



DEM252 Power Trains for Construction

Course Information

Credits	3
Campus	Washburn Institute of Technology
Address	5724 SW Huntoon
City/State/Zip	Topeka, Kansas 66604
Office Fax	785-273-7080

Description

Powertrains components of CASE Construction equipment, clutch systems, hydrostatic drives, final drives and shuttles are studied. The understanding of the operation of mechanical, power shift, power shuttle, S type power shift, and hydrostatic transmissions is included. Hands-on work includes disassembly, reassembly, component identification, pressure/flow testing, calibrations, tracking and adjustments.

Textbooks

MHT - Shrink-wrapped Package: Tasksheet Manual Includes Systems & Engines / TWO Year Online Access
Pack Publisher: CDX 9781284099874

OPTIONAL (in addition to above):

Fundamentals of Medium/Heavy Duty Commercial Vehicle Systems <i>Text-Hard (paper) edition</i>	CDX 9781284041163
Fundamentals of Medium/Heavy Duty Diesel Engines <i>Text-Hard (paper) edition</i>	CDX 9781284067057

Student Learning Outcomes:

- A. Communicate effectively
- B. Integrate technology
- C. Learn effectively
- D. Demonstrate cooperative teamwork skills
- E. Apply safety in the workplace
- F. Think critically and creatively
- G. Demonstrate responsible work ethics

Competencies

Rating	Tasks Covered in this Course	Source
XXX	The first task in Preventive Maintenance is to listen to and verify operator's concern, review past maintenance documents, and record condition on appropriate document.	NATEF
XXX	5. Tires and Wheels (PMI Tasks - NATEF)	NATEF
	1. Inspect tires for wear patterns and proper mounting.	P-1
	2. Inspect tires for cuts, cracks, bulges, and sidewall damage.	P-1
	3. Inspect valve caps and stems; determine needed action.	P-1
	4. Measure and record tread depth; probe for imbedded debris.	P-1
	5. Check and record air pressure; adjust air pressure in accordance with manufacturers' specifications.	P-1
	6. Check wheel mounting hardware; determine needed action.	P-1
	7. Inspect wheels for cracks, damage and proper hand hold alignment.	P-1
	8. Check tire matching (diameter and tread) on single and dual tire applications.	P-1
	For every task in Drive Trains, the following safety task must be strictly enforced: Comply with personal and environmental safety practices associated with clothing; eye protection; hand protection; proper lifting practices; hand tools; power equipment; proper ventilation; and the handling, storage, and disposal of fuels/chemicals/materials in accordance with federal, state, and local regulations.	
	The first task in Drive Train is to listen to and verify the operator's concern, review past maintenance and repair documents, and determine necessary action.	
	II. DRIVE TRAIN	
	D. Drive Axle	
	1. Identify causes of drive axle(s) drive unit noise and overheating problems; determine needed action.	
	2. Check and repair fluid leaks; inspect and replace drive axle housing cover plates, gaskets, sealants, vents, magnetic plugs, and seals.	

Guidelines for Success *(See Program Syllabus for additional information.)*

Assessment Plan

Assessment is an integral part of the educational process at Washburn Tech and accurate feedback is an important tool in continuously improving the institution's technical programs. Students can expect to participate in assessment activities prior to entry into programs, within specific courses and following program completion for specific fields of study.

Grading Rationale

Student progress is evaluated by means that include, but not limited to:

- Lab Work (40%)
- Professional Behavior (30%)
- Classroom Activities/Homework (10%)
- Quizzes & Tests (10%)
- Final Exams (10%)

Grading Scale

90-100% A
80-89% B
70-79% C
60-69% D
59% or less F

Attendance

Attendance is a key part of success in the program and in the workplace. Students are to arrive for class on time and be prepared to learn. Absences or tardiness will negatively impact grades. Missed time cannot be made up. Many assignments and labs cannot be "made-up" if missed. The options to make-up missed work or to accept late work is at the discretion of the instructor.

Disability

The Americans with Disabilities Act (ADA) Office is responsible for assisting in arranging accommodations and for identifying resources at Washburn Institute of Technology for persons with disabilities. Qualified students with disabilities MUST self-identify by completing an application. In addition students must provide appropriate medical documentation to the ADA coordinator to be eligible for accommodations. New requests for accommodations should be submitted at least two months or more prior to the date the accommodations are needed. However, please contact the ADA office as soon as a need may arise. Depending on the accommodation request, four to eight weeks lead time may be needed for timely and effective provision of accommodations.

The ADA Office coordinates and assists in arranging accommodations it deems appropriate for eligible students on a case-by-case basis. If you are a student with a disability that may substantially limit your ability to participate in any of our classes and you believe that you will need accommodations, it is your responsibility to contact:

ADA Coordinator

Phone: 785-670-3365 Email: gloria.christian@washburn.edu

It is the policy of Washburn Institute of Technology to assure equal employment and educational opportunity to qualified individuals without regard to race, color, sex, age, ancestry, marital or parental status, disability, religion, national origin, or sexual orientation/gender identity. Contact Pam Foster, Morgan Hall, Room Washburn University (785-670-1509), and pam.fosterel@washburn.edu.