and sealings. Upon completion, students should have an under-

standing of mechanical drives and bearings.

- PMC 116 LUBRICATION (2T) 2 credits**
 This course is an introduction to the science of lubrication as it pertains to industrial applications. Emphasis is placed on basic science (friction, wear, and surfaces), properties of lubricants, viscosity, additives, and methods of application. Upon completion, students should have a basic knowledge of lubricants and their application.
- PMC 117 PUMPS AND PIPING SYSTEMS (2T, 3M) 3 credits**
 This course is a survey of the various types of pumps and piping systems used in industry. Emphasis is placed on basic science, flow of fluids, types, applications, installation and operation of centrifugal, rotary, diaphragm and reciprocating. Types of pipe, materials, tubes, hoses, codes, fittings, traps, valves, strainers, supports and an intro to piping drawings are included. Upon completion, students should have knowledge of pumps and piping systems.
- PMC 120 TECHNICAL SKETCHING (1T, 2E) 2 credits**
 This course is a study of understanding and application of graphic communications of technical information in an understandable and definitive method. Emphasis is placed on topics that will enable a person to convey verbal and numerical information that is neat, legible and proportioned. Topics shall include techniques to use, projections, proportions, views, dimensioning and tolerancing. Upon completion, students will have knowledge of graphic communications.
- PMC 123 MATERIALS AND PROCESSES (3T) 3 credits**
 This course is a survey of the structure and properties of materials. Emphasis is placed on ferrous and non-ferrous metals, and selected industrial processes such as metal forming, heat treatments, metal cutting, drilling, reaming, boring, broaching, abrasive machining and welding processes. Upon completion, students should have knowledge of materials and processes as related to industry.
- PMC 124 INDUSTRIAL MATERIALS (3T) 3 credits**
 This course is a study of the theory of structure and properties of industrial materials. Emphasis is placed on the use and selection of industrial materials, with topics to include metals (ferrous and non-ferrous), plastics, elastomers, ceramics, and composites. Also included are those processes involved with materials such as hot & cold rolling and heat treating. Chemical structure and change is covered in heat treating. Upon completion, students should have knowledge of industrial materials.
- PMC 125 INDUSTRIAL PROCESSES (2T) 2 credits**
 This course is a comprehensive study of industrial processes particularly as they pertain to manufacturing operations. Emphasis is placed on inspection methods along with quality control and automation, with topics covering chip removing, chipless

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	machines, forming and welding. Field trips to industry plants will supplement class work. Upon completion, students should have knowledge of industrial processes.		
PMC 130	GEOMETRIC TOLERANCING AND FORM (1T) This course is based on latest ANSI Y 14.5M standards. Geometric dimensioning and tolerancing is the system being used to assure precision and precisionness in industrial operations. Emphasis is placed on definitions, symbols used, form tolerancing, orientation tolerances and runout tolerancing, and interpretation of feature control blocks. Upon completion, students should have knowledge of geometric tolerancing.	1 credit	
PMC 134	DIEMAKING (2T) This course covers principles, theory, techniques, design and construction of basic and advanced types of dies used in manufacturing. Emphasis is placed on blanking and piercing dies, screw and dowel holes, die life, stripping, die to press relationships, inverted dies, compound dies and combination dies. Upon completion, students should have knowledge of diemaking.	2 credits	
PMC 135	PRECISION MEASUREMENTS METROLOGY (3T) This course is a study of the use and care of precision instruments and dimensional controls. Emphasis is placed on reasons and language of measurements, systems of measurements, graduated scales, scaled instrument, vernier instruments, micrometers, standards, gage blocks, use of comparators, pneumatic, electronics devices and use of optical flats. Upon completion, students should have knowledge of measurements of metrology.	3 credits	
PMC 136	SHOP THEORY I (1T, 2E) This course is an introduction to industrial machine tools and their applications. Emphasis is placed on machine set-ups, handtools, cutting tools, speeds and feeds, drilling machines, measuring and gaging. Upon completion, students will have a basic knowledge of machine tools and their applications.	3 credits	
PMC 137	SHOP THEORY II (1T, 2E) This course is a continuation of PMC 136. Emphasis is placed on operations of various machine tools including lathes, shapers, milling machines, borers and grinders. Upon completion, students will have an advanced knowledge of machine tools and their application.	3 credits	
PMC 155	STATISTICAL QUALITY CONTROL (SQC) (3T) PREREQUISITE: MTH 112 or Higher This is an in-depth course of study in various types of control charts, rationalizing subgroups, analyzing variations and procedures for applying statistical techniques. Upon completion, a student should be able to apply knowledge to solving quality control type problems.	3 credits	
PMC 158	INTRODUCTION TO STATISTICAL PROCESS CONTROL (SPCI) (2T) PREREQUISITE: PMC 102 or Higher This is an introductory course in preparing various types of control charts for analysis and control of processes. Emphasis is placed on descriptive statistics, X-R charts, median range charts and variability and attribute charts. Use of charts for problem solving and analysis are included. Upon completion, students should have knowledge of statistical process control.	2 credits	
PMC 163	PROBLEM SOLVING AND DECISION MAKING TECHNIQUES (2T) This course is a study of the various decision making concepts and their application to productive processes and service to make logical decisions. Emphasis is placed on brain-storming, cause and effect diagrams, pareto charts, and use of graphs. Upon completion, students should be able to solve problems and make decisions related to industry needs.	2 credits	
PMC 180	BASIC ELECTRICITY AND ELECTRONICS I (3T) PREREQUISITE: PMC 101 or MTH 103 or MTH 118 This course is designed for the person who needs an understanding of electrical/electronic fundamentals and principles. Emphasis is placed on electrical theory and science, devices, magnetism and electromagnetism, circuit analysis of resistive, capacitive, resonance and tuned circuits. Upon completion, students will have knowledge of basic electricity and electronics for industry use.	3 credits	
PMC 182	FUNDAMENTALS OF ROBOTICS (2T) This is a survey course of what robots do, how they operate, and how they are integrated into automated manufacturing. Emphasis is placed on terminology, classification, and principles of operations. Upon completion, students will have knowledge of how robotics is used in industry.	2 credits	
PMC 195	INDUSTRIAL HEALTH AND SAFETY (3T) This course is designed to provide a comprehensive coverage of safety practices and the relationship between safety and human relations. Emphasis is placed on accident losses, legislation, OSHACT, practices, investigations, and hazards: falls, impacts, mechanical, electrical, pressure, fire, explosions, noise, and radiation. Upon completion, students should have knowledge of health and safety practices needed in an industrial environment.	3 credits	
PMC 202	APPLIED FLUID MECHANICS (3T) PREREQUISITE: PMC 102 or Higher This course is an introduction to behavior of fluids (liquid and gas) in static and dynamic condition in various systems. Emphasis is placed on S1 Metric review, fluid metrology, fluid properties, statics, flow, momentum and reaction and lubrication principles. Upon completion, students will have knowledge of fluids.	3 credits	

POLITICAL SCIENCE (POL)

POL 103, 104, 105 **CURRENT AFFAIRS (2T)** **2 credits**
This course sequence is designed to acquaint students with major issues and problems of contemporary society through examination of current events. Emphasis is placed on topics which contribute to student awareness of historical development and political significances of selected contemporary issues. Upon completion, students should be able to identify and explain factors in the historical development of, explain political significances of, and express informed judgments about selected contemporary social and political issues.

POL 106 **CURRENT AFFAIRS (3T)** **3 credits**
This course is a study of contemporary world events as reflected in current media reports. Emphasis is placed on topics of current significance as news or human interest events on the national and international levels. Upon completion, students should be able to identify and explain factors involved with, explain political significances of, and express informed judgments about selected contemporary social and political issues.

POL 200 **INTRODUCTION TO POLITICAL SCIENCE (3T)** **3 credits**
This course is an introduction to the field of political science through examination of the fundamental principles, concepts, and methods of the discipline, and the basic political processes and institutions of organized political systems. Topics include approaches to political science, research methodology, the state, government, law, ideology, organized political influences, governmental bureaucracy, problems in political democracy, and international politics. Upon completion, students should be able to identify, describe, define, analyze, and explain relationships among the basic principles and concepts of political science and political processes and institutions of contemporary political systems.

POL 211 **AMERICAN NATIONAL GOVERNMENT (3T)** **3 credits**
This course surveys the background, constitutional principles, organization, and operation of the American political system. Topics include the U.S. Constitution, federalism, civil liberties, civil rights, political parties, interest groups, political campaigns, voting behavior, elections, the presidency, bureaucracy, Congress, and the justice system. Upon completion, students should be able to identify and explain relationships among the basic elements of American government and function as more informed participants of the American political system.

POL 220 **STATE AND LOCAL GOVERNMENT (3T)** **3 credits**
This course is a study of the forms of organization, functions, institutions, and operation of American state and local governments. Emphasis is placed on the variety of forms and functions of state and local gov-

ernments, with particular attention to those in Alabama and to the interactions between state and local government and the national government. Upon completion, students should be able to identify elements of and explain relationships among the state, local, and national governments of the U.S. and function as more informed participants of state and local political systems.

POL 230 **COMPARATIVE GOVERNMENT (3T)** **3 credits**
This course introduces comparative analysis of political systems. Emphasis is placed on institutions and processes of contemporary national political systems in selected democratic industrial nations. Upon completion, students should be able to compare and contrast the organization, institutions, and processes of major types of governmental systems of the world.

POL 236 **SURVEY OF INTERNATIONAL RELATIONS (3T)** **3 credits**
PREREQUISITE: Permission of instructor
This course is a survey of the basic forces affecting international relations. Topics include bases of national power, balance of power, causes of war, the international political economy, international law, international organization, and possible futures of international relations. Upon completion, students should be able to identify and discuss relevant terms and concepts and identify, analyze, evaluate and discuss the primary factors influencing the international relations of selected states.

POL 240 **POLITICAL THEORY (3T)** **3 credits**
PREREQUISITE: Permission of instructor
This course is an introduction to political theory through examination of philosophical concepts related to development of modern political ideologies. Emphasis is placed on selected sources of political philosophies. Upon completion, students should be able to identify selected political concepts and associated philosophers, and define, analyze, and explain major tenets of selected ideologies.

POL 299 **DIRECTED STUDIES** **1-3 credits***
PREREQUISITE: Recommendation of instructor and Approval of Department Chairperson
This course provides opportunities for non-traditional exploration of selected topics in political science. Emphasis is placed on knowledge and experience students gain through learning activities such as guided reading, internships, and programs combining personal experience with related intensive study. Upon completion, students should be able to prepare papers, presentations, or other projects on approved topics related to their individual experiences.

*Credit to be determined from appropriate contact-to-credit ratio formula.

Course Descriptions

PARALEGAL (PRL)

PRL 101 INTRODUCTION TO PARALEGAL STUDY (3T) 3 credits
This course introduces the paralegal profession and the legal system. Topics include regulations and concepts, ethics, case analysis, legal reasoning, career opportunities, certification, professional organizations, and other related topics. Upon completion, students should be able to explain the role of the paralegal and identify the skills, knowledge, and ethics required of legal assistants.

PRL 102 BASIC LEGAL RESEARCH AND WRITING (2T, 2E) 3 credits
PREREQUISITE: Grade of "C" or better in ENG 093 or satisfactory ACT, SAT, or placement score
CO/PREREQUISITE: PRL 101
This course introduces the techniques of legal research and writing. Emphasis is placed on locating, analyzing, applying, and updating sources of law; effective legal writing, including proper citation; and the use of electronic research methods. Upon completion, students should be able to perform legal research and writing assignments using techniques covered in the course.

PRL 103 ADVANCED LEGAL RESEARCH AND WRITING (2T, 2E) 3 credits
PREREQUISITE: PRL 102, Grade of "C" or better in ENG 093 or satisfactory ACT, SAT, or placement score
This course covers advanced topics in legal research and writing. Topics include more complex legal issues and assignments involving preparation of legal memos, briefs, and other documents and the advanced use of electronic research methods. Upon completion, students should be able to perform legal research and writing assignments using techniques covered in the course.

PRL 150 COMMERCIAL LAW (2T, 2E) 3 credits
This course covers legally enforceable agreements, forms of organization, and selected portions of the Uniform Commercial Code. Topics include drafting and enforcement of contracts, leases and related documents and selection and implementation of business organization forms, sales, and commercial papers. Upon completion, students should be able to apply the elements of a contract, prepare various business documents and understand the role of commercial papers.

PRL 160 CRIMINAL LAW AND PROCEDURE (2T, 2E) 3 credits
This course introduces substantive criminal law and procedural rights of the accused. Topics include elements of state/federal crimes, defenses, constitutional issues, pre-trial process, and other related topics. Upon completion, students should be able to explain elements of specific crimes and assist an attorney in preparing a criminal case. (Students may substitute CRJ 140.)

PRL 170 ADMINISTRATIVE LAW (3T) 3 credits
This course covers the scope, authority, and regulatory operations of various federal, state, and local administrative agencies. Topics include social security, workers' compensation, unemployment, zoning and other related topics. Upon completion, students should be able to research sources of administrative law, investigate, and assist in representation of clients before administrative agencies.

PRL 192 SELECTED TOPICS IN PARALEGAL (3T) 3 credits
This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study.

PRL 210 INTRODUCTION TO REAL PROPERTY LAW (3T) 3 credits
This course introduces the study of real property law. Topics include the distinction between real and personal property, various estates, mechanics of conveyance and encumbrance, recordation, special proceedings, and other related topics. Upon completion, students should be able to identify estates, forms of deeds, requirements for recording, and procedures to enforce rights to real property. (Students may substitute RLS 125.)

PRL 220 CORPORATE LAW (3T) 3 credits
This course covers the legal aspects of forming, operating, and maintaining a business. Emphasis is placed on the business corporation with additional coverage of sole proprietorships and partnerships. Upon completion, students should be able to draft basic partnership and corporate documents and file these documents as required.

PRL 230 DOMESTIC LAW (3T) 3 credits
This course covers laws governing domestic relations. Topics include marriage, separation, divorce, child custody, support, property division, adoption, domestic violence, and other related topics. Upon completion, students should be able to interview clients, gather information, and draft documents related to family law.

PRL 240 WILLS, ESTATES, AND TRUSTS (2T, 2E) 3 credits
This course covers various types of wills, trusts, probate estate administration, and intestacy. Topics include types of wills and execution requirements, caveats and dissents, intestate succession, inventories and accountings, distribution and settlement, and other related topics. Upon completion, students should be able to draft simple wills, prepare estate forms, understand administration of estates including taxation, and explain terms regarding trusts.

PRL 245 EVIDENCE FOR PARALEGALS (3T) 3 credits
This course examines the rules of evidence and the admissibility or inadmissibility of different types of evidence. The student should be able to recognize evidentiary problems on examination of trial transcripts to be raised as issues on appeal.

PRL 250 BANKRUPTCY AND COLLECTIONS (3T) 3 credits
This course provides an overview of the laws of bankruptcy and the rights of creditors and debtors. Topics include bankruptcy procedures and estate management, attachment, claim and delivery, repossession, foreclosure, collection, garnishment, and post-judgment collection procedure. Upon completion, students should be able to prepare and file bankruptcy forms, collection letters, statutory liens, and collection of judgments.

PRL 262 CIVIL LAW AND PROCEDURE (3T) 3 credits
This course is designed to give the student a basic understanding of the federal rules of civil procedure and Alabama rules of court. The student will demonstrate the ability to prepare a trial notebook for litigation purposes.

PRL 270 WORKERS' COMPENSATION LAW (2T, 2E) 3 credits
This course covers the process of initiating and handling workers' compensation claims. Emphasis is placed on reviewing and drafting relevant Industrial Commission forms. Upon completion, students should be able to interview clients, gather information, and draft documents related to workers' compensation claims.

PRL 282 LAW OFFICE MANAGEMENT AND PROCEDURES (2T, 2E) 3 credits
This course focuses on the organization, function, practices and procedures of a law office. Emphasis is placed on basic law office management, including office layout, personnel, equipment and supplies, filing systems, scheduling and docket control; as well as the creation, preparation, organization and processing of pleadings, forms, briefs and other legal documents. Upon course completion, students should be able to demonstrate and apply appropriate law office management techniques and procedures.

PRL 291 INTERNSHIP IN PARALEGALISM (15M) 3 credits
PREREQUISITE: PRL 101, PRL 102, PRL 262, and Permission of instructor
This course provides students opportunities to work in paid or unpaid positions in which they apply paralegal skills and knowledge. This course requires a minimum of 100 hours of practical experience in the legal field, including work in law offices, municipal courts, banks, insurance companies, and governmental agencies, and with district and circuit court judges. Upon course completion, students will be able to apply in real-work settings competencies obtained in the PRL curriculum.

PSYCHOLOGY (PSY)

PSY 100 ORIENTATION (1T) 1 credit
This course is designed to introduce the student to college life, responsibilities, rules and regulations. This course is required for all students placing in at least two developmental courses on placement exam.

PSY 102 APPLIED PSYCHOLOGY (2T) 2 credits
This course introduces the basic principles of psychology as they apply to daily life. Topics include perception, emotions, motivation, adjustment, behavior management, communication, and related topics that promote growth and development on the job and in one's personal life. Upon completion, students should be able to apply the principles learned in this class to everyday living and on-the-job experiences.

PSY 106 CAREER EXPLORATION (1T) 1 credit
This course is designed for students to explore potential career fields. The course includes an assessment, thorough testing of strengths and weaknesses, general information about careers and job skills, value and decision making techniques, and career research.

PSY 107 STUDY SKILLS (1T) 1 credit
In this course, emphasis is placed on the skills of "how to study." The course introduces the student to effective techniques for listening in class, note taking, preparation for test taking, and an overall system of successful study.

PSY 110 PERSONAL DEVELOPMENT (3T) 3 credits
This is a structured group experience that emphasizes effective living through developing one's own internal resources. Topics included are self-programmed control, relaxation training, and inter-personal skills. The course is designed to translate other life skills into successful college adjustment. Study skills, library skills, and life planning are also discussed. This course may not transfer to some four-year institutions.

PSY 200 GENERAL PSYCHOLOGY (3T) 3 credits
COREQUISITE: ENG 093, C or better or satisfactory ACT, SAT, or RDG placement score.
This course is a survey of behavior with an emphasis on psychological processes. This course includes the biological bases for behavior, thinking, emotion, motivation, and the nature and development of personality.

PSY 207 PSYCHOLOGY OF ADJUSTMENT (3T) 3 credits
This course provides an understanding of the basic principles of mental health and an understanding of the individual modes of behavior.

PSY 208 CONTEMPORARY ISSUES IN PSYCHOLOGY (3T) 3 credits
PREREQUISITE: PSY 200
This course is a study of selected topics in general psychology.

Course Descriptions

COURSE DESCRIPTIONS

- PSY 210 HUMAN GROWTH AND DEVELOPMENT (3T) 3 credits**
PREREQUISITE: PSY 200
 This course is a study of the psychological, social and physical factors that affect human behavior from conception to death.
- PSY 211 CHILD GROWTH AND DEVELOPMENT (3T) 3 credits**
 This course is a systematic study of the behavior and psychological development of the child from conception to adolescence. Emphasis will be placed on principles underlying physical, mental, emotional and social development, methods of child study, and practical implications.
- PSY 212 ADOLESCENT PSYCHOLOGY (3T) 3 credits**
PREREQUISITE: PSY 200
 This course covers a systematic study of the behavior and psychological development of the adolescent from late childhood to early adulthood. Emphasis will be placed on principles underlying physical, mental, emotional, and social development.
- PSY 216 ADULT PSYCHOLOGY (3T) 3 credits**
PREREQUISITE: PSY 200
 This course covers a systematic study of the behavior and psychological development of the adult. Emphasis will be placed on principles underlying physical, mental, emotional and social development.
- PSY 217 PSYCHOLOGY OF DEATH AND DYING (3T) 3 credits**
 This course is a study of the special psychological adjustments surrounding the issue of death and dealing with the terminally ill.
- PSY 220 HUMAN SEXUALITY (3T) 3 credits**
 This course is a comprehensive and integrated approach to human sexuality emphasizing biological, psychological, social and emotional aspects.
- PSY 230 ABNORMAL PSYCHOLOGY (3T) 3 credits**
PREREQUISITE: PSY 200
 This course is a survey of abnormal behavior and its social and biological origins. The anxiety related disorders, psychoses, personality disorders and mental deficiencies will be covered.
- PSY 240 EDUCATIONAL PSYCHOLOGY (3T) 3 credits**
PREREQUISITE: PSY 200
 This course is a study of psychological theories and principles as applied to the educational process.
- PSY 250 SOCIAL PSYCHOLOGY (3T) 3 credits**
PREREQUISITE: PSY 200
 This course is a study of social factors as they influence individual behavior.
- PSY 260 STATISTICS FOR THE SOCIAL SCIENCES (3T) 3 credits**
 This course is an introduction to the basic statistical concepts, measures, and techniques used in social

science research and report writing. It includes both descriptive and inferential statistics.

- PSY 270 BUSINESS AND INDUSTRIAL PSYCHOLOGY (3T) 3 credits**
PREREQUISITE: Permission of instructor
 This course is a study of interpersonal relations in the working environment, interpersonal communications, and techniques for selection and supervision of personnel.
- PSY 276 HUMAN RELATIONS (3T) 3 credits**
PREREQUISITE: Permission of instructor
 This course focuses on readings, inter- and intra- personal experiences, individual testing, employer visits and open discussions. Its goal is to assist the student in making a successful transition from classroom to the world of work.
- PSY 280 BRAIN, MIND AND BEHAVIOR (3T) 3 credits**
PREREQUISITE: PSY 200
 This course is a comprehensive study of the human brain and its functions.

QUALITY CONTROL TECHNOLOGY (QCT)

- QCT 101 INTRODUCTION TO QUALITY (3T) 3 credits**
 This course covers the total quality system, management strategies for quality, the difference between quality control and quality assurance, and the interdependence of systems and processes. Emphasis is placed on consumer demand for quality, establishing the quality system, organizing and achieving total commitment, the use of surveys, complaints, and how to use information to compete for additional market share. Upon completion, the student should understand the importance of customers and know how to gain an understanding of the customer's wants and needs and develop customer loyalty.
- QCT 102 STATISTICS I FOR QUALITY CONTROL (3T) 3 credits**
 This course introduces elementary probability and statistics. Topics include basic laws of probability, developing histograms, understanding basic discrete and continuous probability density functions, use of the calculator, variability, descriptive statistics, normal distributions, samples, and populations. Upon completion of this course, the student should be able to understand and apply elementary probability and statistical tools to the area of quality.
- QCT 103 STATISTICAL PROCESS CONTROL (3T) 3 credits**
PREREQUISITE: QCT 102 or BUS 271
 This course is an introduction to the development of attribute and variable control charts. Topics include problem identification, solution by application of process improvement methods, analysis of attribute data, and a study of non-traditional ideas on problem finding and solving with practical application. Upon completion, students will have a basic understanding