Last Updated: August 24, 2016

SEABIRD ECOLOGY AND CONSERVATION
(MARS 4040)
www.pelagicos.net/classes_seabirds_fa16.htm

HAWAII PACIFIC UNIVERSITY	TIME: 15:00 – 18:00
HAWAII LOA CAMPUS (HLC)	DAYS: Tuesday
FALL SEMESTER, 2016	ROOM: AC 102B (HLC)

INSTRUCTOR

David Hyrenbach, Ph.D.
Office: CTSA #1, OI
Phone: 808- 236-3563
Email: khyrenbach@hpu.edu
Office: CTSA Building #1, Oceanic Institute (http://www.pelagicos.net/images/office_map.JPG)

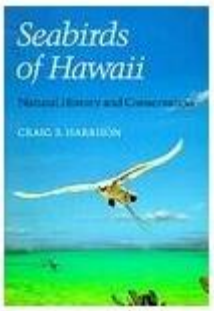
OFFICE HOURS

Tuesday / Thursday (HLC 2nd floor lanai) 10:45 - 12:00
Tuesday (AC 102B, HLC) 14:00 - 15:00

COURSE DESCRIPTION: This course provides an overview of the phylogeny, anatomy, physiology and behavior of marine birds, with an emphasis on North Pacific species. The goal of this course is to provide students with the understanding of the ecology of these marine top predators and their role in marine ecosystems required to manage their populations in response to natural and human-induced impacts. Hands-on activities in the laboratory, field work and guest lectures from resource managers and conservation practitioners will augment the course material.

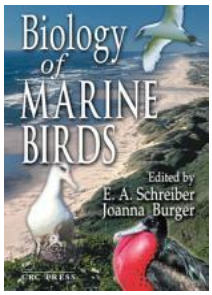
This is a cross-listed undergraduate (MARS 4040) and graduate (MARS 6040) course. Graduate and undergraduate students will have different requirements, detailed below.

TEXTS:



Required: Seabirds of Hawaii (1990) by Craig Harrison
Ithaca, NY, Cornell University Press, 288 pages
(ISBN 0801424496)
(Google book: http://books.google.com/books?id=d02YectzRDkC&)

One copy on Reserve at Atherton Library



Required: Biology of marine birds (2002)
Edited by Elizabeth Anne Schreiber, Joanna Burger
Boca Raton, FL, CRC Press722 pages
(ISBN 0849398827)
(Google book: http://books.google.com/books?isbn=0849398827)

One copy on Reserve at Atherton Library

Additionally, we will read scientific articles from journals – posted on the class web-site.

COURSE OBJECTIVES:

This marine ornithology survey course covers the phylogeny, anatomy, physiology, ecology, behavior and conservation of marine birds. Upon completion of this course, students will be able to:

1. Identify seabird species to the taxonomic level of family, and explain their evolutionary relatedness.
2. Explain the physiological mechanisms and specialized adaptations which make an aquatic existence possible for marine birds.
3. Explain the interplay between flight / diving proficiency, foraging ecology and at-sea distributions that structure seabird communities at-sea.
4. Outline the theoretical background and the empirical evidence of the effects of energetic demands and oceanographic variability on the reproductive strategies and population dynamics of marine birds.
5. Discuss the demographic drivers of marine bird populations, the main conservation threats they face at-sea and on land, and the efforts underway to monitor and manage these impacts.
6. Synthesize the ecological roles seabirds play in marine and island ecosystems and the way seabird research can inform marine resource management.

STUDENT EVALUATION:

Students will be evaluated on the basis of four quizzes, four lab / field activities, one individual paper, one individual presentation, and one comprehensive final examination.

<u>Students enrolled in MARS 4040 will be evaluated as follows:</u>

Quizzes: 20%
(4 quizzes, 5% each: taxonomy & evolution, morphometrics & adaptation, ecology, population biology)

Lab / field Activities: 20%
(4 activities, 5% each: seabird necropsy, wing ecomorphology, plastic & diet sample, chick monitoring)

Project Write-Up: 20%
(individual write-up of the literature review, selected with the instructor)

Oral Review Presentation: 10%
(20-minute oral presentation of the literature review)

Comprehensive Final Exam: 20%

Participation (Not Attendance): 10%

Thus, all students enrolled in MARS 4040 will complete the following activities and assignments:

1) Take four quizzes
2) Perform a necropsy of a seabird
3) Participate in a field survey of seabirds with the class
4) Participate in the monitoring of a seabird colony with the class
5) Write an individual literature review paper: 10-12 pages
6) Present results of literature review to the class: 20 minutes
7) Complete a comprehensive class and take-home final
8) Attend a field trip to a seabird colony

Literature Review Report and Presentation (*for undergraduate students only*)**:** Students will select a review topic - with approval from the instructor - on the ecology and conservation of seabirds and will give an educational 15 minute lecture to the class using MS Powerpoint on an overhead projector. The presentation will be followed by 5 minutes of Q&A and discussion. A minimum of 10 sources should be reviewed for the literature review presentation. Presentations will be graded on the basis of their content (organization, synthesis), format (oral delivery, presentation slides) and the student's mastery of the subject matter.

GRADING SCALE:

A =	93% - 100%
A- =	90% - 92%
B+ =	87% -89%
B =	83% - 86%
B- =	80% - 82%
C+ =	77% - 79%
C =	74% - 76%
C- =	73% - 70%
D+ =	67% - 69%
D =	60% - 66%
F =	Less than 60%

COURSE POLICIES:

Academic Honesty:

It is academically dishonest to try to pass off someone else's intellectual work as your own, or to help someone else to do so. Thus, **there are no circumstances under which including someone else's writing or results in your papers or assignments is permissible**.

Plagiarism will result in a zero on the assignment, and issuance of an academic dishonesty report to the University's Office of Academic Affairs. Serious cases of academic dishonesty will lead to an "F" in the course and may lead to expulsion from the University. Students are expected to comply with HPU's Academic Honesty Policy, which is described on the student services web-site: http://www.hpu.edu/StudentServices/AcademicIntegrity/

Other Policies:

- Missing class will harm your participation score and performance in the course. While there is no attendance requirement, I expect to receive an explanation concerning any absences; preferably before they happen. Thank you.

- Make up examinations are NOT allowed. A make-up examination will only be considered if the following two conditions are met: (i) I must receive notification that you are experiencing a medical emergency PRIOR to the start of the missed examination, and (ii) documentation of the medical emergency must be provided by a licensed physician and received within 7 days of the missed examination. Otherwise, missed examinations will result in a grade of zero.

- You are expected to attend lecture and lab / field activities, to arrive to class on time and to turn your cell phones off. If you must take a call, please turn phone to "silent" or "vibrate" and leave the classroom before you answer.

- Laptops are allowed to take notes / view the lecture pdfs. This is a privilege which will be revoked if laptops are used for non-class activities (e.g., email / facebook). I will not be the cop… the class will police itself.

Last Updated: August 24, 2016

CLASS SCHEDULE OF LECTURE / LAB / FIELD TOPICS

(August 30 – December 9, 2016)

This is a tentative schedule, which may speed up / slow down as needed, to keep up with student learning and performance. Revised schedules will be posted periodically, throughout the semester.

Note: There will be several opportunities to go on fieldtrips, during non-class times. Every student will go on at least one field trip. If you can only make one trip, I suggest you come out to Kaena Point.

Last Day to Drop Classes with 100% Tuition Refund - Sunday, September 4, 2016
Last Day to Drop Classes without W Grade - Sunday, September 25, 2016

date	week	lecture	Lecture	field	lab
30-Aug	1	1	Course Introduction		Seabird Survey Methods
		2	Taxonomy and Phylogeny		
6-Sep	2			Field Survey	Field Survey Intro
13-Sep	3	3	Flight / Plumage / Molt		Necropsy Safety Briefing
		4	Morphometrics Lab Intro		Seabird Morphometrics
20-Sep	4	5	Body Size / Allometrics		WTSH necropsies
		6	Morphology / Physiology		
27-Sep	5	7	Adaptations: Diving / Flying		WTSH necropsies
		8	Wing Loading Lab Intro		
4-Oct	6	9	Diving & Energetics		Wing Ecomorphology
11-Oct	7	11	Flight Energetics		WTSH diet sorting
		12	Diet LabIntro		
18-Oct	8	13	Foraging ecology (diets, feeding methods)		WTSH diet sorting
		14	Oceanographic habitats		
25-Oct	9	15	Pollution & toxicology		Bolus Sorting
		16	Plastic Ingestion Lab Intro		
1-Nov	10	17	Breeding biology 1 (nests, eggs, incubation)		Bolus Sorting
		18	Breeding biology 2 (development, investment)		
8-Nov	11	17	Life-History & Oceanography		
		18	Life-History & Fisheries Interactions		
15-Nov	12	19	Seabird Conservation		
		20	Introduction to Kaena Point (guest lecture)		
22-Nov	13			Kaena Point Field Trip	
29-Nov	**14**		**In-Class Final Exam** **Graduate Student Talks**		
8-Dec	**15**		**Take-home Exam Due In Class** **Undergraduate Student Talks (2:45 – 5:00)** **Graduate / Undergraduate Papers Due**		AC 204