

# ANC Technical Center

Arkansas Northeastern College's Technical Center is a workforce education center that offers both high school and college credit in technical programs to high school students in Mississippi County. The Center's curriculum serves as an extension of high school curricular offerings by providing students with hands-on training in the technical fields. Services are offered at NO COST to the students. Books, tuition and fees are provided through the Center and funded by the local school districts and the Arkansas Department of Workforce Education.

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## Admission Policy

Prospective students may be enrolled at Arkansas Northeastern College Technical Center through their high school counselor or principal. In order to be enrolled, students must demonstrate academics, school attendance, citizenship, motivation, ability, and aptitude.

## Programs of Study

### Advanced Manufacturing

This program is designed for students who wish to pursue careers in automotive-related and other advanced manufacturing companies. The coursework provides students with a comprehensive knowledge of advanced manufacturing production processes, equipment, design, and operation. Given the large manufacturing base in this region and advances in industrial machinery and operations, persons with technical skills in this discipline are in high demand. Upon attaining work experience, individuals with this training are better equipped to move into maintenance technician and/or team leader positions. Coursework will apply toward the Certificate of Proficiency and/or the AAS Degree in Advanced Manufacturing at Arkansas Northeastern College.

### Automotive Services Technology

*\*Pending approval from Arkansas Department of Workforce Education*

The Automotive Service Technology Program is designed to provide education and training to students interested in being employed in the automotive service industry. Students will be provided with the basic fundamentals and skills necessary to enter the field of automotive mechanics. Students have an opportunity to explore many phases of mechanics, pneumatics, hydraulics, and electricity. The program is designed so the student will receive maximum instruction in safety practices, basic automotive service fundamentals, and sound shop practices.

## Education

The Education program is designed to provide training to students interested in being employed in the child-care profession,

public school instructional assistance, or considering a professional position in the education field. Courses will educate, train, and provide field experience in education. The goal of the program is to provide instruction in the basic competencies of education.

## Criminal Justice

The Criminal Justice program is designed for the student, with or without police experience, who is interested in the career of law enforcement and criminal justice. The program combines a broad background of courses in the area of law enforcement with a sound liberal arts education; however, it is not designed as a substitute for regular in-service or recruit training but is geared to complement practical police knowledge. Coursework will apply toward the AAS Degree in Criminal Justice at Arkansas Northeastern College. Employment opportunities for graduates are available in city, county, state, and federal agencies, private industry, education, and the armed forces.

## Medical Professions

The Medical Professions program provides students with core skills and knowledge of medical professions to prepare for a variety of medical careers; i.e., emergency medical technician, nursing, and lab technician. Students successfully completing the program will be prepared to take the Certified Nursing Assistant (CNA) exam.

## Welding

Welding is designed for students wishing to secure marketable welding skills. Through an organized progression of steps, the student builds ability with the different welding processes offered. Progression is competency based. Students will achieve different levels of expertise, determined by their interest, aptitude, and participation in class. Welder Qualification is available. All structural qualification testing will be done in accordance with American Welding Society Structural code D1.1. All pipe qualifications will adhere to Section 1X of the American Society of Mechanical Engineers welding code.

# ANC Technical Center Course Descriptions

## Advanced Manufacturing

**(1 Unit) Introduction to Advanced Manufacturing**—This course is designed to introduce the student to the world of advanced manufacturing and establish a foundation upon which further studies in manufacturing might rest. Students will explore basic manufacturing materials and processes, tools, techniques, and produce some simple products.

**(1 Unit) Design for Manufacturing**—This course is designed to expand on the introductory manufacturing course and expose the student to basic design concepts, computer skills, and drawing skills used in product and process design within the field of manufacturing. Additionally, the course is designed to expose students to a number of interpersonal skills and competencies necessary for a sustained career in manufacturing.

**(1 Unit) Manufacturing Production Processes**—This course is designed to provide the student with a hands-on learning experience with the basic tools, equipment, and operations of manufacturing industries. The student will also understand the relationship between a manufacturing need, a design, materials, processes, as well as tools and equipment. During this course, the student will utilize many of the basic manufacturing processes to produce primary and secondary materials for manufacturing.

**(1 Unit) Manufacturing Power and Equipment Systems**—This course is designed to expand upon previous courses and allow students the opportunity to demonstrate knowledge of power systems and use the advanced tools of manufacturing production. Students will plan, design, implement, use, and troubleshoot manufacturing power systems, equipment systems, and control systems.

## Automotive Services Technology

**(1/2 Unit) Brakes**—This course concentrates on the theory and operation of disc and drum brake systems. Basic hydraulic principles, as well as the operation and components of the brake foundation system, are covered. The course includes an in-depth study of the various types of power brake systems, including vacuum suspended systems, booster systems, and several types of anti-lock braking systems.

**(1 Unit) Electrical Systems**—This course includes Ohm's Law, basic electrical circuits, wiring diagrams, symbols, use of precision testing instruments, and analysis of opens, shorts, ground and related problems. Included are principles of the cranking circuit, charging systems, lighting circuits, and electrical accessories. Lab work includes the diagnosis and repair of electrical malfunctions of live equipment.

**(1 Unit) Engine Performance**—Three engine management systems are covered in this course: computer controlled devices, fuel

and ignition systems, and driving ability and emissions. An understanding of the operation of these systems is essential to the successful maintenance and repair of most vehicles. Drive ability describes the maintenance of a vehicle's performance. The technician must understand the complex network of electronic components that control the performance characteristics of the vehicle.

**(1/2 Unit) Suspension and Steering**—This course is designed to introduce the student to the theory and operation of modern suspension and steering systems. The study of the suspension system includes wheels and tires, hubs, bearings, seals, springs, and the vehicle frame. Various designs and construction of each of these components will be covered. Steering and steering systems start with the basic theory of steering geometry and all of the related factors. Wheel alignment of both front and rear wheels and construction and operation of manual and power steering components are included.

## Criminal Justice

**(1 Unit) Introduction to Criminal Justice**—This course is a study of history, development, and philosophy of law enforcement in a democratic society. The course includes an introduction to agencies involved in the administration of criminal justice and provides career orientation.

**(1 Unit) Law Enforcement I**—This course will explore basic police patrol operations and procedures covering both routine and emergency situations. Areas to be covered include: response to calls, preliminary investigations, accident investigations, police ethics, search and seizure, field interviews and investigations, report writing and testifying in court. Practical field experiences are also included.

**(1 Unit) Law Enforcement II**—This course is an in-depth study of the nature and purpose of investigation. The tools employed and the reasoning and techniques useful in the reconstruction of criminal activity will be discussed. Attention is also given to interrogation and special investigation techniques.

**(1 Unit) Criminal Law**—An introduction to the study of criminal, common statutory laws, and evidentiary rules within the context of enforcement and admissibility. Particular emphasis will be placed upon the Arkansas Criminal Code and Rules of Criminal Procedure and recent decisions of the Arkansas and United States Supreme Court.

## Education

**(1 Unit) Orientation to Teaching**—This course is designed to provide students with knowledge that will help prepare them as future teachers. Upon completion of this course, a student should have a better understanding of the roles of the teacher in the profession, understand developmental characteristics of learners, identify teaching strategies, be creative in lesson delivery, and understand historical and current educational issues, policies, and practices. Districts desiring to implement this course should request approval from the Family & Consumer Sciences Office.

**(1 Unit) Technology for Teachers**—Teachers/education interns operating and working in the school system are required to use and operate computers for individual and student use. This course will allow students to extend the education needs of the classroom to a higher level of thinking skills. This course will cover basic computer terminology and hands-on computer training in a popular software suite.

## Medical Professions

**(1 Unit) Anatomy & Physiology**—This course, a foundation for understanding the principles of maintaining positive health and understanding the deviation from the normal, includes anatomy and physiology of the human body in all its systems.

**(1/2 Unit) Introduction to Medical Professions**—This survey course introduces students to a variety of health care careers and helps them learn the basic information about outstanding medical history and events, health care systems, human growth and development, nutrition and health, processes of disease, and medical ethics. Emphasis is given to the development of basic competencies in medical math, medical terminology, communication, and the skills and competencies associated with basic information and personal qualities needed for employment.

**(1/2 Unit) Medical Terminology**—This course is designed to develop the ability to recognize, understand, and use medical terminology. It is intended for persons studying in the health occupations fields (students who plan to be nurses, paramedics, surgical technologists, medical secretaries, medical transcriptionists, laboratory technicians, medical assistants, etc.) and for graduates presently working in the paramedical fields who need to review or increase their vocabularies.

**(1/2 Unit) Medical Procedures**—This course helps students to develop specific skills needed in the health professions. Emphasis is given to the development of competencies related to the following areas: safety, infection controls, vital signs, CPR and first aid, medical math, abbreviations, and charting.

**(1/2 Unit) Medical Clinical Internship (Nursing Assistant)**—This course includes the fundamental principles, skills, and attitudes needed to give nursing care. Topics include communication and interpersonal skills, infection control, safety, beds and bed making, healthcare environment, charting body mechanics, admission, transfer, discharge, personal hygiene, elimination, specimen collection, universal precautions, and vital signs.

**(1/2 Unit) Abnormal Psychology**—This course provides a basic survey of maladaptive human behavior. Major psychological disorders, their causes, symptom patterns, cultural influences, and relevant treatment approaches are discussed. Included topics are: historical medical background, perspectives of treatment of mentally ill, fundamental definitions, causes of anxiety disorders, disorders of mood, personality disorders, and disorders of thought. Legal, ethical, and social issues relating to the medical professional's role in treating psychological disorders is explored.

**(1/2 Unit) Human Behavior and Disorders**—This course provides students with general overview of psychology from the perspective of the healthcare community that includes history of psychology, research methods, major theories, and application of the knowledge to the problems and challenges faced by today's healthcare professionals. Other areas addressed are: biological foundations of behavior, consciousness, memory, learning, emotion, personality, psychological disorders, and methods of therapy. Students gain a better understanding of mental health and the impact it has on providing quality health care.

## Welding

**(1 Unit) Metal Fabrication**—The students will learn the safe and proper procedure to transport and secure high-pressure cylinders, to install regulators on to the cylinders, and to adjust regulator pressure. Instruction will be given in proper care of oxy/fuel torches of several varieties and brand names. Emphasis will be given to proper cleaning of the torch tip. The instruction will be directed toward manual cutting torches. Throughout the welding curriculum, additional instruction on oxy/fuel cutting will be provided to include the proper use of semi-automatic track torches.

**(1 Unit) Gas Metal Arc Welding**—This course will provide the student with the required knowledge and skill to set-up and operate GMAW equipment. Through an established progression of practice, the student should become proficient at welding fillet welds and groove welds in all positions. Profession is competency based.

**(1 Unit) Shielded Metal Arc Welding**—This course shall provide the student with the required knowledge to fit pipe to be welded with the SMAW welding process. Through an established progression of practice the student should become proficient at welding pipe in the 2-G, 3-G, and 6-G positions. *Qualification will be available to those who achieve that level of expertise. Tests will be conducted in accordance with ASME Sec. IX Pipe Welding Code.*

**(1 Unit) Gas Tungsten Arc Welding**—This course shall provide the student with the required knowledge to fit pipe to be welded with the TIG welding process. Through an established progression of practice, the student should become proficient at welding pipe in the 2-G, 5-G, and 6-G positions. Training should include practice on six-inch pipe, advancing to TIG welding of small diameter pipe all the way out. Continued practice with the SMAW welding process will be required in this course. *Qualification will be available to those who achieve that level of expertise. Tests will be conducted in accordance with ASME Sec. IX Pipe Welding Code.*



**PROGRAM OFFERINGS FOR CONCURRENT CREDIT**  
**ARKANSAS NORTHEASTERN COLLEGE SECONDARY CENTER**

Class denoted by (\*) in a program area is the class that must be taken first in the program followed by any of the other classes offered in the semester. If a program area has no class denoted by (\*) the classes must be taken in the sequence listed.

Semester	Automotive Services Technology-High School Track	College Equivalent
1	Electrical Systems – 494190	Automotive Electronics AS17089
2	Engine Performance – 494200	Engine Performance AS17006
3	Suspension and Steering – 494210 Brakes – 494180	Automotive Chassis and Steering AS17054 Automotive Brake Systems AS17034
4	Automotive Elective	
Semester	Criminal Justice-High School Track	College Equivalent
1	*Intro to Criminal Justice – 494620	Intro to Criminal Justice I CJ15003
2	Criminal Law – 494610	Criminal Law and Procedure CJ25053
3	Law Enforcement I – 494630	Police Procedures CJ25083
4	Law Enforcement II – 494600	Criminal Investigation CJ25013
Semester	Medical Professions-High School Track	College Equivalent
1	Medical Terminology - 495360 Introduction to Medical Professions – 495340	Medical Terminology For Transcription OT21093
2	Medical Procedures – 495330 Medical Procedures Expanded – 495390	
3	Human Anatomy and Physiology – 495300	
4	Human Behavior and Disorders – 495320 Specialization/Medical Clinical Internship – 495310	Nursing Assistant NA16006
Semester	Welding Technology-High School Track	College Equivalent
1	Metal Fabrication – 495570	Oxy/Acetylene WE17001 Blueprint Reading WE 17013
2	Shielded Metal Arc Welding - 495580	SMAW Structural Welding (Partial Joint Penetration WE17094
3	Gas Metal Arc Welding – 495550	Gas Metal Arc Welding WE17064
4	Gas Tungsten Arc Welding - 495560	Tungsten Inert Gas (TIG) Manufacturing WE17074
Semester	Advanced Manufacturing-High School Track	College Equivalent
1	Introduction to Manufacturing – 494940	Introduction to Manufacturing – MT15003
2	Manufacturing Production Processes – 494960	Manufacturing Production Processes - MT15023
3	Manufacturing Power and Equipment Systems – 494970	Manufacturing Power and Equipment Systems - MT15033
4	Design for Manufacturing - 494950	Design for Manufacturing – MT5013
Semester	Education-High School Track	College Equivalent
1	Orientation to Teaching – 493240	
2	Technology for Teachers – 49324L	Introduction to Education Technology— ED23103