

COURSE OUTLINE

Horticultural Crop Production

Course Title

AG214

Dept. & Course No.

I. COURSE DESCRIPTION

This course introduces the principles of plant growth, classification of crop plants, soils and soil preparation, planting, fertilizing, harvesting, and general management of crop production. This course emphasizes tropical vegetable crops, root crops, and fruit/tree crops.

II. SEMESTER CREDITS: 5

III. CONTACT HOURS PER WEEK: 3 3 6
Lec Lab Total

IV. PREREQUISITE: AG124

V. STUDENT LEARNING OUTCOMES:

Upon completion of the course, the student will be able, with 65% accuracy, to:

1. Discuss the scope and importance of the horticulture industry in Palau and Micronesian region.
2. Describe the different career opportunities in horticulture.
3. Explain the major divisions of horticulture.
4. Explain the environmental requirements for plant growth.
5. Describe the different plant growth regulators
6. Demonstrate efficiency in land preparation for crop production
7. Perform the different methods of plant propagation

VI COURSE CONTENT

- A. Exploring the Horticulture Field
- B. Careers in Horticulture
- C. Divisions of Horticulture
- D. Environmental Factors Affecting Plant growth
- E. Plant Growth Stimulants, Retardants, and Rooting Hormones
- F. Practices in Land Preparation
 1. Cultivation
 2. Use of organic amendments
 3. Preparing seed bed
 4. Planting
- G. Plant Propagation
 1. Propagation from seed
 2. Cuttings
 3. Layering
 4. Grafting
 5. Budding
 6. Separation and division

8. Perform the production practices of common tropical root crops.

H. Tropical Root Crops

- 1. Taro
- 2. Cassava
- 3. Sweet potato
- 4. Yam & others

9. Perform the production practices of tropical vegetables.

I. Tropical Vegetables

- 1. Pechay
- 2. Cucumber
- 3. Watermelon
- 4. Sweet corn
- 5. Pumpkin
- 6. Eggplant
- 7. Okra
- 8. Others

10. Perform the production practices of tropical fruit trees and other important local trees.

J. Tropical Fruit Trees

- 1. Banana
- 2. Papaya
- 3. Lime & oranges
- 4. Guava
- 5. Guava
- 6. Sour sap & others
- 7. Phaleria Nisidai & others

VII. TEXT

Reily, H. Edward and Carroll L. Shry, Jr. *Introductory Horticulture*. 7th Ed. Clifton Park, NY: Cengage Learning, 2007.

VIII.METHOD OF INSTRUCTION

- A. Lecture/Discussion
- B. Demonstration
- C. Laboratory/Field activities
- D. Student projects
- E. Field trips

IX. METHOD OF EVALUATION

The lecture portion of this course will account for 50% of the grade while the laboratory will provide the other 50%.

A. The components included in the computation of the final grade, with corresponding weights in percent, are:

<u>Lecture</u>	Percentage of Grade
Participation	05%
Quizzes	10%
Assignments	15%
Midterm & Final Exams	20%
<u>Laboratory</u>	
Participation	25%
Laboratory write-ups	05%
Projects	<u>20%</u>
TOTAL:	100%

B. The transmutation of percent to letter grade is as follows:

90% – 100%	A
80% – 89%	B
70% – 79%	C
65% – 69%	D
0% - 64%	F

TASK LISTING SHEET

<u>AG214 HORTICULTURAL CROP PRODUCTION</u>	Credits:	<u>3</u>	<u>2</u>	<u>48</u>
Course No. and Title		Lec	Lab	Total Lab Hrs

TASK	HOURS
SLO #2. Describe the different career opportunities in horticulture.	6
1. During field trips, using activity worksheet, list and describe the different career opportunities in horticulture through the Bureau of Agriculture and PCC- CRE Research Stations.	
SLO #6. Demonstrate efficiency in land preparation for crop production	6
1. Collect organic amendments and incorporate them into the soil during cultivation.	
2. Cultivate the soil with correct procedures and with uniformity and proper tilth.	
3. Prepare seedbeds with standard sizes and distances	
4. Plant seeds/transplant seedlings at correct depths and spaces	
SLO #7. Perform the different methods of plant propagation	6
1. Collect scion materials and perform the different methods of asexual plant propagation.	
SLO #8. Perform the production practices of common tropical root crops.	10
1. Prepare the planting site by correct procedures of cultivation	
2. Collect planting materials of common root crops from CRE farm	
3. Follow correct procedures of pre-germination/rooting practices of planting materials	
4. Transplant germinated/rooted plants at right age following standards of planting	
SLO #9. Perform the production practices of tropical vegetables.	10
1. Prepare the nursery, collect and prepare good soil media for seedlings.	
2. Transplant vegetable seedlings in seedbeds at the right age and at specific planting distances.	
3. Implement correct vegetable management practices.	
SLO #10. Perform the production practices of tropical fruit trees.	10
1. Prepare the crop production area following the concepts of sloping agricultural land technology.	
2. Propagate fruit tree seedlings in the nursery.	
3. Manage the growing seedlings and transplant them following prescribed planting distances.	
4. Implement the cultural practices at the right time and crop growth stages.	
5. Observe the right maturity indices of the crops before harvesting.	
6. Perform post-production operations.	
Total Lab Hours	<u>48</u>

*Lab hours are subject to change as necessary

Palau Community College
AG 214 Horticultural Crop Production
Course Learning Outcomes

During the course experience, the *course learning outcomes* (CLOs) will be assessed through the use of signature assignments. A rating scale will be used to determine the students' proficiency level of each CLO using specifically aligned assignments. The numerical ratings of 4, 3, 2 and 1 are not intended to represent the traditional school grading system of A, B, C, D and F. The descriptions associated with each of the numbers focus on the level of student performance for each of the course learning outcomes listed below.

Rating Scale:	4	Outstanding
	3	Proficient
	2	Developing
	1	Emerging

CLO # 1

Numerical Value	Students will be able to demonstrate efficiency in land preparation for crop production.
4	Perform all the following tasks accurately <ul style="list-style-type: none"> • Accurately perform efficient cultivation procedures using a tiller • Cultivate soil with uniform depth • Incorporate compost uniformly and evenly
3	Perform the tasks mentioned above but most with minor mistakes
2	Perform the tasks mentioned above but most are inaccurate or incomplete
1	Perform all the tasks mentioned above inaccurately or incompletely

CLO # 2

Numerical Value	Students will be able to perform the different methods of plant propagation on leafy vegetables, fruiting vegetables, root crops, and/or fruit trees.
4	Perform all the following tasks accurately <ul style="list-style-type: none"> • Follow correct propagation procedures for grafting and stem cuttings. • Follow correct propagation procedures for air layering of fruit trees. • Follow correct procedures for seed propagation of different vegetable types.
3	Perform the tasks mentioned above but most with minor mistakes
2	Perform the tasks mentioned above but most are inaccurate or incomplete
1	Perform all the tasks mentioned above inaccurately or incompletely

CLO # 3

Numerical Value	Students will be able to perform the production practices of common tropical root crops.
4	Perform all the following tasks accurately <ul style="list-style-type: none"> • Prepare the site with correct procedures of cultivation/soil preparation. • Follow correct procedures of pre-germination practices of planting materials • Transplant germinated plants at right age following standards of planting
3	Perform the tasks mentioned above but most with minor mistakes
2	Perform the tasks mentioned above but most are inaccurate or incomplete
1	Perform all the tasks mentioned above inaccurately or incompletely

CLO # 4

Numerical Value	Students will be able to perform the production practices of tropical vegetables.
4	Perform all the following tasks accurately <ul style="list-style-type: none">• Follow proper land and soil preparation techniques for vegetable production.• Follow correctly standards of seedling management• Implement correct vegetable management practices
3	Perform the tasks mentioned above but most with minor mistakes
2	Perform the tasks mentioned above but most are inaccurate or incomplete
1	Perform all the tasks mentioned above inaccurately or incompletely

CLO # 5

Numerical Value	Students will be able to perform the production practices of tropical fruit trees.
4	Perform all the following tasks accurately <ul style="list-style-type: none">• Prepare the crop production area following the concepts of sloping agricultural land technology for orchards.• Follow proper transplanting procedures including plant spacing and depth.• Implement correct management practices of growing fruit trees.
3	Perform the tasks mentioned above but most with minor mistakes
2	Perform the tasks mentioned above but most are inaccurate or incomplete
1	Perform all the task mentioned above inaccurately or incompletely