**BARTON COMMUNITY COLLEGE**

**COURSE SYLLABUS**

1. **GENERAL COURSE INFORMATION**

Course Number: CNHI 1188

Course Title: Midrange Combines: class 5, 6, 7

Credit Hours: 1-3 variable credit

Prerequisites: None

Division/Discipline: Workforce Training and Community Education-Case/New Holland

Course Description: This course is designed to acquaint the technician with the various operational systems utilized on midrange combines; class 5, 6, & 7. Particular emphasis will be placed on electronic and hydraulic control systems operation, diagnostics, and repair.

Variable Credit: If the student enrolls in a 4-day face to face diagnostics class, then it is a 2 credit hour course. If the student enrolls in a 2-day product update class it is a 1 credit hour course, and if the student enrolls in the 6-week online and 2-day face to face class, it is a 3 credit hour course. All sections of the course cover the same material.

1. **INSTRUCTOR INFORMATION**
2. **COLLEGE POLICIES**

Students and faculty of Barton Community College constitute a special community engaged in the process of education. The College assumes that its students and faculty will demonstrate a code of personal honor that is based upon courtesy, integrity, common sense, and respect for others both within and outside the classroom.

Plagiarism on any academic endeavors at Barton Community College will not be tolerated. The student is responsible for learning the rules of, and avoiding instances of, intentional or unintentional plagiarism. Information about academic integrity is located in the Student Handbook.

The College reserves the right to suspend a student for conduct that is determined to be detrimental to the College educational endeavors as outlined in the College Catalog, Student Handbook, and College Policy & Procedure Manual. (Most up-to-date documents are available on the College webpage.)

Any student seeking an accommodation under the provisions of the Americans with Disability Act (ADA) is to notify Student Support Services via email at disabilityservices@bartonccc.edu.

1. **COURSE AS VIEWED IN THE TOTAL CURRICULUM**

This course is one in a series of Case-New Holland Industrial Service Training courses. This course is not open to the general public, and is not designed as a transfer course.

The course will introduce midrange combines: class 5, 6, & 7. The technician will have sufficient shop time to become familiar with the new product.

**V. ASSESSMENT OF STUDENT LEARNING**

Barton Community College is committed to the assessment of student learning and to quality education. Assessment activities provide a means to develop an understanding of how students learn, what they know, and what they can do with their knowledge. Results from these various activities guide Barton, as a learning college, in finding ways to improve student learning.

Course Outcomes, Competencies, and Supplemental Competencies:

1. Identify and understand the major hydraulic circuits of a midrange combine.
2. Locate major components, state their function and how they are used on the combine.
3. Demonstrate the approved pressure testing and calibration methods for the system and its components.
4. Define and demonstrate hydraulic testing procedures to accurately diagnose faults
5. Understand the electrical system and its related components and functions on the combine.
6. Demonstrate the diagnosing, testing, and repair of the CAN (Controller Area Network) data bus.
7. Use the instrumentation system to retrieve and accurately diagnose the electrical system faults.
8. Define all controllers in the electrical system and their function.
9. Use the Electronic Service Tool to retrieve faults, preform component tests, and download software.
10. Understand the 6.7L and 9L engine, fuel delivery system, sensors, and SCR system.
    1. Define the components and their functions in the fuel system.
    2. Define the components of the Selective Catalytic Reduction (SCR) system, related controllers, and functions on the combine.
11. Understand the main drive components of the combine including the PTO (Power Take Off), rotor, feeder, and header drive gearboxes.
    * 1. Define and demonstrate testing procedures to accurately diagnose faults.
      2. Analyze the power flow through each system, and how the systems function together.
12. **INSTRUCTOR'S EXPECTATIONS OF STUDENTS IN CLASS**

**VII. TEXTBOOKS AND OTHER REQUIRED MATERIALS**

**VIII. REFERENCES**

**IX. METHODS OF INSTRUCTION AND EVALUATION**

**X. ATTENDANCE REQUIREMENTS**

**XI. COURSE OUTLINE**