

# College of Micronesia-FSM

PO Box 159  
Pohnpei, FM 96941

## AGRICULTURE (AG) 084 Basic Crop Production

### Course Description (Catalog)

This course is designed to provide students with the basic principles of plant-soil and climate relationship, various stages of pre-planting, planting, vegetative growth, fruit and seed growth, harvesting and marketing.

**Course Prepared by:** Lyle Bacongus, Kosrae Campus  
Kiyoshi Phillip, National Campus  
Totoa Fetalai-Currie, Pohnpei Campus

	Hours / Week	#. Of Weeks	Total Hours	Semester Credits
Lecture	3	16	48	3
Laboratory	3	16	48	1
Workshop				
Total Semester Credits				4

Purpose of Course:

Degree Requirement: \_\_\_\_\_

Degree Elective: \_\_\_\_\_

Certificate:  \_\_\_\_\_

Remedial: \_\_\_\_\_

Other: \_\_\_\_\_

Prerequisite of Course:

None

\_\_\_\_\_  
Signature, Chair Curriculum Committee

\_\_\_\_\_  
Date Approved by Committee

\_\_\_\_\_  
Signature, President, COM-FSM

\_\_\_\_\_  
Date Approved by President

## **AG 084 Basic Crop Production**

### **I COURSE OBJECTIVE**

#### **Program Learning Outcomes:**

Upon successful completion of the Certificate of Achievement in Agriculture & Food Technology, students will be able to:

1. Demonstrate an overall knowledge of the crop production process.
2. Practice good agricultural management and marketing skills.
3. Identify and demonstrate the fundamentals of food processing, preparation techniques, the relationship between scientific principles and cooking procedures.
4. Identify and demonstrate basic skills and principles of swine and poultry production techniques including breed selection, feed, housing, management techniques and animal health.
5. Apply the basic skills and knowledge of nursery micropropagation practices, transplanting, harvesting and maintenance.
6. Identify the proper use of land for agriculture purposes, local ornamental and turf management.

#### **Student Learning Outcomes**

By the end of this course students will be able to:

1. Identify and classify major food crops found in Micronesia.
  - 1.1. Identify and classify crops according to botanical species.
  - 1.2. Identify and classify crops according to origin and geographical distribution.
  - 1.3. Identify and classify crops according to use and economic importance.
  - 1.4. Identify and classify crops according to life cycle and method of cultivation.
2. Explain how basic elements in the environment affect crop production.
  - 2.1. Explain how light affects crop production.
  - 2.2. Explain how moisture affects crop production.
  - 2.3. Explain how soil affects crop production.
  - 2.4. Explain how temperature affects crop production.
3. Describe and demonstrate the basic steps in producing marketable crops in a environmentally sustainable manner.
  - 3.1. Describe and demonstrate site selection and land preparation skills.
  - 3.2. Describe and demonstrate proper selection and maintenance of planting materials.
  - 3.3. Describe and demonstrate sustainable horticultural management practices.
  - 3.4. Describe and demonstrate farm chemical handling safety and its judicious use.
  - 3.5. Describe and demonstrate proper postharvest handling, transport, storage and marketing techniques.

## **II COURSE CONTENT**

### **Lecture:**

Introduction to Man and Plants

- Agricultural Practices
- Agricultural Problems
- Trends in Modern Agriculture

Nature of Crop Plants

- Scientific Classification
- Natural Selection and Genetics

Structure and Function of Plants

- Roots, Stems and Leaves
- Flowers
- Fruits and Seeds

Botanical Processes

- Germination and Growth
- Translocation
- Photosynthesis and Respiration
- Reproduction
- Propagation

The Plant Environment

- Soil and Plant Nutrition
- Fertilization
- Water Management
- Pest Management

Cultural Operations

- Land Preparation
- Planting
- Maintenance
- Harvesting
- Post-harvest Handling

Marketing

### **Laboratory:**

Site Evaluation

Land preparation

Seed selection and germination

Seedling management

Transplanting

Cultural Management Practices

    Water Management

    Nutrient Management

    Pest Management

Crop Growth Analysis

Harvesting

Post-harvest Handling and Storage

Marketing

### III TEXTBOOK

Reiley, H.E. and C.L. Shry, Jr. *Introductory Horticulture*, 7<sup>th</sup> Edition (or latest edition). Albany, NY: Delmar, 2007. ISBN: 978-1-4018-8952-4 (available in the COM-FSM Bookstore)

### IV REFERENCE MATERIALS

Goodman, R.M. *Encyclopedia of Plant and Crop Science*. New York: Marcel Dekker, Inc., 2004. ISBN: 0-8247-0944-8 (Available in the COM-FSM Library)

Maynard, D.N. and G.J. Hochmuth. *Knott's Handbook for Vegetable Growers*, 5<sup>th</sup> Ed. New York: John Wiley, 2006. ISBN: 9780471738282

### V REQUIRED COURSE MATERIALS

1 data notebook  
1 machete

### VI INSTRUCTIONAL MATERIALS/EQUIPMENT AND COST FOR THE COLLEGE

Access to an open space 4' x 40' student suitable for a garden adjacent to a water source

Long Term Equipment		\$ 300
• pH meter and soil test kit (whole class)	\$ 200	
• knapsack sprayer (whole class)	\$ 50	
• Weighing scale	\$ 50	
Supplies for the semester		\$ 720
• 10 sets Handtools (shovel, rake, trowel)	\$ 50/student	
• Seeds and seedling trays	\$ 50/class	
• Fertilizers and pest control agents	\$ 100/class	
• Rubber hose	\$ 20/class	
• Potting media	\$ 50/class	

### VII METHODS OF INSTRUCTION

**Lecture-discussions:** Suggested Assessments: Short Quizzes, Theoretical and Practical Examinations

**Laboratory:** Field garden project and report

### VIII EVALUATION

**Suggested Final course grade:** 60% lecture grade + 40% Lab grade

100 – 90 = A  
89 – 80 = B  
79 – 70 = C  
69 – 60 = D  
59 – Below = F

**IX CREDIT-BY-EXAMINATION**

None

**X ATTENDANCE POLICY**

College of Micronesia-FSM Attendance Policy will be applied.

**XI ACADEMIC HONESTY POLICY**

College of Micronesia-FSM Academic Honesty Policy will be applied.