

SUSAG 109 Course Outline as of Fall 2013**CATALOG INFORMATION**

Dept and Nbr: SUSAG 109 Title: ORGANIC CROP PLANNING

Full Title: Organic Crop Planning and Production

Last Reviewed: 1/28/2019

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	4.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	4.00	Lab Scheduled	3.00	8	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	6.00		Contact Total	105.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00

Total Student Learning Hours: 210.00

Title 5 Category: AA Degree Applicable

Grading: Grade Only

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

Also Listed As:

Formerly:

Catalog Description:

Course covers planning and production practices including seasonal crop selection, planting procedures, cultural practices, harvesting and post harvest for organic production of vegetable, fruit and grain crops in small commercial operations. Both manual and machine powered management techniques will be discussed. Includes hands-on management of greenhouse starts and farm plots at Shone Farm.

Prerequisites/Corequisites:**Recommended Preparation:**

Course Completion or Current Enrollment in AGRI 20 and AGRI 60

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

Description: Course covers planning and production practices including seasonal crop selection, planting procedures, cultural practices, harvesting and post harvest for organic production of vegetable, fruit and grain crops in small commercial operations. Both manual and machine powered management techniques will be discussed. Includes hands-on management of

greenhouse starts and farm plots at Shone Farm. (Grade Only)

Prerequisites/Corequisites:

Recommended: Course Completion or Current Enrollment in AGRI 20 and AGRI 60

Limits on Enrollment:

Transfer Credit:

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

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area	Effective:	Inactive:
CSU GE:	Transfer Area	Effective:	Inactive:
IGETC:	Transfer Area	Effective:	Inactive:
CSU Transfer:		Effective:	Inactive:
UC Transfer:		Effective:	Inactive:

CID:

Certificate/Major Applicable:

Both Certificate and Major Applicable

COURSE CONTENT

Outcomes and Objectives:

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

1. Plan and manage a small commercial farm operation.
2. Determine cost of production for various farm enterprises.
3. Evaluate marketing channels appropriate to Sonoma County.
4. Interpret soil test results and recommend a plan for appropriate soil fertility management.
5. Discuss the role of and methods for crop rotation.
6. Determine appropriate cover crops for a given season.
7. Determine appropriate plant spacing and planting arrangements for optimal crop production.
8. Determine optimal harvest time for a given crop.
9. Determine crop density based on square footage of space available.
10. Select appropriate crops and design a crop plan based on season and market needs.
11. Recommend methods and structures to extend the growing season.
12. Compare and contrast the benefits of planting from seed or transplants.
13. Evaluate various potting mixes for seed starting.
14. Discuss methods for producing transplants for planting.
15. Prepare field rows for planting.
16. Amend soil with organic fertilizers to meet crop nutrient needs and pH preferences.
17. Plant and maintain crops in plots based on crop plan.
18. Perform necessary cultural management practices throughout growing season.
19. Identify pest pressures and apply appropriate pest management treatments.
20. Practice appropriate harvesting techniques.
21. Discuss effective storage requirements to eliminate crop deterioration.

Topics and Scope:

- I. Theory of crop planning and production
 - A. Crop planning and production at Shone Farm
 - 1. Background
 - 2. History of site use
 - 3. Purpose
 - 4. Long term vision
 - B. Significance of crop planning for farm operations
- II. Farm management/planning
 - A. Financial planning
 - 1. Identifying market outlets
 - 2. Budgeting
 - 3. Income/expense record keeping
 - B. Community relations/outreach
- III. Crop selection criteria
 - A. Seasonally appropriate crops
 - B. Seeds and Transplants
 - 1. Calculating seed needs based on direct sowing vs. transplanting
 - 2. Spacing requirements of crops direct sown vs. transplanted
 - 3. Ordering appropriate amounts of seeds
 - 4. Proper storage of seeds
 - C. Care of seedlings/transplants
 - D. Bare root fruit trees
 - E. Techniques for extending the growing season
- IV. Planting plans
 - A. Determining Field layout
 - 1. Planting arrangement based on crop selection
 - 2. Spacing
 - 3. Yield calculations
 - 4. Crop rotations
 - B. Planting intervals for continuous harvest
 - C. Cover crop incorporation
- V. Soil Fertility Management
 - A. Soil testing and analysis
 - 1. Soil pH
 - 2. Soil nutrients
 - 3. Percentage organic matter
 - B. Organic soil amendments
- VI. Field preparation
 - A. Tillage
 - 1. Conservation tillage techniques
 - 2. Cover crop and organic matter incorporation
 - 3. Final bed preparation
 - B. Fertilization requirements
 - C. Irrigation set-up
- VII. Planting
 - A. Direct seeding vs. transplants
 - B. Appropriate timing of planting based on schedule
- VIII. In-season cultural practices
 - A. Weed control
 - B. Integrated Pest Management (IPM)
 - 1. Pest pressures
 - 2. Pest management treatments

- C. Irrigation maintenance
- D. In-season fertility needs
 - 1. Calculating material to meet crop nutrient needs
 - 2. Application methods
- IX. Harvesting techniques
 - A. When to harvest
 - B. How to harvest based on crop
 - C. Sequence of harvest
 - D. Harvest frequency
 - E. Post-harvest crop storage
- X. Planning considerations for the next season
 - A. Crop rotations
 - B. Anticipating market needs

Assignment:

1. Reading, 15 - 20 pages per week.
2. Create a marketing plan based on cropping season.
3. Weekly crop planning exercises and calculations.
4. Create a crop production plan.
5. Design a crop map.
6. Prepare plots for planting.
7. Maintain a weekly field journal.
8. Field trip reports.
9. Field skills demonstrations.
10. Final report and presentation.

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.

Field journal and field trip reports; final report.

Writing 20 - 30%

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

Marketing plan, production plan, crop map, weekly planning exercises
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Problem solving 40 - 50%

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

Field skills performance

Skill Demonstrations 10 - 20%

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

None

Exams
0 - 0%

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

Participation and report presentation

Other Category
10 - 20%

Representative Textbooks and Materials:

Therault, Frederic and Daniel Brisebois. Crop Planning for Organic Vegetable Growers, 3rd ed. Canadian Organic Growers, Inc. Ontario, Canada. 2012.

McGiffen, Milton, E., Jr. Organic Vegetable Production Manual. University of California, Agriculture and Natural Resources Publication #3509. 2011.

Sustainable Vegetable Production from Start-up to Market. Vernon P. Grubinger. Natural Resource, Agriculture, and Engineering Service (NRAES). 1999 (classic)

Web based materials.

Instructor prepared materials