BUTTE COLLEGE
COURSE OUTLINE

I. **CATALOG DESCRIPTION**

AGS 104B - Organic Farming Techniques **1 Unit(s)**

Prerequisite(s): NONE
Recommended Prep: NONE

Transfer Status: NT
17 hours Lecture

This course covers plant nutrition, soils management and soil fertility from an organic perspective. Emphasis will be placed upon plant nutrition, management of soil organics, and soil testing. Pass/No Pass Only.

II. **OBJECTIVES**

Upon successful completion of this course, the student will be able to:

A. Discuss the importance of soil and soil fertility.
B. Identify management strategies to manage the physical aspects of the soil.
C. Read and interpret soil test, pH meters, Oxygen meters, and refractometers.
D. Identify and discuss the proper organic sprays for nutrition and disease control.
E. Explain the relationships between pH, EC (electrical conductivity), alkalinity, and water quality.
F. Identify common winter and summer weeds.
G. Identify common agricultural pests.

III. **COURSE CONTENT**

A. **Unit Titles/Suggested Time Schedule**

Lecture

Topics	Hours
1. Soil fertility, macro- and micronutrients, organic matter	3.00
2. Soil testing and organic amendments, composting	3.00
3. Compost tea, Organic sprays, use of various testing meters	3.00
4. Legumes and nitrifying plant species, soil microbiology, and cover crops	6.00
5. Soil tillage and no-till practices	2.00
Total Hours	17.00

IV. **METHODS OF INSTRUCTION**

A. Lecture
B. Guest Speakers
C. Class Activities
D. Field Trips
E. Homework: Students are required to complete two hours of outside-of-class homework for each hour of lecture
F. Discussion

V. **METHODS OF EVALUATION**

A. Exams/Tests
B. Homework
C. Class participation
D. Written Assignments

VI. **EXAMPLES OF ASSIGNMENTS**

A. Reading Assignments

1. Read the chapter in the text about soil fertility management and explain the differences between macro and micronutrients.
2. Read the textbook chapter on post-harvest handling. Rank the handling steps from greatest to least importance from a public health point of view.

B. Writing Assignments

1. Write a 1-2 page report on the benefits of increasing earthworm populations in soil. Include examples of commercial earthworm casting facilities.
2. Using the hypothetical small ag business scenario provided by the instructor, draft a procedure for changing a small "you pick" fruit orchard to a CDFA or OMRI certified farm. Your procedure must include a plan for addressing weed and pest issues.

C. Out-of-Class Assignments

1. Visit one of the local organically-certified ag businesses approved by the instructor. Prepare a summary of your findings, including any methods for cover cropping or use of leguminous crops.
2. Create a weed collection with a minimum of 25 winter or summer weeds. Include common and scientific names, family name, and characteristics which make this species invasive.

VII. **RECOMMENDED MATERIALS OF INSTRUCTION**

Textbooks:

A. McGiffen, M.E., Jr. Organic Vegetable Production Manual. 2nd Edition. University of California, Ag and Natural Resources Publishing, 2011.

Materials Other Than Textbooks:

A. Handouts will be required reading

Created/Revised by: Carrie Monlux
Date: 11/03/2014