

# College of Micronesia-FSM

PO Box 159  
Pohnpei, FM 96941

## AGRICULTURE (AG) 090 Principles of Food Processing

### Course Description (Catalog)

This course introduces the students to the fundamentals of food processing and the relationship between the scientific principles and preparation procedures.

**Course Prepared by:** Lyle Bacongus, Kosrae Campus  
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	Hours / Week	#. Of Weeks	Total Hours	Semester Credits
Lecture	3	16	48	3
Laboratory				
Workshop				
Total Semester Credits				3

Purpose of Course:

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

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

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

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

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

Prerequisite of Course:

None

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

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

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

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

## **AG 090 Principles of Food Processing**

### **I COURSE OBJECTIVES**

#### **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. Explain how the body uses food and describe the functions of the different types of nutrients.
  - 1.1. Describe the functions of proteins, carbohydrates, fats, vitamins and minerals.
  - 1.2. Identify locally available sources of proteins, carbohydrates, fats, vitamins and minerals.
2. Develop strategies that will promote food safety.
  - 2.1. Identify sources of food-borne illnesses, biological, chemical and physical hazards.
  - 2.2. Recommend strategies that will prevent food-borne illnesses.
3. Describe and demonstrate basic food processing techniques for seafood, meat, fruits and vegetables.
  - 3.1. Describe and demonstrate dehydration.
  - 3.2. Describe and demonstrate fermentation.
  - 3.3. Describe and demonstrate primary processing.

### **II COURSE CONTENT**

1. Nutrition; nutrition and job performance, food and energy, functions of food, the nutrients and the dietary guidelines
2. Food Safety: food-borne illness, biological hazards, chemical hazards and ways to prevent them
3. The basic principles of food preservation
4. Preservation of meat using curing and smoking
5. Preservation of seafood (fish and shellfish)
6. Preservation of fruits and vegetables
7. Primary processing of tropical plantation crops

### III TEXTBOOK

Brown, A. *Understanding Food: Principles and Preparation*. 2<sup>nd</sup> Edition (or latest edition). Belmont, CA: Wadsworth/Thomson Learning, 2004. ISBN 978-0534506094 (available in the COM-FSM Kosrae Library)

### IV REFERENCES

Asiedu, J.J.K.B. *Processing Tropical Crops: A Technological Approach*. (or latest edition) London: MacMillan, 1989. ISBN 9780333448571 (Available at the COM-FSM Library)

Mehas, K.Y. and S.L. Rodgers. *Food Science: The Biochemistry of Food and Nutrition*. 5th Edition (or latest edition). New York: Glencoe, McGraw Hill, 2005. ISBN 978-0078226038.

Romans, J.R., W.J. Costello, C.W. Carlson, M.L. Greaser and K.W. Jones. *The Meat we Eat*. Danville, IL: Interstate, 2001. ISBN 9780813428819 (Available at the Agriculture Division Office)

### V REQUIRED COURSE MATERIALS

rubbing alcohol or antibacterial hand sanitizer

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

Long-Term Supplies/Equipment	\$1380
2 kerosene stoves	100
Cookware set stainless steel	170
Pressure cooker	80
Vacuum Sealer	90
Oneida Stainless Steel Cooking Tools	50
mixing bowl set	20
Blender/Processor	100
Hand refractometer	280
Food Slicer	100
electronic scale	90
Dehydrator	200
Grinders	100
Cooking supplies (/semester)	\$ 200

### VII METHODS OF INSTRUCTION

Lectures and Demonstrations  
Food Processing site visits  
Class Food Processing Project

### VIII EVALUATION

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

**IX CREDIT-BY-EXAMINATION POLICY**

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.