



MASTER COURSE OUTLINE

COURSE TITLE: Drivetrains II

Dept.: Agricultural Mechanics

CIP Code: 01.0205

CREDITS: 5

Total Contact Hrs Per Qtr.: 77

Distribution Design:

Course Num: 251

Intent Code:

Lecture Hrs: 33

DATE: 4/29/20

(Formerly:)

Program Code: 123

Lab Hrs: 44

Other Hrs:

Prepared By: Brett Iksic

COURSE DESCRIPTION (as it will appear in the catalog)

A continuation of Drivetrains I, this course covers the safe servicing practices of hydraulically lubed axles, semi and full powershift transmissions, service and park brakes, and differential locks. Other topics include hydraulic clutches, lube circuits, and hydraulic brakes. Students will practice operating, calibrating, and configuring both electronically and non-electronically controlled systems.

PREREQUISITES: AGM 151 Drivetrains I (required).

TEXTBOOK GUIDELINES: Textbook determined by Agriculture Mechanics Faculty.

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

1. Differentiate between semi and full powershift transmissions.
2. Explain how power is transferred through a powershift transmission.
3. Describe the function and importance of lube circuits.
4. Describe the operation and purpose of differential locks.
5. Articulate the importance of PWM solenoids.
6. Demonstrate proper calibration and configuration.

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. Drivetrain Safety
2. Agriculture Transmissions
 - Solenoids
 - Hydraulic Clutches
 - Powershift
 - Semi Powershift
 - Diagnostics
 - Servicing
3. Axles
 - Lubrication
 - Differential Locks
 - Brakes
 - Servicing
4. Mechanical Adjustments
5. Electronic Adjustments
 - Calibrations
 - Configurations

DEPARTMENTAL GUIDELINES *(optional)*

--

DIVISION CHAIR APPROVAL

DATE