General Education Course Information Sheet

Please submit this sheet for each proposed course

Department & Course Number Ecology and Evolutionary Biology 18

Course Title Why Ecology Matters: the science behind environmental issues

Indicate if Seminar and/or Writing II course _____

1 Check the recommended GE foundation area(s) and subgroups(s) for this course

Foundations of the Arts and Humanities

- Literary and Cultural Analysis _____
- Philosophic and Linguistic Analysis _____
- Visual and Performance Arts Analysis and Practice _____

Foundations of Society and Culture

- Historical Analysis _____
- Social Analysis _____

Foundations of Scientific Inquiry

- Physical Science _____
  With Laboratory or Demonstration Component must be 5 units (or more) _____
- Life Science X
  With Laboratory or Demonstration Component must be 5 units (or more) _____

2. Briefly describe the rationale for assignment to foundation area(s) and subgroup(s) chosen.

As an ecology course, this class will teach the ecological basis of environmental issues. All course themes will be based in ecological and/or biological concepts (e.g., biodiversity, evolution, genetics extinctions, primary production, organisms, etc.) that are all based in the life sciences.

3. "List faculty member(s) who will serve as instructor (give academic rank):
Alison Lipman, Ph.D. (Lecturer)

Do you intend to use graduate student instructors (TAs) in this course? Yes X No ____

If yes, please indicate the number of TAs 2

4. Indicate when do you anticipate teaching this course over the next three years:

2010-2011	Fall		Winter		Spring	
	Enrollment		Enrollment		Enrollment	
2011-2012	Fall		Winter		Spring	
	Enrollment		Enrollment		Enrollment	
2012-2013	Fall	2012	Winter		Spring	
	Enrollment	100	Enrollment		Enrollment	

5. GE Course Units

Is this an ***existing*** course that has been modified for inclusion in the new GE? Yes ___ No X

If yes, provide a brief explanation of what has changed. _____

Present Number of Units: _____ Proposed Number of Units: _____

6. Please present concise arguments for the GE principles applicable to this course.

❑ General Knowledge	This course will teach environmental literacy, with an ecological basis, to students who would not otherwise have the opportunity to learn about environmental issues. Environmental literacy will equip students to become leaders in the growing "green economy" and to help forge solutions to the current and future environmental crises that threaten our natural resource base. This course will teach basic scientific and life science concepts (e.g., scientific method, ecology, evolution, organismal biology, biodiversity, genetics, evolution, etc.) that will give UCLA graduates the tools necessary to understand and evaluate the science behind important future (policy, developmental, etc.) decisions. This course would align UCLA with the efforts of a growing number of states and universities that are officially recognizing and mandating the need for all students to be taught environmental literacy.
❑ Integrative Learning	There will be three projects assigned during the quarter (two required, one for extra credit) through which students will learn by evaluating, creating, and changing aspects of their own lives and social worlds. Through a Lifestyle Change Project, students must choose and evaluate an aspect of their lives they would like to change to be more environmentally responsible. Through a Media Report, students will evaluate the impact of a piece of media (on them and others), whose purpose is to inform the public of environmental issues. Finally, students will also have the opportunity to earn extra credit points by conducting the Supermarket Project, in which students will create and analyze the environmental and health impacts of three realistic diets: (1) low cost diet; (2) convenience diet; and (3) environmentally low impact diet.
❑ Ethical Implications	This course will enable students to see how their life choices have both direct and indirect impacts on the environment, themselves, and others. Students will learn that "environment" translates simply to "the conditions in which we live," and that it includes the air we breathe, the water we drink, the food we eat, etc. Students will come to understand that when we engage in patterns of resource use that damage the environment, we affect our own health and future livelihood, as well as those of other people. Students will also learn that by living in the U.S., we consume about 20 times the resources of a person who lives in a developing country, which means that our environmental impact is 20 times as large. And, because we are relatively rich, the negative environmental effects (e.g., climate change, water scarcity, pollution) of our actions, will often affect the health and livelihoods of other people (often poor or disenfranchised) before they affect us.
❑ Cultural Diversity	This course will not focus solely on environmental issues in the United States. Rather, the course will integrate a global perspective on factors affecting changing environmental issues. For instance, different regions of the world (e.g., South America, the Middle East, Asia, Europe, Africa, United States) will be compared with one another on such issues as biodiversity, water resources, deforestation, and pollution. Additionally, case studies will be presented from a variety of geographies and cultures. Different lifestyles, issues, concepts of nature, and health and management practices (of peoples ranging from indigenous to urbanites) will be presented and discussed.
❑ Critical Thinking	Students will be asked to present their perspectives, through discussion and debate, in a multidisciplinary manner, on issues such as the social and moral implications that must be addressed in order to achieve true sustainability. They will be required to think critically and holistically, substantiating their statements and arguments with facts and science. Students will be taught the scientific method, and they will be required to analyze environmental issues through many variables, including science, economics, politics, short vs. long-term risks and benefits, ethical implications, the precautionary principle, etc. Through the Lifestyle Change and Media projects, students will be required to think about and present (both written and orally) possible solutions to environmental issues. Students will leave the class with a more informed and critical perspective on environmental and science issues, which should positively affect how they listen and react to media concerning these issues.
❑ Rhetorical Effectiveness	This course will require students to effectively present and argue their understanding and opinions related to a variety of issues, through a variety of media (discussions and

debates, written opinion reviews of media pieces, a formal written research report, and live presentation of projects in class). Because solutions to environmental problems will need to be interdisciplinary and collaborative in nature, students from a variety of fields will benefit through interacting with students from diverse backgrounds. This course will instill in all students (from all majors) a strong understanding of environmental issues that they will be able to take back (and effectively translate to) their respective disciplines, and apply to their future careers.

❑ Problem-solving	In the Lifestyle Change Project, students will be required to problem solve in a group setting. They will be required to propose a change they will make in their lives, in order to be more environmentally responsible. They will need to document and log both the quantitative and qualitative data related to their change, and they will need to research and calculate the cumulative impacts of their change. Finally, they will need to assess the success of their change and how it might be promoted in the larger society. At the end of the quarter, students will submit a final, written research report and present their findings in discussion section. In the five short media reviews, student will engage in educational problem solving by critically reviewing educational media presented in course lectures. By assessing the effective of materials in their own education, students will be helping to problem solve potential inefficiencies in course design. Finally, in the extra credit Supermarket Project, students will create three hypothetical diets (low cost, convenience, and environmentally low impact diet) consisting of the foods they would normally consume. Student will submit written reports that will compare the health, environmental impact, cost, convenience, and general accessibility of the three diets. This project gives students a real life opportunity to solve the negative impacts that their diets have on their health and the environment.
❑ Library & Information Literacy	Within the discussion sections, students will be required to discuss and/or debate an assigned topic, many of which will require the students to seek other primary and secondary resources to support their viewpoints. Additionally, one discussion section will be devoted to how to conduct factual research, especially on the internet. Students will learn to distinguish fact from bias, science from pseudoscience, and reputable sources from unqualified sources. This section will cover materials from a variety of sources, including governmental, educational, and peer reviewed.

(A) STUDENT CONTACT PER WEEK (if not applicable write N/A)

1.	Lecture:	**3**	(hours)
2.	Discussion Section:	**2**	(hours)
3.	Labs:		(hours)
4.	Experiential (service learning, internships, other):		(hours)
5.	Field Trips:		(hours)

(A) TOTAL Student Contact Per Week **5** **(HOURS)**

(B) OUT-OF-CLASS HOURS PER WEEK (if not applicable write N/A)

1.	General Review & Preparation:	**1**	(hours)
2.	Reading	**2**	(hours)
3.	Group Projects:	**2**	(hours)
4.	Preparation for Quizzes & Exams:	**1**	(hours)
5.	Information Literacy Exercises:	**1**	(hours)
6.	Written Assignments:	**2**	(hours)
7.	Research Activity:	**2**	(hours)

(B) TOTAL Out-of-class time per week **11** **(HOURS)**

GRAND TOTAL (A) + (B) must equal at least 15 hours/week 16 **(HOURS)**

EE Biol 18: Why Ecology Matters: the science behind environmental issues

Instructor: Alison Lipman, Ph.D.

Lecture, three hours. Discussion, two hours.

COURSE DESCRIPTION

The purpose of this course is to promote both science and environmental literacy in UCLA students. A broad curriculum will teach basic ecological concepts, the scientific method, and the ecological basis for local and global environmental issues. The course will address the major challenges to be faced in this century, including the need to find interdisciplinary and collaborative solutions to the world's worsening environmental problems (e.g., global climate change, biodiversity loss, deforestation, pollution, declining water resources, declining fisheries). Environmental literacy will equip students to become leaders in the growing 'green economy' and to help forge solutions to the current and future environmental crises that threaten our natural resource base.

JUSTIFICATION FOR COURSE

This general education course, EEB 18, was designed to teach environmental literacy to non-major UCLA students who would not otherwise have the opportunity to learn about environmental issues. International scientific consensus tells us that the global problems of tomorrow will be largely environmental in nature. Relevant education will thus teach today's students a solid understanding of ecological issues and the science that describes them. This course would align UCLA with the efforts of states and universities across the country that are officially recognizing and mandating the need for all students to be taught environmental literacy.

Surprisingly, with its strong history of environmental protection, California and its educational institutions lag behind other states in requiring environmental education. For example, the states of Maryland and Minnesota, along with universities in Georgia, Maine, Arizona, and Kentucky, require environmental literacy of their students. The California state legislated Education and the Environment Initiative (EEI), which mandated creation of a K-12 curriculum (formally approved by the State Board of Education) for use in classrooms statewide, was an important step to bring California to the forefront of this movement. Although California does not yet require environmental literacy of its students, the state is actively promoting the teaching of environmental themes in its schools. Universities in the state should be leading, or at least joining, this effort.

By offering this course, UCLA will join national and statewide efforts to teach environmental literacy to all students. Although there are a variety of environmental courses and majors offered at UCLA, there is a current need for environmental education that is specifically designed for all students. Common sense tells us that the solutions to environmental problems will need to be interdisciplinary and collaborative in nature. This course will instill in UCLA students (from all majors) a strong understanding of environmental issues, and the science behind them, that they will be able to take back to

their respective disciplines and apply to their future careers.

CLASS CONCEPT

This GE course was developed to promote environmental literacy in UCLA students. This goal will be achieved through a broad curriculum that teaches basic ecological concepts and the ecological basis for local and global environmental issues. The course is specifically designed to reach students (especially non majors) who would not otherwise have the opportunity to learn about environmental issues. The idea for this class was inspired by a similar class that is offered as a GE course at the Odum School of Ecology at the University of Georgia (UGA). UGA is one of the first universities (since 1993) in the United States to require that every undergraduate student complete an environmental literacy (EL) requirement. Studies tracking the EL program's success have revealed the course to consistently be one of the university's most popular, because today's students feel it is important to learn about environmental issues.

Given California's strong environmental record, California surprisingly lags behind states like Georgia in requiring environmental literacy of its students. However, a recent California state-wide mandate (the Education and the Environment Initiative (EEI)) requires that environmental curriculum be taught to K-12 students. Our goal in developing this UCLA course is to align the university with state-wide efforts to promote EL education in California. This effort is based on the knowledge that the major challenges we face this century will include finding interdisciplinary and collaborative solutions to the world's worsening environmental problems (e.g., global climate change, biodiversity loss, deforestation, pollution, declining water resources, declining fisheries). The main objective of this course will thus be to instill in UCLA students a strong understanding of environmental issues, which they will be able to take back to their respective disciplines. Environmental literacy will equip UCLA graduates to help forge solutions to today's environmental crises and to lead the necessary movement to a more sustainable and "green" economy.

COURSE OBJECTIVES

The objectives of this course are to give students from all disciplines a strong understanding of environmental issues, as well as the science behind these issues, which will allow them to make better informed decisions, in their careers and personal lives, that will help build a more sustainable future for our society. Our specific objectives are to arm students with:

1) an understanding of the scientific method and scientific peer review and reporting processes;
2) the ability to distinguish valid science from "pseudoscience;"
3) an understanding of the key terms: ecology, environment, and sustainability;
4) the ability to think and debate critically, across disciplines, "outside the box," and with a strong foundation in science and fact;
5) an understanding of basic ecological concepts, including ecological functions and services;

6) an understanding of the ecological basis of current and future environmental issues/crises;
7) an understanding of the main environmental issues of our time, including causes;
8) an understanding that environmental issues affect every living person and system;
9) an understanding of how our actions (especially as U.S. residents) have widespread consequences (to the environment, ourselves, and people across the globe);
10) an understanding of the precautionary principle and lag times and how they should be applied to current policies and planning;
11) the ability to analyze and balance the costs/risks/benefits of current and future outcomes, especially related to environmental issues;
12) an understanding of the moral and social issues related to environmental decision making;
13) the ability to address and navigate these moral/social issues in a manner that is ethically, socially, and culturally sensitive and just.
14) an understanding of the choices we can make as individuals and societies, to mitigate and reverse current environmental destruction;
15) the will to make choices and changes that decrease our negative environmental impacts.

16) **EEB 18 COURSE SYLLABUS**

Week	Lecture	Lecture Topic	Key Concepts	Reading & Films	Assignment Due
1	1	Introduction: Course organization, goals, & concepts	• Terms: ecology, environment, ecosystem function, sustainability • Scientific method • Precautionary principle / Lag time	• ES 1.3, 1.4, 1.6, 1.7, 3.3, 3.9 • ES Ch.2	
	2	Ecological Concepts 1: Ecosystems & their functions	• Ecosystems, communities & species • Food chains • Ecosystem functions	• ES Ch.5	
	3	Ecological Concepts 2: Ecological cycles	• Biogeochemical, soil & hydrological cycles • Watersheds	• CB Ch.3	
	Discussion	Discuss & Debate: What is "Environment?"	• Meaning of "Environment" • Introduce lifestyle change project & media report		
2	4	Ecological Concepts 3: Production & energy transfer	• Primary production / photosynthesis • Energy flows & thermodynamics	• ES Ch.14	• Lifestyle Change Project proposal due
	5	Biodiversity 1: Evolution, life histories & ecological niches clips: *This is not just a frog.*	• Biodiversity (where & why it's important) • Evolution • Symbioses, parasitism, predation & competition	• CB 2.3 • ES Ch.8	
	6	Biodiversity 2: Endangered species & habitats clips*: E.O. Wilson on TED Talks*	• Disturbance • Extirpation/extinction • Endangered species • Non-native species	• CB Ch.10; 12.2.3, 12.5 • ES Ch.13	
	Discussion	Group Think & Present: Science vs. pseudoscience (e.g., internet, news)	• Scientific method • Peer review • Fact vs. bias		
3	7	Population 1: Size, distribution & growth	• Birth, death rates • Age Structure/ Demographic transition	• ES 3.2, Ch.4	• Short media review due
	8	Population 2: Carrying capacity & social / moral issues clips: *Finding Balance*	• Carrying capacity • Limiting factors • Zero population growth	• ES 1.2-1.3	
	9	Resource Use 1: Historical trends, consumption/overexploitation clips: *The Story of Stuff*	• Hunter/gatherer, agriculture & industrial societies • Global trends	• CB Ch.6	
	Discussion	Discuss & Debate: Population issues	• Population issues & moral implications	• Population articles	

4	10	Resource Use 2: Commons & ecological economics	• Tragedy of the commons • Ecological economics	• ES Ch.7	• Final Media Report proposal due • Begin tracking lifestyle changes
	11	Resource Use 3: Freshwater Resources- Use, waste, loss & wars clips: *Our Thirsty World* *The Cycle of Insanity* *The Story of Bottled Water*	• Global sources, transport, droughts • Domestic, agricultural & industrial use • Bolivia, LA, Mid. East • Water reclamation	• ES Ch.18 • Film: *Flow*	
	12	Resource Use 4: Agriculture 1- Green Revolution; industrial vs. sustainable systems clips: *The Meatrix*	• Global production • Traditional farming vs. Green Revolution • Pesticides/herbicides fertilizers/soil erosion • Domestic animals	• ES Ch.11 • Film: *Food, Inc.*	
	Discussion	Watch & Discuss: *Supermarket Secrets*	• Modern agriculture • Explain extra credit supermarket project.	• Agriculture articles	
5	13	Resource Use 5: Agriculture 2- Environmental & human effects	• Bees- Colony Collapse • GMOs • Habitat destruction • Desertification • Organic farming • Eating lower on the food web	• Film: *The Future of Food*	• Short media review due
	14	Resource Use 6: Terrestrial habitat loss clips*: SOY: In the Name of Progress*	• Global trends • Deforestation • Fragmentation & species effects • Old growth forests • Agroforestry • Parks & reserves • Restoration	• CB Ch.4; 13.2-13.6, 13.8, 13.10 • ES Ch.12	
	15	Midterm	• All materials to date		
	Discussion	Midterm Review	• All materials to date		
6	16	Resource Use 7: Terrestrial wildlife resources	• Wildlife mang. • Hunting pressures • Population viability • Freshwater turtles	• ES Ch.13	• Short media review due
	17	Resource Use 8: Aquatic wildlife resources clips: *Shifting Baselines* *Seafloor Carnage*	• Overfishing, bottom trawling, aquaculture, etc. • Sustainable fisheries • MPAs	• Film: *End of the Line*	
	18	Resource Use 9: Aquatic habitat loss (freshwater & marine) clips*: Sylvia Earle on the Colbert Report* *Why the Ocean Matters*	• Wetlands, waterways & coastal zones • Dams / diversions • Coral reefs • Dead zones • Restoration		
	Discussion	Present & Debate: Supermarket Project results & the impacts of food choices	• What we eat affects the environment & our health	• Overfishing articles	

7	19	Resource Use 10: Energy basics & fossil fuels	• Energy efficiency • Energy policy • Peak oil • Oil spills • Oil dependency	• ES Ch.14-15	• Draft Lifestyle Change Projects due (optional) • Short media review due
	20	Resource Use 11: Energy alternatives	• Nuclear energy • Renewable energies • LEED certification	• ES Ch.16-17	
	21	Global Climate Change clips*: Climate Change: State of the Earth* *Ocean Acidification- Oregon Sea Grant*	• Greenhouse effect • Sea level rise • Ocean acidification • Habitat/Agric. effects • Mitigation/ Legislation	• ES Ch. 20 • Film or book: *An Inconvenient Truth*	
	Discussion	Watch & Debate: *A Crude Awakening*	• Energy issues	• Energy articles	
8	22	Pollution 1: Concepts; Air, land, & food clips*: Contaminated fish warning* *A Breath of Air*	• Point vs. nonpoint • Synergism • Biomagnification • Acute/chronic effects • Air pollutants • Radiation & EMFs • Indoor air pollution • Clean Air Act	• ES Ch.10 & 21	• Short media review due
	23	Pollution 2: Water- marine, freshwater & tap water clips*: What's in Your Water?* *Ganges River*	• Run-off: urban/agric. • Thermal pollution • Waterborne disease • Nutrients/dead zones • Tap water treatment • Wastewater treatment • OFGs • Clean Water Act	• ES Ch.19 • Film: *Poisoned Waters*	
	24	Pollution 3: Toxins & Plastics- in the environment, our food, our water & us clips*: Sailing the Great Pacific Garbage Patch* *The Story of Cosmetics* *Toxic chemicals enter womb*	• Plastics in the ocean • Endocrine disruptors • Carcinogens • Heavy metals • Persistent organic compounds • Pharmaceuticals	• CB Box13.1 • Film: *Homo Toxicus*	
	Discussion	Watch, Discuss & Debate: Environmental ethics clips	• The moral & social ethics regarding issues		
9	25	Pollution 4: Materials- harvest, production & disposal clips*: The Story of Electronics*	• Mineral mining • Fossil fuel mining • Waste management • E-wastes • Hazardous wastes • Superfund sites • 3 R's	• ES Ch. 23 • Film: *Tapped*	• Final Media Reports due • Final week for tracking lifestyle changes
	26	Urbanization: Urban vs. rural & subsistence systems	• Cities as systems • Global trends • Urban effects/sprawl • Urban "wilds"	• ES 1.5; Ch.22	

	27	Environmental Ethics clips*: Oil on Ice* *Bolivia's Glaciers Melt Away*	• Native peoples • Developed / developing worlds • Resource rights • Poverty/equity/justice • Inter-species relations	• CB 13.9, Ch.14	
	Discussion	Final Review	• All materials to date		
10	28	Conclusion: Review & solutions	• What we can do • Sustainability • Science as a tool • Social issues • Limits to growth • Local solutions • Environmental ed. • Legislation/reserves • Gap between knowledge & action	• CB Ch. 15 • ES Ch. 24	• Final Lifestyle Change Projects due
	29	Guest Lecturer	(to be announced)		
	30	Final	• All materials to date		
	Discussion	Present & Discuss: Lifestyle Change Projects	• Lifestyle changes to induce environ. change		

*clips: In an effort to enhance and diversify student learning, we will be including various forms of media in the lectures. These will include short films, news clips, interviews, photos, etc. We have listed an example of clips that will be shown in lectures; however, this is not an all inclusive list. Additional clips will be added as the course develops. Titles and sources of all clips will be available on the class website.

COURSE REQUIREMENTS & GRADING

EEB 18 is a 4-credit hour life science course that satisfies UCLA's requirement for a ....general education course. Grading for EEB 18 includes 2 exams, a media report, a "lifestyle change" report, 5 short media reviews, and participation in discussion sections. We will use a letter grading system, with permission required from the instructors in special cases when students request pass/fail.

*Attendance of discussion sections is mandatory and reflected in the grading breakdown below. Discussion sections consist of a variety of activities, including group projects, class discussions, debates, presentations, and watching additional media clips. Active engagement in debates, discussions, and presentations will help students test, practice, and develop their critical thinking and rhetorical skills, which are crucial to problem solving in the real world.

Grading Breakdown

We will assign grades based on performance on the following assignments:

5 short media reviews	10% (2% each)
Lifestyle change project	25%
Media report	15%
Midterm test	25%
Final test	25%
Discussion attendance	5%
Discussion participation	5%
TOTAL	100%

Grades will be based on a percentage of total points, as follows:

93-100% = A	80-82% = B-	68-69% = D+
90-92% = A-	78-79% = C+	63-67% = D
88-89% = B+	73-77% = C	60-62% = D-
83-87% = B	70-72% = C-	<60% = F

ASSIGNMENT DESCRIPTIONS

Short Media Reviews

Five of these short reviews will be due, as scheduled, throughout the quarter. Students will be able to choose which media they would like to review, and the review can be either negative or positive. Students must choose media (e.g., photography, video clips, textbook chapter, article, movies) that have been shown in lecture, discussion section, or assigned as homework. The student will be requested to write a paragraph in which he/she critically analyzes and reviews the content and effect of the media. Students will be asked to think about and address the following questions: 1) is the media factual?, 2) does the media correctly represent current scientific understanding?, 4) is the media convincing?, 5) is the media appealing/interesting/entertaining?; 6) does the media motivate the reader/viewer

to think differently and/or change his/her actions?, 7) is the media educational?, and 8) is the media effective?

This assignment will give students the opportunity to practice both their critical thinking and rhetorical writing skills. It will motivate them to think about, analyze, and present their opinions relating to the themes they are being taught. Additionally, this assignment gives students the rare opportunity to provide evaluative, and critically constructed feedback related to specific course materials. This student feedback, which will include important information related to student interest and learning effects, will be used for future updating of course materials.

Lifestyle Change Project
This group research project will be conducted throughout the quarter; results will be reported the final week of classes. Students, in groups of 2 or 3, will choose an aspect of their lives that they would like to change to be more environmentally responsible (e.g., use public transportation, conserve water at home). The change must be a significant lifestyle change. Throughout the quarter, students will document and keep detailed logs, including both qualitative and quantitative data, of exactly what they do to implement this change. In addition to documenting their work, students must research, calculate, and report the subjective and objective impacts their change made to their lives and the larger environment. Students will submit a final, written research report, and they will present their findings the final week of discussion section.

Media Report
This project will require students to evaluate one piece of media of their choice (e.g., book, movie, video clip, game, art/photography exhibit) whose purpose is to inform the public of environmental issues. Students will be able to choose from a list of media, or they will be able to work with an approved piece of their choice. Students will have to submit a written report that discusses the following themes related to their chosen piece: 1) the main issue and how it relates to larger environmental issues, 2) why the student feels this issue is/is not important, 3) the author's stance, 4) if and why the author's arguments/stance are convincing, 5) if the media is effective and why/why not, 6) reactions/responses of other people who have seen/used the media, and 7) if there were any images/lessons that made a lasting or emotional impact and why. Students will share their findings in discussion section.

Supermarket Project (extra credit)
This project can be conducted either individually or in groups of up to three people. Students will create three hypothetical diets consisting of foods they would normally consume: 1) low cost diet, 2) convenience diet, and 3) environmentally low impact diet. All diets must meet the minimum US RDA nutritional recommendations. The low impact diet must meet the following standards: low to no packaging, recyclable containers, locally produced, food chain efficiency, organically produced, and low to no artificial ingredients or chemicals. Students will visit 1-2 supermarkets of their choice and collect the following data related to each diet: calories consumed per day, nutritional content, cost, environmental impact, and time to prepare. Students will submit written reports that

compare and contrast the health, environmental impact, cost, convenience and general accessibility of the three diets.

REQUIRED COURSE TEXTS & FILMS

Textbooks

Daniel B. Botkin & Edward A. Keller. 2011. *Environmental Science: Earth as a Living Planet*, 8th Edition. John Wiley & Sons, Inc.

Paul R. Ehrlich & Navjot S. Sodhi. 2010. *Conservation Biology for All*. Oxford University Press. (Free Online Textbook)

Movies/Films

Links for streaming movies will be provided where they exist. Otherwise movies must be obtained (rented/purchased) by students.

An Inconvenient Truth
Food, Inc.
Vanishing of the Bees
The Future of Food
End of the Line
Homo Toxicus
Poisoned Waters
Tapped
Flow: For the Love of Water

Any additional course materials, including PowerPoint presentations and additional readings for discussion sections will be available on the course website.

CLASS POLICIES

Academic honesty: Students are expected to read and abide by the University's Student Code of Conduct, which can be found at http://www.deanofstudents.ucla.edu/studentconductcode.pdf. Students who violate this policy will be subject to disciplinary action, and may receive a failing grade in the course for a single violation.

Reading & film schedule: Reading and film assignments will include reading from both textbooks, Environmental Science (ES) and Conservation Biology for All (CB), and popular movies. Reading and watching of materials should be completed BEFORE the lecture date listed in the syllabus, as we will be discussing issues relevant to the material on that date. Course tests will include information from all required materials.

Assignments: Assignments for this class promote integrative learning that translates to the real world, as well as student participation in course creation and evaluation. Assignments will require critical thinking, real world action, self evaluation, use of multi-media, and critical evaluation of course materials. An extra credit assignment will be offered that could be worth 5% of your total class grade. No additional extra credit points will be offered. All assignments are due during discussion section, according to the schedule. Late assignments will only be accepted with prior WRITTEN CONSENT signed by the instructor.

Participation: Students learn best when they are actively engaged in lectures and discussion, thus you will be awarded points for attending and actively participating in discussion. Attendance at discussion is required. If an extraordinary circumstance requires you to miss discussion section, you must coordinate with your TA BEFOREHAND, to make-up the section at another time the same week.

Exams: The midterm and final exam consist of definitions, short answers, and short essays. It is very important for you to attend all aspects of this course as both exams will reflect the material covered in the lectures, discussion, and assigned texts and films. Exams will test students on: 1) definitions and understanding of the most important course concepts, 2) understanding of general course themes, and 3) ability of students to think critically, across disciplines, and to draw conclusions based on science (as opposed to “pseudo-science”). Exams WILL NOT test trivial knowledge such as dates, names, titles, and scientific jargon. All exams must be taken on the date and time of the exam unless there is prior WRITTEN CONSENT signed by the instructor. Students missing an exam without prior consent receive a zero for that exam.

SUPPLEMENTAL COURSE BOOKS
These books are not required, but they are recommended as supplemental ("night stand") reading for more in depth and personal accounts related to class themes.

The Population Explosion **(1991)- Paul and Anne Ehrlich** The Population Explosion vividly describes how the Earth's population, growing by 95 million people a year, is rapidly depleting the planet's resources, resulting in famine, global warming, acid rain, and other major problems. (Amazon.com review)

A Green History of the World: The Environment and the Collapse of Great Civilizations **(1992)- Clive Ponting** Will modern society survive the current environment crisis it faces or will our civilization dwindle and fade in the face of global warming, worldwide pollution and mass poverty and starvation? This book provides an interpretation of human history on a global scale- revealing just how old many of our contemporary environmental problems really are. (Amazon.com review)

The Diversity of Life**- E. O. Wilson** Wilson, internationally regarded as the dean of biodiversity studies, conducts us on a tour through time, traces the processes that create new species in bursts of adaptive radiation. He describes how the sixth great spasm of extinction on earth--caused this time entirely by humans--may be the one that breaks the crucible of life. (Amazon.com review)

The Future of Life**- E. O. Wilson** This eloquently written book on the biodiversity crisis is by a Pulitzer Prize-winning ecologist. The author makes a solid business and economic case for the preservation of life on earth. (Jim Porter)

The World is Blue: How our fate and the ocean's are one**- Sylvia Earle** This book tie-in to National Geographic's ambitious 5-year ocean initiative—focusing on overfishing—is written in Sylvia Earle's accessible yet hard-hitting voice. Through compelling personal stories she puts the current and future peril of the ocean and the life it supports in perspective for a wide public audience. (Amazon.com review)

Cadillac Desert: The American west and its disappearing water**- Fred Pearce**
Goldsmith and Hildyard, with examples from throughout the world, demolish the common justifications for large dams. Cadillac Desert describes serious, perhaps fatal threats to the miraculous desert civilization of the West. (James R. Karr review)

The Omnivore's Dilemma**- Michael Pollan**
A national bestseller, this revolutionary book by award winner Michael Pollan asks the seemingly simple question: What should we have for dinner? Pollan discusses the profound implications our food choices have for the health of our species and the future of our planet. (Amazon.com review)

And the Waters Turned to Blood**- R. Barker** A true account of one woman's efforts to make the public aware of the causes and consequences of blooms of a flesh eating protozoan in North Carolina waters. This story has many parallels to other real life

experiences such as those of Rachel Carson, Diane Fossy, Karen Silkworth, and Erin Brockovich. (Jim Porter review)

***Our Stolen Future*- Colborn, T., D. Dumanoski, and J.P. Meyers** An impressive and chilling accumulation of evidence of the effects of environmental pollutants on present and future human health. (Jim Porter review)

***The Last Hours of Ancient Sunlight*- T. Hartmann** The inevitable depletion of fossil fuel reserves leads to a philosophical / scientific discussion of the environmental ethics and our innate spiritual connection with the Earth. (Jim Porter review)

***Crimes Against Nature*- R. F. Kennedy** An activist's view of the current state of environmental affairs in national politics. (Jim Porter review)

***Human Ecology, Following Nature's Lead:* F. Steiner** A noted landscape architect presents a new synthesizes of ecology, anthropology, sociology, geography, engineering, landscape architecture, planning, and conservation. (Jim Porter review)

***The Boiling Point*- Ross Gelbspan** The most authoritative and up-to-date compilation on the science and politics of global warming. (Jim Porter review)

New Course Proposal

	Ecology and Evolutionary Biology 18 Why Ecology Matters: The Science Behind Environmental Issues
Course Number	Ecology and Evolutionary Biology 18
Title	Why Ecology Matters: The Science Behind Environmental Issues
Short Title	ECOL ENVIRON ISSUES
Units	Fixed: 5
Grading Basis	Letter grade or Passed/Not Passed
Instructional Format	Lecture - 3 hours per week Discussion - 2 hours per week
TIE Code	LECS - Lecture (Plus Supplementary Activity) [T]
GE Requirement	Yes
Requisites	None
Course Description	Lecture, three hours. Discussion, two hours. The purpose of this course is to promote both science and environmental literacy in UCLA students. A broad curriculum will teach basic ecological concepts, the scientific method, and the ecological basis for local and global environmental issues. The course will address the major challenges to be faced in this century, including the need to find interdisciplinary and collaborative solutions to the world's worsening environmental problems (e.g., global climate change, biodiversity loss, deforestation, pollution, declining water resources, declining fisheries). Environmental literary will equip students to become leaders in the growing 'green economy' and to help forge solutions to the current and future environmental crises that threaten our natural resource base.
Justification	EE BIOL 18 was designed to teach environmental literacy to non-majors who would not otherwise have the opportunity to learn about environmental issues. International scientific consensus tells us that the global problems of tomorrow will be largely environmental in nature. Relevant education will thus teach today's students a solid understanding of ecological issues and the science that describes them. This course would align UCLA with the efforts of states and universities across the country that are officially recognizing and mandating the need for all students to be taught environmental literacy. California and its educational institutions lag behind other states in requiring environmental education, e.g., Maryland,

	Minnesota, and universities in Georgia, Maine, Arizona, and Kentucky require environmental literacy of their students. The California state legislated Education and the Environment Initiative (EEI) which mandated creation of a K-12 curriculum was an important step to bring California to the forefront of this movement.
Syllabus	File *EEB 18_SYLLABUS_3-14-12.doc* was previously uploaded. You may view the file by clicking on the file name.
Supplemental Information	
Grading Structure	Grading breakdown: Five short Media Reviews 10% (2% each); Lifestyle Change project 25%; Media report 15%; Midterm exam 25%; Final exam 25%; Discussion attendance 5%; Discussion participation 5%
Effective Date	Fall 2012
Instructor	Name: Alison Lipman — Title: Lecturer
Quarters Taught	☑ Fall ☐ Winter ☐ Spring ☐ Summer
Department	Ecology and Evolutionary Biology
Contact	Name: JESSICA ANGUS — E-mail: jangus@lifesci.ucla.edu
Routing Help	

ROUTING STATUS

Role:	Dean College/School or Designee - Hwang, Sandra (shwang@college.ucla.edu) - 54673
Status:	Pending Action

Role:	L&S FEC Coordinator - Castillo, Myrna Dee Figurac (mcastillo@college.ucla.edu) - 45040
Status:	Returned for Additional Info on 3/19/2012 4:46:47 PM
Changes:	No Changes Made
Comments:	Routing to Sandra Hwang for Dean Sork's approval

Role:	Department/School Coordinator - Angus, Jessica Abijay (jangus@lifesci.ucla.edu) - 51680
Status:	Approved on 3/14/2012 9:44:17 AM
Changes:	Title, Short Title, Description, Justification, Syllabus, Grading Structure
Comments:	The following revisions were made: course title; course description; justification for course; syllabus; and grading breakdown.

	Submitted by Jessica Angus on behalf of: Daniel T. Blumstein, Department Chair Blaire Van Valkenburgh, Associate Dean for Education Programs, Division of Life Sciences

Role:	Dean College/School or Designee - Hwang, Sandra Se Mi (shwang@college.ucla.edu) - 54673
Status:	Returned for Additional Info on 1/20/2012 3:34:31 PM
Changes:	No Changes Made
Comments:	Return to dept. for additional justification, suggest dept. consults with the Associate Dean Blaire Van Valkenburgh.

Role:	L&S FEC Coordinator - Castillo, Myrna Dee Figurac (mcastillo@college.ucla.edu) - 45040
Status:	Returned for Additional Info on 12/15/2011 12:58:42 PM
Changes:	No Changes Made
Comments:	Routing to Sandra Hwang for Dean Sork's approval

Role:	Department/School Coordinator - Angus, Jessica Abijay (jangus@lifesci.ucla.edu) - 51680
Status:	Approved on 12/15/2011 12:32:43 PM
Changes:	No Changes Made
Comments:	Submitted by Jessica Angus on behalf of: Daniel T. Blumstein, Department Chair Peggy Fong, Vice Chair for Undergraduate Studies. GE proposal paperwork in progress.

Role:	L&S FEC Coordinator - Castillo, Myrna Dee Figurac (mcastillo@college.ucla.edu) - 45040
Status:	Returned for Additional Info on 12/15/2011 12:30:24 PM
Changes:	No Changes Made
Comments:	Routing back to Jessica Angus for dept chair approval. Please also send me the GE proposal for this course, since you indicate that this will be a GE course. GE proposal deadline is 01/06/12.

Role:	Initiator/Submitter - Angus, Jessica Abijay (jangus@lifesci.ucla.edu) - 51680
Status:	Submitted on 12/15/2011 11:58:08 AM
Comments:	Initiated a New Course Proposal

Comments or questions? Contact the Registrar's Office at
cims@registrar.ucla.edu or (310) 206-7045