SOUTHEAST COMMUNITY COLLEGE
COURSE SYLLABUS
ADVANCED TECHNOLOGIES & SKILLED TRADES

Precision Agriculture
Revision Date: August 2025

I. CATALOG DESCRIPTION

Course Number: AGRI 1163
Course Title Precision Ag Electrical Fundamentals
Prerequisite(s): **None**

Catalog Description: The study of electricity and how it is integrated into agricultural components

Credit Hours: 2.0
Class Hours: 23
Lab Hours: 23
Total Contact Hours: 46

II. COURSE OBJECTIVES: *Course will:*

1. Explain the fundamentals and theories of electricity
2. Instruct the students on components and tools relating to electricity
3. Explain the way that electricity is used in the agriculture equipment industry
4. Expose students to electrical malfunctions and their characteristics
5. Introduce students to common electrical components used in agriculture equipment

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

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

a. Identify, repair, and replace electrical components
b. Build and explain the theory of an electrical circuit
c. Identify and explain common electrical components
d. Diagnose electrical issues on agriculture equipment

B. GENERAL EDUCATION LEARNING OUTCOMES

GELO #3: Critical Thinking & Problem Solving

Critical thinkers have the ability to evaluate a problem or assumption and determine an appropriate course of action. They use reason and evidence to make judgments and decisions. Critical thinking and problem-solving skills rank highly among employer expectations.

Outcomes:

1) Collect, identify, interpret and analyze data.

IV. CONTENT/TOPICAL OUTLINE (*course outline may provide more detailed information)*

A. Understand the fundamentals and safety aspects of electricity
B. Understand electrical componentry
C. Understand common electrical components

D. Electrical failures and diagnostics
E. Multimeter operation

V. INSTRUCTIONAL MATERIALS

A. Required Text(s): No Required Text

B. Other Resources:

VI. METHODS OF PRESENTATION/INSTRUCTION

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

1. Presentation methods will include, but not limited to demonstrations, practice activities to develop proficiency and over the shoulder supervision and instruction.

2. Laboratory assignments and projects designed to develop design and problem-solving skills

VII. METHODS OF EVALUATION

Methods of evaluation typically include a combination of the following:

A.
B. Completion of daily assignments
C. Daily participation
D. Quizzes and tests
E. Practical Exams

SCC STANDARD GRADING SCALE POLICY:

A+	**95-100**	**C+**	**75-79**
A	**90-94**	**C**	**70-74**
B+	**85-89**	**D+**	**65-69**
B	**80-84**	**D**	**60-64**
		F	**Below 60**

VIII. SPECIFIC COURSE REQUIREMENTS:

A. Successful completion of daily projects designed to develop specific skills which build upon one another
B. Successful mastery of lab skills is essential in this class
C. Students are responsible for backing up their own files onto their network drive and maintaining security.