

Fall 2019 Syllabus, ESPM C107/IB 158LF:

Biology and Geomorphology of Tropical Islands

Professors: Stephanie Carlson (ESPM), Seth Finnegan (IB), Brent Mishler (IB), and George Roderick (ESPM)

Class information: http://ib.berkeley.edu/moorea/UC_Berkeley_Moorea_Class.html

Gump Station: <http://moorea.berkeley.edu>

Draft schedule for course

Class meetings are in 3059 VLSB except as noted; each meeting is important, and we expect full attendance. Some meeting times may change as the schedule is finalized.

Aug. 23 (Friday before instruction begins): ••• Remainder of class fees due, total \$4,686, due through CARS •••

Aug. 28-Sept. 2: Informal prep days on campus -- no formal class meetings -- instead read past class books on reserve at Bioscience Library in VLSB, buy your supplies and equipment, etc.

Instruction period: all Sept. 3-17 meetings are in **3059 VLSB** unless otherwise specified

Sept. 3 (Tuesday)

9:00 Required first class meeting. Introduction, questions and answers. The Society Islands, the Pacific Ocean, Tahiti, and Moorea. Document check: passports, protocol update, tutorials, tickets, etc. Course and travel details. Introduction to Gump Station. What to bring to Moorea. Cooking groups. (Mishler, Carlson, Finnegan, Roderick)

10:30 Geology meets biology on tropical islands: plate tectonics, geology of the Pacific, Society Islands, and Tahiti-Moorea-Tetiaroa, including tropical coral reefs and Darwin's history with them (Guest: Jere Lipps, IB)

13:00 Dangerous marine animals; methods for characterizing and studying behavior; opportunities for behavioral study on Moorea. (Guest: Roy Caldwell, IB)

14:30 Projects: an introduction. Project review from previous years, discuss what makes a good project, and suggestions for potential topics. Good science doesn't have to be expensive. Questions, approaches, habitats, animal use issues, etc. (Mishler, Carlson, Finnegan, Roderick)

Sept. 4 (Wednesday)

9:00 Arthropods of Moorea. (Guest: Peter Oboyski, ESPM)

10:30 Tour of Essig Museum. (Peter Oboyski, ESPM)

13:00 Note taking workshop. Thinking about projects and equipment (GSIs)

15:30 Examination of UCMP Moorea specimens (Guest: Jere Lipps, IB)

17:30-22:00 REQUIRED SNORKELING AND WATER SAFETY CLASS, PLUS SWIMMING TEST. (Guest: Jim Hayward, UCB Scientific Diving Officer). Lecture in Hearst Gym room 210, then change into swimming gear and go to pool. Must bring swimming suit and snorkeling gear if you have it already.

Sept. 5 (Thursday)

9:00 Adaptive radiations. (Guest: Rosemary Gillespie, ESPM)

13:00 Island biology, with emphasis on plants. (Mishler)

15:00 Tour of Herbarium. (Mishler) Meet in first floor atrium next to *T. rex*

Sept. 6 (Friday)

9:00 Biology and ecology of marine vertebrates. (Guest: José Vasquez-Medina, IB)

13:00 Tour of Museum of Vertebrate Zoology. (MVZ staff) Meet on third floor at top of spiral stairs above *T. rex*

Sept. 9 (Monday)

9:00 Freshwater ecology on Moorea. (Guest: Vince Resh, ESPM)

13:00 Introduction to freshwater fishes of Moorea. (Carlson)

Sept. 10 (Tuesday)

9:00 Human history of Polynesia (Guest: Kirsten Vacca, Anthropology)

10:30 Biology and ecology of marine invertebrates. (Finnegan)

13:00 Tour of UC Museum of Paleontology. (Guest: Ashley Dineen, UCMP) Meet in first floor atrium next to *T. rex*

14:00 GIS workshop. (Guest: Nancy Thomas, Geospatial Innovation Facility) 124 Mulford Hall

Sept. 11 (Wednesday)

9:00 Polynesian ethnobotany. (Guest: Tom Carlson, IB)

10:30 Invasion Biology. (Roderick)

13:00 Introduction to scientific thinking, statistical thinking, and communication in science. (Mishler)

15:00 Field exercise on plant sampling. (Mishler & GSIs)

Sept. 12 (Thursday)

9:00 Oceanography and island geology. (Finnegan)

13:00 Introduction to library and information resources. (Guest: Becky Miller, Environmental Sciences and Natural Resources Librarian). BioSci Lib. training room.

Sept. 13 (Friday)

9:00 Systematics and phylogenetics. (Mishler)

Sept. 16 (Monday)

9:00 Statistics workshop part 1. (GSIs, Finnegan)

13:00 Statistics workshop part 2. (GSIs, Finnegan)

Sept. 17 (Tuesday)

9:00-12:00 Mid-term exam (open book)

13:00 Packing party in room 3059 to get our class gear together

Sept. 18-21: Free days to pack, get ready, and travel -- **arrive in Tahiti by 9/22.**

Sept. 22: Arrive at Gump Station on Moorea on Sunday, 22 Sept. (morning pick-up to meet the Aremiti 5 ferry leaving Tahiti at 8:45 am; other arrivals at Gump are on your own). Settle into your room; first night at Gump Station. Sunday evening, class meeting and first social function/dinner. Gump Station is not available until 22 Sept.

Sept. 23: Bright and early Monday, begin class activities with around-island tour (activate food group system)

Nov. 23: Saturday, class finishes in Moorea with clean-up party. Preliminary draft of complete paper due (draft sections will have been prepared and due earlier).

Nov 24: Depart Gump Station; No lodging available at Gump after this date.

Nov. 24-Dec 1: Week for independent travel and study — you must depart Gump Station on **Nov. 24**, but many students like to stay in French Polynesia and tour other islands. A good time to have parents or significant others visit (which we strongly discourage during the class time). Otherwise, come back to California for Thanksgiving and get a head start on your project completion!

Dec. 2 (Monday): required class meeting in Berkeley 3059 VLSB at 9 AM.

Dec. 2–: Intensive work finishing up project: consult with faculty on campus, statistics, use labs and/or libraries, etc. as needed. Prepare presentation and improve your paper draft; format paper. Workshops will be given in these and other topics.

Dec. 11 (Wednesday): Class mini-symposium — project presentations in 15-minute slots all day. 2063 VLSB; friends and parents welcome.

Dec. 16 (Monday): 5:00 pm. Final paper due (format check at this time). Your paper will not be accepted for final submission until properly formatted; it may take a couple of tries to pass the format check.

Dec. 18 (Wednesday): 5:00 pm. Final papers due, incorporating any formatting changes. We are under a tight schedule to read these, so there will be a penalty for late papers.

Course Texts:

1. *Handbook of Biological Investigation*, 7th ed. 2007 (Ambrose et al.); earlier eds ok.
2. *Lonely Planet Guide to Tahiti and French Polynesia*, 8th ed. 2009 (Brash & Carillet)
3. *Elements of Style* (Strunk and White)

Previous class papers:

You need to look these over before going to Moorea. They are available in several ways: (1) Hard copies for all classes 1992-2009 are on permanent reserve at the front desk of the bio library, under "Moorea," call number: QH198.M6B56. (2) The class website at: <http://www.moorea-ucb.org/student-papers.html> (3) PDFs for all classes 1992-present are available in the shared Box folder called "Moorea Class resources for students 2019", along with an Excel index. Internet can be slow on Moorea, so install Box Synch before you leave Berkeley and synch with the shared box folder. That way you'll have access to the PDFs even if you are offline.

Grading:

Exam on lecture material (20%),
Field exercises/ field notes (10%)
Project (60%): proposals/drafts on time (5%), symposium presentation (10%), final paper (45%)
Participation (active buddy, good class citizen, station rules, positive force) (10%)

Professors' tentative times on Moorea:

Brent Mishler: Sept. 21 – Oct. 13, Seth Finnegan: Sept. 26 – Oct 12, George Roderick: Oct. 11 – Nov. 1, Stephanie Carlson: Nov. 2-23.

Academic Integrity

You are a member of an academic community at one of the world's leading research universities. Universities like Berkeley create knowledge that has a lasting impact in the world of ideas and on the lives of others; such knowledge can come from an undergraduate paper as well as the lab of an internationally known professor. One of the most important values of an academic community is the balance between the free flow of ideas and the respect for the intellectual property of others. Researchers don't use one another's research without permission; scholars and students always use proper citations in papers; professors may not circulate or publish student papers without the writer's permission; and students may not circulate or post materials (handouts, exams, syllabi--any class materials) from their classes without the written permission of the instructor.

Any test, paper or report submitted by you and that bears your name is presumed to be your own original work that has not previously been submitted for credit in another course unless you obtain prior written approval to do so from your instructor. In all of your assignments, including your homework or drafts of papers, you may use words or ideas written by other individuals in publications, web sites, or other sources, but only with proper attribution. If you are not clear about the expectations for completing an assignment or taking a test or examination, be sure to seek clarification from your instructor or GSI beforehand. Finally, you should keep in mind that as a member of the campus community, you are expected to demonstrate integrity in all of your academic endeavors and will be evaluated on your own merits. The consequences of cheating and academic dishonesty—including a formal discipline file, possible loss of future internship, scholarship, or employment opportunities, and denial of admission to graduate school—are simply not worth it.

Collaboration and Independence: Reviewing lecture and reading materials and studying for exams can be enjoyable and enriching things to do together with one's

fellow students. We recommend this. However, homework assignments should be completed independently and materials turned in as homework should be the result of one's own independent work. Some assignments, namely the preparation for the debate arguments, are meant to be done together in a group.

Cheating: Anyone caught cheating on a quiz or exam will receive a failing grade and will also be reported to the University Office of Student Conduct. In order to guarantee that you are not suspected of cheating, please keep your eyes on your own materials and do not converse with others during the quizzes and exams.

Plagiarism/Self-plagiarism: You must be original in composing the writing assignments in this class. To copy text or ideas from another source (including your own previously, or concurrently, submitted course work) without appropriate reference is plagiarism and will result in a failing grade for your assignment and usually further disciplinary action. For additional information on plagiarism, self-plagiarism, and how to avoid it, see, for example:

<http://www.lib.berkeley.edu/instruct/guides/citations.html#Plagiarism> (link is external)

<http://gsi.berkeley.edu/teachingguide/misconduct/prevent-plag.html>

Safe, Supportive, and Inclusive Environment

The classroom, lab, and workplace should be safe and inclusive environments for everyone. The Office for the Prevention of Harassment and Discrimination (OPHD) is responsible for ensuring the University provides an environment for faculty, staff and students that is free from discrimination and harassment on the basis of categories including race, color, national origin, age, sex, gender, gender identity, and sexual orientation. Questions or concerns? Call (510) 643- 7985, email ask_ophd@berkeley.edu, or go to <http://survivorsupport.berkeley.edu/>.

Whenever a faculty member, staff member, post-doc, or GSI is responsible for the supervision of a student or other person, a personal relationship between them of a romantic or sexual nature, even if consensual, is against university policy. Any such relationship jeopardizes the integrity of the educational process.

Although faculty and staff can act as excellent resources for students, you should be aware that they are required to report any violations of campus policy. If you wish to have a confidential discussion on matters related to this policy, you may contact the Confidential Care Advocates on campus for support related to counseling or sensitive issues. Appointments can be made by calling (510) 642-1988.