Organic Food Crop Production
Tentative Syllabus
Department of Tropical Plant and Soil Science
University of Hawaii

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Prerequisites: None
Required text: Reading materials provided by instructor.

Course Description and Objectives:
This lecture/laboratory is intended to provide a science-based overview of the ecological processes that are relied on in organic agricultural systems. Emphasis will be placed on management strategies for vegetable production. The general objectives of this course include:

1. Develop in students an understanding of certified organic agricultural systems, including the challenges associated with making them sustainable, and how they differ from other systems designed to improve agricultural sustainability.

2. Engage students in hands-on learning of strategies designed to maximize the efficacy of biological cycles within the farm and garden in order to optimize the economic, environmental and social sustainability of the food production system.

3. Facilitate the development of independent research, thought, and problem solving processes with regard to organic vegetable production.

Course Format (2 credit):

Each lab period will generally be initiated by a brief introductory lecture. The remaining period will be devoted to the students acquiring hands-on experience in organic vegetable production and experimentation, field trips to better acquaint the students with commercial aspects of organic vegetable production, and discussion of student garden projects.

Student reports and presentations:
Each student will be responsible write a 5-10 page review of a topic of the student’s choosing, subject to the instructor’s approval.
The written portion of the report should follow the format below, unless otherwise cleared with the instructor:

Introduction- Clearly introduces the subject, its importance and what the student plans to assert.
Results and Discussion- Summarize the information available and discuss what it means to the student.
Conclusion- Clearly states the student’s conclusion and its implications.
References- Consistently follows a conventional format and contains all the references cited in the paper and only those. They should be accurate and allow others to locate the reference. Students should cite at least 5 references and references should not be exclusively websites.
The student will also be responsible for a short (~5 min) oral presentation of their report to the class.

Grading:
Grading is based on a combination of quizzes (200 pts, 40%), lab journal and field trip reports (100 pts, 20%), a report and presentation (150, pts, 30%) and participation (50 pts, 10%). Garden plots will be
allocated to lab groups at the Magoon Greenhouse Facility.

A \geq 90\% \\
B \geq 80\% \text{ and } < 90\% \\
C \geq 70\% \text{ and } < 80\% \\
D \geq 60\% \text{ and } < 70\% \\
F < 60\%

All students are expected to attend all labs. More than three absences will result in loss of all class participation points (10\% of course grade).

**Tentative Schedule**

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Topic</th>
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| 8/20    | Lec.: Housekeeping; Organic Overview  
**Lab:** Garden plot visit |
| 8/27    | Lec.: The agroecosystem: plant-environment interactions  
**Lab:** Plant materials, plot assignment and project design. |
| 9/3     | **LABOR DAY** |
| 9/10    | Organic farm tour |
| 9/17    | Lec.: Soil health and fertility I  
**Lab:** Rhizobia and mycorhizae |
| 9/24    | Lec.: Soil health and fertility II  
**Lab:** Organic fertilizer evaluation |
| 10/1    | Lec.: Pest control  
**Lab:** Organic pesticides |
| 10/8    | **Lecture:** Mulch  
**Lab:** Mulch systems |
| 10/15   | Organic farm tour |
| 10/22   | Lec.: Harvest, Marketing  
**Lab:** Color, nutrition and flavor |
| 10/29   | Lec.: Economic viability  
**Lab:** Cost of production |
| 11/5    | Lec.: Vegetables, herbs and melons  
**Lab:** Data collection and analysis for fertilizer trial |
| 11/12   | **Veteran’s day** |
| 11/19   | Lec.: Fruits  
**Lab:** Data collection |
| 11/26   | Lec.: Grains  
**Lab:** Irrigation technology and techniques |
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<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>12/3</td>
<td>Individual student presentations</td>
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<tr>
<td>12/10</td>
<td>Papers Due</td>
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