



AUTOMOTIVE MANUAL DRIVE TRAIN AND AXLE INTRODUCTION

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Course Syllabus

Course Number:	MDT101	Instructor:	Ron Rader
OCAS Code:		Phone Number:	580-327-0344
Course Length:	15 hours	Email:	rrader@nwtech.edu
Career Cluster:	Transportation	Campus:	Alva, OK
Career Pathway:	Automotive Service	Program:	Automotive Service Technology
Career Major:	Automotive Service Technician, Automotive Maintenance Light Repair Technician		
Pre-requisite:	Automotive Introduction		
Course Description:	In this course the student will learn about the components that make up the manual transmissions, final drive systems, drive lines and clutch systems. Students will learn to check and adjust fluid levels, check drive shaft joints and check and adjust clutches.		
Instructional Philosophy:	To provide a training program that is of merit both educationally and ethically while effectively providing the individual learner the opportunities, knowledge and skills necessary to succeed in the workplace as well as life.		
Course Goals:	Upon successful completion of this course, the student will be able to:		
	Competencies: Transmission Systems Manual transmission systems: Components Checking & adjusting transmission fluid Changing manual transmission fluid Checking & adjusting differential/transaxle fluid Final Drive & Driveline Final drive & driveline: Components Checking rear wheel drives Identifying driveline components Checking drive shaft joints Clutch and Associated Systems Clutch systems: Types Clutch systems: Components Clutch systems: Mechanisms Checking & adjusting clutches		
Major Course Projects:	Students will perform tasks relating to the Automotive Service Industry as per standards identified by the National Automotive Technicians Education Foundation (NATEF). Students will complete repair orders each day and will document completion of competencies on competency profiles tracking individual progress and accomplishment.		
Project Outline:	Projects will include performing tasks on mock ups, shop vehicles, and live work as student skills progress. These projects will reinforce classroom theory instruction and will require the student to consult industry service information during the course of task performance.		
Instructional Delivery Plan:	The instruction for this course will be comprised of multiple methods designed to promote and accommodate different learning styles including classroom lecture,		

classroom demonstrations, shop demonstrations, hands on learning activities, classroom discussion, interactive media, textbook, computer based learning activities, research projects, guest speakers, student presentations, and interactive learning with CPS (Classroom Performance System). Students will be required to practice the skills associated with the instructional content and will be required to work independently and also in teams. Assignments will require students to use academic skills in math, science, and language arts.

Assessment Plan: Students will be assessed according to three basic kinds of learning. Knowledge: Does the student possess the required knowledge to perform a specific competency? Skills: Does the student possess the necessary coordination to perform the task/competency? Attitude: Will the student perform the task/competency on the job after learning to do it? Students will also be assessed according to the basic work skills of attendance and promptness. Soft skills will be assessed in the Academic Career Center.

- 50% Daily work- Performance of technical skills on job, work habits, safety, clean-up, participation
- 50% Written assignment- Repair orders, textbook assignments, etc.

Grading Scale:

- A 90-100 Exceeds expectations
- B 80-89 Meets industry standards and expectations
- C 70-79 Passing grade, but does not meet some standards
- D 60-69 Passing, but only meets the minimum standards
- F Below 60 Failing, does not meet minimum standards

Alliance Credit Offered:

OSU Okmulgee

Industry Alignments: ASE Certification, ODCTE Certification,

End of Instruction Industry Assessment: ASE Certification, ODCTE Certification,

Resources:

- Automotive Excellence Vol. 1 and Vol. 2
- Modern Automotive Technology
- Introduction to Automotive Service: Fundamental Concepts
- CDX Global Interactive Training
- Snap On Shop Key
- Alldata

Attachments: See Automotive Service Technology Task List Competency Handbook