Curriculum Proposal Number __2012. 15__

Curriculum Proposal Cover Sheet – Program/Degree/Certificate
Routing procedure – Official Signatures on Signature Page

Program Name: ____BIOL____

or
Course Alpha & Number: ____BIOL 282____

Author: ____Ann Coopersmith____

Proposal Type:
☒ Addition
☐ Modification
☐ Deletion

Date of Activity:

_____ Author Signature

_____ Curriculum Representative Signature

_____ Department Chair Signature

_____ Curriculum Chair Signature

_____ Proposals Posted in Website for General Review

_____ Academic Senate Chair Signature

_____ Chief Academic Officer Signature

__2/1v 15__ Chancellor Signature

_____ NEW DEGREES ONLY! Chief Academic Officers Approval

_____ NEW DEGREES ONLY! Board of Regents Approval

_____ Signature Sheet Returned to Curriculum C hair

Distribution, Posting and Follow-Up:

_____ Notify Proposers of Approval

_____ Banner & IRO Input

_____ Catalog Input Complete

_____ Articulation Forms Forwarded to Articulation Coordinator

_____ Five-Year Review Database Updated

_____ Originals Filed in Chief Academic Officer's Office

_____ Registrar & Counseling Notified

University of Hawaii Maui College
BIOL 282 - Global Change

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.**

   282

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

   Global Change

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

   3

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

   - Hour lecture (3)

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

   Introduces principal components of global change and explores the impacts on the environment. Focuses on the interdisciplinary nature of global change and interrelationships to biological, physical, anthropological, economic, and political concepts.

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

   ENG 100 with grade C or ~~higher~~ better, or consent.

8. **Co-requisites.**

9. **Recommended Preparation.**

   College science course

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.**

    Required course for proposed ASNS Marine Science Concentration. Important topic that needs to be added to the college curriculum.

12. **Effective Semester and Year. For new or modified courses, the effective year is one year from the semester proposed. For example, if proposed in Spring 2012, the effective semester is Spring 2013. Please click on the ? to the right for help.**

13. **Grading Method. What grading methods may be used for this course? Please click on the ? to the right for help.**

   - Standard (Letter,Cr/NCr,Audit) (0)

14. **Is this course repeatable for credit? How often can this course be counted toward a degree or certificate? Please click on the ? to the right for help.**

   NO

15. **Course Student Learning Outcomes (SLOs). DO NOT ENTER TEXT IN THE TEXT BOX BELOW. Click on the yellow button "COURSE LEARNING OUTCOMES" and enter in that screen. Please click on the ? to the right for help.**

Course SLO/Competency	Express and apply numeric and symbolic concepts correctly and accurately in global change scenarios	Analyze and interpret graphs, charts, and diagrams depicting aspects of global change	Identify ethical problems and dilemmas related to global change issues and evaluate and critically reflect on scientific evidence supporting different views
Evaluate and discuss the body of evidence supporting the current understanding of global change in the atmosphere and in terrestrial, freshwater, and marine systems,	☑	☑	☑
Locate and present global change information from reliable scientific sources	☑	☑	☑

Course SLO/PSLO	Explain the natural and technological world using reflection and quantitative analysis	Explain scientific knowledge and understanding to different audiences for a range of purposes	Apply scientific knowledge, skills, and understandings to problems and issues in daily life
Evaluate and discuss the body of evidence supporting the current understanding of global change in the atmosphere and in terrestrial, freshwater, and marine systems,	☑	☑	☑
Locate and present global change information from reliable scientific sources	☑	☑	☑

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
Express and apply numeric and symbolic concepts correctly and accurately in global change scenarios

Analyze and interpret graphs, charts, and diagrams depicting aspects of global change

Identify ethical problems and dilemmas related to global change issues and evaluate and critically reflect on scientific evidence supporting different views

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

1 week	Nature of science
1-2 weeks	World population and development
1-2 weeks	Natural resources, sustainability
1-2 weeks	Fossil fuels, alternative energy sources
1-2 weeks	Forest changes
1 week	Soil changes
1-2 weeks	Freshwater changes, groundwater depletion, freshwater pollution
1-2 weeks	Marine changes, marine debris, plastic pollution, oil spills, ocean acidification, eutrophication
1 week	Marine fisheries
1-2 weeks	Invasive species
1 week	Environmental health, toxicology
1-2 weeks	Atmosphere, air pollution, ozone
1-2 weeks	Greenhouse effect, greenhouse gases, climate change
1 week	Sustainable solutions

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.

- Explain the natural and technological world using reflection and quantitative analysis
- Explain scientific knowledge and understanding to different audiences for a range of purposes
- Apply scientific knowledge, skills, and understandings to problems and issues in daily life

Program SLO
Explain the natural and technological world using reflection and quantitative analysis
Explain scientific knowledge and understanding to different audiences for a range of purposes
Apply scientific knowledge, skills, and understandings to problems and issues in daily life

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.
☑	**Critical Thinking** - Apply critical thinking skills to effectively address the challenges and solve problems. ☑ Level 2
☑	**Information Retrieval and Technology** - Access, evaluate, and utilize information effectively, ethically, and responsibly. ☑ Level 1
☑	**Oral Communication** - Practice ethical and responsible oral communications appropriately to a variety of audiences and purposes.

	☑ Level 1
☑	**Quantitative Reasoning** - Synthesize and articulate information using appropriate mathematical methods to solve problems of quantative reasoning accurately and appropriately. ☑ Level 1
☑	**Written Communication** - Write effectively to convey ideas that meet the needs of specific audiences and purposes. ☑ Level 1

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 quantative 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.**

- Cable TV (0)
- Classroom/Lab (0)
- HITS/Interactive TV (0)
- Hybrid (0)
- Online (0)

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

- Environment: The Science Behind the Stories, latest editiion. J. Withgott and S. Brennan
- Selected scientific journal articles and current media

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

30

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

NO

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	EA - Environmental Awareness
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.

UH system - DB.

UH-Hilo (MARE 282) - required for AB and AS in Marine Science

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.

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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.	1
Outcome 1.8 - Demonstrate proficiency in revision and editing.	1
Outcome 1.9 - Develop a personal voice in written communication.	1
Standard 2 - Quantitative Reasoning Synthesize and articulate information using appropriate mathematical methods to solve problems of quantative reasoning accurately and appropriately.	
Outcome 2.1 - Apply numeric, graphic, and symbolic skills and other forms of quantitative reasoning accurately and appropriately.	2
Outcome 2.2 - Demonstrate mastery of mathematical concepts, skills, and applications, using technology when appropriate.	1
Outcome 2.3 - Communicate clearly and concisely the methods and results of quantitative problem solving.	1
Outcome 2.4 - Formulate and test hypotheses using numerical experimentation.	0
Outcome 2.5 - Define quantitative issues and problems, gather relevant information, analyze that information, and present results.	2
Outcome 2.6 - Assess the validity of statistical conclusions.	1
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.	2
Outcome 3.2 - Demonstrate knowledge of basic vocabulary, concepts, and operations of information retrieval and technology.	0
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.	1
Outcome 3.6 - Recognize changing technologies and make informed choices about their appropriateness and use.	0
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.	1

Outcome 4.5 - Summarize, analyze, and evaluate oral communications and ask coherent questions as needed.	1
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.	0
Outcome 5.4 - Recognize and understand multiple modes of inquiry, including investigative methods based on observation and analysis.	1
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.	1
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.	1
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.	0
Outcome 6.3: Sustain engagement in activities without a preconceived purpose.	0
Outcome 6.4: Apply creative principles to discover and express new ideas.	0
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.	0

33. Additional Information