

AG-101 Introduction to Agriculture

GENERAL INFORMATION:

Course title: AG 101 Introduction to Agriculture		
Campus: National	Initiator: Eric Defan	Date: 11/02/2021
Course description This course provides an orientation to agriculture majors by laying down the basic principles of crop, animal, soil science, forestry, resource conservation, pest management, aquaculture, food science and nutrition, marketing and extension.		

COURSE HOURS/CREDITS:

	Hours per Week	No. of Weeks	Total Hours	Semester Credits
Lecture	3	x 16	x 48 =	3
Laboratory	3	x 16	x 48 =	1
Workshop		x	x =	
Total SemesterCredits				4

PURPOSE OF COURSE:

☒ Degree requirement

☐ Degree elective

☐ Certificate

☐ Other

PREREQUISITES:

Principles of Marketing (BU270)

PSLOS OF OTHER PROGRAMS THIS COURSE MEETS:

PSLO#	Program
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3.4-Define and explain scientific concepts, principles, and theories of a field of science.	General Education
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CAC Chair signatures:_____Date recommended:_____

VPIA signature::_____ Date approved:_____

1) INSTITUTIONAL STUDENT LEARNING OUTCOMES

[X]	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.
[X]	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.
[X]	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.
[]	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. Acquire fundamental concepts and principles focusing towards development and production in a sustainable manner appropriate in Micronesia.
2. Demonstrate basic competencies in a management of land resources and food production.
3. Acquire basic skills, knowledge and attitude to manage a sustainable food production enterprise or qualify for entry-level employment in an agriculture or natural resource management-related agency.

4. Acquire a sound scientific background that will allow transfer to a higher degree program related to land resources and food systems.

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

1. Describe the historical development in agriculture.
2. Describe how to manage the natural resources in a sustainable manner.
3. Identify and explain the major plant parts and functions and manage a home garden.
4. Describe the nutritional requirements for animals, and how to best maintain animal health and demonstrate management practices.

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

CSLO (General) 1: Describe the historical development in agriculture.			
Student Learning Outcome (specific)	ISLO	PSLO	Assessment Strategies
1.1 Analyze the influences of early cultures and geography on current day agriculture.	3*	1	The students will be assessed through homework, test or quiz graded with a rubric focused on the development of agriculture today.
1.2 Discuss how agricultural cooperatives have affected agriculture and consumers.	3	1	The students will break up into groups discussing how agricultural cooperatives have affected agriculture and consumers, followed by a written assignment or test using a grading rubric.
1.3 Discuss and explain the milestones in development of agriculture.	3	1	The students will answer review questions graded with a rubric focused on the development of agriculture.
1.4 Describe how agriculture is related with the following natural sciences: biology, chemistry, mathematics and physics.	3	1	The students will be assessed through homework on identifying how other natural science courses are related to agriculture followed by a test using a grading rubric.
1.5 Analyze the career opportunities in agriculture.	3	1	The students will examine the career opportunities in agriculture followed by an assignment or test using a grading rubric.
CSLO (General) 2. Describe how to manage the natural resources in a sustainable manner.			
Student Learning Outcomes (specific)	ISLO	PSLO	Assessment Strategies
2.1 Explain why agriculture and all life depends on the soil.	3	1	The students will write an essay explaining why agriculture and all life depends on the soil; will be graded with a rubric.

2.2 Explain the effect of soil microorganisms on crop production.	3	1	The students will discuss the effect of soil microorganisms on crops followed by an assignment or test using a grading rubric.
2.3 Explain the concept of an ecosystem.	3	1	The student will be assessed through homework, test or quiz, graded with a rubric focused on explaining the concept of an ecosystem.
2.4 Explain how physical properties affect soil fertility.	3	1	The student will be assessed through homework, test or quiz, graded with a rubric focused on how physical properties affect soil fertility.
2.5 Describe soil and water conservation methods.	2, 3	1	The student will be assessed through homework, test or quiz graded with a rubric focused on soil and water conservation.

CSLO (General) 3. Identify and explain the major plant parts and functions and manage a home garden.

Student Learning Outcomes (specific)	ISLO	PSLO	Assessment Strategies
3.1 Describe the major functions of roots, stems, leaves, flowers, and fruits.	3	1	The student will be assessed through homework, test or quiz grading with a rubric focused on the major functions of roots, stems, leaves, flowers, and fruits.
3.2 Explain the process of photosynthesis, respiration and transpiration.	3	1	The student will be assessed through homework, test or quiz rated with a rubric focused on the process of photosynthesis, respiration and transpiration.
3.3 Describe the roles of air, light, plant nutrition and water in the plant growth process.	3	1	The student will be assessed through homework, test or quiz rated with a rubric focused on the roles of air, light, plant nutrition and water in the plant growth process.
3.4 Explain the methods of plant propagation, and micro propagation.	3	1	The student will be assessed through homework, test or quiz rated with a rubric focused on the methods of plant propagation and micropropagation.
3.5 Demonstrate seed propagation and ways water is applied.	1, 3	1	The students will demonstrate seed propagation and ways water is applied followed by a lab report graded using a rubric.
3.6 Analyze the differences between plant and animal cells.	2, 3	1	The student will be assessed through homework, test or quiz rated with a rubric focused on the difference between plant cells and animal cells.

3.7 Evaluate the various means producers use to control weeds using the IPM program.	2, 3	1	The student will be assessed through homework, test or quiz rated with a rubric on the different IPM programs to control weeds.
CSLO (General) 4: Describe the nutritional requirements for animals, and how to best maintain animal health and demonstrate management practices.			
Student Learning Outcomes (specific)	ISLO	PSLO	Assessment Strategies
4.1 Identify classes of nutrients and nutrient deficiencies	3	1	The students will be assessed through homework, test or quiz rated with a rubric on different classes of nutrients and nutrients deficiencies.
4.2 Describe animal digestive systems	1, 3	1	The students will give an oral presentation graded with a rubric focused on the animal digestive system.
4.3 Explain the basics of animal physiology	3	1	The students will be assessed through homework, test or quiz rated with a rubric on the basics of animal physiology.
4.4 Identify the symptoms of animal diseases and parasites	3	1	The student will be assessed through homework, test or quiz rated with a rubric focused on the symptoms of animal diseases and parasites.
4.5 Explain the importance of scientifically classifying living organisms.	3	1	The student will be assessed through homework, test or quiz rated with rubric focused on the importance of scientifically classifying living organisms.
4.6 Explain how genetic mutations are used to develop new breeds of animals.	3	1	The student will be assessed through homework, test or quiz rated with rubric focused on how genetic mutations are used to develop new breeds of animals.

5) COURSE CONTENT:

- Introduction to the Science of Agriculture
 - Careers in Agriculture
 - Soil: The Source of Life
 - Cells: Agriculture's Building Blocks
 - Genetics and Breeding
- The Classification of Agricultural Organisms
 - Plant Systems
- Plant Reproduction
- Plant Growth
 - Animal Systems
- Animal Reproduction

- Animal Growth
Plant and Animal Health
- Plant and Animal Diseases
- Weed Science
- Agricultural Entomology

6) METHOD(S) OF INSTRUCTION:

☐ Lecture ☒ Cooperative learning groups

☒ Laboratory ☐ In-class exercises

☐ Audio visual ☐ Demonstrations

☐ Other

7) REQUIRED TEXT(S) AND COURSE MATERIALS:

Herren, R.V. 2007. *The Science of Agriculture: A Biological Approach*. 3rd edition. Clifton Park: NY: Delmar, 2007. (or most recent edition)

Student Materials: Calculator, laboratory notebook, ruler and pencils,

Classroom Materials: Seeds, fertilizer, pesticides, shovel, wheelbarrow, pig model, & plant model

8) REFERENCE MATERIALS:

McQuaig, D.J. & Bille, P.A. (2008). *College Accounting*. Boston Houghton Mifflin Company or latest edition (or most recent edition).

Warren, C.S., Reeve, J.M., and Duchac, J. (2009). *Accounting* Mason: South-Western Cengage Learning (or most recent edition).

Walther, L. (2011). *Principles of Accounting*. Retrieved October 25, 2011, from <http://www.principlesofaccounting.com>.

11) INSTRUCTIONAL COSTS: None

None

10) EVALUATION:

The student must exhibit proficiency of at least 70% and complete a summative exam to receive a passing grade of “C”.

11) CREDIT BY EXAMINATION:

None

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Endorsed by CC: 04/05/2023

Approved by VPIA: 04/27/2023