

**SUSAG 116 Course Outline as of Fall 2022****CATALOG INFORMATION**

Dept and Nbr: SUSAG 116 Title: ORGANIC APPLE PRODUCTION

Full Title: Organic Apple Production

Last Reviewed: 9/13/2021

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	1.00	Lecture Scheduled	1.00	17.5	Lecture Scheduled	17.50
Minimum	1.00	Lab Scheduled	0.75	4	Lab Scheduled	13.13
		Contact DHR	0		Contact DHR	0
		Contact Total	1.75		Contact Total	30.63
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 35.00

Total Student Learning Hours: 65.63

Title 5 Category: AA Degree Applicable

Grading: Grade or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

**Catalog Description:**

This course emphasizes organic apple production practices and is intended for current or potential apple producers. Emphasizes available and effective methods in commercial or small-scale organic contexts.

**Prerequisites/Corequisites:****Recommended Preparation:**

Eligibility for ENGL 100 or ESL 100

**Limits on Enrollment:****Schedule of Classes Information:**

Description: This course emphasizes organic apple production practices and is intended for current or potential apple producers. Emphasizes available and effective methods in commercial or small-scale organic contexts. (Grade or P/NP)

Prerequisites/Corequisites:

Recommended: Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:

Transfer Credit:

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:
<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
<b>CSU Transfer:</b>		Effective:	Inactive:
<b>UC Transfer:</b>		Effective:	Inactive:

**CID:**

**Certificate/Major Applicable:**

Both Certificate and Major Applicable

## **COURSE CONTENT**

### **Student Learning Outcomes:**

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

1. Describe the practices used to establish a successful orchard.
2. Select appropriate apple varieties and rootstocks for planting.
3. Monitor an orchard for pests and utilize appropriate pest management control approaches.
4. Develop a plan for managing harvest and post-harvest operations.

### **Objectives:**

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

1. Identify state and federal regulations pertaining to the production of organic apples.
2. Establish an orchard so as to ensure optimal production.
3. Identify appropriate apple varieties and rootstocks for different uses – fresh market, processing, cider, home orchard.
4. Describe practices to create and maintain adequate soil fertility.
5. Describe management practices to control weed competition and provide appropriate access in the orchard floor.
6. List common diseases of apples and describe the symptoms and control methods.
7. List the common physiological disorders of apples and describe the symptoms and control methods.
8. Monitor an orchard for pests and utilize appropriate pest management control approaches.
9. Describe a plan for managing harvest and post-harvest operations.
10. Discuss pruning and training of apple trees for optimal production.
11. Discuss marketing considerations for organically grown apples.

### **Topics and Scope:**

#### **I. Overview of the Organic Apple Industry**

- A. Trends in organic production and markets
- B. Supply and price response
- C. Regulation of California organic apple production methods, including certification

## II. Orchard Planning

### A. Site selection

1. soil
2. climate
3. microclimate

### B. Land preparation

### C. Planting

### D. Rootstock selection

### E. Variety selection

## III. Orchard management

### A. Tree nutrition and fertilization

### B. Fruit thinning

### C. Pruning

### D. Irrigation timing

### E. Orchard floor management

1. Weed control
2. Cover crop selection and management

### F. Irrigation system

1. Installation
2. Management

### G. Equipment requirements

## IV. Disease and Pest Management

### A. Apple diseases

1. Major apple diseases
  - a. apple scab
  - b. fire blight
2. Minor apples diseases
  - a. powdery mildew
  - b. phytophthora root and crown rot
  - c. oat root fungus
  - d. dematophora root rot
  - e. sappy bark
  - f. southern blight
  - g. European canker
  - h. post-harvest rots
  - i. viruses

### B. Physiological disorders

1. Major: bitter pit
2. Minor
  - a. water core
  - b. apple measles

### C. Insect pest management

1. Major
  - a. codling moth
  - b. aphids
2. Minor
  - a. mites
  - b. tentiform leafminer
  - c. leafrollers

### D. Vertebrate pest management

1. Deer
2. Gophers

3. Rabbits

4. Birds

V. Harvest and Post-harvest Operations

A. Pre-harvest factors

B. Harvesting and packing

C. Apple storage

D. Sanitation during processing of organic apples

VI. Marketing Considerations

A. Quality

B. Demand

C. Marketing channels

D. Promotion

VII. Economic Performance

A. Yield

B. Labor management

C. Estimated costs and expected returns for organic apples

All topics covered in lecture are also covered in lab.

**Assignment:**

1. Weekly reading (10 - 20 pages)

2. One orchard plan: develop an apple orchard plan, including site and variety selection, pest and disease management, irrigation issues, fertilization, equipment needs, and marketing strategy (3 - 5 pages)

3. Quizzes (3 - 6)

4. Final exam

5. Lab reports (3 - 6)

6. One field trip to local apple farm and written report (2 - 3 pages)

**Methods of Evaluation/Basis of Grade:**

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Lab reports, Field trip report

Writing  
40 - 50%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Orchard plan

Problem solving  
10 - 20%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None

Skill Demonstrations  
0 - 0%

**Exams:** All forms of formal testing, other than skill performance exams.

Quizzes, Final exam

Exams  
30 - 40%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

None

Other Category  
0 - 0%

**Representative Textbooks and Materials:**

Organic Apple Production Manual. Swezey, Sean. University of California Agriculture and Natural Resources Publication 3403. Regents of the University of California. 2000 (classic)  
The Home Orchard – Growing your Own Deciduous Fruit and Nut Trees. University of California Agriculture and Natural Resources Publication 3485. ANR Press. 2007 (classic)  
Instructor prepared materials.