

University of Hawaii Maui College

SSM 302 - Environmental Health

1. **Course Alpha. Please click on the ? to the right for help.**
SSM
2. **Course Number. Please click on the ? to the right for help.**
302
3. **Course Title/Catalog Title. Please click on the ? to the right for help.**
Environmental Health
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.**

Evaluates the impact that chemical, physical, and biological agents have on environmental ecosystems. Examines how political, economic, and demographic diversity affects the natural environment with particular emphasis on island settings.
7. **Pre-Requisites. Please click on the ? to the right for help.**

SSM 202, BIOL 171 and BIOL 171L, CHEM 151 or 161/161L, MATH 135, all with grade C or better, or consent.
8. **Co-requisites.**

none
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.**

Course prerequisites are being changed consistent with minor changes in the overall program, driven by student feedback and a consensus on program improvement..
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.**

Fall 2014

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	Examine 3 earth system changes that are anticipated to be impacted by climate change.	Identify and provide information on ecosystem biodiversity	Examine bio-capacity, the correlation to earth's population, and the relationship to sustainability.	Demonstrate how an ecologist, epidemiologist and toxicologist could work together to examine an issue important to environmental health on Maui	Analyze, interpret and explain aspects of a pesticide to be considered when determining the ability for a compound to cause damage to an ecosystem
Explain how the increase in certain gases in the environment create the greenhouse effect that leads to global warming.	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
Analyze, interpret and explain aspects of a pesticide that we should consider when determining the ability for a compound to cause damage to an ecosystem and/or human health.		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Demonstrate fundamental knowledge about how environmental agents of disease affect the human body				<input checked="" type="checkbox"/>	
Demonstrate information literacy by accessing, processing, comprehending, and evaluating scientific information about an environmental health topic		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Course SLO /PSLO	1. Examine ways in which the features and functions of multiple systems are	2. Investigate, discover and summarize federal state, local	8. Demonstrate skills related to managing sustainability projects

	interconnected, and explain how one system can be optimized without degrading other systems or depleting natural resources	and industry codes standards, laws, regulations, and guidelines	including defining scope, selecting achievable goals, evaluating ethical implications, working with diverse teams, making presentations, and preparing reports
Explain how the increase in certain gases in the environment create the greenhouse effect that leads to global warming.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Analyze, interpret and explain aspects of a pesticide that we should consider when determining the ability for a compound to cause damage to an ecosystem and/or human health.	<input checked="" type="checkbox"/>		
Demonstrate fundamental knowledge about how environmental agents of disease affect the human body	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Demonstrate information literacy by accessing, processing, comprehending, and evaluating scientific information about an environmental health topic	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>

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
Examine 3 earth system changes that are anticipated to be impacted by climate change.
Identify and provide information on ecosystem biodiversity
Examine bio-capacity, the correlation to earth's population, and the relationship to sustainability.
Demonstrate how an ecologist, epidemiologist and toxicologist could work together to examine an issue important to environmental health on Maui
Analyze, interpret and explain aspects of a pesticide to be considered when determining the ability for a compound to cause damage to an ecosystem

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.

Content
1 week: Course Introduction
1-2 weeks: Basics Metrics for Environmental Health
1-2 weeks: Toxicology in Epidemiology in Environmental Health
2-3 weeks: Genetics and Environmental Health
1-2 weeks: Population Pressure and Developing Nations

1-2 weeks: Ecology and Environmental Health
2-3 weeks: Air Pollution
1 week: Metrics for Climate Change
2-3 weeks: Pesticides and Agriculture

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
1. Examine ways in which the features and functions of multiple systems are interconnected, and explain how one system can be optimized without degrading other systems or depleting natural resources
2. Investigate, discover and summarize federal state, local and industry codes standards, laws, regulations, and guidelines
8. 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.**

<input checked="" type="checkbox"/>	Creativity - Able to express originality through a variety of forms. <input checked="" type="checkbox"/> Level 1
<input checked="" type="checkbox"/>	Critical Thinking - Apply critical thinking skills to effectively address the challenges and solve problems. <input checked="" type="checkbox"/> Level 1
<input checked="" type="checkbox"/>	Information Retrieval and Technology - Access, evaluate, and utilize information effectively, ethically, and responsibly. <input checked="" type="checkbox"/> Level 2
<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
	Quantitative Reasoning - Synthesize and articulate information using appropriate mathematical methods to solve problems of quantitative reasoning accurately and appropriately.
<input checked="" type="checkbox"/>	Written Communication - Write effectively to convey ideas that meet the needs of specific audiences and purposes.

Level 1
GenED SLO

Creativity - Able to express originality through a variety of forms.

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.

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)
- 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.

Environmental Health: From Global to Local by Howard Frumkin

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

25

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

YES

Need computer and projector set up.

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	Other LE - Elective
AS:	Human Services - All	NS - Natural Science
AAS:	ANY	NS - Natural Science
BAS:	Other	CR - Core Course/Requirement - BAS
Developmental/ Remedial:		

Core Requirement for BAS SSM-Sustainable Science Management

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

Diversification Biological

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.

UHMC 2013-2014 at page 141

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.		
Outcome 1.2 - Identify and analyze the audience and purpose for any intended communication.		
Outcome 1.3 - Choose language, style, and organization appropriate to particular purposes and audiences.		
Outcome 1.4 - Gather information and document sources appropriately.		
Outcome 1.5 - Express a main idea as a thesis, hypothesis, or other appropriate statement.		

Outcome 1.6 - Develop a main idea clearly and concisely with appropriate content.		
Outcome 1.7 - Demonstrate a mastery of the conventions of writing, including grammar, spelling, and mechanics.		
Outcome 1.8 - Demonstrate proficiency in revision and editing.		
Outcome 1.9 - Develop a personal voice in written communication.		
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.		
Outcome 2.2 - Demonstrate mastery of mathematical concepts, skills, and applications, using technology when appropriate.		
Outcome 2.3 - Communicate clearly and concisely the methods and results of quantitative problem solving.		
Outcome 2.4 - Formulate and test hypotheses using numerical experimentation.		
Outcome 2.5 - Define quantitative issues and problems, gather relevant information, analyze that information, and present results.		
Outcome 2.6 - Assess the validity of statistical conclusions.		
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.		
Outcome 3.2 - Demonstrate knowledge of basic vocabulary, concepts, and operations of information retrieval and technology.		
Outcome 3.3 - Recognize, identify, and define an information need.		
Outcome 3.4 - Access and retrieve information through print and electronic media, evaluating the accuracy and authenticity of that information.		
Outcome 3.5 - Create, manage, organize, and communicate information through electronic media.		
Outcome 3.6 - Recognize changing technologies and make informed choices about their appropriateness and use.		
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.		
Outcome 4.2 - Gather, evaluate, select, and organize information for the communication.		
Outcome 4.3 - Use language, techniques, and strategies appropriate to the audience and occasion.		

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

33. Additional Information