South Central College

MEAG 1001 Mechatronics Applications in Agriculture

Common Course Outline

Course Information

Description This class is designed to introduce students to agricultural practices that have used automation technology to reduce input costs, decrease manual labor, improve safety, and/or increase efficiency and accuracy. Students will get a historic perspective of technological advances in agriculture, a sense of the current reality of mechatronics use in agribusiness, and evaluate areas ripe for automation upgrades. (Prerequisite: None).

Total Credits 3

Total Hours 48

Types of Instruction

Instruction Type	Credits/Hours
Lecture	3/48

Course Competencies

1. Define Mechatronics as it relates to the agricultural industry.

Learning Objectives

List the purposes and uses of automation.
Create and overview of basic mechatronic systems and components and their uses.

2. Define Agriculture as it relates to the mechatronics industry.

Learning Objectives

List the common mechatronics systems historically prevalent in agriculture.
Understand AFNR, the systems pathway, and the chain of production (field to fork) as it relates to ag careers.

3. Analyze the role of mechatronics in agricultural manufacturing.

Learning Objectives

Identify current mechatronics applications used by agricultural machinery and input manufacturers.
Describe some of the mechatronic systems and components used by agricultural manufacturing.

4. Analyze the role of mechatronics in agribusinesses providing producers with agricultural inputs.

Learning Objectives

Identify current mechatronics applications used by agribusinesses selling, distributing, and transporting inputs.
Describe some of the mechatronic systems and components used by agricultural manufacturing.

5. Analyze the role of mechatronics in agronomy production.

Learning Objectives

Identify current mechatronics applications used in agronomy production.
Explore the historic practices that those applications improved upon.

6. Analyze the role of mechatronics in livestock production.

Learning Objectives

Identify current mechatronics applications used in livestock production.
Explore the historic practices that those applications improved upon.

7. Analyze the role of mechatronics in food processing.

Learning Objectives