

Course Code: AGB 201 (IAI AG 906)

Course Title: Introduction to Agricultural Mechanization

Department: Agricultural Technologies

Effective Date: Summer 2026

PCS Code: 1.1 - Baccalaureate/Transfer

CIP Code: 01.0201

Repeatability: 0

Credit Hours

Catalog Notation: 2-2-3

Credit Hour Distribution:

Lecture: 2

Lab: 2

Clinical: 0

Total: 3

General Course Information

Catalog Description

Principles and applications of agricultural mechanization with emphasis on structures, electrification, power sources, and soil and water conservation.

General Course Objectives

Students will have a basic understanding of the many aspects of the agricultural mechanization field.

Minimum Placement Levels

English	Reading	Math
Placement into ENG 098	Placement into CCS 098	Placement into MAT 060

Prerequisites

None

Methods of Evaluation

The minimum number of evaluation methods include: 4 quizzes, 8 lab exercises, and 1 final exam.

Instructional Materials and Additional Supplies

None.

Course Content

General Learning Outcomes (GLOs)

- Reasoning and Inquiry: Students will demonstrate the ability to solve problems using deductive reasoning and logic, quantitative reasoning, or the scientific method.
- Technology: Students will demonstrate the ability to evaluate, select, and appropriately use current and emerging tools.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Introduction to Agriculture Mechanization	1. Identify career opportunities in the agriculture mechanization and engineering fields.	2	0	0
Electrical Wiring	1. Explain the source of electricity. 2. Define electron flow, voltage, amperage, resistance, and Ohm's Law. 3. Calculate the cost of electricity. 4. Diagram an electrical circuit for a building. 5. Wire a single pole, 3-way, and 4-way switch, duplex receptacle, and entrance services (110 or 220 volt systems). 6. Demonstrate the use of the electrical code in all applications used in the course. 7. Describe and identify the differences in single-phase and 3-phase systems.	6	6	0
Metals and Welding	1. Demonstrate safe operations of an arc welder and oxyacetylene equipment. 2. Identify the components of an arc welder and oxyacetylene equipment. 3. Demonstrate basic arc welding and oxyacetylene cutting.	2	1	0
Internal Combustion Engines	1. Describe the functions of a 2-cycle gas, a 4-cycle gas, and a diesel engine including carburation, firing, power, lubrication, etc. 2. Identify the parts of both a 2-cycle and 4-cycle engine. 3. Troubleshoot and solve, disassemble, and reassemble a 4-stroke engine.	4	4	0
Agriculture Equipment Management	1. Identify all major pieces of agricultural equipment and describe their function. 2. Identify the parts of the major types of equipment used in this geographic area. 3. Explain the basics of properly setting up a planter, adjusting a combine, and calibrating a sprayer. 4. Describe how to determine tractor, power take-off (PTO), and draw bar horsepower.	6	7	0
Agriculture Structures	1. Demonstrate how to read a blueprint. 2. Compare and contrast available materials choices. 3. Calculate a bill of materials and a cost bid. 4. Describe the various types of farm buildings and various construction materials including concrete, wood, masonite, brick, and aluminum. 5. Demonstrate basic wood construction skills. 6. Demonstrate basic concrete and masonry skills.	7	8	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Soil and Water Conservation	1. Demonstrate measuring linear distances and the formation of right angles using a 100 ft. steel tape. 2. Demonstrate how to set up and adjust a transit level. 3. Demonstrate how to use the rod in surveying. 4. Solve a differential leveling problem. 5. List and describe the major materials and structures used in drainage of farmland.	3	4	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
30	30	0