COURSE OUTLINE

<u>INTRODUCTION TO TROPICAL AGRICULTURE</u>   <u> AG 111 </u>
            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: <u>4</u>

III   CONTACT HOURS PER WEEK:

<u> 3 </u>	<u> 3 </u>	<u> 6 </u>
Lec	Lab	Total

IV   PREREQUISITE: <u>None</u>

V   STUDENT LEARNING OUTCOME

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

1. Explain the different branches of Agriculture.

2. Explain the importance and role of agriculture in tropical countries.

3. Identify and describe the different job opportunities in agriculture.

4. Explain the different government policies for a sound agricultural development of a country.

5. Perform the different agricultural practices in the tropics.

6. Discuss the interrelations of environmental factors and their effects to plant growth and development.

VI COURSE CONTENT

A. Branches of Agriculture

B. Role of agriculture in Tropical Countries

C. Careers in Agriculture
   1. Research
   2. Teaching
   3. Civil Service
   4. Private Sectors

D. 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

E. Agricultural Practices
   1. Crop Production Systems
   2. Animal Production Systems

F. Agriculture and Climate
   1. Sunlight
   2. Rainfall

3. Temperature
4. Drought

7. Demonstrate procedures in restoring and maintaining soil organic matter under continuous cultivation.

G. Restoration and Maintenance of Soil Organic matter

8. Employ procedures in soil fertility management.

H. Soil Fertility and its management

9. Determine the factors affecting fertilizer use

I. Factors Affecting Fertilizer Use

10. Classify tropical plants based on their economic uses.

J. Classification of Tropical Crops
   1. Growth
   2. Use
   3. Mode of Production
   4. Special-Purpose
   5. Agronomic
   6. Market Value

11. Explain the factors affecting yield of tropical crops

K. Factors of Yield of Tropical crops.

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

L. Crop Protection
   1. Principles of Crop Protection
   2. Classification of Pests
   3. Plant Diseases

13. Classify the different farm animals

M. Animal Science
   1. Livestock
   2. Poultry

14. Describe the reproductive physiology of farm animals

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

15. Perform the practices in animal nutrition.

O. Animal Nutrition

16. Explain the different management practices of farm animals.

P. Management of Farm Animals
   1. Cattle
   2. Poultry
   3. Pigs

17. Explain the signs of good health in farm animals.

Q. Animal Health

18. Identify the different causes of animal diseases.

R. Causes of Animal Diseases

VII   MATERIALS AND EQUIPMENT
    A. Vegetable Seeds
    B. Fertilizers
    C. Farm Tools and Equipments
    D. Overhead Projector
    E. Laboratory Tools and Equipments
    F. Digital Camera
    G. Computer
    H. Standard Classroom Materials
    I. Transportation
    J. Digital Projector

VIII TEXTS AND REFERENCES
    A. Text
       Youdeowei, A., Ezedinma, F.O.C., and O.C. Onazi. Introduction to Tropical Agriculture. Essex, England: Longman Group (FE) Ltd, 1990.

    B. Reference
       Gillespie, J.R. Modern Livestock and Poultry, 6th ed. Albany, N.Y.: Del Mar Publishers, 2002

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%.

Lecture	% of Grade
Participation	5%
Quizzes	15%
Tests	30%
Assignments	10%

Laboratory	
Participation	15%
Laboratory Write-Ups	10%
Projects	15%
TOTAL	100%

The computation of the 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   Credits: <u> 3 </u> <u> 1 </u> <u> 48 </u>
         Course No. & Title   Lec   Lab Total Hrs

T A S K	TIME
SLO #3-4	3
1. Using activity worksheet, list and evaluate the different job opportunities in Agriculture through the Division of Agriculture in Palau.	
2. Using activity worksheet, evaluate and discuss the different government policies that promote a sound agricultural system.	
SLO #5	18
1. Propagate seedlings, grow vegetable crops, and implement technological practices of crop production.	
2. Evaluate the performance of crops as affected by organic and inorganic soil amendments.	
3. Domesticate farm animals and implement the prescribe management practices.	
4. Using activity worksheet, collect data and evaluate the performance of crops and farm animals as affected by different farming practices.	
SLO # 7-9	6
1. Implement in the farm the procedures of restoring and maintaining soil organic matter.	
2. Using activity worksheet, gather data from the plants as affected by different methods of fertilizer application.	
SLO #10	3
1. Proceed to different crop production areas and classify different tropical plants based on their economic uses.	
SLO #12	6
1. Demonstrate skills in identifying and classifying different pests and diseases that are commonly found here at Palau.	
2. Implement in the farm a safe and sound crop protection procedure to prevent pests and disease outbreaks.	
SLO #14	6
1. Watching a DVD presentation, identify and be familiar to 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 furrowing periods.	

SLO #15-16   3
    1. Identify the different kinds of feedstuffs
    2. Perform the feeding operations of pigs and
       chicken following the daily dietary rations
       for the animals.

SLO #17-18   3
    1. Observe the PCC farm animals and identify
       the signs of good health.
    2. Make diagnosis on signs and symptoms of
       animal diseases and be able to identify its
       causes.

TOTAL LAB HOURS   48 hrs

Rubrics Form A

(Used for Shop courses and other Program courses)

AG 111- INTRODUCTION TO TROPICAL AGRICULTURE

STUDENT NAME_____   SEMESTER/YEAR: _____

INSTRUCTOR'S NAME_____

This record is intended to serve as a method of evaluating student achievement of the competencies in Agricultural Science Program.

Directions: Evaluate the students using the rating scale below and encircle the appropriate number to indicate the degree of competency. The numerical rating of 5, 4, 3, 2, and 1 are not intended to represent the traditional school grading system of A, B, C, D, and F. The description opposite the numbers will determine the level of student performance for each of the competencies listed below.

Rating Scale:
- 5   Excellent
- 4   Above average
- 3   Average
- 2   Below average
- 1   Unacceptable

COMPETENCIES	RATING	DATE
1. Explain the factors affecting yields of tropical crops.	5 4 3 2 1	
2. Demonstrate procedures in restoring and maintaining soil organic matter under continuous cultivation.	5 4 3 2 1	
3. Classify tropical plants based on their economic uses.	5 4 3 2 1	
4. Describe the reproductive physiology of farm animals.	5 4 3 2 1	
5. Perform the practices in animal nutrition.	5 4 3 2 1	

5   4   3   2   1

I certify that the student has completed all the competencies in this course and has achieved an average rating as shown above.

_____   _____
Instructor's Signature   Date

Competency Assessment Form

AG 111- INTRODUCTION TO TROPICAL AGRICULTURE

1. Explain the factors affecting yields of tropical crops.

5	Explain the factors affecting yields of tropical crops with 90%-100% accuracy
4	Explain the factors affecting yields of tropical crops with 80%-89% accuracy
3	Explain the factors affecting yields of tropical crops with 70%-79% accuracy
2	Explain the factors affecting yields of tropical crops with 65%-69% accuracy
1	Explain the factors affecting yields of tropical crops with below 65% accuracy

2. Demonstrate procedures in restoring and maintaining soil organic matter under continuous cultivation.

5	Demonstrate procedures in restoring and maintaining soil organic matter under continuous cultivation with 90%-100% accuracy
4	Demonstrate procedures in restoring and maintaining soil organic matter under continuous cultivation with 80%-89% accuracy
3	Demonstrate procedures in restoring and maintaining soil organic matter under continuous cultivation with 70%-79% accuracy
2	Demonstrate procedures in restoring and maintaining soil organic matter under continuous cultivation with 65%-69% accuracy
1	Demonstrate procedures in restoring and maintaining soil organic matter under continuous cultivation with below 65% accuracy

3. Classify tropical plants based on their economic uses

5	Classify tropical plants based on different categories with 90%-100% accuracy
4	Classify tropical plants based on different categories with 80%-89% accuracy
3	Classify tropical plants based on different categories with 70%-79% accuracy
2	Classify tropical plants based on different categories with 65%-69% accuracy
1	Classify tropical plants based on different categories with below 65% accuracy

4. Describe the reproductive physiology of farm animals.

5	Describe the reproductive physiology of farm animals with 90%-100% accuracy
4	Describe the reproductive physiology of farm animals with 80%-89% accuracy
3	Describe the reproductive physiology of farm animals with 70%-79% accuracy
2	Describe the reproductive physiology of farm animals with 65%-69% accuracy
1	Describe the reproductive physiology of farm animals with below 65% accuracy

5. Perform the practices in animal nutrition.

5	Perform the practices in animal nutrition with 90%-100% accuracy
4	Perform the practices in animal nutrition with 80%-89% accuracy
3	Perform the practices in animal nutrition with 70%-79% accuracy
2	Perform the practices in animal nutrition with 65%-69% accuracy
1	Perform the practices in animal nutrition with below 65% accuracy