

**SOUTHEAST COMMUNITY COLLEGE**  
**COURSE SYLLABUS**  
**TRANS-WELDING-AG**  
**Agriculture Management & Production**  
**Revision Date: August 2020**  
[Syllabus Statements](#)

**I. CATALOG DESCRIPTION**

**Course Number:** AGRI1135  
**Course Title** Basic Fertilizer Management  
**Prerequisite(s):** None

**Catalog Description:** Methods of evaluating soil fertility, prescribing and formulating fertilizer blends, and calibration and operation of application equipment. Forms of fertilizer uses, storage, and plant processes and operations.

**Credit Hours:** 2.0  
**Class Hours:** 23  
**Lab Hours:** 23  
**Total Contact Hours:** Total of Class + Lab Hours 46

**II. COURSE OBJECTIVES:** *Course will:*

1. Discuss soil factors affecting fertilizer application.
2. Demonstrate soil factors that affect plant utilization of nutrients.
3. Identify the essential nutrients for plant growth and development.
4. Introduce the functions of essential nutrients in plants.
5. Demonstrate methods for fertilizer application.
6. Introduce fertilizer blending calculations.

**III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:**

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

1. Have the knowledge to discuss the soil factors affecting fertilizer application and plant utilization.
2. Discuss and apply the methods of calibration and operation of fertilizer equipment.
3. Prescribe and formulate different fertilizers.
4. Recommend certain fertilizers for application.
5. Identify nutrient deficiencies.
6. Discuss the impact nutrient deficiencies have on plants.

**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) Synthesize information to arrive at reasoned solutions to problems.

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

- a. Fertilizer Introduction
- b. Plant Needs
- c. Nitrogen Fertilizers
- d. Phosphate Fertilizers
- e. Potash Fertilizers
- f. Fertilizer Blending
- g. Fertilizer Costs
- h. Methods of Application and Calibration
- i. Soil and Plant Sampling

#### **V. INSTRUCTIONAL MATERIALS**

**A. Required Text(s):** *Principles of Nutrient Management*, Agrilience

**B. Other Resources:**

Safety glasses, calculator, and protective clothing.

#### **VI. METHODS OF PRESENTATION/INSTRUCTION**

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

- 1. Presentation methods will include, but are not limited to: slide and video presentations, research and writing assignments, lecture, problem solving, field trips, and guest lecturers and speakers.
- 2. Laboratory assignments and tasks.
- 3. Operation and adjustment of equipment

#### **VII. METHODS OF EVALUATION**

- A. Methods of evaluation typically include a combination of the following:
- B. Quizzes, tests, and exams
- C. Laboratory Exercises
- D. Problem Solving
- E. Daily Evaluation
- F. Capstone Experience

#### **SCC STANDARD GRADING SCALE POLICY:**

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

#### **VIII. SPECIFIC COURSE REQUIREMENTS:**

- a. Successful completion of all exams, homework, and other classroom assignments
- b. Daily attendance of class sessions.
- c. Utilize proper safety eyewear at all times
- d. Utilization of proper safety equipment when handling all types of fertilizer, especially anhydrous ammonia.
- e. Attending field trips, which include: Tour of Beatrice NH<sub>3</sub> Plant and local fertilizer facility.