



SYLLABUS

BIOL 208 950 Environmental Science
Fall 2020

BIOL 208 950 Environmental Science

Consortium of Adventist Colleges and Universities

Interactive Online Format

This course follows an interactive online format and has Wednesday/Sunday deadlines. You are expected to login regularly during the course to participate in the online discussions. Please plan accordingly. **Please review the Dates & Deadlines widget on the right side of your course in LearningHub for the last day to withdraw for a full refund.**

Instructor Contact

Instructor: Andrew Rice

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Other Assistance

Username and password assistance	helpdesk@andrews.edu	(269) 471-6016
Enrollment and withdrawal questions	sderegister@andrews.edu	(269) 471-6323
Technical assistance with online courses	dlit@andrews.edu	(269) 471-3960
Exam requests and online proctoring	sdeexams@andrews.edu	(269) 471-6566
Distance Student Services - any other questions	sdestudents@andrews.edu	(269) 471-6566

Part 1: Course Information

Course Description

This course is designed to convey key principles of environmental science. Students will learn basic ecological principles, applying a systems perspective to understanding the consequences of human interactions with our natural environment. Discussions deal with contemporary environmental issues. Labs activities include applied activities of environmental concepts. Meets the life science general education requirement and certain state educational certification requirements. May apply to biology major or minor.

Course Prerequisites

None

Required Text/Material

Miller and Spoolman, 2014, Living in the Environment, Cengage Learning.
ISBN- 978-1-133-94013-5

Christiansen, 2012, Planet in Distress: Environmental Deterioration and the Great Controversy,
Review and Herald Pub: ISBN 978-0-8280-2660-4

NOTE: Textbooks for online courses may be purchased from any supplier. For financial aid in payment, contact your financial advisor at the university where you are completing your degree. Andrews University degree students who have confirmed that funds are available will then purchase the books themselves and send receipts to their financial advisor for reimbursement.

Credit Hour and Commitment

This course is offered for 4 semester credits; therefore, it is expected that you will spend 180 total hours on this course. This translates to approximately 15 hours each week. You'll spend your time reading, accessing instructional materials, interacting with your instructor and classmates in discussion forums, lab activities, and completing homework.

A recommended weekly schedule to divide your time is provided:

- Readings: 2 hours
- Lectures: 2 hours
- Interactive Discussions: 2 hours
- Quizzes: 2 hours
- Lab Activities: 2 hours
- Weekly work on Final Paper: 3 hours
- Studying for Upcoming Exams: 2 hours

It is very important that you budget and distribute your time well, setting aside at least three work 'sessions' each week (as distributed practice has shown to improve learning). Plan for the time you need to carefully read/study through your course content and text chapters, for participation in the learning activities and discussion forums, and for taking chapter quizzes, mid-term and final exams. Set your own deadlines well ahead of those stipulated. Remember, it is always an advantage to work ahead!

Institutional Outcomes:

- 1.a. Demonstrate competence in intellectual, affective, and practical skills to prepare for careers in the twenty-first century, lifelong learning and service.
- 1.b. Select and apply intellectual, affective, and practical skills from their field of study to solve meaningful problems. The identified transferable skills for undergraduate students are: information literacy, quantitative literacy, engaging diverse perspectives, ethical reasoning, analytical inquiry in the form of problem solving and creative thinking, communication, wellness and transferable life skills.
- 2.b. Pursue enduring questions through study in core fields and explore the connections between those fields.

Student Learning Outcomes

1. Defend a Seventh-Day Adventist Christian worldview that supports environmental sustainability.
2. Define terms commonly used in environmental science.
3. Critically evaluate presented data and information using scientific principles and concepts.
4. Calculate ecological footprint.
5. Summarize key principles of environmental science.
6. Appraise simple stories and their claims.

Part 2: Course Methods and Delivery

Methods of Instruction

Methods of instruction includes video lectures, assigned readings from the textbook and the course material, short essays and reflections on the reading, short open book quizzes on the readings, interactions with the instructor via discussion board posts and 1 exam. Regular participation in the course is essential to good performance.

Course/Technical Requirements

- Internet connection (DSL, LAN, or cable connection desirable).

LearningHub Access

This course is delivered online through LearningHub at <http://learninghub.andrews.edu>

Your username and password are your Andrews username and password. You need to activate your username and password to access LearningHub.

Please do this online here:

<https://vault.andrews.edu/vault/pages/activation/information.jsp> if you haven't already. If you need assistance, call or email us: (296) 471-6016 or helpdesk@andrews.edu.

If you need technical assistance at any time during the course, or to report a problem with LearningHub, please email dlit@andrews.edu or call (269) 471-3960.

Part 3: Course Requirements

Important Note: This online class is **not** self-paced. You can arrange your schedule flexibly during each week, but you **MUST** participate each week. You are expected to “show up” to class by interacting in the discussion forums a minimum of two times per week. In addition, assignments are due regularly each week. Adequate Internet access during the duration of the course is critical for your participation. To be successful, plan to spend time daily on the course.

Assessment Descriptions

Chapter Quizzes – Open book quizzes taken each week via learning hub, covers assigned reading.

Assignments – Specific written and physical activities designed to enhance concept retention, and practice concepts covered.

Discussion Posts – Periodic web postings and 2 peer responses on various topics in schedule.

Infographics – Create an infographic for designated assignments that highlights specific information assigned or about the given topic. Includes both text and pictures/graphics to convey the points to the instructor and fellow students.

Lab Activities – Labs are activities that require you to work with PowerPoints, Infographics, or submit short papers based on site visits to various locations related to the course's topics. There are a total of 13 labs that you need to complete.

Eco-Home Design – Create a concept design for an ecologically friendly and efficient home based on the criteria in the assignment. Follow rubric for full points. Submit as a Prezi, SlideShare, PowerPoint, or Googleshare.

Environmental Worldview Paper – Personal environmental ethic position paper based on a Biblical worldview. Thoughts will be developed following the reading of “Planet in Distress” by Scott Christiansen.

Rubrics

BIOL 208 Environmental Worldview Paper Rubric

Criteria	Exceptional	Proficient	Satisfactory	Emerging	Unacceptable
Articulation of Personal View	Excellent explanation and rationale for viewpoint with external sources (Biblical, EG White)	Good explanation and rationale for viewpoint with external sources (Biblical, EG White)	General explanation and rationale for viewpoint with external sources (Biblical, EG White)	Little or non-specific explanation for viewpoint with external sources (Biblical, EG White)	No explanation or rationale for viewpoint and no external sources
Personal reaction	Very Detailed explication of the impact of the book on your worldview	Detailed explication of the impact of the book on your worldview	General explication of the impact of the book on your worldview	Little explication of the impact of the book on your worldview	No explication of the impact of the book on your worldview
Writing	No grammatical errors, proper APA citation, at least 3 references	2- 4 grammatical errors, proper APA citation, at least 3 references	5 – 6 grammatical errors, proper APA citation, at least 2 references	7-8 grammatical errors, proper APA citation, of references	9-10 grammatical errors, improper APA citation, of references if any

BIOL 208 Eco Home Rubric

Criteria	Exceptional	Proficient	Satisfactory	Emerging	Unsatisfactory
Energy efficiency	All appliances, lighting, electronic devices are energy efficient or not used at all	All appliances, lighting, electronic devices are energy efficient	All lighting and some electronic devices energy efficient	Only lighting is energy efficient	Energy efficiency eliminated or not addressed
House Type	Well documented Energy/Resource efficient	Well established Energy/Efficiency	Generally Energy/Resource Efficient	Some Energy/Resource efficiency	Not Energy/Resource efficient
House Size	Space and layout use extremely well justified	Space and layout use well justified	Space and layout use is generally justified	Space and layout use mentioned	No mention of space layout and use
Location	Very detailed explanation how location affects home efficiency	Detailed explanation how location affects home efficiency	General explanation of how location affects home efficiency	Brief explanation of how location affects home efficiency	No explanation of how location affects home efficiency
Materials	Very Efficient use of energy efficient materials (Materials not over used)	Efficient use of energy efficient materials (Materials not over used)	Most materials used are energy efficient Or Materials not efficient but minimally used	Low consideration for efficient use of materials and/or use of energy efficient materials	No regard for material use type or quantity
Heating & Cooling	Passive heating And Cooling (No energy inputs to heat or cool)	Very Energy efficient	Energy efficient	Trending toward. Heating and cooling efficiency	No regard for heating cooling energy needs

Exams

There is one exam for this course. The final exam covers material from the whole course and is made up of true/false and multiple choice questions. You will be allowed 90 minutes to take this exam. This exam is worth 16% of your grade. This exam requires proctoring.

Follow prompts in the course space to set up your exam session. In each module that contains an exam, you will find what to review and what materials are allowed (if any) during the exam.

Please read the important information about taking exams and how online proctoring works at www.andrews.edu/distance/students/exams.html. Then follow the instructions that apply to your situation on the [exam request form](#) to set up your exam session.

Please note that an exam code is never released to the student. All students must present photo identification before each exam session. Exams can only be proctored after a deadline with approval directly from the instructor to the Testing Center (sdeexams@andrews.edu or 269-471-6566). No exam is returned to the student for review. The instructor, to aid studying for future exams, can provide feedback on exams.

No exam is returned to the student. Instructor feedback on exams prior to the final exam will be provided to aid studying for future exams.

For more details on taking exams and how online proctoring works, please see www.andrews.edu/distance/students/exams.html

Schedule:

All times in the schedule are for the U.S. Eastern Time Zone. All assignments are due Thursdays in the week assigned, unless otherwise noted.

Week	Lessons	Readings	Assignments	Outcomes Met
Intro	These items will need to be completed before you will have access to the rest of the course	Orientation Course Overview Introductions Academic Integrity	Student Introductions Academic Integrity Quiz Academic Integrity Statement	
1 Aug 24 - 27	Introduction to Environmental Science Chapter 1 Lecture Slides	Read "Planet in Distress" By Scott Christiansen in preparation for end of semester (week 13) Personal World View Report. Miller & Spoolman Chapter 1 Pg. 5-10, 16-23	Introduce Yourself Discussion Assignment #1: Proposed plan for site visits Quiz #1 Lab #1: Calculate Ecological Foot print Due Thursday, Sept 3, 11:55pm	SLO 2, 4, 5
2 Aug 28 - Sept 3	Science and Systems: Principles Chapter 2 & 3 Lecture Slides View Lesson Video #1	Miller & Spoolman Chapter 2; Pg. 31-35, 41-47 Miller & Spoolman Chapter 3; Pg. 53-54, 62-70	Assignment #2: Exploring Science and the Media (Infographic #1) Lab #2: Local Environmental Issue and site visit	SLO 3, 6
3 Sept 4 - 10	Science and Systems: Communities Chapter 5 Lecture Slides	Miller & Spoolman Chapter 5; Pg. 109-111, 102, 105, 114, 117	Discussion #1: Explore Kelp Communities Quiz #2 Lab #3: Green Space Mapping and site visit	SLO 3, 5, 6
4 Sept 11 - 17	Human Populations, Science and Systems: Biomes Chapter 6 & 7 Lecture Slides View Lesson Video #2	Miller & Spoolman Chapter 6 Pg. 126-131 Miller & Spoolman Chapter 7 Pg. 148-159	Lab #4: Managing Human Environmental Impacts and site visit	SLO 2
5 Sept 18 - 24	Worldviews; Sustaining Biodiversity: Species Chapter 9 & 25 Lecture Slides	Miller & Spoolman Chapter 25; pg. 685-690 Miller & Spoolman Chapter 9; Pg. 194-196 208-212	Assignment #3 Sense of Place Activity (Infographic #2) Quiz #3 Lab #5: Share your place and site visit	SLO 1, 2, 5
6 Sept 25 - Oct 1	Sustaining Biodiversity: Terrestrial Chapter 10 Lecture Slides View Lesson Video #3	Miller & Spoolman Chapter 10; Pg. 219-226	Discussion #2: Conservations Lab #6: Improving Environmental Quality by Serving	SLO 2, 3, 5, 6
7 Oct 2 - 8	Sustaining Biodiversity: Aquatic Natural Resources: Land Chapter 11 Lecture slides	Miller & Spoolman Chapter 11; Pg. 259-271	Discussion #3: Resources Use Quiz #4 Lab #7: Discover your watershed and site visit	SLO 2, 3, 5, 6
8 Oct 9 - 15	Sustainable Food Chapter 12 Lecture Slides View Lesson Video #4	Miller & Spoolman Chapter 12; Pg. 280-295, 301-312	Discussion #4: "The Future of Food" Lab #8: Visit a Farm/Food Source	SLO 1, 3, 6
9 Oct 16 - 22	Natural Resources: Energy Chapter 15 & 16 Lecture Slides	Miller & Spoolman Chapter 15; Pg. 375-385, 389-396 Miller & Spoolman Chapter 16; Pg. 403-435 Continue Reading "Planet in Distress"	Quiz #5 Project #1: Design an Eco-Home	SLO 1, 2, 5

Week	Lessons	Readings	Assignments	Outcomes Met
10 Oct 23 - 29	Environmental Quality: Waste & Water Chapter 21 Lecture Slides View Lesson Video #5	Miller & Spoolman Chapter 21; Pg. 577-600	Lab #9: Ecological Footprint Analysis.	SLO 1, 3, 4
11 Oct 30 – Nov 5	Environmental Quality: Air Pollution (historical) Chapter 18 Lecture Slides	Miller & Spoolman Chapter 18; Pg. 475-501	Quiz #6 Lab #10: Calculating Clear Air	SLO 2, 3, 5
12 Nov 6 - 12	Environmental Quality: Water Pollution, Human Well Being Chapter 20 Lecture Slides View Lesson Video #6	Miller & Spoolman Chapter 20; Pg. 545-570	Discussion #5: Environmental Quality Lab #11: Experimental Design Hypothesis	SLO 2, 3, 5, 6
13 Nov 13 - 19	Environmental Quality: Climate Disruption; Human Societies: Urbanization Chapter 19 Lecture Slides	Miller & Spoolman Chapter 19; Pg. 507-538	Assignment #5: Project #2: Submit Environmental Worldview Paper Quiz #7 Lab #12: Sound Pollution	SLO 1, 2, 3, 6
14 Nov 20 - 26	Human Societies: Design for Sustainability Chapter 22 Lecture Slides View Lesson Video #7	Miller & Spoolman Chapter 22; Pg. 606-627	Discussion #6: Sustainability in Home Design Due Friday, Nov 27, 5:00pm	SLO 2, 3, 5, 6
15 Nov 27 – Dec 3	Course Reflection	Miller & Spoolman Pg. 540, 541	Assignment #6: Personal Ecological Footprint Analysis (Infographic #3) Lab #13: Experimental Design	SLO 1, 3, 4, 5
16 Dec 4 - 10	Course Project Wrap Up	FINAL Comprehensive EXAM (Needs to be completed by Wednesday, December 9, 11:59pm)		SLO 2

Completing Assignments

All assignments for this course will be submitted electronically through LearningHub unless otherwise instructed.

Part 4: Grading Policy

Graded Course Activities

Percent %	Description
10%	Discussion Posts (6 posts @ 20 pts each = 120 pts)
20%	Lab Activities (13 @ 10 pts each = 130 pts)
10%	Infographics (3 graphics @ 20 pts each = 60 pts)
15%	Eco-home design (1 design = 50 points)
10%	Quizzes (7 quizzes @ 20 pts = 140 pts)
15%	Environmental Worldview Paper (1 paper= 50 pts)
20%	Final Comprehensive Exam (1 Exam = 100 pts)
100%	Total Percent Possible

Viewing Grades in Learning Hub

- Click into the course.
- Click on the **Grades** link in the Settings Box to the left of the main course page.

Letter Grade Assignment

Letter Grade	Percentage
A	93-100%
A-	90-92%
B+	88-89%
B	83-87%
B-	80-82%
C+	78-79%
C	73-77%
C-	70-72%
D	60-69%
F	0-59%

Part 5: Course Policies

Withdrawal and Incomplete Policies

The current withdrawal policy can be found online at <https://www.andrews.edu/distance/students/gradplus/withdrawal.html>. The incomplete policy is found online at <http://www.andrews.edu/web/msc/moodle/public/incompletes.html>.

Maintain Professional Conduct Both in the Classroom and Online

The classroom is a professional environment where academic debate and learning take place. Your instructor will make every effort to make this environment safe for you to share your opinions, ideas, and beliefs. In return, you are expected to respect the opinions, ideas, and beliefs of other students—both in the face-to-face classroom and online communication. Students have the right and privilege to learn in the class, free from harassment and disruption.

Late Work

Late work will not be accepted. Timely completion of all assignments is an absolute necessity due to the nature of the online course. Unless a reasonable excuse is provided, all assignments are required to be turned in on the date indicated.

Netiquette

In this course, you will communicate with your classmates and instructor primarily in writing through the discussion forum and e-mail.

"Online manners" are generally known as "netiquette." As a general rule, you should adhere to the same classroom conduct that you would "off-line" in a face-to-face course. Some examples of proper netiquette are:

1. Avoid writing messages in all capital letters. THIS IS GENERALLY UNDERSTOOD AS SHOUTING.
2. Be careful what you put in writing. Even if you are writing an e-mail message to one person, assume that anyone could read it. Though you may send an e-mail to a single person, it is very easy to forward your message to hundreds or thousands of people.

3. Grammar and spelling matter. Online courses demand the same standard of academic communication and use of grammar as face-to-face courses.
4. Never use profanity in any area of an online course. The transcripts of online course discussion forums, e-mail, and chat sessions are savable.
5. When responding to messages, only use "Reply to All" when you really intend to reply to all.
6. Avoid unkindly public criticism of others. Publicly criticizing others in an inappropriate way is known as "flaming." Consider this course a practice forum for selecting your verbiage thoughtfully and professionally.
7. Use sarcasm cautiously. In the absence of nonverbal cues such as facial expressions and voice inflections, the context for your sarcasm may be lost, and your message may thus be misinterpreted.
8. In a face-to-face setting, our tone of voice and facial expressions may convey as much of our meaning as the words we use. In a written message, the subtext of your meaning may be confused or misinterpreted. Write clearly. Use active verbs.

[Source: University of Maryland, Communications Department]

Academic Accommodations

Students who require accommodations may request an academic adjustment as follows:

1. Read the Andrews University Disability Accommodation information at <https://www.andrews.edu/services/sscenter/disability/>
2. Download and fill in the disability form at <http://www.andrews.edu/services/sscenter/disability/accommodationsreqform.pdf> . Preferably type answers. To save a digital copy, 1) print to file and save or 2) print and scan. Email the completed form and disability documentation (if any) to success@andrews.edu or fax it to (269) 471-8407.
3. Email sdestudents@andrews.edu to inform the School of Distance Education that a disability has been reported to Student Success.

Commitment to Integrity

As a student in this course (and at this university) you are expected to maintain high degrees of professionalism, commitment to active learning and participation in this class, and integrity in your behavior in and out of the classroom.

Commitment to Excellence

You deserve a standing ovation based on your decision to enroll in, and effectively complete this course. Along with your pledge of "commitment to Integrity" you are expected to adhere to a "commitment to excellence." Andrews University has established high academic standards that will truly enhance your writing and communication skills across the disciplines and in diverse milieu with many discourse communities in the workplace.

Honesty

Using the work of another student or allowing work to be used by another student jeopardizes not only the teacher-student relationship but also the student's academic standing. Lessons may be discussed with other students, tutors may help to guide a student's work, and textbooks, encyclopedias and other resource materials may be used for additional assistance, but the actual response must be the student's own work.

Exams must be completed in the presence of an approved supervisor without the assistance of books, notes, devices or outside help unless otherwise specified in the exam directions. The

student should have no access to the exam either before or after it is taken. A student who gives information to another student to be used in a dishonest way is equally guilty of dishonesty.

Any violation of this policy will be taken before the Higher Education Academic and Curriculum Committee for appropriate punitive action.