

SOUTHEAST COMMUNITY COLLEGE
ADVANCED TECHNOLOGIES & SKILLED TRADES DIVISION
JOHN DEERE TECH
COURSE SYLLABUS
September 10, 2025

I. CATALOG DESCRIPTION

Course Number: JDAT2340
Course Title John Deere Advanced Hydraulics and Powertrains
Prerequisite(s): JDAT1130, JDAT1220

Catalog Description: This course will cover the complete hydraulic and power train system, diagnostics, tests, and adjustments of hydraulic and power train equipped John Deere Ag products.

Credit Hours: 6
Classroom Hours: 38
Lab Hours: 158
Total Contact Hours: 196

II. COURSE OBJECTIVES: *Course will:*

- A. Demonstrate flow testing of hydraulic systems.
- B. Perform pressure testing on power-shift transmission circuits.
- C. Perform pressure tests on hybrid transmission circuits.
- D. Demonstrate leak testing transmission elements.
- E. Perform adjustment procedures of stand-by and stall pressures.
- F. Examine hybrid transmission power flow.
- G. Perform transmission calibration.
- H. Demonstrate controller reprogramming.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES

A. STUDENT LEARNING OUTCOMES: *Student will be able to:*

- 1. Flow Test John Deere hydraulic systems.
- 2. Perform pressure tests on power-shift transmission circuits.
- 3. Perform pressure tests on hybrid transmission circuits.
- 4. Leak test elements of transmissions.
- 5. Adjustment stand-by and stall pressures.
- 6. Identify system configurations
- 7. Perform connected diagnostics
- 8. Enable transmission tow mode
- 9. Service mechanical, hybrid, and power-shift transmissions
- 10. Trouble shoot John Deere transmissions

B. GENERAL EDUCATION LEARNING OUTCOME:

GELO #3: Critical Thinking & Problem Solving

- 1. Synthesize information to arrive at reasoned solutions to problems.
- 2. Acquire and integrate knowledge and construct relationships across disciplines.

IV. CONTENT/TOPICAL OUTLINE

- A.** Hydraulic diagnostics
- B.** Calibration
- C.** Hydraulic testing and troubleshooting procedures
- D.** Hybrid transmission diagnostics and service
- E.** Controller programming and calibration

V. INSTRUCTIONAL MATERIALS

- Required text(s):** John Deere Technical Manuals (Service Advisor) from library
John Deere Fundamental of Service; Hydraulics and Power Trains
- Other material(s):** Tools- See current required student tool list
Testing equipment from program tool room
John Deere dealer provided uniform
Leather work shoes
Safety glasses conforming to z-87 regulations
Notebook
Writing utensil
RACF identification and password

VI. METHODS OF PRESENTATION/INSTRUCTION

A. Methods of presentation typically include a combination of the following:

1. Lecture
2. Small and large group discussion
3. Video presentations
4. Demonstrations
5. Project boards
6. Flip charts
7. Handouts
8. Observations
9. Assigned Lab projects

VII. METHODS OF EVALUATION

A. Methods of evaluation typically include a combination of the following:

1. Notebook (if required)
2. Quizzes
3. Tests
4. Presentations
5. Demonstrations

Grading will follow the SCC Standard Grade Scale Policy. See **Course Information Document** for specific details on how the course grades are calculated.

VIII. SPECIFIC COURSE REQUIREMENTS:

- A.** Students must complete all tests, projects, assignments, and notebook (if required).
- B.** Students must earn a final grade of 70% (2.0) or higher.
- C.** Program safety rules will be followed. See the **Course Information Document** for any additional safety rules established by the instructor.

- D. Safety belts will be worn at all times, on or in any motorized vehicle, if equipped.
- E. Attendance and participation. See **Course Information Document** for attendance and participation policy.