

Tropical Marine Ecology, MAR 388

Winter session 2008, Jan 2 – 19, Discovery Bay Marine Lab, Jamaica

Instructors:

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Course Overview:

This class will bring students to a tropical nation to explore the ecology of coral reef ecosystems. The class will be offered as a winter session class during the month of January. The goals of the class are to teach students about the ecology of the tropical coral reef environments through lectures, field trips, snorkeling trips, SCUBA diving trips and student designed research projects. The first half of the course will be devoted to twice-a-day formal lectures, demonstrations and instructor-led field trips to provide students with a basic knowledge of the common organisms and the roles they play in various the coral reef ecosystem. For the second half of the course, lectures will be once per day and faculty will work with students to develop individual research projects examining organismal ecology of coral reefs. Students will write a research proposal and experimental design and faculty will work with students to develop a project which is scientifically thorough, and which considers the ecology of the reef. Thereafter, on a daily basis, much of the students 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 other their peers. Final progress reports will be written and will serve as the basis for their final papers.

Course Evaluation:

We will use multiple mechanisms to evaluate this program. During the class, students will be assessed through a written exam and a practical exam. A practical exam will involve students identifying various organisms and specimens of the coral reef environment. Students will be asked to write a proposal for their research project which will investigate an aspect of coral reef biological populations and the interaction of native villagers with these populations. As students execute these projects, they will give oral and written progress reports, summarizing the status of their projects. Students will write final reports utilizing scientific literature, putting their findings in the perspective of current literature in the field. Precise grading for the class will consist of:

Practical exam = 30%
Research project proposal = 15 %
Progress reports = 15%
Final paper = 30%
Participation = 10%

Text:

Students will be provided with selected readings from various marine ecology text (Leviton, Nybakken, Barnes and Hughes), as well as a series of recent peer-reviewed articles.

Day-by-day schedule:

There are 16, two-hr lecture periods (counting exams and Progress reports) = 32 hours = 2 credits

There are 75 hours of lab = 2 credits

Mon Jan 2: Arrive at class location; acclimate; students read text

Tues Jan, 3: AM Lecture (2 hr): Coral reef origins; PM Lecture (2 hr): Coral reef productivity;
PM Activity: Snorkel trip (3hr)

- Wed Jan 4:** AM Lecture (2 hr): Coral reef fishes I; PM Lecture (2 hr): Tropical marine plants and algae I;
PM Activity: Field trip (3hr)
- Thurs Jan 5:** AM Lecture (2 hr): Coral reef invertebrates I; PM Lecture (2 hr): Coral reef food webs;
PM Activity: SCUBA dive (3hr)
- Fri Jan 6:** AM Lecture (2 hr): Coral reef fishes II; PM Lecture (2 hr): Anthropogenic threats to coral reefs I;
PM Activity: Snorkel or SCUBA (3hr)
- Sat Jan 7:** AM Lecture (2 hr): Tropical marine Plants and Algae II; PM Lecture (2 hr): Coral reef invertebrates II;
PM Activity: Snorkel or SCUBA (3hr)
- Sun Jan 8:** AM Activity: snorkel or SCUBA trips; independent work on research project proposals (3 hr);
PM Lecture (2 hr): Research projects and proposals;
PM Activity: Snorkel or SCUBA (3hr)
- Mon Jan 9:** AM Lecture (2 hr): Anthropogenic threats to coral reefs II; PM Lecture (2 hr): Review of lecture materials;
PM Activity: Study for practical exam
- Tues Jan 11:** AM Written and practical exam (2 hr); PM: Work on research project proposals
- Wed Jan 12:** AM: Hand in research project proposals; AM: Snorkel or SCUBA for research projects (3hr);
PM: Snorkel or SCUBA for research projects (5 hr);
- Thurs Jan 13:** AM: Meet with faculty regarding research proposals; PM: Snorkel or SCUBA for research projects (4hr)
- Fri Jan 14:** AM&PM: Snorkel or SCUBA for research projects (7 hr)
- Sat Jan 15:** AM&PM: Work on projects; snorkel, SCUBA (7hr);
PM: Project oral progress reports and class discussion (2 hr);
- Sun Jan 16:** AM&PM: Work on projects; snorkel, SCUBA (7hr); work on final written report
PM: Project oral progress reports and class discussion (2 hr);
- Mon Jan 17:** AM&PM: Work on projects; snorkel, SCUBA (7hr)
PM: Project oral progress reports and class discussion (2 hr);
- Tues Jan 18:** Finish projects, final oral reports, hand in final report
- Wed Jan 19:** Depart for US