I. COURSE: Coral Reef Field Studies: 2 semester hours. (0:2)
Class: Rancho Pedro Paila, Quintana Roo, Mexico

II. FACULTY: Dr. Kevin Strychar
Phone: 825-5883
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III. COURSE DESCRIPTION:
The ecology of coral reef field studies focuses on the ecosystem approach. Based in Rancho Pedro Paila, Quintana Roo (Mexico), located in one of very few pristine reef environments, students spend the first part of the trip being introduced to the tropical environment, culture, and reef ecosystem. The second portion of the field trip is spent working with national and internationally recognized researchers who supervise students in their research. In the past, students have worked on projects that included mangroves, coral diseases, coral bleaching, fisheries ecology, and fish behaviour, to name a few. This is a “once in a lifetime” opportunity for undergraduate and graduate students who are beginning their careers in coral ecosystem management.

This course is field-based and structured with “hands-on” emphasis. Students will receive lecture typically in the morning and afternoon, but will spend the majority of their time working on projects in the field. Students will snorkel and SCUBA dive on the reefs and learn about form and function of corals and their associated organisms. During the research phase, students will be introduced to various research techniques used to collected data, and will be involved in hands-on data collection. Students will be expected to collect sufficient data to statistically analyze their information and prepare their data for an oral presentation and a lab report, each worth 40% of their final grade.

Prerequisites: BIOL 3413, BIOL 3428, 4590, 5590, and/or permission of instructor.

IV. TEXTBOOK
REQUIRED: none required
RECOMMENDED:
V. STUDENT LEARNING OUTCOMES

The student will:

• Learn and be able to characterize the various types of coral reef habitats and what type of corals (i.e. family) are characteristic of such formations;

• Be able to describe the common types of associated invertebrate and vertebrate biodiversity of different groups of coral reef organisms;

• Acquire sufficient knowledge to establish independent research projects, which prepares students for “real life” experiences.

• Be competent to describe the ecological and environmental properties which provide for the community structure of coral reefs and associated tropical communities.

• Learn and be able to discuss different coral reef ecological communities and describe the adaptations shown by coral reef organisms for particular types of environments and the important factors that regulate their abundance and location.

• Be competent to write a comprehensive research manuscript regarding a specific aspect of coral reef science

• Have the necessary skills to methodically plan and write a report regarding scientific methods of coral reef research

VI. COURSE REQUIREMENTS AND GRADING REQUIREMENTS:

Grading is a process of measuring the outcome of learning against standards and assigning a symbol to the level of performance achieved. The grade will consist of participation (20%), an oral presentation (40%), and a lab report (40%).

Participation (20%): examples of participation will include loading and unloading of the van, kitchen and clean-up duties, cooking, equipment and gear maintenance, filling of air tanks, obtaining groceries, data organization, data analyses, leading group discussions, etc.

Oral presentation (40%): using PowerPoint, the presentations entail summary and synthesis of data collected and analyzed, discussion, and suggestions for future directions. Oral presentation will be done in groups of two. Choose your groups wisely as the grade you obtain will be shared between group members, regardless of work effort. Each oral presentation will be 20 minutes in duration, during which each member will participate by speaking for 10 minutes; question period will be 5 to 10 minutes. Peer evaluation and class participation are required as an example of interactive scientific discourse. A 5% bonus will be given per student who asks a minimum of 2 questions over the duration of the oral presentations; the bonus will be applied to their overall (total) grade.

Lab reports (40%): Using a format similar to the coral reef lecture (BIOL 4590, 5590), lab reports will be expected to conform to “Instructions to Authors” as published by Journal of Experimental Marine Biology and Ecology (see http://www.elsevier.com/wps/find/journaldescription.cws_home/523011/authorinstructions). One page margins, 12 pt font, and double spacing are expected; maximum page limitation is 20 pages including all figures, tables, references, abstracts, etc.. Lab reports will be done in groups of two. Choose your groups wisely as the grade you obtain will be shared between group members, regardless of work effort.
Lab reports will be due Monday June 18th (2007) by end of business day (5 pm). Late lab reports will be assigned a penalty of 50% grade value deduction per day late, beginning 5:01 pm on June 18th, 2007. Oral presentations will be scheduled June 21st and June 22nd (2007). Late oral presentations will be assigned a penalty of 50% grade value deduction per scheduled date and time late.

All students are expected to conform to college-level standards of ethics, academic integrity, grammar and spelling. In particular, you should review pages 16-26 of the 2005-2006 A&M-CC graduate catalog. Except in cases where prior arrangements have been made with the instructor, there is no provision for making up late work. All excuses MUST be recorded with the professor by e-mailing information including the student’s name, class, date, time and reason for the absence. Plagiarism at any time will result in an F in the course. Lastly, I reserve the right to change topics covered, syllabus schedule and grading as needed.

**GRADING SCALE:** 90.0-100.0 = A; 80.0-89.9 = B; 70.0-79.9 = C; 60.0-69.9 = D; 0.0-59.9 = F

**VII. COMPONENTS OF COURSE GRADE:**

The overall grade will be determined:

- Participation .............................................20%
- Oral presentation........................................40%
- Lab report....................................................40%

Total = 100%

**VIII. COURSE OUTLINE:**

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