



MASTER COURSE OUTLINE

COURSE TITLE: Hydraulics II

Dept.: Agricultural Mechanics

CIP Code: 01.0205

CREDITS: 5

Total Contact Hrs Per Qtr.: 77

Distribution Design:

Course Num: 241

Intent Code:

Lecture Hrs: 33

DATE: 4/28/20

(Formerly:)

Program Code: 123

Lab Hrs: 44

Other Hrs:

Prepared By: Brett Iksic

COURSE DESCRIPTION (as it will appear in the catalog)

This course, a continuation of Hydraulics I, is a deeper dive into hydraulic technologies. Topics such as charge pumps, PFC pumps, hydrostats, pilot-operated valves, and load-sensing systems will be covered. Students will practice safely operating, testing, and adjusting these systems. Students will also use hydraulic schematics to test and troubleshoot various hydraulic systems and components.

PREREQUISITES: AGM 141 Hydraulics I (required).

TEXTBOOK GUIDELINES: Textbook determined by Agriculture Mechanics Faculty (Example: Hydraulic Systems for Mobile Equipment, Dell, Timothy).

STUDENT LEARNING OUTCOMES: *Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills.*

1. Identify components in a hydraulic system.
2. Utilize schematics to describe the function and operation of a hydraulic system.
3. Utilize schematics to determine proper testing techniques required for troubleshooting various hydraulic issues.
4. Perform tests and adjustments to hydraulic flow.
5. Perform tests and adjustments to hydraulic pressure.

INSTITUTIONAL OUTCOMES

3. Students will be able to demonstrate teamwork, ethics, safety awareness, and/or workplace specific skills related to agricultural mechanics.

COURSE CONTENT OUTLINE

1. PFC Hydraulic Systems and Safety
 - Precautions when working with PFC Systems
 - System Components and Function
2. Load Sensing
 - Function and Operation
 - Load Sensing Components and Circuits
3. Hydrostatic Systems
 - System Components and Function
4. Hydraulic Systems
 - Diagnosing Hydraulic Issues
 - System testing and adjustments

DEPARTMENTAL GUIDELINES (optional)

DIVISION CHAIR APPROVAL

DATE