

University of Hawaii Maui College

BIOL 331L - Marine Mammal Biology Lab

1. Course Alpha. Please click on the ? to the right for help.

BIOL

2. Course Number. Please click on the ? to the right for help.

331L

3. Course Title/Catalog Title. Please click on the ? to the right for help.

Marine Mammal Biology Lab

4. Number of Credits. Please click on the ? to the right for help.

1

5. Contact Hours/Type. Please click on the ? to the right for help.

- Hour lab (3)

6. Course Description. Please click on the ? to the right for help.

Introduces current field and laboratory techniques and equipment used to collect and analyze data on marine mammal population structure and dynamics.

7. Pre-Requisites. Please click on the ? to the right for help.

BIOL 331 or concurrent

8. Co-requisites.

9. Recommended Preparation.

10. Is this a cross-listed course? Please click on the ? to the right for help.

NO

11. Reason for Proposal. Why is this course being proposed or modified? This question requires specific information as part of the explanation. Please click on the ? to the right for help.

This curriculum was offered as a part of a three-credit BIOL 390v course in Spring 2014 which was an upper-division science offering for SSM degree for students interested in marine resources management programs. This BIOL 390v course was three credits (two-credits lecture and one-credit lab for a total of five contact hours) following the UH-Hilo style. It was decided that it would be better to split the lecture and lab and offer BIOL 331 (three credit lecture) in the fall and BIOL 331L (one-credit, three-contact hours) in the spring. BIOL 331 Marine Mammal Biology (three-credit lecture)

biological sciences and issues of design, testing, and measurement and demonstrate the strengths and limitations of the scientific process

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

LEGEND

- A. Examine the features and functions of multiple systems and how they are interconnected, and explains how one system can be optimized without degrading other systems or depleting natural resources.
- B. Investigate, discover, and summarize federal, state, local, and industry codes, standards, laws, regulations, and guidelines
- C. Assess the feasibility of investing in sustainability measures using simple payback, return on investment, and life cycle costing techniques
- D. Describe the unique sustainability challenges faced by island communities.
- E. Identify, outline, and illustrate the fundamentals of existing and emerging technologies in energy production, distribution, and management; water supply; wastewater treatment; and waste management; their applications, processes, and requirements.
- F. Appraise, evaluate, summarize, and explain the economic, social, cultural, political, and scientific features that make a system, process, practice, or business sustainable and consolidate that information into a sustainability profile.
- G. Propose and justify creative solutions to sustainability challenges that are scientifically sound.
- H. Demonstrate skills related to managing sustainability projects including defining scope, selecting achievable goals, evaluating ethical implications, working with diverse teams, making presentations, and preparing reports.

16. Course Competencies. DO NOT ENTER TEXT IN THE TEXT BOX BELOW. Click on the yellow button "COURSE COMPETENCIES/ISSUES/SKILLS" and enter text in that screen. Course competencies are smaller, simpler tasks that connect to and facilitate the SLOs.

Competency
collect, analyze, and intepret scientific data related to marine mammals
design and carry out an experiment to test a hypothesis including stating the question and problem, outlining materials and procedures, collecting and analyzing data
demonstrate field and laboratory methods for investigating marine mammal biology

17. Recommended Course Content and Timeline. The course content facilitates the course competencies. Course content may be organized by weeks, units, topics or the like.

- 2-10 weeks photo-identification
- 2-10 weeks acoustic analysis
- 2-10 weeks biotechnology analysis of DNA and hormone samples
- 6-10 weeks shore and boat-based surveys
- 1-10 weeks literature search and reviews
- 2 weeks project presentations

18. Program Learning Outcomes. DO NOT ENTER TEXT IN THE TEXT BOX BELOW. Click on the yellow button "PLOs" and enter text in that screen. Program Student Learning Outcomes (PLOs) supported by this course. If you are not a "program" use the Liberal Arts PLOs, view them by clicking on ? icon to the right.

Program SLO
Examine the features and functions of multiple systems and how they are interconnected, and explains how one system can be optimized without degrading other systems or depleting natural

resources.
Investigate, discover, and summarize federal, state, local, and industry codes, standards, laws, regulations, and guidelines
Assess the feasibility of investing in sustainability measures using simple payback, return on investment, and life cycle costing techniques
Describe the unique sustainability challenges faced by island communities.
Identify, outline, and illustrate the fundamentals of existing and emerging technologies in energy production, distribution, and management; water supply; wastewater treatment; and waste management; their applications, processes, and requirements.
Appraise, evaluate, summarize, and explain the economic, social, cultural, political, and scientific features that make a system, process, practice, or business sustainable and consolidate that information into a sustainability profile.
Propose and justify creative solutions to sustainability challenges that are scientifically sound.
Demonstrate skills related to managing sustainability projects including defining scope, selecting achievable goals, evaluating ethical implications, working with diverse teams, making presentations, and preparing reports.

19. College-wide Academic Student Learning Outcomes (CASLOs). FIRST, fill out the CASLO grid located in the UHMC tab above. Click on the HELP icon for tips on determining support for the CASLOs and indicate your choices below by clicking on the box in front of each supported CASLO. NOTE: Our campus does not use the Preparatory Level, Level 1 and Level 2 designations in the chart below.

	Creativity - Able to express originality through a variety of forms.
<input checked="" type="checkbox"/>	Critical Thinking - Apply critical thinking skills to effectively address the challenges and solve problems. <input checked="" type="checkbox"/> Preparatory Level
<input checked="" type="checkbox"/>	Information Retrieval and Technology - Access, evaluate, and utilize information effectively, ethically, and responsibly. <input checked="" type="checkbox"/> Preparatory Level
<input checked="" type="checkbox"/>	Oral Communication - Practice ethical and responsible oral communications appropriately to a variety of audiences and purposes. <input checked="" type="checkbox"/> Preparatory Level
<input checked="" type="checkbox"/>	Quantitative Reasoning - Synthesize and articulate information using appropriate mathematical methods to solve problems of quantitative reasoning accurately and appropriately. <input checked="" type="checkbox"/> Preparatory Level
<input checked="" type="checkbox"/>	Written Communication - Write effectively to convey ideas that meet the needs of specific audiences and purposes. <input checked="" type="checkbox"/> Preparatory Level

GenED SLO
Critical Thinking - Apply critical thinking skills to effectively address the challenges and solve problems.
Information Retrieval and Technology - Access, evaluate, and utilize information effectively, ethically, and responsibly.
Oral Communication - Practice ethical and responsible oral communications appropriately to a variety of audiences and purposes.
Quantitative Reasoning - Synthesize and articulate information using appropriate mathematical methods to solve problems of quantitative reasoning accurately and appropriately.
Written Communication - Write effectively to convey ideas that meet the needs of specific audiences and purposes.

20. Linking. CLICK ON CHAIN LINK ICON IN UPPER RIGHT HAND CORNER TO BEGIN LINKING. Please click on the ? to the right for help.

21. Method(s) of delivery appropriate for this course. Please click on the ? to the right for help.

- Classroom/Lab (0)

22. Text and Materials, Reference Materials, and Auxiliary Materials. Please click on the ? to the right for help.

Berta, A., J. L. Sumich and K. Kovacs. Marine Mammals: Evolutionary Biology . 2006.

Darling, Jim. Hawaii's Humpback Whales, Unveiling the Mysteries . 2009. Granville Island Publishing, 2009, 978-1-894694-59-9.

Pechenik, J. A.. A Short Guide to Writing About Biology . 8th. 2007

Selected journal articles (Marine Mammal Science, Aquatic Mammals, Conservation Biology, Nature)

23. Maximum enrollment. Please click on the ? to the right for help.

20

24. Particular room type requirement. Is this course restricted to particular room type? Please click on the ? to the right for help.

YES
Marine Science Lab

25. Special scheduling considerations. Are there special scheduling considerations for this course? Please click on the ? to the right for help.

NO

26. Are special or additional resources needed for this course? Please click on the ? to the right for help.

NO

27. Does this course require special fees to be paid for by students? Please click on the ? to the right for help.

NO

28. Does this course change the number of required credit hours in a degree or certificate? Please click on the ? to the right for help.

NO

29. Course designation(s) for the Liberal Arts A.A. degree and/or for the college's other associate degrees. Please click on the ? to the right for help.

Degree	Program	Category
Associate in Arts:	Liberal Arts	DY - Lab LE - Elective
AS:	ANY	NS - Natural Science
AAS:	ANY	NS - Natural Science
BAS:	ANY	NS - Natural Science
Developmental/ Remedial:		

30. Course designation(s) for other colleges in the UH system.

DY

31. Indicate the year and page # of UHMC catalog referred to. For new or modified courses, please indicate the catalog pages that need to be modified and provide a sheet outlining those changes.

2014-15, page #100, new course description in Biology alpha

32. College-wide Academic Student Learner Outcomes (CASLOs). Please click on the HELP icon for more information.

Standard 1 - Written Communication Write effectively to convey ideas that meet the needs of specific audiences and purposes.		
Outcome 1.1 - Use writing to discover and articulate ideas.		2
Outcome 1.2 - Identify and analyze the audience and purpose for any intended communication.		2
Outcome 1.3 - Choose language, style, and organization appropriate to particular purposes and audiences.		2
Outcome 1.4 - Gather information and document sources appropriately.		3
Outcome 1.5 - Express a main idea as a thesis, hypothesis, or other appropriate statement.		2

Outcome 1.6 - Develop a main idea clearly and concisely with appropriate content.		2
Outcome 1.7 - Demonstrate a mastery of the conventions of writing, including grammar, spelling, and mechanics.		2
Outcome 1.8 - Demonstrate proficiency in revision and editing.		2
Outcome 1.9 - Develop a personal voice in written communication.		0
Standard 2 - Quantitative Reasoning Synthesize and articulate information using appropriate mathematical methods to solve problems of quantitative reasoning accurately and appropriately.		
Outcome 2.1 - Apply numeric, graphic, and symbolic skills and other forms of quantitative reasoning accurately and appropriately.		3
Outcome 2.2 - Demonstrate mastery of mathematical concepts, skills, and applications, using technology when appropriate.		2
Outcome 2.3 - Communicate clearly and concisely the methods and results of quantitative problem solving.		2
Outcome 2.4 - Formulate and test hypotheses using numerical experimentation.		2
Outcome 2.5 - Define quantitative issues and problems, gather relevant information, analyze that information, and present results.		3
Outcome 2.6 - Assess the validity of statistical conclusions.		3
Standard 3 - Information Retrieval and Technology. Access, evaluate, and utilize information effectively, ethically, and responsibly.		
Outcome 3.1 - Use print and electronic information technology ethically and responsibly.		3
Outcome 3.2 - Demonstrate knowledge of basic vocabulary, concepts, and operations of information retrieval and technology.		2
Outcome 3.3 - Recognize, identify, and define an information need.		2
Outcome 3.4 - Access and retrieve information through print and electronic media, evaluating the accuracy and authenticity of that information.		3
Outcome 3.5 - Create, manage, organize, and communicate information through electronic media.		2
Outcome 3.6 - Recognize changing technologies and make informed choices about their appropriateness and use.		2
Standard 4 - Oral Communication Practice ethical and responsible oral communications appropriately to a variety of audiences and purposes.		
Outcome 4.1 - Identify and analyze the audience and purpose of any intended communication.		2
Outcome 4.2 - Gather, evaluate, select, and organize information for the communication.		2
Outcome 4.3 - Use language, techniques, and strategies appropriate to the audience and occasion.		2

Outcome 4.4 - Speak clearly and confidently, using the voice, volume, tone, and articulation appropriate to the audience and occasion.	2
Outcome 4.5 - Summarize, analyze, and evaluate oral communications and ask coherent questions as needed.	2
Outcome 4.6 - Use competent oral expression to initiate and sustain discussions.	1
Standard 5 - Critical Thinking Apply critical thinking skills to effectively address the challenges and solve problems.	
Outcome 5.1 - Identify and state problems, issues, arguments, and questions contained in a body of information.	3
Outcome 5.2 - Identify and analyze assumptions and underlying points of view relating to an issue or problem.	3
Outcome 5.3 - Formulate research questions that require descriptive and explanatory analyses.	3
Outcome 5.4 - Recognize and understand multiple modes of inquiry, including investigative methods based on observation and analysis.	3
Outcome 5.5 - Evaluate a problem, distinguishing between relevant and irrelevant facts, opinions, assumptions, issues, values, and biases through the use of appropriate evidence.	3
Outcome 5.6 - Apply problem-solving techniques and skills, including the rules of logic and logical sequence.	2
Outcome 5.7 - Synthesize information from various sources, drawing appropriate conclusions.	3
Outcome 5.8 - Communicate clearly and concisely the methods and results of logical reasoning.	2
Outcome 5.9 - Reflect upon and evaluate their thought processes, value system, and world views in comparison to those of others.	2
Standard 6 - Creativity Able to express originality through a variety of forms.	
Outcome 6.1: Generate responses to problems and challenges through intuition and non-linear thinking.	0
Outcome 6.2: Explore diverse approaches to solving a problem or addressing a challenge.	1
Outcome 6.3: Sustain engagement in activities without a preconceived purpose.	0
Outcome 6.4: Apply creative principles to discover and express new ideas.	1
Outcome 6.5: Demonstrate the ability to trust and follow one's instincts in the absence of external direction	0
Outcome 6.6: Build upon or adapt the ideas of others to create novel expressions or new solutions.	1

33. Additional Information

This course is offered at UH-Manoa as Biology 331L Marine Mammal Biology Lab (2cr, 2hr, lab) and at UH-Hilo as MARE 390L Marine Mammal Biology Lab (1cr, 3hr, lab)

**UNIVERSITY OF HAWAII MAUI COLLEGE
ASSOCIATE IN ARTS DEGREE
REVIEW OF COURSES FOR DIVERSIFICATION REQUIREMENTS**

Any UH course with a diversification or equivalent designation that transfers to another UH campus will be accepted with the sending campus' designation. At each participating UH campus, the diversification designation is consistent with the hallmarks described below. Courses are approved through a campus level process and reviewed at least every five years to ensure that the course continues to meet the hallmarks.

Banner Input Date:

SUBJECT ALPHA: BIOL COURSE NUMBER: 331L

Catalog Input Date:

If the course is cross-listed, please provide the cross-listing: Subject _____ Course # _____

COURSE TITLE: Marine Mammal Biology Lab

STAR Check Date:

UH MANOA DIVERSIFICATION CATEGORY:

UHMC RECOMMENDED CATEGORY: DY

AA Advising Sheet Update Date:

(Refer to attached Hallmarks)

Is the course outline, on file with the UHMC Curriculum Committee, consistent with the stated Hallmarks? Yes No

If "No" and you wish to submit changes to correspond with the Hallmarks, attach a University of Hawaii Maui College Curriculum Action Request (CAR) (Form 4-93) with new course outline.

OR

Recommend course be changed to another sub-category: _____

OR

Recommend course be used only as general elective

Ann Caspersmith
Instructor's Printed Name

Ann Caspersmith 4 May 2015
Instructor's Signature Date

Michael Takemoto
Approved by: Diversification Chair Printed Name

Michael 5/4/15
Diversification Chair Signature Date