

Delta-Montrose Technical College

DIESEL MECHANICS TECHNOLOGY

THE PROGRAM

The emphasis of this program is on farm machinery and heavy equipment maintenance and repair. It includes gasoline and diesel engine rebuild and repair, fuel injection systems, medium to heavy duty power trains, computer diagnostics and trouble codes, basic welding and fabrication, and fleet management techniques.

CAREER OPPORTUNITIES

Students who successfully complete the Diesel Mechanics Technology program will have the skills necessary for an entry-level job in the agricultural and heavy equipment dealership market.

PREREQUISITES

Students are required to meet minimum TABES requirements.

CONTINUING EDUCATION

Our Community Education Department offers some of the Diesel Mechanics Technology classes in an evening or weekend format. These classes may be offered in full or in a modular format. Call 874-7671 for more information and current schedule.

COURSE AVAILABILITY

The Diesel Mechanics Technology program is a two-semester course. Program credit hours are subject to change.

Program information, courses, and credit hours are subject to change.

Class Schedule
7:45 a.m. – 11:30 a.m.
12:30 p.m. – 4:00 p.m.

DIESEL MECHANICS TECHNOLOGY CREDITS

ADE241 Tractor Tune-up and Care	4	DPM275 Special Topics	6
AME151 Fundamentals of Welding	3	EIC105 Basics of AC & DC Electricity.....	4
DPM231 Electrical Systems.....	8	HWE103 Community First Aid and CPR.....	1
DPM100 Introduction to Diesel Mechanics....	4	MAT107 Career Math.....	3
DPM101 Shop Safety: Hand and Power Tools2		Total Credits	74
DPM103 Diesel Engines I	4	<u>ELECTIVES</u>	
DPM111 Preventive		ASE110 Brakes I	3
Maintenance/Troubleshooting.....	3	ASE265 Automotive Heating and Air	
DPM120 Hydraulic Systems	6	Conditioning	5
DPM203 Diesel Engines II	4	CIS110 Introduction to the PC	1
DPM205 Heavy Duty Powertrains	4	COM100 Workplace Communication.....	1
DPM210 Air Induction and Engine Analysis ...	4	DPM106 Fuel Injection	4
DPM221 Engines	15	DPM206 Heavy Duty Brake Systems	4
		SBM101 Starting a Small Business	1

COURSE DESCRIPTIONS

ADE241 Tractor Tune-up and Care

4 Credits

Helps the student understand a systematic procedure to effectively tune-up and maintain both gasoline and diesel engines. Timing, electrical systems, proper lubrication, and selection of fuels are also presented.

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AME151 Fundamentals of Welding	3 Credits
Develops basic welding skills, principles, and practices in arc and oxy-acetylene welding.	
ASE110 Brakes I	3 Credits
Covers basic operation of automotive braking systems. Includes operation, diagnosis, and basic repair of disc brakes, drum brakes, and basic hydraulic systems.	
ASE265 Automotive Heating and Air Conditioning	5 Credits
Emphasizes lecture and related laboratory experiences in the diagnosis and service of automotive heating and air conditioning systems and their components.	
CIS110 Introduction to the PC	1 Credits
Provides the beginning computer user with hands-on experience in the elementary use of the personal computer. This course introduces the basic features of and the terminology associated with personal computers, including topics such as database, spreadsheet, and word processing.	
COM100 Workplace Communication	1 Credits
Covers topics that teach students how to communicate effectively in the workplace. Includes listening, speaking, reading, and writing, and emphasizes the importance of these four modes of communication in the workplace.	
DPM231 Electrical Systems	8 Credits
Focuses on the basic theory of electricity and its application to electrical charging and starting systems, relays, breakers, and solenoids. Enables students to apply their knowledge of electrical charging and starting systems to troubleshoot and maintain the electrical and computer systems.	
DPM100 Introduction to Diesel Mechanics	4 Credits
Focuses on a basic understanding of general maintenance procedures for trucks and trailers and outlines the duties and responsibilities of the diesel mechanic. Addresses the use of shop tools, shop equipment, and the use of flat-rate and vehicle and shop safety procedures, and tool requirements. Covers preventative maintenance procedures.	
DPM101 Shop Safety: Hand and Power Tools	2 Credits
Focuses on maintaining a safe and clean working environment and properly and safely using and caring for hand, electric, air, and hydraulic tools. Covers how to clean equipment properly, to handle and dispose of hazardous materials correctly, and to apply mandated regulations.	
DPM103 Diesel Engines I	4 Credits
Covers the theory of operation and repair of diesel engines with emphasis on the smaller automotive and medium range diesel engines. Enables the student to disassemble, inspect, and reassemble engines.	
DPM106 Fuel Injection	4 Credits
Covers the theory of operation and repair of fuel injection systems. Provides laboratory assignments that involve disassembly, assembly, and service procedures on fuel system components.	
DPM111 Preventive Maintenance/Troubleshooting	3 Credits
Enables the student to perform preventive maintenance on heavy equipment and trucks, and complete appropriate maintenance records. Addresses the process of diagnostics and troubleshooting.	
DPM120 Hydraulic Systems	6 Credits
Provides instruction on the basic fundamentals of hydraulics and their application to medium/heavy duty diesel equipment. Hydraulic pumps, valves, cylinders, motors, and accumulators are discussed.	
DPM203 Diesel Engines II	4 Credits
Continues to build on skills learned in Diesel Engines I with major emphasis on heavy duty diesel engine theory, diagnosis, and repair.	
DPM205 Heavy Duty Powertrains	4 Credits
Studies the power train from the clutch to the final drive on heavy-duty equipment. Includes a study of clutch types, transmissions, and final drives, and covers diagnosis and servicing of the components.	

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DPM206 Heavy Duty Brake Systems

4 Credits

Focuses on the various braking systems incorporated in heavy-duty trucks and heavy equipment. Includes a study of hydraulic, air, and engine brake systems and covers the diagnosis and service of the components.

DPM210 Air Induction and Engine Analysis

4 Credits

Covers the theory of operation and repair of turbochargers, superchargers, intercoolers, and various induction systems. Examines factors regulating engine performance failure and procedures for reclaiming engine performance.

DPM221 Engines

15 Credits

Studies the terminology and components of engines. Includes timing gear and lubrication systems. Students will gain hands-on practice in engine assembly and disassembly, troubleshooting, and repair.

DPM275 Special Topics

6 Credits

Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

EIC105 Basics Of AC & DC Electricity

4 Credits

Focuses on resistance, current, voltage, and power in AC and DC circuits; measurements; computations of series and parallel circuits; circuit analysis and troubleshooting with basic test equipment.

HWE103 Community First Aid and CPR

1 Credits

Uses demonstration videos, instructor led practice, and workbook/textbook study to prepare for certification in Adult/Child/Infant CPR and Community First Aid.

MAT107 Career Math

3 Credits

Covers material designed for career technical or general studies students who need to study particular mathematical topics. Topics may include measurement, algebra, geometry, trigonometry, graphs, and/or finance. These are presented on an introductory level and the emphasis is on applications.

SBM101 Starting a Small Business

1 Credits

Provides a brief overview of various topics related to starting a small business. Some topics are types of businesses, location, image, insurance, permits, and licenses.