Stony Brook University
School *of* Marine and Atmospheric Sciences

**MAR388: Tropical Marine Ecology (4 Credit hours)**
**January Winter Session**
**Discovery Bay Marine Lab**

---

## Course Instructors

**Bradley Peterson**
**Professor of Marine Science, Stony Brook Dive Safety Officer and PADI SCUBA Instructor**
**Natural Sciences Building NS121**
**Stony Brook – Southampton campus**
**bradley.peterson@stonybrook.edu**
**631-632-5044**

**Joseph Warren**
**Associate Professor of Marine Science**
**Natural Sciences Building NS101**
**Stony Brook – Southampton campus**
**Joe.warren@stonybrook.edu**
**631-632-5045**

## Course Description:

This class will bring students to a tropical nation to explore the ecology of coral reef ecosystems. The goals of the class are to teach students about the ecology of the tropical coral reef environments through lectures, discussions, field trips, snorkeling and/or SCUBA diving trips and supervised research projects. Prior to arriving to class, several asynchronous lectures and quizzes will need to be completed by the students. The first half of the course in country will be devoted to additional lectures and discussion of the online lecture material, demonstrations and instructor-led field trips to provide students with a basic knowledge of the common organisms and roles they play in various the coral reef ecosystems. For the second half of the course, lectures and field excursions will be reduced and students will work on multiple pre-planned research projects examining organismal ecology of coral reefs. Students will collect and analyze data and provide a scientific write-up and presentation of their findings. Thereafter, on a daily basis, much of the student's time will be devoted to making field observations and collecting data for their research projects. Students will deliver oral progress reports to the class, allowing for students to get feedback from both the faculty and their peers. Final progress reports will be written and will serve as the basis for their final papers.

**Course Objectives:**

Students will be able to:

- identify a variety of plants, invertebrates and fish that occupy the Jamaican coral reef, seagrass, and mangrove habitats.
- describe and understand the biological and physical processes that govern these tropical habitats.
- conduct field and lab experiments and analyze these data.
- orally present scientific information to their peers.

**Statement about Course Delivery/Modality:**

This is a synchronous face-to-face course at the Discovery Bay Marine Lab that contains online components (delivered in the Brightspace learning management system (LMS) prior to departure and after returning to the US). That means that there will be required real time interaction that will build upon your online participation. You can create your own work schedule for the online portion of the course as long as you meet all course expectations, deliverables, and due dates. All online assignments and course interactions will utilize internet technologies. See "Technical Requirements" section for more information. While at the lab, we will then apply practical applications to your online learning together.

| ASSIGNMENT(S) | POINTS |
|---|---|
| Online Lectures and Quizes | 10% |
| Class Blog | 5% |
| ID Presentations | 10% |
| Photo ID Exam | 5% |
| Wet Lab ID Exam | 5% |
| Quizzes | 10% |
| Lab Practical Exam | 20% |
| Analysis Assignments | 20% |
| 5 Best Photos | 5% |
| Participation | 10% |
| **TOTAL** | 100% |

**Preferred Method of Contact with Instructor:**

My preferred method of contact is via email. If you would like to talk on the phone, or meet virtually, please email us so that we can set up a mutually agreeable time. We will respond to your emails as soon as possible, but please allow between 24-48 hours for a response. Please utilize your Stony Brook University email when getting in touch with me as that is the preferred method of contact from the institution. While at the Discovery Marine Lab, we will be with you for the majority of the waking hours.

**Assessment:**

**Online Lectures (10%):** To maximize the time that the students have in the field, a series of lectures on the plants, invertebrates, fishes of these tropical habitats as well as the biological interactions and physical mechanism that impact these systems. These lectures will be available to the student and ***required*** to complete prior to leaving for Discovery Bay Marine Lab. The wifi at the Discovery Bay Marine Lab is poor and intermintent.

**Class Blog (5%):** During the time in Jamaica, students will be assigned days to create and hand in a blog assignment for the day. These will be uploaded for credit each evening after dinner.

**ID Presentations (10%):** The students will work in small groups to collect photos and identify the plants, invertebrates, and fish of the various tropical habitats at Discovery Bay Marine Lab and will create a presentation of their "collections".

**Photo ID Exam (5%):** The students will be given a photo examination of the organisms of these tropical habitats to demonstrate their ability to identify and correctly name these species.

**Wet Lab ID Exam (5%):** The students will be given a lab examination of the organisms of these tropical habitats to demonstrate their ability to identify and correctly name these species.

**Quizzes (10%):** The students will be given a series of quizzes on the online and classroom lectures to demonstrate their understanding of these concepts.

**Lab Practical Exams (20%):** There will be a practical exam near the conclusion of the course in the wet lab that will demonstrate the student's ability to identify organism and their understanding of the lecture material.

**Analysis Assignments (20%):** There will be a series of three to four field-based, task-oriented class exercises including field surveys and experiments. The students will have to complete various analysis assignments from these exercises that highlight working with and visualizing data.

**5 Best Photos (5%):** Collecting photos of the tropical organisms is required to create the group ID presentations above. Each individual student will upload their five best photos of the trip.

**Participation (10%):** This is an intense field-based course that will require a great deal of time in the water. Each student will be graded on how they participate in their groups, on the required elements of the course. This includes how the students interact with each other within the learning environment.

**IMPORTANT:** If at any point you should encounter any technical issues, please send an email to AcademicTechnologies@stonybrook.edu, they can also be reached by telephone at 631-632-9800. You should also copy me on this email so that I am aware of the situation and if possible include a screen-shot of the issue. This is only true prior to departure or after our return from Discovery Bay Marine Lab.

**Grades and Grading Scale:** Assignment of letter grades is based on a percentage of points earned. The letter grade will correspond with the following percentages achieved. All course requirements must be completed before a grade is assigned.

| Grade | Points |
|---|---|
| A | 94-100 |
| A- | 90-93 |
| B+ | 87-89 |
| B | 83-86 |
| B- | 80-82 |
| C+ | 77-79 |
| C | 74-76 |
| C- | 71-73 |
| D | 60-70 |
| F | 0-60 |

**Academic Policies:** Academic Integrity Statement: Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/uaa/academicjudiciary/
For information specific to the School of Professional Development, see the appropriate section in the Bulletin at http://www.stonybrook.edu/spd/bulletin/2014_bulletin.pdf

**Critical Incident Management:** Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. University Student Conduct Code can be found at (check for most current version) http://studentaffairs.stonybrook.edu/ucs/docs/universitystudentconductcode.pdf

**ADA & Disability Support Services (DSS) Statement:** The Rehabilitation Act of 1973 – Section 504 applies to all postsecondary educational programs that receive federal assistance. Reasonable accommodations and academic assistance are provided to students with disabilities registered with the Disability Support Services, ECC (Educational Communications Center) Building, room128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential. For procedures and information go to the following website: http://www.stonybrook.edu/ehs/fire/disabilities

## Course Schedule

*** Subject to changes ***

| DAY | COURSE ACTIVITIES | ASSIGNMENTS |
|---|---|---|
| **1** | **Travel Day** (Jan 2)<br>• Meet at JFK and travel to Montego Bay<br>• Van ride to Discovery Bay Marine Lab<br>• Assign dorm rooms<br>**At the Lab**<br>• Tour of the compound<br>• Complete required DMBL paperwork<br>• Snorkeling lesson | ***Prior to Departure Assignments Due***<br>**Online Lectures:**<br>• Go through Brightspace orientation<br>• Dangerous coral reef animals and safety<br>**Pre-departure Analysis Assignment**<br>**Pre-departure Travel Documents** |
| **2** | **AM** (Jan 3)<br>• Create PhotoID groups and begin collections<br>• Snorkel tour of the seagrass and mangrove habitats<br>**PM**<br>• Photo and live collections (wet lab)<br>• Snorkel tour of the fore reef/check out dive<br>• Discussion of Tropical Marine Plants and Coral Reef Origins (after dinner) | ***Assignments Due***<br>**Online Lectures:**<br>• Tropical Marine Plants<br>• Coral Reef Origins<br>**Class Blog** |
| **3** | **AM** (Jan 4)<br>• Morning snorkel/dive on the fore reef<br>• Photo and live collections (wet lab)<br>• Begin scientific name collection board list<br>**PM**<br>• Afternoon snorkel/dive on the fore reef<br>• Discussion of Coral Reef Invertebrates and Coral Reef Productivity (after dinner)<br>• Night snorkel (optional) | ***Assignments Due***<br>**Online Lectures:**<br>• Coral Reef Invertebrates<br>• Coral Reef Productivity<br>**Quiz #1**<br>**Class Blog** |

| | | |
|---|---|---|
| **4** | **<u>AM</u>** (Jan 5)<br>• Morning snorkel/dive on the fore reef<br>• Photo and live collections (wet lab)<br>• Continue scientific name collection board list<br>• Collect class field data for first analysis<br>**<u>PM</u>**<br>• Afternoon snorkel/dive on the fore reef<br>• Discussion of Coral Reef Fish and Coral Reef Food Webs (after dinner)<br>• Night snorkel (optional) | ***<u>Assignments Due</u>***<br>**Online Lectures:**<br>• Coral Reef Fish<br>• Coral Reef Food Webs<br>**Quiz #2**<br>**Class Blog** |
| **5** | **<u>AM</u>** (Jan 6)<br>• Morning snorkel/dive on the fore reef<br>• Continue photo and live collections<br>• Collect class field data for class analysis assignment<br>•<br>**<u>PM</u>**<br>• Afternoon snorkel/dive on the fore reef<br>• Complete ID presentations<br>• Complete scientific name collection board list (check after dinner) | ***<u>Assignments Due</u>***<br>**Online Lectures:**<br>• Ecological Theory<br>• Anthropogenic Threats<br>**Analysis Assignment #1**<br>**Class Blog** |
| **6** | **<u>AM</u>** (Jan 7)<br>• Morning snorkel/dive on fore reef<br>• Collect class field data for second analysis assignment<br>**<u>PM</u>**<br>• Afternoon snorkel/dive on the fore reef<br>• ***PhotoID Exam***<br>• ***Wet Lab ID Exam*** | ***<u>Assignments Due</u>***<br>**Quiz #3**<br>**ID Presentations**<br>**Class Blog** |
| **7** | **<u>Ocho Rio Travel Day</u>** (Jan 8)<br>• Van ride to Dunn's River Fall (after breakfast)<br>• Visit Ocho Rios in the afternoon<br>• Night snorkel (optional) | ***<u>Assignments Due</u>***<br>**Class Blog** |
| **8** | **<u>AM</u>** (Jan 9)<br>• Morning snorkel/dive on fore reef<br>• Collect class field data for third analysis | ***<u>Assignments Due</u>***<br>**Analysis Assignment #2** |

| | | |
|---|---|---|
| | assignment<br><br>**PM**<br>• Afternoon snorkel/dive on the fore reef<br>• Collect class field data for third analysis assignment<br>• Discussion of data visualization and analysis (after dinner) | **Quiz #4**<br>**Class Blog** |
| **9** | **AM** (Jan 10)<br>• Morning snorkel/dive on the fore reef<br>• Collect class field data for third analysis assignment<br>**PM**<br>• Afternoon snorkel/dive to the fore reef<br>• Collect class field data for third analysis assignment | ***Assignments Due***<br>**Class Blog** |
| **10** | **AM** (Jan 11)<br>• Morning snorkel/dive on the fore reef<br>• Collect class field data for forth analysis assignment<br>**PM**<br>• Afternoon snorkel/dive on the fore reef<br>• Collect class field data for forth analysis assignment<br>• Night dive (optional) | ***Assignments Due***<br>**Analysis Assignment #3**<br>**Class Blog** |
| **11** | **AM** (Jan 12)<br>• Morning snorkel/dive on the fore reef<br>• Collect class field data for forth analysis assignment<br>**PM**<br>• Afternoon snorkel/dive on the fore reef<br>• Complete class field data collection for forth analysis assignment<br>• Green Grotto field trip and dinner at the Ultimate Jerk | ***Assignments Due***<br>**Class Blog** |
| **12** | **AM** (Jan 13)<br>• Last morning snorkel/dive<br>• Gear rinse down and packing of class and | ***Assignments Due***<br>**Analysis Assignment #4**<br>**Class Blog** |

| | | |
|---|---|---|
| | lab equipment<br><br>**PM** (Nov 10)<br>• Settle up individual bills for diving, boat and beverage costs.<br>• Goodbye dinner and bon fire | |
| **13** | **Travel Day** (Jan 14)<br>• Final dorm room walk through<br>• Van ride to Discovery Bay Marine Lab<br>• Assign dorm rooms<br><br>**Lab**<br>• Begin the data analysis for your class presentations | |

**Course Materials and Copyright Statement:** Course material accessed from Bb, SB Connect, SB Capture or a Stony Brook Course website is for the exclusive use of students who are currently enrolled in the course. Content from these systems cannot be reused or distributed without written permission of the instructor and/or the copyright holder. Duplication of materials protected by copyright, without permission of the copyright holder is a violation of the Federal copyright law, as well as a violation of Stony Brook's Academic Integrity and Student Conduct Codes.

**Technical Requirements:** This course requires that you have access to the Internet. You are responsible for having a reliable computer and internet connection throughout the course. You will need to have access to, and be able to use the following software:

- A web browser (for instance, Google Chrome, Mozilla Firefox or Internet Explorer)
- Adobe Acrobat Reader (free)
- Adobe Flash Player (free)
- Microsoft Word (free to Stony Brook University students, go to https://it.stonybrook.edu/software/title/microsoft-office)
- Microsoft Excel
- Microsoft Powerpoint
- ImageJ
- r

**Email and Internet:**
You must have an active Stony Brook University e-mail account and access to the Internet. All instructor correspondence will be sent to your SBU e-mail account. Please

plan on checking your SBU email account regularly for course related messages. To log in to Stony Brook Google Mail, go to http://www.stonybrook.edu/mycloud and sign in with your NetID and password.

This course uses Bb for the facilitation of communications between faculty and students, submission of assignments, and posting of grades. The Bb Course Site can be accessed at https://blackboard.stonybrook.edu

**Getting Technical Help:**

**Campus Network** or **Brightspace Outage**

When access to Brightspace is not available for an extended period of time (greater than one entire evening - 6pm till 11pm) you can reasonably expect that the due date for assignments will be changed to the next day (assignment still due by midnight).

**Help-Desk**

Go to the Discussion Board of SPD Online Support. There you will find a Technical Questions and Answers Forum. Post your question there, and someone from the SPD Online office will respond. Alternatively, you could call the SPD Online office at 631.632.9484 between the hours of 9:00am and 5:00pm, Monday through Friday or e-mail spd_online@stonybrook.edu.

For assistance after **5 PM or over the weekend**, please contact the Open SUNY Technical Support, information can be found at http://open.suny.edu/support/contact-us/current-students/

**Getting Help with Brightspace Learning Management System (LMS)**

Students that need help with Brightspace can contact the TLT Student Help Desk by calling (631) 632-9602, emailing helpme@stonybrook.edu; more information is available via Stony Brook IT: http://it.stonybrook.edu/services/blackboard#section-6706
Frequently ask questions about the Bb LMS along with tutorials are available here: http://it.stonybrook.edu/services/blackboard/navigate-manage

**Academic Support:**

**SPD Subject Guides** - The SPD Subject Guide is a library website specifically designed to assist SPD students with their research. It contains all of the information referenced on this Blackboard page as well as recommendations for specific databases and a live librarian chat feature. Take a look: http://guides.library.stonybrook.edu/spd

**Library Instruction Website** - http://library.stonybrook.edu/workshops-this-week-citationskills-worldcat-and-endnote-the-hsc/

**SBU Library Research Guides and Tutorials**

http://library.stonybrook.edu/research/research-basics/