MBIO 3200 TROPICAL MARINE VEGETATION

Credits 4
Course will meet Monday, Tuesday, Thursday and Friday
From 10:00am to 5:00pm
This will include 1 hour of lecture and 4 hours of field work.

Prerequisites: None.

Description:
This course is intended as an introduction to the realm of Marine Vegetation. The main objectives are: (1) to teach the student field and laboratory techniques for research on the biology, taxonomy and ecology of marine vegetation. (2) to review the taxonomy and distribution of marine plants; macroalgae, seagrasses, marsh plants and mangroves; (3) to acquire “hands-on” experience on dealing with marine plants by running field experiments.

Instructor: Hector Ramirez
Office: La Tambora Beach Resort
Phone # 809-889-1491 (cell) / e-mail: bjorobada@yahoo.com

Samana Field Station Room # TBA
Phone # 809-374-2803 or 809-374-2804

Office Hours: by appointment

Requirement

- Reference textbook: Marine Botany
  By Clinton Dawes. JOHN WILEY & SONS, INC. New York.

- Reference Field Guide: Marine Plants of the Caribbean
  By Little, Little, Bucher, & Norris. SMITHSONIAN INSTITUTION PRESS. Washington, DC.
  ISBN 087474-607-8

Attendance: Students are required to attend all lecture and field sections.
**GRADING CRITERIA:**

Lecture Exam ………………….. 25%
Field reports ………………….. 25%
Group project ………………….. 25%
Herbarium Collection …………. 25%

**Lecture Exam:** Exam will test your knowledge of material covered in class during the duration of the course. You will be expected to answer multiple choice questions as well as essay questions.

**Field Reports:** Daily field reports should be delivered to the instructor. Field reports should include but is not limited to:
1. Field location
2. Description of the area
3. Type of vegetation present
4. A brief discussion of the field
5. Comments

**Group Project:** Groups of 3 or 4 students will be formed to investigate a particular topic in the area of marine vegetation. Guidelines for the particular topics will be discussed by the instructor during the first day of class.

**Herbarium Collection** Each student is expected to collect, prepare, preserve and fully identify at least 30 samples. Samples to be included will be discussed later by the instructor.

**ALL ASSIGNMENTS FOR THIS COURSE WILL BE DUE BY:**

Last day of classes
## COURSE OUTLINE

### WEEK 1

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<thead>
<tr>
<th>Date</th>
<th>Lecture Topics</th>
<th>Field assignments</th>
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| **Monday 3/26** | University Rules and Regulations  
   Introduction to the field station and laboratory facilities  
   Set up of Laboratory                                                                 | - Tour of the station grounds and field area  
   - Group project assignments.  
   - Set-up of long term data collection apparatus |
| **Tuesday 3/27** | 1. Introduction to Marine Vegetation  
   a. Marine environment  
   b. Importance  
   c. Factors affecting their distribution  
2. Taxonomic classification and specimen identification | Local field – station ground  
   - Observation and discussion of lecture material in the field  
   - Use of keys and field guide |
| **Wednesday 3/28** | **MARINE BIOLOGY RESEARCH**  
3. Specimen collection and preservation  
   a. Guidelines for collecting and preparing samples for preservation  
      1. algae specimens  
      2. seagrasses  
      3. mangroves and salt marsh plants.  
   4. Herbarium collection guidelines | Visit field (1).  
   - Field observation and collection of herbarium samples  
   - Bring samples to lab to be prepared. |
| **Thursday 3/29** | 5. Algae adaptations  
   Zonations and Growth forms  
   a. Intertidal region  
   b. Tide pools | Local field – station ground  
   - Set up plankton colonization experiment.  
   - Collect water samples for phytoplankton, and diatoms examination.  
   - Bring samples to lab to be analyzed. |
### WEEK 2

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| **Monday** 4/2 | c. Subtidal communities  
d. Coral reefs  
- Calcareous algae  
- Reef algae | Local field – station ground  
- Collection of herbarium samples  
- Complete phytoplankton, and diatoms examination and herbarium material preparation |
| **Tuesday** 4/3 | 6. Algae Classification / environmental role  
a. Chlorophyta  
b. Phaeophyta  
c. Rhodophyta | Visit field (2)  
- Observation and discussion of lecture material.  
- Sample collection  
- Bring samples to lab to be prepared |

#### Wednesday 4/4  
**MARINE BIOLOGY RESEARCH**

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| **Thursday** 4/5 | 7. Seagrasses  
a. Definition  
Classification  
b. Environmental role | Visit field (3)  
- Sample collection  
- Bring samples to lab to be prepared |
| **Friday** 4/6 | 8. Mangrove  
a. Definition  
b. Classification  
c. Environmental role | STATION LAB  
- Group project discussion  
- Complete all lab work  
- Collect data on plankton colonization experiment |

### WEEK 3

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<th>Date</th>
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| **Monday** 4/9 | 9. Salt marsh plants  
a. Definition  
b. Classification  
c. Environmental role | Visit field (4)  
- Sample collection  
- Bring samples to lab to be prepared |
| **Tuesday** 4/10 | Visit field (5) – north side – Salt marsh and mangrove area discuss their ecological role and perform final sample collection | |

#### Wednesday 4/11  
**MARINE BIOLOGY RESEARCH**

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<th>Date</th>
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<th>Field assignments</th>
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<tbody>
<tr>
<td><strong>Thursday</strong> 4/12</td>
<td>LECTURE EXAM</td>
<td>Final day for Herbarium collection preparation and plant identification</td>
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<td><strong>Friday</strong> 4/13</td>
<td>Group Project Presentations</td>
<td>Herbarium collection and group reports due.</td>
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<tr>
<td>Day</td>
<td>Date</td>
<td>Activity</td>
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<tr>
<td>Monday</td>
<td>4/16</td>
<td>9. Algal physiology</td>
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<tr>
<td>Tuesday</td>
<td>4/17</td>
<td>10. Seagrass physiology</td>
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<tr>
<td>Wednesday</td>
<td>4/18</td>
<td>MARINE BIOLOGY RESEARCH</td>
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<tr>
<td>Thursday</td>
<td>4/19</td>
<td>11. Mangrove Physiology</td>
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<td>Friday</td>
<td>4/20</td>
<td>LAB EXAM</td>
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