

College of Micronesia - FSM

COURSE MODIFICATION REQUEST

MR 230 ICHTHYOLOGY with lab
Course Number and Title

Math and Science
Department

No Change
New Course Number and Title

Department

New Course Objectives:

None

New Course Description:

.....4 credits
Prerequisite: a C grade or better in a college level biology or zoology course or instructor permission.

The course focus on general aspects of fish biology including tropical, temperate, freshwater and marine fishes. Topics include classification, biology, and physiology of fish. The laboratory includes internal and external examinations, identification, and field observations techniques.

Justification for Revising the Course:

Changes are required to make prerequisites 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

President, COM-FSM
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6/7/99

5/28/99

Date

Community College of Micronesia

Course Outline Cover Page

Ichthyology
Course Title

MR 230
Department & Number

Course Description:

This course emphasizes the importance of fish to world fisheries, classification, distribution and biology of fish.

Course Prepared by: _____ District: _____

	Hours per week	x	Number of weeks	=	Total Hours	=	Semester Credits
Lecture	<u>3</u>	x	<u>16</u>	=	<u>48/16</u>	=	<u>3</u>
Laboratory	<u>3</u>	x	<u>16</u>	=	<u>48/48</u>	=	<u>1</u>
Workshop	_____	x	_____	=	_____	=	_____
Total Semester Credits							<u>4</u>

Purpose of Course: Degree Requirement _____
 Degree Elective _____
 Certificate _____
 Remedial _____
 Other _____

Prerequisite Courses:

MR 130

Spensin James

Signature, Chair

[Signature]

Signature, President, CCM

man Curriculum Committee

October 30, 1992

Date Approved by Committee

11/16/92

Date' Approved by President

I. COURSE OBJECTIVES

General Objectives

1. To develop student's knowledge of fish and their behaviors.

Specific Objectives

Students will be able to:

1. Understand how and why fish are studied.
2. Describe the scope, aim and methods of classification of fish.
3. Identify the position of fish among chordates.
4. Know the major groups of living fish and their characteristics.
5. Describe the relationships of the major groups of the fish.
6. Understand the common and representative families of living fish.
7. Understand the basic anatomy and physiology of fish.
8. Describe and explain the arrangement of external body parts and their functions.
9. Identify bones and muscles of the fish.
10. Understand the systems and describe the internal par body.
of fish
11. Describe and explain characteristics of fish skin.
12. Understand the types of food fish eat which characterize them as either herbivious, carnivorous and picivorous.
13. Explain the mechanisms used in digestion.
14. Define nutrition and poikilotherm.
15. Explain the growth of fish and how fish convert food into energy.
16. Explain growth and age determination of fish.
17. Describe the movements of different forms or shapes explain why movements are suited for that form.
18. Identify the orientation of myomeres and how it relates to fish swimming.
19. Explain what swimming locomotion means.
20. Understand migration patterns of fish.

21. Describe the circulatory system.
22. Know the organs and functions of organs in circulatory system.
23. Understand the respiratory system of fish.
24. Define osmoregulation.
25. Understand the endocrine system.
26. Identify types of reproductive in fish.
27. Compare the process involved in the care of eggs and young in different fish.
28. Know the structure and function of nervous system.
29. Explain the impulse transfer in fish.
30. Describe the process of inheritance in fish.
31. Explain how fish evolve to become what they are today and how long this process took place.
32. Explain the system of nomenclature and know how to use it.
33. Identify different species of fish by following the system of nomenclature.
34. Describe different habitats of fish and determine what factors determine these habitats from these fish.

II. TEXTBOOK

Lagler, K.F., J.E. Bardah and R.R. Miller., 1962 Ichthyology John Wiley and Sons, New York.

Amesbury, Steven S., [R.F. Meyers. 1982. Guide to the Coastal Resources of Guami Uol__I](#) University of Guam Press, Guam

Jones, Robert S., and H.K. Larson, 1974. A Key to the Families of Fish as Recorded From Guam, University of Guam, Technical Report No. 10.

III. COURSE CONTENT

1. Fish, Animals and Man
2. The Major Groups of Fish
3. Basic Fish Anatomy
4. Skin
5. Foods, Digestion, Nutrition, and Growth
6. Skeleton, Build, and Movement
7. Blood and Circulation
8. Respiration

9. Excretion and Osmotic Regulation
10. Reproduction
11. Integration
12. Genetics and Evolution
13. Systematic and Nomenclature
14. Ecology and Zoogeography

IV. Moyle, P. B. and J.J Cech, Jr. 1982.
Ichthyology, Prentice-Hall Inc., Englewood Cliffs, New Jersey
593 pages.