

Saint Leo University

SCI 120SC Human Ecology

Course Description:

We individual humans, as well as all of human civilization, are totally interdependent with the global ecological system – dependent upon clean air, pure water, a stable climate, healthy forests, healthy grasslands, healthy ocean ecosystems, and fertile soil with its teeming microscopic life. Individual humans and human civilizations are subject to the laws of physics, the rules of chemistry, and ecological principles – there are no exceptions! In what ways do we humans depend upon the ecosystems of Earth? In what ways does human society affect the ecosystems of Earth? What can we learn from nature's laws about how to live on Earth sustainably? What is a healthy human ecology? What is the future of human civilization and its relationship to the ecosphere?

Prerequisite:

None

Textbooks:

Dyball, R., & Newell, B. (2015). *Understanding human ecology: A systems approach to sustainability*. New York, NY: Routledge. ISBN: 9781849713832

B. Lopez (ed.). (2007). *The future of nature: Writing on a human ecology from Orion Magazine*. Minneapolis, MN: Milkweed Editions. ISBN: 9781571313065

Learning Outcomes:

After completing the course, students will be able to:

1. Discuss and analyze the ways individual humans and civilizations depend upon the ecosystems of Earth, assessed in exams, quizzes and current events journal.
2. Describe the impact of human decisions on environmental systems assessed in exams, quizzes, current events journal, and Future of Nature presentation. **SC2**
3. Communicate effectively about *what can be learned from nature's laws about how humans can live on Earth sustainably*, assessed in exams, quizzes, current events journal, and Future of Nature presentation. **CC2**
4. Analyze physical, biological, and/or ecological systems and their relationships through *defining and discussing what comprises a healthy human ecology*, assessed in exams, quizzes, current events journal, and Future of Nature presentation. **SC1**
5. Discuss and evaluate the future of human civilization and its relationship to the ecosphere, assessed in exams, quizzes, current events journal.
6. Discuss how human civilization can change to become harmonious with the ecosphere of which it is an interdependent part, assessed in exams, quizzes and current events journal.
7. *Saint Leo Core Value of Responsible Stewardship is the focus of the course:* Students will be able to discuss and evaluate how humans and human civilizations can learn to live within the restraints of the natural world without destroying creation, assessed in exams, quizzes and current events journal.

Core Value:

Responsible Stewardship: Our Creator blesses us with an abundance of resources. We foster a spirit of service to employ our resources to university and community development. We must be resourceful. We must optimize and apply all of the resources of our community to fulfill Saint Leo University's mission and goals.

Evaluation:

Assignment	Weight
Discussions (8 total)	10%
Quizzes (6 total)	10%
Midterm Exam	20%
Final Exam	20%
Current Events Journal (6 total)	12%
Current Events Overview Paper	8%
<i>Future of Nature</i>	
Presentation	15%
Discussion (6 total)	5%
TOTAL	100%

Grading Scale:**Grade Score (%)**

A	94-100
A-	90-93
B+	87-89
B	84-86
B-	80-83
C+	77-79
C	74-76
C-	70-73
D+	67-69
D	60-66
F	0-59

Discussions

For each module (8 total), you will post an initial response to a discussion question that is posted on the Discussion Board **no later than Thursday 11:59 PM EST/EDT** for each module. Students will also post a response to at least two classmates **no later than Sunday 11:59 PM EST/EDT** of each module.

Quizzes

There are a total of 6 quizzes (Modules 1-3 and 5-7).

Complete each quiz **no later than Sunday 11:59 PM EST/EDT** for the module in which each is assigned.

Midterm and Final Exam.

The Midterm Exam occurs in Module 4 and the Final Exam occurs in Module 8.

Complete the Exams **no later than Sunday 11:59 PM EST/EDT** for the module in which each is assigned.

Current Events Journal

For Modules 1-6, you will analyze and evaluate a Human Ecology Current Events article. The articles must be published during the term that the course is taken. Write an analysis and evaluation of the article, paying particular attention to the scientific accuracy of the material and focusing on how any problems addressed in the article could have been avoided in the first place or lessons that can be learned and used to create a healthy future human ecology. Be certain to provide a complete Web Address (and citation) for the article in your post. Your Current Event Journal should be approximately 600 words in length.

Post your Current Events Journal to the Current Events Journal Discussion Board for each module in which a Journal is assigned **no later than Thursday 11:59 PM EST/EDT**.

Post a response to at least one classmate's Current Events Journal **no later than Sunday 11:59 PM EST/EDT** for each module in which a Journal is assigned.

Current Events Overview Paper

After analyzing and evaluating 6 Current Events Articles for your Journal, write an approximately 600 word overview paper of all the articles you have evaluated. Tie the articles together with an overarching theme such as:

What changes in our human ecology are needed to avoid these problems or to create a more sustainable human-nature relationship?

Click [Current Events Overview Paper](#) for further details on this assignment.

Submit the Current Events Overview Paper to the Assignment box no later than Sunday 11:59 PM EST/EDT of Module 7. (This Assignment box is linked to Turnitin.)

Future of Nature Presentation

The Future of Nature Presentation will cover a reading from the textbook *The Future of Nature*. Along with creating a presentation, you will also facilitate a discussion between you and your peers on the given topic.

Your instructor will notify you when you will be giving your Future of Nature Presentation, along with the reading you will be presenting on.

The Future of Nature Presentations will occur in Modules 2-3 and 5-7.

Click [Future of Nature Presentation](#) for further details on this assignment.

If You Are Presenting:

Post your Future of Nature Presentation to the Future of Nature Presentation Discussion Board **no later than Thursday 11:59 PM EST/EDT** for the module you are assigned to present in.

Your discussion grade will consist of how well you facilitate a discussion. When you post your presentation, you must also post 3 discussion questions pertaining to your presentation for your classmates to answer. List them as 1., 2., 3. After you get initial responses to your questions, you must post responses to at least 3 classmates.

You must submit your Future of Nature Presentation to Chalk and Wire. The Chalk & Wire link is located in the **Key Assignment Module as well as to the Future of Nature Presentation Discussion Board**. Students who do not submit the assignment to Chalk & Wire will receive a zero. This is a key assignment assessment; the results are used to ensure students are meeting University Exploration program goals. Video and PDF instructions can be found on the course home page. PDF instructions are also located in the Start Here folder.

If You Are Not Presenting:

Post a response to at least two classmate's Future of Nature Presentation **no later than Sunday 11:59 PM EST/EDT** for any module you are not presenting in. **NOTE:** Each presentation should have at least 3 responses; please post a response to a presentation that does not have 3 responses.

Course Schedule:

Module 1 Six Impossible Things Before Breakfast: The Challenge of Human Ecology

Objectives

When you complete this module, you should be able to:

- Describe the transdisciplinary nature of human ecology.
- Explain the social justice implications of human ecology.
- Give examples of the social dimension of environmental conflicts.
- Explain the statement, "The great challenge of our time is an ethical and metaphysical one, not a call to new technologies."
- Explain the significance of a "Blue-Green" alliance on climate change. How does it relate to environmental and social justice?

Assignments

Items to be Completed:	Due No Later Than:
Post an introduction to the class	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates' Introduction	Sunday 11:59 PM EST/EDT
Read the assigned materials	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Post an initial response to the Current Events Journal 1 Discussion Board	Thursday 11:59 PM EST/EDT
Post a response to at least one classmate's Current Events Journal 1	Sunday 11:59 PM EST/EDT
Complete Quiz 1	Sunday 11:59 PM EST/EDT

Module 2

Building Shared Understanding

Objectives

When you complete this module, you should be able to:

- Demonstrate understanding that collaboration across discipline and sector boundaries is necessary in any attempt to develop sustainable communities.
- Demonstrate understanding of the complexities of human communication.
- Demonstrate understanding of fundamental system dynamics concepts.
- Explain how climate change has changed life for the Inupiaq whaling communities and how it might change life for millions of people around the world.

Assignments

Items to be Completed:	Due No Later Than:
Read the assigned materials	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Post an initial response to the Current Events Journal 2 Discussion Board	Thursday 11:59 PM EST/EDT
Post a response to at least one classmate's Current Events Journal 2	Sunday 11:59 PM EST/EDT
Post and Submit Future of Nature Presentation 1: Action (if presenting in this module)	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates' Future of Nature Presentation 1: Action (if not presenting in this module)	Sunday 11:59 PM EST/EDT
Post and Submit Future of Nature Presentation 2: Refugees (if presenting in this module)	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates' Future of Nature Presentation 2: Refugees (if not presenting in this module)	Sunday 11:59 PM EST/EDT
Complete Quiz 2	Sunday 11:59 PM EST/EDT

Module 3

Systems and Sustainability

Objectives

When you complete this module, you should be able to:

- Explain how the feedback loop is the fundamental building block of system dynamics.
- Define and explain sustainability using process rate diagrams for renewable and non-renewable resources and for polluting processes.
- Explain carrying capacity, the limits of growth, and population crashes.
- Demonstrate understanding of the “Goldilocks Principle:” an extension of the Ehrlich-Holdren Relationship (“In order to be sustainable a society must maintain its resource and waste flows at rates that are not too high, not too low, but just right”).
- Discuss the benefits and problems associated with Ecotourism.

Assignments

Items to be Completed:	Due No Later Than:
Read the assigned materials	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Post an initial response to the Current Events Journal 3 Discussion Board	Thursday 11:59 PM EST/EDT
Post a response to at least one classmate's Current Events Journal 3	Sunday 11:59 PM EST/EDT
Post and Submit Future of Nature Presentation 3: Boundaries (if presenting in this module)	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates' Future of Nature Presentation 3: Boundaries (if not presenting in this module)	Sunday 11:59 PM EST/EDT
Complete Quiz 3	Sunday 11:59 PM EST/EDT

Module 4 Towards A Shared Theoretical Framework

Objectives

When you complete this module, you should be able to:

- Explain Boyden's analysis of "to facilitate thinking and communicating about the different options for the health and wellbeing of humans and of the ecosystems on which they depend."
- Evaluate the Cultural Adaptation Template and Boyden's Biosensitivity Triangle and Transition Framework.
- Explain Newell and Proust's Feedback Guided Analysis and the Guided Analysis to Technology Choice and Human Health.

Assignments

Items to be Completed:	Due No Later Than:
Read the assigned materials	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Post Current Events Journal 4 to the Current Events Journal 4 Discussion board	Thursday 11:59 PM EST/EDT
Post responses to at least one classmate's Current Events Journal 4	Sunday 11:59 PM EST/EDT
Complete the Midterm Exam	Sunday 11:59 PM EST/EDT

Module 5 Paradigms: Ideas That Change the World

Objectives

When you complete this module, you should be able to:

- Compare and contrast the "Respect Nature," "Ownership and Control of Environments," and "Landscapes in the Service of Remote Consumers" paradigms and their effects on the environment.
- List the major feedback signals that are lost in modern industrial society and describe the major problems that arise when those feedbacks are missing.
- Describe the effects, both positive and negative, of the widespread use of fossil fuels.
- Discuss how a reverence for nature, for creation – a sense of awe of the universe - could affect the way a society treats the ecosystems of Earth.

Assignments

Items to be Completed:	Due No Later Than:
Read the assigned materials	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Post an initial response to the Current Events Journal 5 Discussion Board	Thursday 11:59 PM EST/EDT
Post a response to at least one classmate's Current Events Journal 5	Sunday 11:59 PM EST/EDT
Post and Submit Future of Nature Presentation 4: Reverence (if presenting in this module)	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates' Future of Nature Presentation 4: Reverence (if not presenting in this module)	Sunday 11:59 PM EST/EDT
Complete Quiz 4	Sunday 11:59 PM EST/EDT

Module 6 Life in the Anthropocene

Objectives

When you complete this module, you should be able to:

- Explain why the belief in the possibility of unlimited growth must give way to a new paradigm if we are to live well in the Anthropocene.

- Summarize the human impacts on key planetary boundaries or tipping points during the Anthropocene.
- Discuss the ethical implications of both the environmental justice and social justice consequences of the skewed distribution of the impacts of production, distribution, and consumption in the global community today.
- Explain why it is impossible for programs to bring the poor up to the levels of affluence enjoyed by the rich and why the paradigm of 'sufficiency' must come to dominate the human economy.
- Discuss the importance of "true cost" (also known as "whole cost") accounting when considering economics.

Assignments

Items to be Completed:	Due No Later Than:
Read the assigned materials	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Post Current Events Journal 6 to the Current Events Journal 6 Discussion board	Thursday 11:59 PM EST/EDT
Post responses to at least one classmate's Current Events Journal 6	Sunday 11:59 PM EST/EDT
Post and Submit Future of Nature Presentation 5: Monsters (if presenting in this module)	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates' Future of Nature Presentation 5: Monsters (if not presenting in this module)	Sunday 11:59 PM EST/EDT
Complete Quiz 5	Sunday 11:59 PM EST/EDT

Module 7

Global Impacts of Consumption

Objectives

When you complete this module, you should be able to:

- Discuss the problems of industrial commodification of food systems – and their solutions.
- Explain how engaged ecological citizens who are prepared to demand local sustainable food systems could extend relevant ethical principles and standards to all environments and remote land managers and have expectations that the systems of production that supply them are also just and sustainable.
- Discuss how people must be willing to both adopt and be reasonably easily able to operate within a belief system/paradigm that lowers their environmental impact.
- Explain the difference between “Think Globally, Act Locally” and “Think Locally, Act Globally” and the importance of both.
- In regard to the goals of a healthy human ecology, compare the effects of having a “sense of place” with the concept that nature is merely a supply of “raw materials” to be used as humans see fit.

Assignments

Items to be Completed:	Due No Later Than:
Read the assigned materials	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Post and Submit Future of Nature Presentation 6: Native (if presenting in this module)	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates' Future of Nature Presentation 6: Native (if not presenting in this module)	Sunday 11:59 PM EST/EDT
Submit the Current Events Overview Paper	Sunday 11:59 PM EST/EDT
Complete Quiz 6	Sunday 11:59 PM EST/EDT

Module 8

Stewards of a Full Earth

Objectives

When you complete this module, you should be able to:

- Explain the importance of stabilizing and then reducing population numbers while achieving sustainable per capita consumption.
- Explain why it is important to incorporate equity and justice into all sustainability decision making.
- Discuss the need for modern society to shift to a paradigm of sufficiency within which just and sustainable wellbeing for all of creation becomes the norm.
- Be able to apply Aldo Leopold's famous statement to the principles of human ecology: "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."

Assignments

Items to be Completed:	Due No Later Than:
Read the assigned materials	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Complete the Final Exam	Sunday 11:59 PM EST/EDT