

COURSE OUTLINE

Introduction to Tropical Agriculture

AG111

Course Title

Dept. & Course No.

I COURSE DESCRIPTION

An orientation to Agricultural Science which provides an overview of the fundamental principles of the field. The course stresses agriculture in the tropics and Micronesia, covering a variety of topics in plant and animal science. It also introduces students to the various careers and occupations which are included in the field of agriculture. This course includes laboratory and field investigations, and field trips to local agricultural production sites. (3 credits lec, 1 credit lab).

II. SEMESTER CREDITS: 4

III. CONTACT HOURS PER WEEK: 3 1.5 4.5
Lecture Laboratory Total

IV. PREREQUISITE: None

V. STUDENT LEARNING OUTCOMES

VI. COURSE CONTENT

At the end of the semester, the student will be able with at least 65% accuracy to:

Upon completion of the course, the student will be able to achieve 65% proficiency to:

1. Explain the importance and role of agriculture in tropical countries.
2. Discuss socio-economic background affecting agriculture.
3. Explain the different government policies necessary for a sound agricultural development.
4. Perform adoptive cultivation systems and correct practices in soil management.
5. Practice improved rain-fed arable farming systems.
6. Demonstrate procedures in restoring and maintaining soil organic matter under continuous cultivation.

- A. Role of agriculture in Tropical Countries
- B. Socio-economic Background
 1. Social structures and Customs
 2. Land Tenure and Inheritance
 3. Government Support and Finance
 4. Human Health and Nutritional Problem
 5. Farm Equipment and Requisites
 6. Global Warming and Deposition
 7. Socio-political Considerations
- C. Agricultural Policies
 1. Science and Technology
 2. Extension Services and Education
 3. Financial Assistance and Subsidy Schemes
 4. Special Agricultural Programs
 5. Agricultural Services and Regulations
 6. Land Tenure
- D. Land Preparation and Tillage
 1. Cultivation and Soil Management
 2. Power Sources and Mechanization Systems
- E. Improvement of Arable Rain-fed Farming
 1. Development of Permanent Systems
 2. Research to Develop Improved Rain-fed Arable Farming Systems
- F. Restoration and Maintenance of Soil Organic matter

7. Employ procedures in soil fertility management.

8. Classify tropical **crops** and learn their botany.

9. Explain the terms and concepts of basic crop protection procedures.

10. Classify and describe different farm animals

11. Describe the reproductive physiology of farm animals

12. Describe the practices in animal nutrition.

G. Soil Fertility and its management

J. Classification of Tropical Crops and Their Botany

1. Starchy Food Grains
2. Starchy Tubers
3. Protein Seeds
4. Vegetables
5. Beverage Plants
6. Fruits and Nut

K. Crop Protection

- A. Principles of Crop Protection
- B. Classification of Pests
- C. Plant Diseases

L. Animal Science

1. Ruminants
2. Non-ruminants
3. Herbivores

M. Reproductive Physiology of Farm animals

1. Male and Female Reproductive Systems of Mammals
2. Puberty, Ovulation, and Fertilization
3. Pregnancy
4. Parturition

N. Animal Nutrition

1. Classification of feedstuff
2. Sources of Protein and Energy Feeds

VII. MATERIALS AND EQUIPMENT

- A. Vegetable Seeds
- B. Fertilizers
- C. Farm Tools and Equipment
- D. Laboratory Tools and Equipment
- E. Digital Camera
- F. Computer
- G. Standard Classroom Materials
- H. Digital Projector

VIII. TEXTS

C. Webster, P. N. Wilson. Agriculture in the Tropics 3rd Ed. Osney, Mead, Oxford OX2 OEL, 1998

IX. METHOD OF INSTRUCTION

- A. Lecture- Discussion
- B. Demonstration
- C. Laboratory/Field Activities
- D. Student Projects
- E. Field Trips

X. METHOD OF EVALUATION

The lecture portion of this course will account for 60% of the grade while the laboratory will provide the other 40%.

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

<u>Lecture</u>	% of Grade
Participation	5%
Quizzes	15%
Tests	30%
Assignments	10%

<u>Laboratory</u>	
Participation	15%
Laboratory Worksheets	10%
Skill Application	<u>15%</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

AG 111 Introduction to Tropical Agriculture
Course Number and Title

Credits: 3 1.5 24
Lec Lab Total Lab hrs

TASKS	HOURS
SLO #3	3
<ol style="list-style-type: none"> 1. Identify and explain agricultural policies in Palau through the Bureau of Agriculture and how these policies help promote a sound agricultural system. 2. Identify and discuss Governmental support for Agriculture in Palau. 	
SLO #4-5	6
<ol style="list-style-type: none"> 1. Using farm tools and equipment, follow correct procedures in cultivating sloping agricultural land. 2. Propagate and grow a variety of crops and implement correct cropping systems. 	
SLO # 6-7	3
<ol style="list-style-type: none"> 1. Implement on-the-farm procedures in restoring and maintaining soil organic matter. 2. Record observations in plant growth as affected by different types of fertilizer applied as well as different methods of fertilizer applications. 	
SLO #8	3
<ol style="list-style-type: none"> 1. Identify and classify different tropical crops in different areas of Palau. 	
SLO #9	3
<ol style="list-style-type: none"> 1. Demonstrate skills in identifying different pests and diseases commonly found in Palau. 2. Implement on-the-farm safe and sound crop protection procedures to prevent pests and disease outbreaks. 	
SLO #11	3
<ol style="list-style-type: none"> 1. Identify and be familiar with the reproductive systems of farm animals. 2. Dissect a chicken and identify the parts of its reproductive system. 3. Following the breeding cycles of pigs at PCC piggery, observe and collect data on their reproductive and farrowing periods. 	
SLO #12	3
<ol style="list-style-type: none"> 1. Identify and describe the different kinds of feedstuffs. 2. Perform the feeding operations of pigs and chickens following the required rations for each growth stages of the animals 	
TOTAL LAB HOURS	24

* Lab hours are subject to change as necessary.

Palau Community College
AG 111 Introduction to Tropical Agriculture
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 perform adoptive cultivation systems and correct practices in soil management.
4	Perform all the following tasks accurately <ul style="list-style-type: none"> • Perform correctly adoptive cultivation systems and correct practices in soil management.
3	Perform the task mentioned above but most with only minor mistakes
2	Perform the task mentioned above but most are inaccurate or incomplete
1	Unable to complete the task mentioned above

CLO # 2

Numerical Value	Students will be able to demonstrate knowledge in the procedures of restoring and maintaining soil organic matter under continuous cultivation.
4	Perform all the following tasks accurately <ul style="list-style-type: none"> • Demonstrate correct procedures in restoring soil organic matter under continuous cultivation. • Demonstrate correct procedures in maintaining soil organic matter under continuous cultivation.
3	Perform the task mentioned above but most with minor mistakes
2	Perform the task mentioned above but most are inaccurate or incomplete
1	Unable to complete the task mentioned above

CLO # 3

Numerical Value	Students will be able to classify tropical crops and learn their botany.
4	Perform all the following tasks accurately <ul style="list-style-type: none"> • Accurately classify some important tropical crops in Palau. • Accurately discuss their botany, including their physiology, structure, distribution, and cultural & economic importance.
3	Perform the task mentioned above but most with minor mistakes
2	Perform the task mentioned above but most are inaccurate or incomplete
1	Unable to complete the task mentioned above

CLO # 4

Numerical Value	Students will be able to describe the reproductive physiology of farm animals.
4	Perform all the following tasks accurately <ul style="list-style-type: none">• Accurately describe the reproductive physiology of pigs and chickens.
3	Perform the task mentioned above but most with minor mistakes
2	Perform the task mentioned above but most are inaccurate or incomplete
1	Unable to complete the task mentioned above

CLO # 5

Numerical Value	Students will be able to demonstrate knowledge in the practices of animal nutrition.
4	Perform all the following tasks accurately <ul style="list-style-type: none">• Accurately follow proper procedures in swine feeding.• Accurately follow proper procedures in chicken feeding.
3	Perform the task mentioned above but most with minor mistakes
2	Perform the task mentioned above but most are inaccurate or incomplete
1	Unable to complete the task mentioned above