Discipline: Agriculture	Sub-discipline: Plant Science
General Course Title: **Fertilizers and Soil Amendments**	Min. Units: **3 Semester**
	Proposed Suffix: **L**

Course Description:
The study of the composition, value, selection, and use of fertilizer materials and soil amendments within the context of soil, plant, and fertilizer relationships. Application practices currently being used in California will be discussed. Laboratory required.

Required Prerequisites or Co-Requisites[1]

Advisories/Recommended Preparation[2]

Course Objectives: *At the conclusion of this course, the student should be able to:*

- Name the effect of major nutrients on plant growth, development, and disease resistance.
- Identify the basic fertilizer requirements of major crops grown in the area.
- Explain the importance of fertilizers in agricultural production.
- List the different methods of applying fertilizers including the advantages and disadvantages.
- Explain the effect on pH that fertilizers have regarding crops and soil.

Course Content:

1. Essential Plant Growth Elements and Soil Relationships
2. The Fertilizer Industry
3. N-P-K
4. Secondary Elements
5. Trace Elements
6. Methods of Application
7. Fertilizer-pesticide combinations
8. Economics of Fertilizer Usage
9. pH Effect on Nutrients and pH Control
10. Farm Wastes

Laboratory Activities: Individual Laboratory Activities are designed to support course objectives.

Methods of Evaluation: Lecture	Methods of Evaluation: Laboratory
Comprehensive Quizzes and Exams	Laboratory Skill Validation by Observation
Written Critical Thinking Scenarios	Laboratory Reports
Problem Analysis and Solution	Laboratory Research Projects and Reports
Research and Term Papers	Laboratory Skill Practicum Exams

Typical Textbooks, Manuals, or Other Support Materials
Under Review

Statewide Articulation: CPSLO-SS 221, CPP-PLT 332/L, others as lower division elective

FDRG Lead Signature: Date:

[1] Prerequisite or co-requisite course need to be validated at the CCC level in accordance with Title 5 regulations; co-requisites for CCCs are the linked courses that must be taken at the same time as the primary or target course.

[2] Advisories or recommended preparation will not require validation but are recommendations to be considered by the student prior to enrolling.

Mark E. Bender, PhD CSU Stanislaus	
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