SUSAG 110 Course Outline as of Fall 2004

CATALOG INFORMATION

Dept and Nbr: SUSAG 110 Title: ORG GRDING & FOOD PROD
Full Title: Organic Gardening and Food Production
Last Reviewed: 4/19/2004

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	2.00	17	Lab Scheduled	35.00
		Contact DHR	1.00		Contact DHR	17.50
		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 or P/NP
Repeatability:	00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:	
Formerly:	AG 121

Catalog Description:
Introduction to sustainable food systems with emphasis on certified organic production methods. Application of hands-on techniques for locally appropriate production, focusing on vegetables, fruits, flowers, and herbs. Includes field trips and guest speakers. Class meets at Shone Farm, SRJC's 365-acre diversified farm in Forestville, where students will maintain their own garden plots.

Prerequisites/Corequisites:

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:

Schedule of Classes Information:
Description: Introduction to sustainable food systems with emphasis on certified organic production methods. Hands-on techniques, focusing on vegetables, fruits, flowers and herbs. Meets at SJRC's Shone Farm in Forestville. (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:

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. Discuss the benefits of sustainable food production.
2. Describe the primary strategies for achieving a sustainable operation.
3. Summarize the series of step involved in the organic certification process, according to national guidelines.
4. Describe methods for building soil fertility.
5. Test and analyze characteristics of representative soil samples.
6. Compare and contrast the major types of composting and their methods of production.
7. Assess the needs for and timing of compost applications in various crops.
8. Develop a companion planting plan for a crop or garden.
9. Define and discuss the role of crop rotations.
10. Design effective crop rotations for vegetables, fruits and herbs.
11. List and discuss major vegetables, fruits, flower, and herbs produced organically.
12. Determine pest pressure and apply appropriate integrated pest management (IPM) treatments.
13. Outline simple steps every gardener can take to increase beneficial insect populations.
14. Summarize direct and indirect marketing approaches to organic crop sales.
15. Analyze and discuss the economic and career outlook for organic food production.

Topics and Scope:

I. Introduction to Organic Gardening and Sustainable Food Production
A. Overview
1. Purpose and philosophy
2. Principles
3. Sustainable practices
B. Comparative food systems
1. Sustainable food systems
2. Traditional systems
3. Industrial systems
4. Organic systems
C. Benefits of sustainable food systems
1. Locally appropriate production
2. Enhanced bio-Diversity
3. Improved soil fertility
4. Environmental health
5. Social equity
6. Economic viability
D. Organic certification basics
1. The National Organic Program (NOP)
2. Accredited certifying agencies
II. Sustainable Soil Fertility
A. Physical characteristics of soil
1. Texture
2. Structure
3. Organic matter
4. pH
B. Soil fertility
1. Plant Nutrition
a. Macro-Nutrients
b. Micro-Nutrients
c. Availability of nutrients
2. The Role of Microorganisms
C. Building soil fertility
1. Composting
a. Define compost
b. Purpose of composting
c. Key ingredients in composting
d. Evaluation of raw materials
e. Factors influencing decomposition
f. Composting systems
1. hot
2. cold
3. warm composting
4. worm composting
g. Composting resources
2. Compost application
a. methods
b. rates
c. sources
D. Amending the soil
1. When
2. How

E. Cover crops
1. Seed in cover crops
2. Cover crops for annual systems
F. Green manures
G. Foliar sprays
III. Garden Bed Preparation
A. Cultivation
B. Tillage
C. Bed preparation
D Irrigation
1. Soil and water relationships
2. Comparison of various irrigation systems
IV. Garden Designs
A. Planning and designing a garden
1. Crop selection
2. Site selection
3. Site Maps
4. Soil Surveys
5. Water
6. Light, Sun and Warmth
7. General Climate / microclimates
8. Growing Season
9. Frost Dates
B. Companion plants
1. Benefits
2. Examples of effective companion planting
C. Size and layout
1. Raised beds
2. Tunnels and trellises
D. Planning and Production
1. Crop Data Sheets
a. purpose
b. contents
1). history
2). use
3). cultural methods
4). special growing conditions
2. Estimated Harvests
3. Seed Sources
4. Timing and Scheduling
5. Labor
6. Equipment
E. Planting Techniques
1. Greenhouse, cold frames and other season extenders
2. Soil temperature germination
3. Nutrient availability for germination
4. Field conditions
5. Bed making
6. Broadcasting
7. Drilling
8. Direct sow
9. Transplanting

F. Starting Plants
1. Seeds
2. Transplants
G. Maintenance
1. Mulching
2. Thinning
3. Weeding
H. Crop Rotation

V. Integrated Pest Management
A. Overview
1. Biological control versus chemical control
2. Preventative versus acute remediation
3. Broad spectrum versus targeted
4. Least toxic solutions
5. Beneficial insects
5. Biologicals
7. Microbiologicals
B. Common Pests and Weeds
1. Insects
2. Mites
3. Mollusks
C. Common Weeds of Sonoma County
D. Natural Methods of Common Pest and Weed Prevention
E. Comparative Methods of Pest Control

VI. Crops
A. Fruit
B. Medicinal and culinary herbs
C. Edible and cut flowers

VII. Harvesting the Crop
A. When to harvest
B. How to harvest
C. Sequence of harvest
D. Post harvest crop storage

VIII. Marketing
A. Contract marketing (community support agriculture)
B. Farm Trails
C. Advertising
D. Industry partnerships
E. Other

IX. Economics and Careers
A. Current economic outlook for organic production
1. USDA Outlook
2. California Developments
3. Sonoma County
B. Career outlook
C. Marketing and Sales

Assignment:

Assignments may include:
1. Specific reading and study assignments from texts and handouts (20 to 30 pages a week).

2. Work in student garden plot.
3. Binder of lecture notes and handouts.
4. Field Notebook/journal logging field/lab activities, including work in student garden plot, general garden observations, and field trip notes.
5. Seasonal garden design plan.
6. Mid-term oral presentation of garden design.
7. Final exam.

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 notes/journal.	Writing 10 - 30%

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

Garden design.	Problem solving 10 - 20%

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

Field work, Performance exams	Skill Demonstrations 15 - 30%

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

Multiple choice, True/false, Completion	Exams 10 - 20%

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

Attendance and participation.	Other Category 10 - 30%

Representative Textbooks and Materials:
CALIFORNIA MASTER GARDENER'S HANDBOOK. Pittenger, Dennis R. University of California Agriculture and Natural Resources Publication 3382, 2002.
GARDENER'S TABLE. Merrill, Richard and Ortiz, Joe. Ten Speed Press, 2000.
SUSTAINABLE VEGETABLE PRODUCTION FROM START-UP TO MARKETING. Grubinger
Vernon P. NRAES, 1999.
GOLDEN GATE GARDENING. Peirce, Pam. Sasquatch Books, 1998.