#### UNDERGRADUATE COURSE CHANGE NON-GENERAL EDUCATION

Proposal for a C	ourse Change			
Department Biological and Environmental Science		nces	Submission Date	10/28/15
Catalog Year of	Implementation 2016-2017			
I. Proposed C	Course Change Information	Oh a sh Davi		
Discipline Prefix	CURRENT ENSC	Check Box if no Change	PROPOSED CHA	
Course Number	101	X		
Course Title	Introduction to Integrated Environmental Sciences	x		
Credit Hours	2		3	
	stification for the change in credit ho be repeated for credit when content No Maximum hours?			
Prerequisites	None	X		
Speaking Intensi	ve <u>No</u>	X		
•	speaking intensive designation, atta e proposal.	ach a copy	of the department spea	aking intensive
Writing Intensive	No	X		
If Cross-Listed: Secondary Prefix	k <u>N/A</u>	X		
Course Number	N/A	X		

#### Current Catalog Copy:

**ENSC 101.** *Introduction to Integrated Environmental Sciences.* This seminar-style course overviews contemporary global issues in environmental science, including species extinction, pollution, resource depletion, and waste. Students examine behavior leading to environmental degradation; consider the scientific, ethical, and economic aspects of the resulting problems; and study policies intended to provide solutions. Students learn to recognize the integration of multiple disciplines in environmental issues and the complexity involved in environmental problem solving. 2 lecture hours. 2 credits.

#### Proposed New Catalog Copy (*Must match description on course syllabus):*

**ENSC 101.** *Introduction to Integrated Environmental Sciences.* This seminar-style course overviews contemporary global issues in environmental science, including species extinction, pollution, resource depletion, and waste. Students examine behavior leading to environmental degradation; consider the scientific, ethical, and economic aspects of the resulting problems; and study policies intended to provide solutions. Students learn to recognize the integration of multiple disciplines in environmental issues and the complexity involved in environmental problem solving. 3 lecture hours. 3 credits.

Delete Course from Catalog

Submit to Storage

## Please attach a proposed syllabus in Longwood format that contains proposed changes.

II. Required for Major, Minor, Concentration (please specify):

Required for the Integrated Environmental Science major and minor (or approved substitution of GNED 162)

### III. Rationale for Proposed Changes:

Two hours per week is not sufficient for meeting all the objectives of this course. Providing a better educational experience will require increasing this to 3 hours per week and spreading this out over 2-3 days of the week.

IV. Resource Assessment, if change warrants it:

- A. How frequently do you anticipate offering this course? Once per year; offering will be shifted from spring to fall
- B. Describe anticipated change in staffing for the course: None

- C. Estimate the cost of new equipment required due to change: None
- D. Estimate the cost of and describe additional library resources: None

F.

E. Will the change in the course require additional computer use, hardware or software?
Yes X No If yes, please describe and estimate cost:

Will a new or changed course fee be assessed?	Yes	X No

If yes, the Fee Recommendation Worksheet must accompany this form. It is found at the following url: <u>www.longwood.edu/budget</u>

A change to the title or course number on this form implies that title or course number will change anywhere it occurs in the catalog.

		<u>ATURE PAGE</u> IATE COURSE (	HANGE
		ERAL EDUCATI	
Course Name/Number ENSC 101 Course Title Sciences			
V. Approvals			
	Date Received	Date Approve	d Signature
1. Department Curriculum Committee Chair			
2. Department Chair The Department Chairs,	whose programs m	nay be affected, h	ave been notified:
Department		Date Notifie	d
3. College Dean			
4. College Curriculum Committee			
5. <sup>#</sup> EPC		<u> </u>	
6. <sup>#</sup> Faculty Senate Chair			
7. Date received by Registrar			

# <sup>#</sup>EPC & Senate approval required for change in credit hours

All curriculum proposals/changes are processed in the date order received. In order to be included in the next academic year's catalog, all paperwork must be submitted no later than:

February 1<sup>st</sup> to the College Curriculum Committee March 1<sup>st</sup> to the Educational Policy Committee (EPC)

Submission within the deadlines does not guarantee processing in time for the next academic year's catalog.

### **NEW SYLLABUS**

# **ENSC 101: Intro to Integrated Environmental Science**

# Fall 2016

Lecture: MWF 10:00-10:50 am Instructor: Dr. Dina M. Leech, Rm 201 Chichester Contact Info: (434) 395-4966; leechdm@longwood.edu Office Hours: M 1:00-3:00 pm; T 1:00-3:00 pm; or by appointment Textbook: Withgott and Brennon. Essential Environment: The Science Behind the Stories, 4<sup>th</sup> Edition. Pearson Education.

## **Course Catalog Description:**

**ENSC 101.** *Introduction to Integrated Environmental Sciences.* This seminar-style course overviews contemporary global issues in environmental science, including species extinction, pollution, resource depletion, and waste. Students examine behavior leading to environmental degradation; consider the scientific, ethical, and economic aspects of the resulting problems; and study policies intended to provide solutions. Students learn to recognize the integration of multiple disciplines in environmental issues and the complexity involved in environmental problem solving. 3 lecture hours. 3 credits.

**Course Introduction:** "Man not only survives and functions in his environment, he shapes it and he is shaped by it." — René Dubos Environmental science is the study of the interaction between human activities and environmental processes. In this course, we will first outline the basic interactions among Earth's major environmental systems. We will then dive into the complex issues surrounding the human ecological footprint, global climate change, degradation of water resources, reliance on fossil fuels for energy, and industrial scale agricultural practices. The knowledge and experience you gain in this course will equip you to be better stewards of the environment, helping to protect our shared, natural resources for future generations. This course serves as an introduction to the IES major and an integrated approach to environmental science and scientific inquiry.

### **Course Objectives:**

After completion of this course, students will be able to:

- 1. Identify key environmental issues.
- 2. Describe fundamental scientific concepts linked to those issues.
- 3. Describe key examples (i.e., cases) of those issues.
- 4. Identify key human activities linked to those issues.
- 5. Apply scientific concepts from the life sciences, physical sciences, earth sciences, and social sciences (i.e., the four key areas in the IES major) to these issues.
- 6. Demonstrate effective scientific communication, both written and oral.
- 7. Work in collaboration with peers.
- 8. Evaluate the presentation of scientific topics in the news.

#### **Course Policies:**

• Attendance: Attendance and participation in all class sessions are expected and required. Students must **arrive on time** for class and **be prepared** to participate in discussions and activities. Absences will be excused only for scheduled University events. It is the responsibility of the student to provide the instructor with **written advance notice** of scheduled events.

Attendance will be taken daily. Students with excessive absences will be penalized. Students missing more than 25% of scheduled class meetings – for any reason, excused or unexcused – will receive an "F" in the course. Additionally, in keeping with the Longwood attendance policy, students missing more than 10% of scheduled classes for unexcused absences may have their grades lowered.

- *Preparation for class:* In order to get the most out of each class session, it is critical that you prepare by completing assigned readings and/or homework assignments. It is expected that each student will have read the assigned reading before coming to class—our daily, in-class activities will be based on that assumption.
- Work load: Based on University standards for work load outside of class, you are expected to spend 6 to 9 hours per week on this course (i.e., 2 to 3 hours of outside work for each hour spent in class). Out-of-class time should be invested in reading, homework, rewriting of notes, reviewing notes and readings, researching, writing, etc.
- Late assignments: Due dates for homework assignments and other projects will be announced in class. Late assignments will not be accepted unless given special permission from instructor.
- Honor code: Each student in this class will be expected to adhere to the Longwood University Honor Code. It is assumed that you want to learn as much as possible from each class you take. As a result, your professor also assumes that you will work to learn the material through completion of assignments and collaboration with peers. However, all work turned in must be your own. Academic honesty is a foundation of the University; violations of this tenet will be brought to the attention of the Honor Board. Please review the Honor Code, including the section on plagiarism (http://www.longwood.edu/judicial/honorsystem2.htm).
- *ADA statement:* All reasonable efforts will be made to accommodate students with disabilities. If you have special needs, please discuss these with the professor immediately so that arrangements can be made.
- *Flexibility:* This syllabus and schedules are subject to change during the semester. Students will be notified in writing of any changes.
- *Courtesy:* Everyone in this course is a member of a learning community. It is expected that each member of this community will treat everyone else with respect and courtesy. That includes the obvious, like never using a cell phone during class, to the more subtle, like investing in meaningful work within small group discussions.

**Course Assignments:** Learning involves much more than sitting in class and listening. It is absolutely critical that you participate actively in the learning process. Therefore, I expect that both you and I will play an active role in this class. Lectures will contain discussions and in-class activities to help you become familiar and *involved* with the material. We have a lot of information to cover in a short period of time, so we will move

relatively quickly. It will be your responsibility to be prepared for class, which means keeping up with assigned readings and homework.

<u>Oral presentation</u>: Working with a partner, you will open one class meeting with an oral presentation of the 'Central Case Study' and 'The Science Behind the Story' sections of the chapter for the week. Specific expectations of this project will be outlined in an assignment sheet posted on Canvas.

<u>Community issue writing assignment</u>: Near the end of the semester, you will prepare a written assignment in which you will use scientific data to address a question of importance to our community. Specific expectations of this project will be outlined in an assignment sheet posted on Canvas.

<u>Concept maps</u>: Throughout the semester you will be required to prepare and submit concept maps that identify the key topics of the preceding weeks and identifies the linkages among them. Additionally, you will identify linkages to topics discussed in previous weeks, items from the news, and discussions in other courses and co-curricular activities. You will construct concept maps using a software program that aids in that process. Specific expectations of this project will be outlined in an assignment sheet posted on Canvas. You will complete 5 maps, and the lowest score will be dropped.

<u>Science in the news</u>: At the beginning of each week you will be required to arrive in class with several (i.e., 3-4) science news articles. These articles should be clipped from the New York Times. They do not have to directly relate to topics from class. You should be prepared to discuss the articles with others (i.e., they should be read in advance of class).

<u>Quizzes:</u> Over the course of the semester, you will take 4 major 40-point quizzes. Of those, your lowest score will be dropped and the best 3 scores will be used in determining your final grade. The timing of the quizzes is noted in the course schedule as MQ1 (Major Quiz 1), MQ2, etc.

*Exams:* One comprehensive final exam will be administered during the semester. The goal of the exam is to evaluate your competence in four areas: 1) basic concepts discussed in class, 2) basic skills employed in scientific contexts, 3) identification and formulation of connections among topics, and 4) analysis of scientific issues. Specific information will be addressed in the form of objective questions (i.e., multiple choice, true/false, matching, and fill-in-the-blank). Concepts, connections, skills, analysis, and application will be assessed with short-answer questions.

Component	Number	Point value	% of grade
Final exam	1	150 points	30%
Major quizzes	4	40 pts each, 120 pts total (lowest score to be dropped)	24%
Writing assignment	1	100 points	20%
Presentation	1	30 points	6%
Concept maps	5	5 pts each, 20 pts total (lowest score to be dropped)	4%
Science in the news	Daily	30 points	6%
Participation		50 points	10%
Total		500 points	100%

#### **Course Evaluation:**

### **Grading Scale**:

93-100%	А	90-92%	A-
87-89%	B+	83-86%	В
82-80%	B-	77-79%	C+
73-76%	С	70-72%	C-
67-69%	D+	63-66%	D
60-62%	D-	<u>&lt;</u> 59%	F

**Academic Assistance:** Any student who may need accommodations due to a physical, psychological, medical, or learning disability should contact the Office of Disability Services, 103 Graham Building, (434) 395-2391. After you register for services, please contact me privately and we can discuss the needed accommodations.

*Note*: The following schedule of lecture topics should be viewed as a tentative framework for this course. There may be topics that we choose to cover in more or less detail as the semester progresses.

WEEK	TOPIC
	Course Introduction; Environmental Science and Sustainability
1	Chapter 1- Science and Sustainability: An Introduction to Environmental
(Aug 24 - 28)	Science
	The Flow of Energy and Matter
2	Chapter 2- Earth's Physical Systems: Matter, Energy, and Geology Chapter 5- Environmental Systems and Ecosystem Ecology
(Aug 31 – Sept 4)	Case Study: The Gulf of Mexico's "Dead Zone"
	Evolution and Species Interactions
	Chapter 3- Evolution, Biodiversity, and Population Ecology Chapter 4- Species Interactions and Community Ecology
3	Case Study: Black and White, and Spread All Over: Zebra Mussels Invade the Great Lakes
(Sept 7 - 11)	MQ #1

	Environmental Ethics and Policy		
4	Chapter 6- Environmental Ethics and Economics: Values and Choices		
(Sept 14 - 18)	Chapter 7- Environmental Policy: Decision Making and Problem Solving		
Case Study: The Mirarr Clan Confronts the Jabiluka Uranium			
	Human Population Growth		
5	Chapter 7- Human Population		
(Sept 21 - 25)	Case Study: China's One Child Policy		
	MQ #2		
	Industrial Agriculture		
6	Chapter 9- Soil and Agriculture		
(Sept 28 - Oct 2)	Chapter 10- Agriculture, Biotechnology, and The Future of Food		
(Sepi 20 - Oci 2)	Case Study: Possible Transgenic Maize in Southern Mexico		
	Biodiversity and Conservation		
7	Chapter 11- Biodiversity and Conservation		
(Oct 5 - 9)	Case Study: Saving the Siberian Tiger		
(0015 7)	MQ #3		
8			
8	No Class All Week- Spring Break		
8 (Oct 12 - 16)			
	Deforestation		
(Oct 12 - 16) 9	Deforestation Chapter 12- Forests, Forest Management, and Protected Areas		
(Oct 12 - 16)	Deforestation Chapter 12- Forests, Forest Management, and Protected Areas Case Study: Certified Sustainable Paper in Your Textbook		
(Oct 12 - 16) 9	Deforestation        Chapter 12- Forests, Forest Management, and Protected Areas        Case Study: Certified Sustainable Paper in Your Textbook        Environmental Health		
(Oct 12 - 16) 9 (Oct 19 - 23) 10	Deforestation Chapter 12- Forests, Forest Management, and Protected Areas Case Study: Certified Sustainable Paper in Your Textbook		
(Oct 12 - 16) 9 (Oct 19 - 23)	Deforestation        Chapter 12- Forests, Forest Management, and Protected Areas        Case Study: Certified Sustainable Paper in Your Textbook        Environmental Health        Chapter 14- Environmental Health and Toxicology		
(Oct 12 - 16) 9 (Oct 19 - 23) 10	Deforestation        Chapter 12- Forests, Forest Management, and Protected Areas        Case Study: Certified Sustainable Paper in Your Textbook        Environmental Health        Chapter 14- Environmental Health and Toxicology		
(Oct 12 - 16) 9 (Oct 19 - 23) 10	DeforestationChapter 12- Forests, Forest Management, and Protected AreasCase Study: Certified Sustainable Paper in Your TextbookEnvironmental HealthChapter 14- Environmental Health and ToxicologyCase Study: Poison in a Bottle: Is Bisphenol A Safe?Water ResourcesChapter 15- Freshwater Systems and Resources		
(Oct 12 - 16) 9 (Oct 19 - 23) 10 (Oct 26 - 30)	Deforestation        Chapter 12- Forests, Forest Management, and Protected Areas        Case Study: Certified Sustainable Paper in Your Textbook        Environmental Health        Chapter 14- Environmental Health and Toxicology        Case Study: Poison in a Bottle: Is Bisphenol A Safe?        Water Resources        Chapter 15- Freshwater Systems and Resources        Case Study: Gambling with Water in the Colorado River Basin		
(Oct 12 - 16) 9 (Oct 19 - 23) 10 (Oct 26 - 30) 11	Deforestation        Chapter 12- Forests, Forest Management, and Protected Areas        Case Study: Certified Sustainable Paper in Your Textbook        Environmental Health        Chapter 14- Environmental Health and Toxicology        Case Study: Poison in a Bottle: Is Bisphenol A Safe?        Water Resources        Chapter 15- Freshwater Systems and Resources        Case Study: Gambling with Water in the Colorado River Basin        MQ #4		
(Oct 12 - 16) 9 (Oct 19 - 23) 10 (Oct 26 - 30) 11 (Oct 26 - 30)	Deforestation        Chapter 12- Forests, Forest Management, and Protected Areas        Case Study: Certified Sustainable Paper in Your Textbook        Environmental Health        Chapter 14- Environmental Health and Toxicology        Case Study: Poison in a Bottle: Is Bisphenol A Safe?        Water Resources        Chapter 15- Freshwater Systems and Resources        Case Study: Gambling with Water in the Colorado River Basin        MQ #4        Waste Management		
(Oct 12 - 16) 9 (Oct 19 - 23) 10 (Oct 26 - 30) 11	Deforestation        Chapter 12- Forests, Forest Management, and Protected Areas        Case Study: Certified Sustainable Paper in Your Textbook        Environmental Health        Chapter 14- Environmental Health and Toxicology        Case Study: Poison in a Bottle: Is Bisphenol A Safe?        Water Resources        Chapter 15- Freshwater Systems and Resources        Case Study: Gambling with Water in the Colorado River Basin        MQ #4		

13 (Nov 16 - 20)	Global Climate Change Chapter 18- Global Climate Change Case Study: Rising Seas May Flood the Maldives	
	Nonrenewable versus Renewable Resources	
14 (Nov 23 27)	Chapter 19- Fossil Fuels, Their Impacts, and Energy Conservation Chapter 20- Conventional Energy Alternatives Chapter 21- New Renewable Energy Alternatives	
(Nov 23 – 27)	Case Study: Sweden's Search for Alternative Energy	
15 (Nov 30 – Dec 4)	Integrate Semester and Review	
16	<b>FINAL EXAM WEEK</b> <b>Cumulative Final</b> Thursday, December 10 <sup>th</sup> @ 11:30 am-2:00 pm	
(Dec 7 – 11)		

## **OLD SYLLABUS**

# **ENSC 101: Intro to Integrated Environmental Science**

# Spring 2015

Lecture: Section 01: M 1:00-2:40 pm; Section 02: W 1:00-2:40 pm Instructor: Dr. Dina M. Leech, Rm 201 Chichester Contact Info: (434) 395-4966; leechdm@longwood.edu Office Hours: M 10:00 am-12:00 pm; W 10:00 am-12:00 pm; or by appointment Textbook: Withgott and Brennon. Essential Environment: The Science Behind the Stories, 5<sup>th</sup> Edition. Pearson Education.

**Course Catalog Description:** This seminar-style course overviews contemporary global issues in environmental science, including species extinction, pollution, resource depletion, and waste. Students examine behavior leading to environmental degradation; consider the scientific, ethical, and economic aspects of the resulting problems; and study policies intended to provide solutions. Students learn to recognize the integration of multiple disciplines in environmental issues and the complexity involved in environmental problem solving. 2 lecture hours. 2 credits.

**Course Introduction:** "Man not only survives and functions in his environment, he shapes it and he is shaped by it." — René Dubos Environmental science is the study of the interaction between human activities and environmental processes. In this course, we will first outline the basic interactions among Earth's major environmental systems. We will then dive into the complex issues surrounding the human ecological footprint, global climate change, degradation of water resources, reliance on fossil fuels for energy, and industrial scale agricultural practices. The knowledge and experience you gain in this course will equip you to be better stewards of the environment, helping to protect our shared, natural resources for future generations. This course serves as an introduction to the IES major and an integrated approach to environmental science and scientific inquiry.

### **Course Objectives:**

After completion of this course, students will be able to:

- 1. Identify key environmental issues.
- 2. Describe fundamental scientific concepts linked to those issues.
- 3. Describe key examples (i.e., cases) of those issues.
- 4. Identify key human activities linked to those issues.
- 5. Apply scientific concepts from the life sciences, physical sciences, earth sciences, and social sciences (i.e., the four key areas in the IES major) to these issues.
- 6. Demonstrate effective scientific communication, both written and oral.
- 7. Work collaboration with peers.
- 8. Evaluate the presentation of scientific topics in the news.

#### **Course Policies:**

• Attendance: Attendance and participation in all class sessions are expected and required. Students must **arrive on time** for class and **be prepared** to participate in discussions and activities. Absences will be excused only for scheduled University events. It is the responsibility of the student to provide the instructor with **written advance notice** of scheduled events.

Attendance will be taken daily. Students with excessive absences will be penalized. Students missing more than 25% of scheduled class meetings – for any reason, excused or unexcused – will receive an "F" in the course. Additionally, in keeping with the Longwood attendance policy, students missing more than 10% of scheduled classes for unexcused absences may have their grades lowered.

- *Preparation for class:* In order to get the most out of each class session, it is critical that you prepare by completing assigned readings and/or homework assignments. It is expected that each student will have read the assigned reading before coming to class—our daily, in-class activities will be based on that assumption.
- Work load: Based on University standards for work load outside of class, you are expected to spend 6 to 9 hours per week on this course (i.e., 2 to 3 hours of outside work for each hour spent in class). Out-of-class time should be invested in reading, homework, rewriting of notes, reviewing notes and readings, researching, writing, etc.
- Late assignments: Due dates for homework assignments and other projects will be announced in class. Late assignments will not be accepted unless given special permission from instructor.
- Honor code: Each student in this class will be expected to adhere to the Longwood University Honor Code. It is assumed that you want to learn as much as possible from each class you take. As a result, your professor also assumes that you will work to learn the material through completion of assignments and collaboration with peers. However, all work turned in must be your own. Academic honesty is a foundation of the University; violations of this tenet will be brought to the attention of the Honor Board. Please review the Honor Code, including the section on plagiarism (http://www.longwood.edu/judicial/honorsystem2.htm).
- *ADA statement:* All reasonable efforts will be made to accommodate students with disabilities. If you have special needs, please discuss these with the professor immediately so that arrangements can be made.
- *Flexibility:* This syllabus and schedules are subject to change during the semester. Students will be notified in writing of any changes.
- *Courtesy:* Everyone in this course is a member of a learning community. It is expected that each member of this community will treat everyone else with respect and courtesy. That includes the obvious, like never using a cell phone during class, to the more subtle, like investing in meaningful work within small group discussions.

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relatively quickly. It will be your responsibility to be prepared for class, which means keeping up with assigned readings and homework.

<u>Oral presentation</u>: Working with a partner, you will open one class meeting with an oral presentation of the 'Central Case Study' and 'The Science Behind the Story' sections of the chapter for the week. Specific expectations of this project will be outlined in an assignment sheet posted on Canvas.

<u>Community issue writing assignment</u>: Near the end of the semester, you will prepare a written assignment in which you will use scientific data to address a question of importance to our community. Specific expectations of this project will be outlined in an assignment sheet posted on Canvas.

<u>Science in the news</u>: Each week you will be required to arrive in class with several (i.e., 3-4) science news articles. These articles should be clipped from the New York Times. They do not have to directly relate to topics from class. You should be prepared to discuss the articles with others (i.e., they should be read in advance of class).

<u>Reading Comprehension Checks</u>: You will be responsible for keeping up with the required reading for the course. After completing the weekly reading assignment, you will be required to take an online reading comprehension check through Canvas. Comprehension checks are due BEFORE class. There will be a total of 13 comprehension checks, each worth 10 points.

<u>Quizzes:</u> Over the course of the semester, you will take 4 major 40-point quizzes. Of those, your lowest score will be dropped and the best 3 scores will be used in determining your final grade. The timing of the quizzes is noted in the course schedule as MQ #1 (Major Quiz 1), MQ #2, etc.

*Exams:* One comprehensive final exam will be administered during the semester. The goal of the exam is to evaluate your competence in four areas: 1) basic concepts discussed in class, 2) basic skills employed in scientific contexts, 3) identification and formulation of connections among topics, and 4) analysis of scientific issues. Specific information will be addressed in the form of objective questions (i.e., multiple choice, true/false, matching, and fill-in-the-blank). Concepts, connections, skills, analysis, and application will be assessed with short-answer questions.

#### **Course Evaluation:**

Component	Number	Point value	% of grade
Final exam	1	150 points	25%
Comprehension Checks	13	10 points, 130 pts total	~22%
Major quizzes			
	4	40 pts each, 120 pts total (lowest	20%
		score to be dropped)	
Writing assignment	1	100 points	~17%
Oral Presentation	1	40 points	~7%
Participation		60 points	10%
Total		600 points	100%

### **Grading Scale**:

93-100%	А	90-92%	A-
87-89%	B+	83-86%	В
82-80%	B-	77-79%	C+
73-76%	С	70-72%	C-
67-69%	D+	63-66%	D
60-62%	D-	<u>&lt;</u> 59%	F

**Academic Assistance:** Any student who may need accommodations due to a physical, psychological, medical, or learning disability should contact the Office of Disability Services, 103 Graham Building, (434) 395-2391. After you register for services, please contact me privately and we can discuss the needed accommodations.

*Note*: The following schedule of lecture topics should be viewed as a tentative framework for this course. There may be topics that we choose to cover in more or less detail as the semester progresses.

WEEK	TOPIC
1 (Jan 12 – Jan 16)	Course Introduction; Environmental Science and Sustainability Chapter 1- Science and Sustainability: An Introduction to Environmental Science
2 (Jan 19 - 23)	The Flow of Energy and Matter Chapter 2- Earth's Physical Systems: Matter, Energy, and Geology Chapter 5- Environmental Systems and Ecosystem Ecology Case Study: Vanishing Oysters of the Chesapeake Bay
3 (Jan 26 - 30)	Evolution and Species InteractionsChapter 3- Evolution, Biodiversity, and Population Ecology Chapter 4- Species Interactions and Community EcologyCase Study: Black and White, and Spread All Over: Zebra Mussels Invade the Great Lakes
4 (Feb 2 - 6)	Environmental Ethics and Policy Chapter 6- Environmental Ethics and Economics: Values and Choices Chapter 7- Environmental Policy: Decision Making and Problem Solving Case Study: Hydrofracking of the Marcellus Shale MQ #1
5 (Feb 9 – 13)	Human Population Growth Chapter 7- Human Population Case Study: China's One Child Policy

	Industrial Agriculture
6	Chapter 9- Soil and Agriculture
(Feb 16 - 20)	Chapter 10- Agriculture, Biotechnology, and The Future of Food Case Study: Transgenic Maize in Southern Mexico?
	Case Study. Transgeme Marze in Southern Mexico:
	Biodiversity and Conservation
7	Chapter 11- Biodiversity and Conservation
(Feb 23 - 28)	Case Study: Will we slice through the Serengeti?
	MQ #2
8	
(Mar 2 - 6)	No Class All Week- Spring Break
(Mar 2 - 0)	Deforestation
9	Chapter 12- Forests, Forest Management, and Protected Areas
(Mar 9 - 13)	Case Study: Certified Sustainable Paper in Your Textbook
	Environmental Health
10	Chapter 14- Environmental Health and Toxicology
	Case Study: Poison in a Bottle: Is Bisphenol A Safe?
(Mar 16 - 20)	MQ #3
	Water Resources
11	Chapter 15- Freshwater Systems and Resources
(Mar 23 - 27)	Case Study: Starving the Louisiana Coast of Sediment
12	Waste Management
12	Chapter 22- Managing Our Waste
(Mar 31 - Apr 4)	Case Study: Transforming New York's Fresh Kills Landfill
	Global Climate Change
13	Chapter 18- Global Climate Change
(Apr 7 - 11)	Case Study: Rising Seas May Flood the Maldives
	Writing Assignment Due, Friday April 11 <sup>th</sup>
	Nonrenewable versus Renewable Resources
14	Chapter 19- Fossil Fuels, Their Impacts, and Energy Conservation
	Chapter 20- Conventional Energy Alternatives Chapter 21- New Renewable Energy Alternatives
(Apr 14 - 18)	Case Study: Alberta's Oil Sands and the Keystone XL Pipeline

	MQ #4
15	Integrate Semester and Review
(Apr 21 -25)	
	FINAL EXAM WEEK
16	Cumulative Final Section 1, Tuesday, Apr 27 <sup>th</sup> @ 3:00-5:30 pm Section 2, Tuesday, Apr 27 <sup>th</sup> @ 3:00-5:30 pm
(Apr 38 - 30)	Section 2, Tuesday, Apr 27 <sup>th</sup> @ 3:00-5:30 pm