

**ARKANSAS STATE UNIVERSITY – NEWPORT
TECHNICAL CERTIFICATE
DIESEL TECHNOLOGY**

CORE CURRICULUM: (43 hours)

Requirements:		Credit Hours
DT	1002	Service/Maintenance2
DT	1022	Trailer Suspension/Brake2
DT	1031	Anti-lock Brake1
DT	1032	Brakes/ABS2
DT	1042	Intro to Hydraulics2
DT	1153	Elect Problem Solving3
DT	1202	Diesel Engines2
DT	1302	Diesel Fuel Systems2
DT	1412	Chassis & Steering2
DT	1512	Applications Lab I2
DT	1522	Applications Lab II2
DT	1532	Applications Lab III2
DT	1542	Heavy Duty Transmissions2
DT	1552	HVAC Service/Diagnostics2
ENG	1233	Technical Composition3
MATH	1103	Technical Mathematics3
MIS	1443	Technical Comp Applications3
PSY	1013	Human Relations3
TECH	1002	Introduction to Welding2
DTI	1107	Commercial Driver Training (elective) 7

Minimum Required Credit Hours (42)

11>22>2010



“ASUN: It’s Closer Than You Think”

Frequently Asked Questions

Q: Can I qualify for Federal Financial Aid?

A: Yes. The Technical Certificate in Diesel Technology is an accredited college program of study. The Financial Aid Office is able to provide all forms and is willing to help all students in the completion of the forms. Call 870-512-7835

Q: Is there housing available?

A: Yes, limited number of apartments (not on campus), information is available through student services. Call 870-512-7835



7648 Victory Blvd.
Newport, AR 72112
1-870-512-7800
1-800-976-1676
www.asun.edu



“A Great Place to start!”

Diesel Technology Program



“Our Business Is You”

Diesel Technology Program

Arkansas State University-Newport (ASUN) is excited to extend an opportunity to obtain a Diesel Technology Technical Certificate! Individuals are encouraged to apply early for admission and apply for industry scholarships. Once admitted, we hope you will take full advantage of this unique opportunity to learn and pursue an out-standing career.

Recent years have seen some remarkable changes in the field of truck technology. According to the U.S. Department of Labor, in 1965 a competent technician would need to be familiar with enough information to fill about 25,000 pages in a set of technical manuals. By 1990, the estimate had grown to nearly 465,000 pages. Since 1990, technology has accelerated at a blinding pace. The trucks of today are high-tech marvels of modern engineering. For instance: 20 years

Program Requirements

Emphasis will be placed on the safety of both the technician and the truck operator along with the use of special tools.

•DT 1002 **Service & Maintenance** -- This course begins with an overview of the various types of Technical Service Publications and vehicle identification. It then examines specific service and maintenance operations and procedures by vehicle system. The student will learn how to diagnose problems and make necessary adjustments and repairs using the appropriate technical data.

•DT 1022 **Trailer Suspension & Brake Systems**—A course concerning suspension, foundation, and air brake systems as pertains to heavy trailers. Design differences of trailer systems compared to truck systems will be the main area of study. Spring versus air suspension systems will also be discussed.

•DT 1031 **Anti-lock Braking Systems**—A course designed around ABS as it relates to air brakes and heavy trucks. Subject matter will include electronics and electronic/air interface. Current, past and future systems will be discussed at length.

•DT 1032 **Brakes /ABS**—This course provides students with information on Heavy Truck brake systems and components. The student will learn how the system is designed to operate, and what to look for when the brake system is not performing as designed. In addition, this course covers the operation of Anti-Lock systems along with appropriate troubleshooting and repair techniques.

ago, the truck's electrical system was used to start the engine, charge the batteries, and operate the lighting system.

Today, one would be hard-pressed to find a system anywhere on a vehicle that did not use some form of electronic control. Microprocessors, standard equipment on today's vehicles, are being utilized for everything from air conditioning to engine and transmission controls to collision avoidance systems. For today's technician, effective training has become essential. In an effort to meet the challenge of providing a source of qualified technicians Arkansas State University-Newport has joined forces with leading industrial partners in a unique union that links 21st century technology with proven educational leadership. The Diesel Technology Technical Certificate at ASUN is designed for students with above average academic ability as well as technical aptitude.

•DT 1042 **Introduction to Hydraulics**—A course designed around service and repair of contemporary and past hydraulic systems as used on heavy and medium trucks. Covered subject matter will include control side hydraulics: pumps, directional control valves, and pressure and flow regulators; and power side hydraulics: cylinders, motors, solenoids, and actuators. Manual, air, and electric controls will be covered, as will be hoses, lines and delivery ports.

•DT 1153 **Electrical Problem Solving**—This course covers basic electrical theory including both series and parallel circuits, and proper troubleshooting techniques to be used when isolating vehicles electrical problems. The use of a digital multi-meter is covered, as well as how to trouble-shoot key electrical circuits such as charging and starting systems. In addition, the student will also learn to use electrical schematics and harness drawings to analyze vehicle circuits.

•DT 1202 **Diesel Engines**—A study of the basic diesel engine construction, operation, and principles. This includes fuel injection systems, removal and replacement, engine timing and troubleshooting.

•DT 1302 **Diesel Fuel Systems** -- A study of fuel injection systems (pressured tried type and distributor type) and operational principles to include removal and replacement of pumps and injectors, timing, and troubleshooting.

•DT 1412 **Chassis & Steering** --Covers all aspects of contemporary heavy truck frame design, including attachment methods, spring and air ride suspensions, alignment and fifth wheel designs. Manual and power steering gears and

hydraulic steering pumps are covered in detail as well.

•DT 1502 **Heavy Duty Transmissions**—Introduction to heavy duty transmissions, mechanical transmission and differentials.

•DT 1512 **Applications Lab I**- A skills application class designed to give students an opportunity to apply diesel mechanics techniques with both static and live models. Use of hand tools, power tools, and safety are stressed.

•DT 1522 **Applications Lab II**—Designed to give students an opportunity to apply diesel mechanics techniques with both static and live models. Use of hand tools, power tools, and safety are stressed.

•DT 1532 **Applications Lab III**—Designed to give students an opportunity to apply diesel mechanics techniques with both static and live models. Use of hand tools, power tools, and safety are stressed.

•DT 1552 **HVAC Service & Diagnostics**- Students will be trained in proper refrigerant recovery and recycling procedures, safety precautions, purging, flushing, evacuation, re-charging and performance testing of mobile air conditioning systems.

•ENG 1233 **Technical Composition**—This course will include exercises in basic grammar, in mechanics, in sentence structure, and in paragraph structure. Instruction will include skills in completing repair orders, learning abbreviations, and writing complete, concise descriptions of mechanical problems.

•MATH 1103 **Technical Mathematics**—Designed for students in vocational programs, this course includes a review of arithmetic, calculator use, linear and angular measurement, use of formulas and equations, elementary applications of geometry and basic statistics.

•MIS 1443 **Technical Computer Applications**—Includes PC basics, browsing and searching the Web, sending e-mails and attachments, writing and printing documents, spreadsheets and databases, working with graphics, and working with industry specific software.

•PSY 1013 **Human Relations**—This course will cover basic psychology concepts and specific concepts that relate to industry specific skills necessary for the workplace. Customer relations issues will be a focus of the course.

•TECH 1002 **Introduction to Welding**—This is an introductory course into welding technology. In this course students will be instructed in proper welding techniques, safety, material selection, and testing practices for welded structures.