

AG-090 Principles of Food Processing

GENERAL INFORMATION:

Course title: AG 090 Principles of Food Processing		
Campus: Kosrae, Yap, CTEC	Initiator: Tara Y. Tara	Date: November 10, 2021
Course description This course introduces students to the fundamentals of food processing and the relationships between scientific principles and preparation techniques. It also introduces the importance of food safety, understanding food borne diseases, cross contamination, and sanitation.		

COURSE HOURS/CREDITS:

	Hours per Week		No. of Weeks		Total Hours		Semester Credits
Lecture	3	x	16	x	48/48	=	3
Laboratory		x		x	/48	=	
Lecture / Lab		x		x	/16	=	
Workshop		x		x	48	=	
Total SemesterCredits							3

PURPOSE OF COURSE:

☐ Degree requirement

☐ Degree elective

☒ Certificate

☐ Other

PREREQUISITES: ESL 089 and passing any 100 level or higher mathematics course.

PSLOS OF OTHER PROGRAMS THIS COURSE MEETS:

PSLO#	Program

1) INSTITUTIONAL STUDENT LEARNING OUTCOMES

[]	1. Effective oral communication: capacity to deliver prepared, purposeful presentations designed to increase knowledge, to foster understanding, or to promote change in the listeners' attitudes, values, beliefs, or behaviors.
[]	2. Effective written communication: development and expression of ideas in writing through work in many genres and styles, utilizing different writing technologies, and mixing texts, data, and images through iterative experiences across the curriculum.
[]	3. Critical thinking: a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.
[]	4. Problem solving: capacity to design, evaluate, and implement a strategy to answer an open-ended question or achieve a desired goal.
[]	5. Intercultural knowledge and competence: a set of cognitive, affective, and behavioral skills and characteristics that support effective and appropriate interaction in a variety of cultural contexts.
[]	6. Information literacy: the ability to know when there is a need for information, to be able to identify, locate, evaluate, and effectively and responsibly use and share that information for the problem at hand.
[X]	7. Foundations and skills for life-long learning : purposeful learning activity, undertaken on an ongoing basis with the aim of improving knowledge, skills, and competence.
[]	8. Quantitative Reasoning: ability to reason and solve quantitative problems from a wide array of authentic contexts and everyday life situations; comprehends and can create sophisticated arguments supported by quantitative evidence and can clearly communicate those arguments in a variety of formats.

2) PROGRAM STUDENT LEARNING OUTCOMES (PSLOs): The student will be able to:

1. Explain the basic concepts and principles used in management of land resources and how resources are processed from farm to table.
2. Practice basic knowledge and skills in operating an agribusiness including management and protection of crops in nurseries.
3. Develop a foundation in math, science, and English that will allow transfer to higher-level courses to prepare them for entry-level employment.

3) COURSE STUDENT LEARNING OUTCOMES (CSLOs)(General): The student will be able to:

1. Explain the importance of food and their functions (nutrient values), local sources, and food selection;
2. Describe food safety; and
3. Describe and demonstrate basic food processing techniques for seafood, meat, fruits and vegetables.

4) COURSE STUDENT LEARNING OUTCOMES (CSLOs)(Specific): The student will be able to:

CSLO (General) 1: Explain the importance of food, their functions (nutrient values), and local sources and food selection			
Student Learning Outcome (specific)	ISLO	PSLO	Assessment Strategies
1.1 Describe the functions of proteins, carbohydrates, fats, vitamins and minerals.	7	1	In an exam and/ or assignment, the student will describe the functions of proteins, carbohydrates, fats, vitamins, and minerals. Graded with a rubric.
1.2 Identify locally available sources of proteins, carbohydrates, fats, minerals and vitamins.	7	1	In an exam or assignment, the student will identify locally available sources of proteins, carbohydrates, fats, vitamins and minerals. Graded with a rubric.
1.3 Identify the criteria of food selection.			In an exam, quiz/assignment, the student will identify and describe the criteria of food selection. Graded with a rubric.
CSLO (General) 2: Describe food safety.			
Student Learning Outcomes (specific)	ISLO	PSLO	Assessment Strategies
2.1 Identify sources of food borne disease, cross contamination, biological hazards, chemical hazards, bacteria toxin mediated infections, bacteria intoxication and physical hazards.	7*	1	In an exam, quiz and /or assignment, the student will identify sources of food borne disease, cross contamination, biological hazards, chemical hazards, bacteria toxin mediated infections, bacteria intoxication and physical hazard. Graded with a checklist.
2.2 Describe the methods of preventing food borne diseases.	7	1	In an exam, quiz and/or assignment, the student will explain how to prepare food safely. Graded with a rubric.
2.3 Explain food safety preparation.	7	1	In an exam, quiz and/or assignment, the student will explain how to prepare food safely. Graded with a rubric.
CSLO (General) 3: Describe and demonstrate basic food processing techniques for seafood, meat, fruits and vegetables.			
Student Learning Outcomes (specific)	ISLO	PSLO	Assessment Strategies
3.1 Demonstrate safe handling of the different types of food.	7	1	In a final project, the student will demonstrate safe handling of the different types of food. Graded with a rubric.
3.2 Demonstrate safety in the kitchen.	7	1	In the same final project as in the above strategy, the student will practice safety in the kitchen. Graded with a rubric.
3.3 Use the right type of heating method for each food group.	7	1	The student's competency in using the right type of heating method for each of the food groups will be assessed by the

			same final project above. Graded with a checklist.
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5) COURSE CONTENT:

1. Chemistry of food composition
2. Local food sources
3. Food selection
4. Food safety
5. Food processing techniques

6) METHOD(S) OF INSTRUCTION:

[X] Lecture [X] Cooperative learning groups

[] Laboratory [X] In-class exercises

[X] Audio visual [X] Demonstrations

[X] Other: Fieldtrip

7) REQUIRED TEXT(S) AND COURSE MATERIALS:

Brown, A. (2004). *Understanding food: Principles and preparation*. 6th Edition. Belmont, CA: Wadsworth/Thomson Learning (or most recent edition).

8) REFERENCE MATERIALS:

Asiedu, J.J.K.B. (1989). *Processing tropical crops: A Technological approach*. London:MacMillan (or most recent edition).

Mehas, K.Y. & Rodgers S.L. (2005). *Food science: The Biochemistry of food and nutrition*. 5th Edition. New York: Glencoe, McGraw Hill (or most recent edition).

Romans, J., Costello, W., Carlson, C., Greaser, M. & Jones, K. (2001). *The Meat we eat*. Danville, IL: Interstate (or most recent edition).

9)INSTRUCTIONAL COSTS:

Long Term equipment: Vacuum Sealer and Blender/Processor.

10) EVALUATION:

The summative evaluation will be based on a final project, midterm, exam, and final exam. The student is required to pass this course with a grade of C- or better.

11) CREDIT BY EXAMINATION:

None

AG 090 Principles of Food Processing Endorsed by CC: 10/12/2022
Approved by VPIA: 08/16/2023