



Biology 1002

Environment & People

Syllabus Spring 2020

Then God looked over all that He had made, and it was excellent in every way...The Lord God placed the man in the Garden of Eden as its gardener, to tend and care for it. (Genesis 1:31; 2:15 TLB)

I brought you into a fertile land to eat its fruit and rich produce. But you came and defiled My land and made My inheritance detestable. (Jeremiah 2:7 NIV)

See, I will create new heavens and a new earth. The former things will not be remembered, nor will they come to mind. (Isaiah 65:17)

Catalog Course Description: BIO 1002 - Environment and People (GE) 4 units

A systematic overview of major topics in global ecology as experienced by people in the developing world, both the problems they face and the successful actions of communities to solve those problems. Introduces creation care and sustainable development as key concepts needed to overcome the challenges and build hope for the future. Includes such topics as population growth, food and agriculture, land degradation, urbanization, sanitation, health care, biodiversity, climate change, consumerism, and the implications for wise resource management, green economics, and governmental policy. Course approach emphasizes the process of science, critical thinking, active learning, social relevancy, and building connections between case studies and general concepts. Students engage in weekly readings, film discussions, and a term paper project.

Instructor: Dr. Mike Mooring
Rohr Science 128
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Office hours: Email me and we'll make an appointment

Lecture: Tues and Thurs 7:25 – 9:10 AM in Latter Hall 2

Texts: Reading Pack for BIO 102, University Readers. Order online at:
<https://store.cognella.com/19129>

Additional readings available on the course Canvas site

Equipment: iClicker2 – must be brought to every class meeting

Student Learning Outcomes:

Upon completion of the course, each student will be able to:

- Describe the major global environmental challenges and how they affect people.
- Explain options for how we can deal with these global environmental challenges.
- Articulate and defend a position on Biblical environmental stewardship.
- Outline, research, and write an original research paper exploring case studies specific to an environmental challenge and how it is impacting people in the developing world.
- Understand how consumerism impacts the ecological footprint of our affluent society.

General Education Learning Objectives (GELOs):

All Gen Ed courses are required to assess GELOs as part of institutional assessment. In this course, we will assess GELO 1C: **Information Literacy** and GELO 1D: **Critical Thinking**.

- Information Literacy - Students will be able to access and cite information as well as evaluate the logic, validity, and relevance of information from a variety of sources.
- Critical Thinking - Students will be able to examine, critique and synthesize information in order to arrive at reasoned conclusions.

These GELOs will be needed to successfully complete your term paper assignments, and your mastery of them will be assessed through a few questions on the final exam.

Course Design:

The focus of our exploration will be on people interacting with their environment. Our approach will be global, with emphasis on the environmental issues affecting people in the developing (less developed, Third World) nations. We will familiarize ourselves with the fundamentals of stewardship, the concept of sustainable development, and the real life tensions that exist in the developing world between the goals of wise management of natural resources and the objectives of economic development in the urban and rural setting in the poor nations. Importantly, we will consider the Biblical mandate for human beings to be God's representatives on earth and to care for His Creation, both human and non-human.

Lecture Day and Film Day:

The "lecture" component of the course will usually be presented during the Tuesday meeting, but it will not be just me talking. I will introduce interactive activities (e.g., iClicker questions, small group discussions) to give you an opportunity to actively explore the topics under consideration. During the Thursday meeting we will view a film for about the first hour, and then break into discussion teams for 20 min (teams will be formed for the semester). The teams will discuss questions based on the film and will craft a group response. Note that points for team responses will only be awarded to students who were present and participated in the group discussion. Although the responses are crafted collaboratively by the group, each student will submit the discussion assignment individually on Canvas 'Assignments'. This ensures that all team members are accountable for the assignment. Enjoy this opportunity to draw from the insights of your classmates!

Canvas:

Most class resources are available to you on Canvas, which you can access at canvas.pointloma.edu/. All reading and discussion assignments will be submitted via Canvas 'Assignments' and graded online. Note that CANVAS DOES NOT SUPPORT 'PAGES'; use Word or PDF instead. For in-classroom assignments, I will typically have electronic files available on Canvas to reduce paper use, however I will bring some paper copies for anyone that does not have a laptop or iPad in class (see Electronic Etiquette).

Reading Assignments:

I have carefully selected a reading for each topic we cover in class. Each week, you will be responsible for doing the assigned reading using the course pack or online resources. For each text, a set of questions will be available on Canvas 'Assignments' that will help you focus on the points I consider most important and require you to think about concepts and make connections. Your answers will be submitted on Canvas 'Assignments' before the following Tuesday class session and will be graded online. Note that you will be able to submit assignments after the due date, but they will be marked as by Canvas as "late" (see below). In this class it is VERY important to keep up with the reading questions, as this is a significant part of the course grade – and once you get behind it is difficult to get caught up.

Late Assignments:

The following penalties will apply for all assignments submitted after the due date/time:

For Readings (worth 10 pts):

1-2 days late: -2 points
 3-4 days late: -4 points
 5-6 days late: -6 points
 7 days late: -8 points
 >7 days late: don't accept

For Discussions (worth 5 pts):

1-2 days late: -1 points
 3-4 days late: -2 points
 5-6 days late: -3 points
 7 days late: -4 points
 >7 days late: don't accept

There are many reasons why a late policy is desirable: (1) It sets clear guidelines for students so that you are motivated to submit your assignment on time; (2) it sets clear guidelines for the graders so they know how to handle cases of lateness; (3) it is fair insofar as students that faithfully submit their assignments on time every week benefit over those who are chronically late; (4) it enables the graders to be consistent in grading your assignments because they can grade all of them at once; (5) finally, it benefits you by promoting on-time submissions and fast turnaround in grading so that you know where you stand regarding your grade in the class. The graders and I recognize that from time to time there will be circumstances beyond your control that will result in a late submission. If this happens, please include a note of explanation in the text box in Canvas.

iClickers:

I teach by using a combination of lecture and small group activities. To enable participation by everyone in a large class, I require you to have an iClicker2 and to bring it to class every day (especially Tuesdays). Your iClicker must be registered at <https://www.iclicker.com/remote-registration-form-for-classic> so that your participation is recorded –for software choose "iClicker Classic", for Learning Management System choose "My institution does not use an LMS". I use the iClickers for class participation (being engaged in class activities) and performance (getting the right answer). Weekly review quizzes based on the reading assignments are administered in class on Tuesdays using iClickers. Your iClicker score at the end of the semester will contribute to your Participation points so that you will not be penalized for the occasional excused absence or forgetting your clicker. Note that I have a few loaner clickers that you can borrow BEFORE CLASS BEGINS for the rare times that you forget to bring your remote.

Attendance and Punctuality:

Regular and punctual attendance is important for optimal achievement, and is a minimal requirement for this course. The attendance sheet will be passed around during each class meeting; it is your responsibility to sign in, using your full signature. You are permitted three (3) absences without penalty. Excessive unexcused absences will result in points being deducted from your Attendance Participation grade. Because your signature on the roster serves as evidence of your attendance in class, you may not have another student sign in for you. *Having someone else sign your name is considered forgery*, and will result in a substantial penalty.

Term Paper:

You will write a paper of at least seven (7) typed pages based upon your independent research of a topic of your choice. You will be required to choose a tightly focused topic on some aspect of environmental biology that has been *approved by me beforehand*. For this paper, you will be required to link the interrelationship between environment and people in the developing world – e.g., how does your topic impact people, and how do people impact their environment? You will illustrate your theme using ‘case histories’, detailed accounts illustrating your topic in a particular community of people.

In my experience, many students find writing a term paper a daunting and unpleasant task to be postponed as long as possible. The result tends to be a rushed paper written during the chaotic last week of class when multiple other major assignments are done. The end product is often far below what the student is capable of. To avoid this dilemma, your term paper will be prepared in 7 segments (seven is the Biblical number of completeness!) due weekly over a 2-month period. Because each segment is focused and only 1 page, the final term paper will be well written, better organized, and a lot more fun for me to read! A table detailing the 7 assignments and when they are due is below. **The final paper is due Thursday April 30th.**

Term paper segments will receive completion points for being turned in, but the graders and I will not have time to give detailed feedback. Instead, you will have one **peer review** assignment in which students will review the work of other students both on Canvas and in the classroom to help one another. More details on the term paper segment assignments, peer review, information literacy, and critical thinking will be covered in class via lecture and activities. The goal in all this is to help each of you succeed with your paper.

Academic Honesty:

The PLNU policy on academic honesty is listed on the institutional policies page. You may not be aware that some common student practices are considered plagiarism. For example, teaming up with other students to write joint answers to assignments that are then turned as individual assignments is plagiarism. Another form of plagiarism would be to copy and paste information from an online resource, in essence using someone else’s words as if they were your own. Much of the learning process involves articulating the answer in your own words, and bypassing this step will almost guarantee an inadequate understanding of the material. Plagiarizing an assignment can result in failure of the course and referral to the Dean of Academic Affairs. Furthermore, you will probably do poorly on exams because you will not have learned on your own.

Electronic Etiquette:

Recent studies have indicated that we are currently experiencing an epidemic of ‘digital distraction’ caused by multi-tasking – moving quickly between tasks on electronic devices in which only partial attention is given to each task. In the classroom setting, studies reveal that the use of laptops for non-course related tasks (checking emails, texting, social media) distracts attention from learning and results in reduced academic performance and lowered grades. The reality is that you cannot fully learn new information or master new concepts when distracted by multi-tasking. The evidence indicates that even classmates that see your screen are distracted and their performance reduced. To ensure the best learning environment possible, classroom policy is that...

All electronic devices are turned off and put out of sight when class is in session.

This includes laptops because there is evidence that students learn better when they have to take notes by hand because they are forced to summarize information in their own words.

Why am I asking you not to use laptops (and other electronic devices) in class?

Numerous studies have confirmed that classroom laptop use can be an impediment to learning, interfere with your education, and serve as a distraction for your neighbors. Four specific reasons follow, with live links to the articles (more studies are on Canvas Modules):

1. Laptops and other electronic devices enable more than just note-taking, and they introduce numerous distractions (web-surfing, homework for other classes, social media, etc.) for you and your neighbors. You may think that you can multitask, but studies show that you cannot.
[‘You’ll Never Learn!’](#)
2. As already mentioned, using your laptop in class can be less than neighborly. Your classmates’ grades can also suffer due to the distracting pull of the laptop.
[‘Laptop Multitasking Hinders Classroom Learning for Both Users and Nearby Peers’](#)
3. Hand-writing is a more effective way of learning material than is typing. With typing, each letter is pretty much the same thing for the brain. Writing, however, uses different muscle groups with each word and encourages the brain to integrate material during the writing process. Typing may be easy and fast, but by making the brain passive, it discourages learning.
[‘Attention, Students: Put Your Laptops Away’](#)
4. Using electronic devices in class also impairs long-term retention, with one study suggesting that smartphone use in class can lower one’s grade by half a letter grade.
[‘The Myth of Multitasking’](#)

What your grade will be based on:

Points are approximate

Attendance Participation	45 pts
iClicker Participation/Performance	90 pts
Reading questions (14 @ 10 pts)	140 pts
Group responses (13 @ 5 pts)	65 pts
Classroom team exercises	35 pts
Final exam	80 pts
Term paper sections/peer review	45 pts
Final term paper	<u>100 pts</u>

Letter	Percent	Letter	Percent
A	90	C	70
A-	88	C-	68
B+	86	D+	66
B	80	D	60
B-	78	D-	58
C+	76	F	<58

Total 600 pts

PLNU INSTITUTIONAL POLICIES

PLNU Mission: To Teach ~ To Shape ~ To Send

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service becomes an expression of faith. Being of Wesleyan heritage, we aspire to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

General Education: This course is one of the components of the General Education Program at Point Loma Nazarene University, under the category of “Exploring an Interdependent World.” By including this course in a common educational experience for undergraduates, the faculty supports an introduction to the natural and social sciences as tools for exploring the world, with emphasis on collecting and interpreting empirical data for both theoretical and practical purposes. PLNU provides a foundational course of study in the liberal arts informed by the life, death, and resurrection of Jesus Christ. In keeping with the Wesleyan tradition, the curriculum equips students with a broad range of knowledge and skills within and across disciplines to enrich major study, lifelong learning, and vocational service as Christ-like participants in the world's diverse societies and cultures.

PLNU Attendance and Participation Policy: Regular and punctual attendance at all classes is considered essential to optimum academic achievement. If the student is absent from more than 10 percent of class meetings, the faculty member can file a written report which may result in de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university drop date or, after that date, receive the appropriate grade for their work and participation. See [Academic Policies](#) in the Undergraduate Academic Catalog.

PLNU Academic Honesty Policy: Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. Faculty should follow and students may appeal using the procedure in the university Catalog. See [Academic Policies](#) for definitions of kinds of academic dishonesty and further policy information.

PLNU Academic Accommodations Policy: While all students are expected to meet the minimum standards for completion of this course as established by the instructor, students with disabilities may require academic adjustments, modifications or auxiliary aids/services. At Point Loma Nazarene University (PLNU), these students are requested to register with the Disability Resource Center (DRC), located in the Bond Academic Center. (DRC@pointloma.edu or 619-849-2486). The DRC's policies and procedures for assisting such students in the development of an appropriate academic adjustment plan (AP) allows PLNU to comply with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. Section 504 (a) prohibits discrimination against students with special needs and guarantees all qualified students equal access to and benefits of PLNU programs and activities. After the student files the required documentation, the DRC, in conjunction with the student, will develop an AP to meet that student's specific learning needs. The DRC will thereafter email the student's AP to all faculty who teach courses in which the student is enrolled each semester. The AP must be implemented in all such courses.

If students do not wish to avail themselves of some or all of the elements of their AP in a particular course, it is the responsibility of those students to notify their professor in that course. PLNU highly recommends that DRC students speak with their professors during the first two weeks of each semester about the applicability of their AP in that particular course and/or if they do not desire to take advantage of some or all of the elements of their AP in that course.

PLNU Copyright Policy: PLNU, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

PLNU Final Examination Policy:

Successful completion of this class requires taking the final examination on its scheduled day. The final examination schedule is posted on this syllabus. No requests for early examinations or alternative days will be approved unless you have 3 final exams scheduled on the same day or another compelling reason.

Environment & People Reading Schedule – SPRING 2020

- reading pack
- online resource

<u>DATE</u>	<u>LECTURE TOPIC</u>	<u>READINGS DUE FOLLOWING TUES</u>	<u>PAGES (TOTAL)</u>
Jan 16	Ecological collapse	(1) ●What's an education for? ●Collapse ch. 2: Twilight at Easter	5 (46) 41
Jan 21-23	Christian stewardship of the earth	(2) ●Between Heaven & Earth ch. 3	23
Jan 28-30	Sustainable development	(3) ●Ecology of Commerce ch. 2 ●Ecology of Commerce ch. 12	16 (36) 20
Feb 4-6	Population growth	(4) ○Habitable Planet ch. 5	32
Feb 11-13	Agriculture and food supplies	(5) ● Ecological Conscience: Challenges ○Habitable Planet ch. 7: Agriculture	16 (43) 27
Feb 18-20	Land degradation	(6) ○World on the Edge ch. 3, 10	26
Feb 25-27	Water Shortages	(7) ○Plan B 3.0 ch. 4: Water shortages	18
Mar 3-5	Poverty and health	(8) ○Urban poverty and health	20
Mar 10-12	SPRING BREAK		
Mar 17-19	Biodiversity	(9) ○Habitable Planet ch. 9	32
Mar 24-26	Global climate change	(10) ○Plan B 3.0 ch. 3	20
Mar 31- Apr 2	Wildlife versus people	(11) ●People and Wildlife ch. 14, 15, 17	33
Apr 7	Plant with Purpose Guest Lecture: Scott Sabin	(12) ●Tending to Eden: Intro, ch. 2, 3	32
Apr 9	EASTER RECESS		
Apr 14-16	Sustainable Business	(13) ○Ecotourism in the Savegre Valley	46
Apr 21-23	Pastoralism and hunting	(14) ○Pastoralism and nature conservation ○Pastoral societies	34
Apr 28-30	How can we save the Creation?	No reading!	
Final Exam (comprehensive)		Thursday May 7: 7:30-10:00 AM	

BIO 102: Environment & People Detailed Lecture Schedule – SPRING 2020

<u>DATE</u>	<u>TOPIC</u>	<u>LECTURE OR VIDEO</u>
Thurs Jan 16	Ecological collapse	Lecture 1
Tues Jan 21	Christian stewardship	Lecture 2
Thurs Jan 23	Christian stewardship	When Heaven Meets Earth (52 min)
Tues Jan 28	Sustainable development	Lecture 3
Thurs Jan 30	Sustainable development	Endangered Planet (60 min)
Tues Feb 4	Population growth	Lecture 4
Thurs Feb 6	Population growth	The people paradox (60 min) from World in Balance
Tues Feb 11	Agriculture & food	Lecture 5
Thurs Feb 12	Agriculture & food	Land of plenty, land of want (45 min) Transforming Agriculture (16 min)
Tues Feb 18	Land degradation	Lecture 6
Thurs Feb 20	Land degradation	In the name of progress (57 min)
TERM PAPER TOPIC DUE		
Tues Feb 25	Water shortages	Lecture 7
Thurs Feb 27	Water shortages	Water, Water (55 min)
TERM PAPER #1		
Tues Mar 3	Poverty & health	Lecture 8
Thurs Mar 5	Poverty & health	Hot zones (57 min)
TERM PAPER #2		
Tu-Th Mar 10-12	SPRING BREAK	
Tues Mar 17	Biodiversity	Lecture 9
Thurs Mar 19	Biodiversity	Remnants of Eden (60 min)
TERM PAPER #3		
Tues Mar 24	Global Climate Change	Lecture 10
Thurs Mar 26	Global Climate Change	Global warming: signs & science (60 min)
TERM PAPER #4		
Tues Mar 31	Wildlife vs People	Lecture 11
Thurs Apr 2	Wildlife vs People	Can the elephant be saved? (60 min)
TERM PAPER #5		
Tues Apr 7	Plant with Purpose	Guest Speaker: Scott Sabin, Plant with Purpose
Thurs Apr 9	EASTER RECESS	
Tues Apr 14	Sustainable Business	Lecture 12
Thurs Apr 16	Sustainable Business	Story of Stuff and more
TERM PAPER #6		
Tues Apr 21	Pastoralism & hunting	Lecture 13
Thurs Apr 23	Pastoralism & hunting	A Cashmere Story and more (23+ min)
TERM PAPER #7		
Tues Apr 28	Save the Creation	Lecture 14
Thurs Apr 30	Save the Creation	Affluenza (56 min)
FINAL TERM PAPER DUE		
Final Exam (comprehensive)		Thursday May 7: 7:30 – 10:00 AM

Paper Description:

Your term paper is to be focused on an environmental issue in the less developed world, such as Africa, Asia, India, or South America. Most people living in the world today have a Third World lifestyle – our affluent lifestyle is in the minority. So **DO NOT** use the United States or other industrialized nations. Part of the goal of this course is to get you to think about how people in very different physical, social, and economic environments see their world. Try to get into their shoes and see their perspective. What are their lives like? How do they relate to their environment? Be sure that your paper deals with the following three components: (1) people interacting with their (2) environment in the (3) developing world.

Term Paper Sequence of Assignments due Fridays

Canvas	Assignment	Description	Due Date
	Choose topic	Your term paper topic should be chosen and approved.	Feb 20
1	Global overview	Introduction. What is the global context of this issue? Include what the impact is on the environment, how it affects people, and perhaps ways that people are trying to address the problem. (1 page)	Feb 27
2	Regional overview	What is the specific background to the issue in the part of the world you have chosen to examine? What is unique or different about how the problem is manifested in this area? (1 page)	Mar 5
3	Topic focus	What one or two specific aspects of the issue will you focus on? It is better to give in-depth coverage to one or two aspects than to give a superficial treatment of too many aspects. Give an overview of the significance of the focus area. (1 page)	Mar 19
4	Case history #1	A detailed record of a community that illustrates some aspect of your topic focus. For example, if your topic is water shortages and your focus is the impact of climate change, one case history could be the shrinking of Lake Chad. (about 1 page per case history)	Mar 26
5	Case history #2	2 nd case history illustrating another aspect of your topic focus.	Apr 2
6	Case history #3	3 rd case history illustrating another aspect of your topic focus.	Apr 16
7	Conclusions and References	What can be concluded from your case studies? What concepts are illustrated and what problems must be overcome? What can give us hope? Also include your list of references in proper format, at least 10. (1 page each)	Apr 23
	Final Paper	Make any revisions to your 7 pieces and assemble them together into your final term paper. (7 pages minimum)	Apr 30

Environment & People Videography

DVDs are available at the Ryan Library DVD section.

TOPIC	DVD	CALL #
Sustainability	Plan B: Mobilizing to save civilization	DVD 0837
	Habitable Planet Series (13 30-min episodes)	DVD 0798
	The state of the planet (55 min)	DVD 0521
	Affluenza (56 min)	DVD 0843
	Planet Earth: The Future (150 min)	DVD 0375 disc 5
	The Environmental Revolution	DVD 1719
	Endangered Planet (60 min)	online
Christian Stewardship	When Heaven Meets Earth (52 min)	DVD 0585
	Is God Green? (60 min)	DVD 0429
	Renewal (90 min)	DVD 0474
Population Growth	The population paradox (60 min)	DVD 0245
Agriculture and food supplies	Land of plenty, land of want (57 min)	DVD 0513
	Seas of grass (57 min)	DVD 0516
	Habitable Planet Disk 2-Agriculture (15 min)	DVD 0798
	Understanding Bacteria (52 min)	DVD 0606
Land degradation	Seas of grass	DVD 0516
	In the name of progress (57 min)	DVD 1719
Water	Water, Water (57 min)	DVD 0577 disc 1
	The state of the planet (55 min)	DVD 0521
	Habitable Planet Disk 2-Water Resources (15 min)	DVD 0798
	Habitable Planet Disk 1-Oceans (15 min)	DVD 0798
	Rivers of destiny (55 min)	DVD 0512
Poverty and Health	Rx for Survival: Global health challenge	DVD 0221 discs 1-3
	Hot zones (57 min)	DVD 0515
Urbanization	The urban explosion (57 min)	DVD 0514
	Future conditional (57 min)	DVD 0518
Biodiversity	Milking the Rhino (83 min)	DVD 0685
	The state of the planet's wildlife (57 min)	DVD 0520
	The state of the ocean's animals (57 min)	DVD 0519
	Habitable Planet Disk 3-Biodiversity (15 min)	DVD 0798
	Can the elephant be saved? (60 min)	DVD 1825
Pastoralism and hunting	Nomads of the rainforest (60 min)	VC 2233
Sustainable Business	The story of stuff (20 min)	online
	Biomimicry: Learning from nature (44 min each)	DVD 0591 disc 1-2
Climate change	Habitable Planet Disk 1-Atmosphere (15 min)	DVD 0798
	Habitable Planet Disk 4-Ice Cores (15 min)	DVD 0798
	An inconvenient truth (96 min)	DVD 0319
	The great warming (82 min)	DVD 0344
	Crude (90 min)	DVD 0533