

College of Micronesia - FSM

COURSE MODIFICATION REQUEST

MR 210 MARINE ECOLOGY

Course Number and Title

Math and Science

Department

No Change

New Course Number and Title

Department

New Course Objectives:

None

New Course Description;

3 credits

Prerequisite: a C or better in Marine Biology, Introduction to Ecology or `Environmental Studies.

The course focuses on principles of ecology, ecological terminology, and the ecology of marine ecosystems. Important physical, chemical, and biological interactions controlling coral reef, mangrove, sea grass, estuarine, pelagic, benthic and upwelling communities are discussed.

Justification for Revising the Course:

Changes are required to make prerequisite consistent. with updates in marine science courses and major. Changes are also required to make the course description better reflect what is currently taught..

Division Chairperson

Date

Chairperson, Curriculum Committee
6/7/99

5/28/99

Date

**College of Micronesia-FSM
P. O. Box 159
Kolonja, Pohnpei FM 96941**

Course Outline Cover Page

Marine Ecology

Course Title

MR 210

Department and Number

Course Description:

Introduction to the principles of ecology with reference to tropical marine ecosystems. Explains the processes of primary and secondary production and introduces the principles of human exploitation of the marine resources.

Course Prepared by: Dr. Teny Topalian **State** Pohnpei –national camp

	Hours per Week		No. of Week		Total Hours	=	Semester Credits	
Lecture	<u>3</u>	x	<u>16</u>	x	<u>48/16</u>	=	<u>3</u>	
Laboratory	_____	x	_____	x	_____	=	_____	
Workshop	_____	x	_____	x	_____	=	_____	
Total Semester Credits								<u>3</u>

Purpose of Course:

Degree Requirement	_____
Degree Elective	_____
Certificate	_____
Remedial	_____
Other (workshop)	_____

Prerequisite Course(s): MR 120

Spensin James

Signature, Chairperson, Curricular Committee

4/2/98

Date Approved by Committee

4/17/98

Date Approved by President

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Rev. 3/98

Course Outline

I. Course Objectives

A. General

1. To develop an understanding of the ecological principles of the Pacific Islands marine environment.
2. To develop an appreciation of the diversity, productivity and complexity of tropical marine ecosystems.
3. To gain a knowledge of the human impacts affecting the marine environment.
4. To apply ecological principles and concepts in the development of marine conservation practices.
5. To acknowledge the importance of public education and participation.

B. Specific

Upon completion of the course the student will be able to:

1. Locate Pacific Islands on a map of the Pacific.
2. List and describe the chemical, geological, and physical properties of oceans and their effects on marine organisms.
3. Explain how marine organisms adapt to the chemical and physical environment.
4. Describe different marine populations and their limiting resources.
5. Explain interspecies interactions and the structure of marine communities.
6. Explain elements of marine biological diversity.
7. Explain concepts of biogeography, speciation and evolution within populations of marine organisms.
8. Describe plankton and productivity.
9. Explain plankton dynamics and food webs.
10. Compare and contrast the life habits and adaptations of benthic organisms.
11. Describe food supply and trophic structures.
12. Describe the relationship between climate and the oceans.
13. Analyze the limiting factors affecting marine organisms.

14. Explain the ecology of coral reef and mangrove ecosystems.
15. List and describe examples of human impacts on coral reefs and mangroves.
16. Describe and explain the importance of both western and traditional marine conservation and sustainable use of marine resources.

II. Course Contents

1. Biological, chemical, geological and physical parameters of the ocean.
2. Adaptations and interactions of marine organisms.
3. Marine food webs and trophic levels.
4. Population dynamics in the marine organisms.
5. Biodiversity.
6. Biogeography and evolution of marine organisms.
7. Plankton and productivity.
8. Coral reefs.
9. Mangroves.
10. Marine conservation and sustainable use of marine resources.

III. Textbook

Tropical Pacific Island Environment, Lobban C.S. and Scheffer M., University of Guam Press, 1997.

IV. Required course materials

None

V. Reference materials

Elements of Marine Ecology, Tait R.V., Butterworths, 1991.

VI. Instructional Costs

Field trips Videos

VII. Methods of Instruction

The course will be taught by lecture, class discussions, oral presentations of research reports. Field trips to different coral reef sites.

VIII. Evaluation

Weekly reading assignments, research paper, oral presentations, quizzes, tests, mid-term and final exams. A scale of 90-100 = A, 80-89 = B, 70-79 = C, 60-69 = D, 0-59 = F will be used.

IX. Credit by examination None

X. Attendance

According to Attendance Policy (refer to catalog).