UNIVERSIDAD DE PUERTO RICO
RECINTO UNIVERSITARIO DE MAYAGUEZ
DECANATO DE ASUNTOS ACADÉMICOS

SOLICITUD PARA MODIFICACIONES A CURSOS REGISTRADOS

Unidad: RUM **Colegio:** Artes y Ciencias **Departamento:** Ciencias Marinas

Programa: Programa de Maestría en Ciencias Marinas y Doctorado en Filosofía

Título del Curso: Biología del Arrecife de Coral **Codificación Alfanumérica:** CMOB 8708

INFORMACIÓN SOBRE CAMBIOS SOLICITADOS		
TIPO DE CAMBIO	**INFORMACIÓN VIGENTE**	**CAMBIO SOLICITADO**
[ ] Código alfabético	CMOB	
[ ] Código numérico	8708	
[ ] Título en español	Biología del Arrecife de Coral	
[ ] Título en inglés	Coral Reef Biology	
[ ] Tipo de curso	Graduado	
[ ] Modalidad en que se ofrece		
[ ] Ubicación de curso		
[X] Prerrequisitos	CMOB 8676	CMOB 8676 o autorización del director
[ ] Correquisitos		
[ ] Sistema de calificación		
[ ] Horas de contacto		

[ ] Descripción

DESCRIPCIÓN EN ESPAÑOL ANTERIOR	NUEVA DESCRIPCIÓN EN ESPAÑOL
Exploración de la sistemática, evolución y características biológicas (estructura, modularidad, ciclos de vida, reproducción, etc.) de los principales organismos formadores de los arrecifes coralinos. Requiere salidas y trabajo de campo en el arrecife y el laboratorio.	
DESCRIPCIÓN EN INGLÉS ANTERIOR	**NUEVA DESCRIPCIÓN EN INGLÉS**
Exploration of the systematics evolution and biological characteristics (modularity, life history, reproduction, etc.) of the main reef-building organisms. Requires field and lab work.	

Justificación de los cambios:

El prerrequisito CMOB-8676 es recomendable pero no es absolutamente necesario, ya que los estudiantes reciben una introducción adecuada a los organismos de arrecifes de coral en el curso actual. Añadiendo la autorización del director en los prerrequisitos facilita la secuencia curricular para los estudiantes de nuevo ingreso y permite planificar una secuencia de cursos más eficiente dentro del programa académico de estudiantes que quieren especializarse en comunidades arrecifales. Este curso es prerrequisito para CMOB-8709 (Ecología y Biogeografía de Arrecifes Coralinos), el cual los estudiantes que ya hayan cursado CMOB-8708 podrían cursar en el tercer semestre dentro de sus programas académicos, que les ayudará a reducir el tiempo de graduación. Finalmente, los estudiantes que quieren hacer sus tesis en arrecifes, tendrían la base teórica y práctica para desarrollar su propuesta de tesis y comenzar a trabajar en el proyecto más temprano y así avanzar hacia su graduación más rápido.

Fecha de efectividad de los cambios:___Segundo semestre del 2025-26_____

APROBACIÓN Y CERTIFICACIÓN A NIVEL DEL DEPARTAMENTO	**NOMBRE Y FIRMA**	**FECHA**
Director de Departamento		
APROBACIÓN Y CERTIFICACIÓN A NIVEL DE LA FACULTAD	**NOMBRE Y FIRMA**	**FECHA**
Decano de la Facultad		
APROBACIÓN Y CERTIFICACIÓN A NIVEL DEL DECANATO DE ASUNTOS ACADÉMICOS	**NOMBRE Y FIRMA**	**FECHA**
Decano de Asuntos Académicos		

University of Puerto Rico
Mayagüez Campus
College of Arts and Sciences
Department of Marine Sciences

IN-PERSON COURSE SYLLABUS

COURSE SYLLABUS

GENERAL INFORMATION:

COURSE TITLE:	**BIOLOGY OF THE CORAL REEF**
ALPHANUMERIC CODIFICATION:	CMOB 8708
CONTACT HOURS / CREDITS	45 hours lectures and 60 hours laboratory / five credits
PREREQUISITES, COREQUISITES AND OTHER REQUIREMENTS:	CMOB 8676 or director authorization

COURSE DESCRIPTION:

ENGLISH: Exploration of the systematics evolution and biological characteristics (modularity, life history, reproduction, growth etc.) of the main reef- building organisms. Requires field and lab work. **«In-Person course»**

SPANISH: Exploración de la sistemática, evolución y características biológicas (modularidad, ciclos de vida, reproducción, crecimiento, etc.) de los principales organismos formadores de los arrecifes coralinos. Requiere salida de campo y trabajo en laboratorio. **«Curso Presencial».**

LEARNING OBJECTIVES:

At the end of the course students will be able to:

a. Identify the main reef organisms
b. Describe their biological characteristics and differences, their ecological function, and their evolutionary origin.
c. Understand the fundamental differences between modular and non-modular organisms, applying emergent properties to the different biological groups of the coral reef community and how they have affected their evolution.
d. To understand the characteristics and differences in the life history of the main organisms of coral reefs, with emphasis on Porifera and Cnidaria.

e. Understanding the importance of corals as key reef-building organisms in modern reefs, their evolutionary history, structure, physiology, advantages and disadvantages of their association with zooxanthellae, and their reproductive biology and ecology
f. Apply the knowledge acquired in the classroom during field trips and in the laboratory.
g. Progress in acquiring this knowledge is assessed through two essay exams and a seminar and presentation culminating in a 10-page final report. The seminar focuses on a topic related to the course. Students learn to search for, read, summarize, and interpret the literature, and to present it to the class both orally and in writing.

SUGGESTED TEXTBOOK: ***NOT APPLY***

There is no textbook for this course. Various books and publications like scientific articles in peer-reviewed journals:

COURSE OUTLINE AND TIME DISTRIBUTION:

CONFERENCE TOPIC	TIME DISTRIBUTION (HOURS)
I. Introduction to the coral reef	6
II. Modular organisms - evolution, characteristics, adaptive advantages	6
III. Introduction to the main reef-building groups - (Taxonomy and phylogeny)	6
IV. Biology of sponges (Porifera) - Sponge taxonomy	4
V. Biology and taxonomy of scleractinian corals	10
VI. Biology and taxonomy of octocorals	4
VII. Diseases in coral reefs	5
VIII. Seminar	4
TOTAL CONTACT HOURS	**45**

LABORATORY TOPIC	TIME DISTRIBUTION (HOURS)
I. Introduction to the coral reef	8
II. Modular organisms - evolution, characteristics, adaptive advantages	12
III. Main reef-building groups	10
IV. Biology of sponges (Porifera) - Sponge taxonomy	6
V. Biology and taxonomy of scleractinian corals	10
VI. Biology and taxonomy of octocorals	6
VII. Diseases in coral reefs	8

TOTAL CONTACT HOURS	60

INSTRUCTIONAL STRATEGIES:

Some of the following may be used:

☒ Lectures	☐ Project Based Learning
☒ Discussion	☒ Seminars or Workshops
☐ Cooperative Learning	☐ Problem Based Learning (PBL)
☐ Case Studies	☐ Flipped Classroom
☐ Lectures with Guest Speakers	

MINIMUM OR REQUIRED RESOURCES AVAILABLE:

RESOURCE	IN-PERSON
Classroom or laboratory	Institution
Account in the institutional learning management platform (e.g. Moodle or Blackboard)	Institution
Institutional email account	Institution
Computer with high-speed internet access or mobile device with data service	Student
Programs or applications: word processor, spreadsheets, presentation editor	Student
Webcam or mobile with camera and microphone	Student
Integrated or external speakers	Student
Whiteboard	Institution
Digital projector	Institution

ASSESSMENT TECHNIQUES:

Assessment Technique	Relative Weight
☒ Exams	70%
☐ Assignments	
☐ Short quizzes	
☒ Seminar and 10-page report	10%
☒ Oral presentations and field/lab work	20%
☐ Projects	
☐ Portfolio	
☐ Peer evaluation	
☐ Critical thinking assignments	
☐ Other (Explain)	

Total:	**100%**

Standard scale: 91 to 100 A; 81 < 90 B; 71 < 80 C; 61 < 70 D; < 60 F

REASONABLE MODIFICATION (REASONABLE ACCOMMODATION):

The University of Puerto Rico (UPR) acknowledges the right of students with disabilities to an inclusive, equitable, and comparable post-secondary education. In accordance with its policy toward students with disabilities, based on federal and state legislation, every qualified student with disabilities is entitled to equal participation in those services, programs, and activities that are physically, mentally or sensorially natured and have thus substantially affected one or more major life activities, such as their area of post-secondary studies. They have the right to receive reasonable accommodation or modifications. If you require accommodation or reasonable modification in the course, you must inform the professor without the need to disclose your condition or diagnosis. Simultaneously, you should promptly request the Office of Services for Students with Disabilities (OSEI) of the unit or campus for your need for modification or reasonable accommodation.

The University of Puerto Rico at Mayagüez (RUM) recognizes that each student has an inherited right to request reasonable accommodation according to Law 51: Law for Integral Educational Services for People with Disabilities. Every student has the right to receive reasonable accommodation if he/she presents the necessary evidence to be evaluated by the Office of Services to Students with Disabilities (OSEI-RUM), and the related information can be found at the following link: https://www.uprm.edu/cms/index.php/page/85. If your case is approved by OSEI-RUM, you will receive reasonable accommodation in your courses and evaluation, and you must contact each professor for course registered. For additional information contact OSEI-RUM at the Office of the Dean of Students, DE 12, via telephone 787-832-4040 extensions 6734 or 6735, email: oseirum@uprm.edu, at the virtual office: https://meet.google.com/yvd-nrqo-mor, or join by telephone: (US)+1 475-558-0169 PIN: 814 895 818#.

ACADEMIC INTEGRITY:

The University of Puerto Rico promotes the highest standards of academic and scientific integrity. Section 6.2 of the UPR General Student Regulations (Certification No.13, 2009-2010, Board of Trustees) provides that academic dishonesty includes, but is not limited to: "fraudulent actions, obtaining grades or academic degrees by false or fraudulent simulations, copying all or part of another's academic work, copying all or part of another's answer to questions on an examination, taking or having another take any oral or written test or examination on behalf of another, and aiding or facilitating another person to engaging such conduct." Any of these actions will be subject to disciplinary sanctions in accordance with the disciplinary procedure provided in the UPR General Student Regulations in force. To ensure the integrity and security of user data, all hybrid, distance-learning and online courses shall be offered through the institutional learning management platform or through tools required by the course, which uses secure connection and authentication protocols. The system authenticates the user identity using the username and password assigned through the

student institutional account. The user is responsible for keeping secure, protecting, and not sharing their password with others.

POLICY AND PROCEDURES FOR MANAGING SEX AND GENDER-BASED DISCRIMINATION AT THE UNIVERSITY OF PUERTO RICO:

The Policy and procedures for managing Sex and Gender-Based Discrimination at the University of Puerto Rico, Certification No. 107 (2021-2022) of the Governing Board, certifies that the University of Puerto Rico, as an institution of higher learning and a workplace, safeguards the rights and offers a safe space for those who interact therein, whether they be students, employees, contractors, or visitors. It seeks to promote an environment that respects diversity and the rights of the university community. This policy provides a protocol for handling situations related to the following prohibited conduct in the workplace or in the academic setting: discrimination based on sex, gender, pregnancy, sexual harassment, sexual violence, domestic violence, dating, violence, and stalking.

CONTINGENCY PLAN IN CASE OF AN EMERGENCY OR INTERRUPTION OF CLASSES

In the event of an emergency or interruption of classes, the professor will contact the students through the institutional email or other available means to coordinate the continuity of the course.

The contingency plan must preserve the modality in which the course was created and programmed in the course offering.

Certification 23-29 of the Academic Senate establishes that an In-Person course may have up to 25% of the hours at a distance and if necessary, this option may be used.

GRADING SYSTEM

☒ Quantifiable (letters, A, B, C, D, F) ☐ Not Quantifiable (Pass, Fail)

BIBLIOGRAPHY:

There is no textbook for this course. Various books and publications like scientific articles articles in peer-reviewed journals:
Ruppert EE, RS Fox and RD Barnes (2004). Invertebrate Zoology: A functional evolution approach. Thomson. 963 pp.
Brusca RC and GJ Brusca (1990). Invertebrates. Sinauer. 921 pp.
Winston J.E. (1999). Describing Species: Practical Taxonomic Procedure for Biologists. Columbia Uni. Press. 518 pp.
Dubinsky, Z. (Editor) (1990). Coral Reefs, Ecosystems of the World. Elsevier, Amsterdam. Call #: QH541.5.C7.C57
Darwin, C. (1984). The Structure and Distribution of Coral Reefs. U. Of Arizona Press.
Glynn PW and GW Wellington (1983). Corals and Coral Reefs of the Galapagos Islands.U. Of California Press. 330 pp.
Jackson, JBC, LW Buss and R E Cook (Editors) (1985). Population Biology and Evolution of Clonal Organisms. Yale Univ. Press. 1985. 530 pp.
Veron JEN, (1993). Corals of Australia and the Indo-Pacific. University of Hawaii Press.
Veron JEN (1995). Corals in Space and Time, The Biogeography and Evolution of the Scleractinia. Comstock/Cornell paperbacks, Cornell University Press.
Wells, S. M. (edit) (1988). Coral reefs of the World. International Union of Conservation, Nature and Natural Resources vols. 1-3. Call #: QE565.C67.
Karlston R (1999). Dynamics of Coral Reef Communities. Kluwer Academics. 250 pp.
Rosemberg E. and Y. Loya (Edits) (2004). Coral Health and Disease. Springer Verlag. 488 pp.
Birkeland C (2001). Life and Death in Coral Reefs. Kluwer Academic. 526 pp.
Wood R. (1999). Reef Evolution. Oxford University Press. 404 pp.
Salvat B (Edit) (1987) Human Impacts on Coral Reefs: Facts and Recommendations. Antenee Museum E.P.H.E. French Polynesia. 252 pp.
Journals: Coral Reefs. Caribbean Journal of Sciences. Bulletin of Marine Sciences. Marine Biology. Journal of Experimental Marine Biology and Ecology. Marine Ecology Progress Series. Paleoecology. Annual Reviews in Ecology and Systematics