DET 184 Course Outline as of Fall 2014

CATALOG INFORMATION

Dept and Nbr: DET 184 Title: MOBILE HYDRAULICS
Full Title: Mobile Hydraulics
Last Reviewed: 1/22/2018

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.25	17.5	Lecture Scheduled	39.38
Minimum	3.00	Lab Scheduled	2.25	8	Lab Scheduled	39.38
		Contact DHR	0		Contact DHR	0
		Contact Total	4.50		Contact Total	78.75
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 78.75 Total Student Learning Hours: 157.50

Title 5 Category:	AA Degree Applicable
Grading:	Grade Only
Repeatability:	00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:	AGMEC 84
Formerly:	DET 84

Catalog Description:
Study of the theory, application and component parts of hydraulic systems. Emphasizes fundamentals in inspection, troubleshooting and repair of hydraulic components commonly used in agricultural and construction equipment.

Prerequisites/Corequisites:

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100 and Course Completion of DET 179

Limits on Enrollment:

Schedule of Classes Information:
Description: Study of the theory, application and component parts of hydraulic systems. Emphasizes fundamentals in inspection, troubleshooting and repair of hydraulic components commonly used in agricultural and construction equipment. (Grade Only)
Prerequisites/Corequisites:
Recommended: Eligibility for ENGL 100 or ESL 100 and Course Completion of DET 179
Limits on Enrollment:

Transfer Credit:
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**	Effective:	Inactive:
CSU GE:	**Transfer Area**	Effective:	Inactive:
IGETC:	**Transfer Area**	Effective:	Inactive:

CSU Transfer:	Effective:	Inactive:
UC Transfer:	Effective:	Inactive:

CID:

Certificate/Major Applicable:
Both Certificate and Major Applicable

COURSE CONTENT

Outcomes and Objectives:
Upon successful completion of this course students will be able to:
1. Explain the operating principles of fluid power systems.
2. Apply the nomenclature of hydraulics and use and interpret the proper symbols.
3. Identify and assess hydraulic system components.
4. Examine and evaluate hydraulic components.
5. Replace components in the system and test for proper operation.
6. Interpret instructions and repair manuals to diagnose systems, perform basic repair and maintenance.
7. Discuss and apply personal, shop, and environmental safety procedures.

Topics and Scope:

1. Principles of hydraulics
   a. basic laws of fluids
   b. graphic symbols
   c. system operation
2. System design
   a. block type system
   b. open and closed systems
   c. hydraulic circuits
3. Hydraulic components
   a. reservoirs
   b. filtration
   c. hoses and tubing
   d. pumps
   e. motors
   f. valves
   g. accumulators

4. Maintenance & repair
  a. basic troubleshooting
  b. cleaning procedures
  c. failure analysis
  d. general maintenance
  e. component repairs
5. Safety
  a. personal
  b. shop
  c. environmental

Assignment:

1. Complete reading (approximately) 30 pages a week
2. Complete force, area and pressure calculation worksheets
3. Perform maintenance and inspection procedures and prepare written reports
4. Disassemble, evaluate and reassemble components
5. 3 to 5 exams

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Reports	Writing 10 - 30%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Force, area and pressure calculation worksheets	Problem solving 10 - 25%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Component evalutation	Skill Demonstrations 20 - 40%

Exams: All forms of formal testing, other than skill performance exams.

Multiple choice, short essay	Exams 20 - 50%

Other: Includes any assessment tools that do not logically fit into the above categories.

None	Other Category 0 - 0%

Representative Textbooks and Materials:
Fundamentals of Service, Hydraulics: Deere & Co., 3rd Ed. 2006