

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

I. CATALOG DESCRIPTION

Course Number: JDAT2410
Course Title John Deere Tillage, Seeding and Harvesting
Prerequisite(s): JDAT 2320, JDAT 2340

Catalog Description: This course covers the theory, design, principles of operation and adjustment, troubleshooting and repair of tillage equipment, planting equipment and harvesting equipment. Primary, secondary, and row crop tillage tools will be covered as well as row crop planters, and grain drills. Harvesting will cover the inspection and repair of all combine operational systems as well as the header systems.

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

II. COURSE OBJECTIVES: *Course will:*

- A. Identify the of different types of tillage equipment and their uses.
- B. Train students to understand and adjust anhydrous applicators.
- C. Train students on sprayer and sprayer display features and settings
- D. Identification of different types of planting equipment and their uses.
- E. Identify tractor to planter compatibility issues and successfully couple a planter to the tractor.
- F. Inspect, repair, adjust and test finger pick up, vacuum and electric drive meter units.
- G. Safety procedures on and around a combine.
- H. Proper setup and maintenance of a combine.
- I. Operate Armrest operating features, Command Center and corner post display units.
- J. Machine and Implement calibrations.
- K. Gearbox disassembly and repair.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES

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

- 1. Identify different types of tillage equipment and their uses
- 2. Identify different types of primary tillage equipment and their uses.
- 3. Troubleshoot and make adjustments on anhydrous applicators.
- 4. Identify different types of secondary tillage equipment and their uses.
- 5. Setup and troubleshoot John Deere sprayers.
- 6. Identify different types of conservation tillage equipment and their uses.
- 7. Identify different types of planting equipment and their uses.
- 8. Demonstrate how to properly setup and size a tractor for planter compatibility.
- 9. Demonstrate how to successfully couple a planter to a tractor and operate its functions.

10. Identify, troubleshoot, repair and adjust finger pick up meter units.
11. Identify, troubleshoot, repair and adjust vacuum meter units.
12. Identify, troubleshoot, repair and adjust electric drive meter units.
13. Identify different harvesting operations.
14. Describe and demonstrate proper safety procedures on and around a combine.
15. Describe necessary operations common to all combines.
16. Demonstrate proper field adjustments.
17. Operate automatic machine setup feature.
18. Describe and demonstrate proper setup and maintenance of a combine.
19. Understand the differences between the different classes of John Deere Combines.
20. Hook up implements and run calibrations.
21. Diagnosis gearbox failures, disassemble, repair, adjust, reinstall and test gearboxes.
22. Identify changes on the new model year machines.

B. GENERAL EDUCATION LEARNING OUTCOME:

GELO #3: Critical Thinking & Problem Solving

1. Collect, identify, interpret and analyze data.
2. Synthesize information to arrive at reasoned solutions to problems.
3. Evaluate the validity of arguments, alternatives, data, outcomes, and/or impacts of actions.
4. Acquire and integrate knowledge and construct relationships across disciplines.

IV. CONTENT/TOPICAL OUTLINE

- A. History of tillage
- B. Primary tillage equipment
- C. Secondary tillage equipment
- D. Conservation tillage equipment
- E. Sprayers and anhydrous applicators
- F. History of planters
- G. Finger pick up Meters
- H. Vacuum and pressurized air meters
- I. Electric drive meter units

V. INSTRUCTIONAL MATERIALS

Required text(s): Text books for this class will be supplied by the instructor.

Other material(s): Required tool set
 Safety glasses (regulation Z87)
 Leather boots
 John Deere uniform
 Colored pencils
 Notebook
 Writing instruments
 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. Field trips

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.