



SYLLABUS

BIOL 208 Environmental Science

202141

BIOL 208 Environmental Science

School of Distance Education

Self-Paced Format

This course follows a self-paced online format. You have 180 days from your selected start date to complete the course. The last day to withdraw with a full refund is 15 days after your start date.

Instructor Contact

Please refer to course in Learning Hub for the teacher contact information.

Communication with the Instructor

It is important to remember that while the Internet is available 24 hours a day, your instructor is not. You can expect that your instructor will respond to e-mail message to you within *2 business days* during the week and may not be available to respond on weekends.

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 Descriptions

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.

Required Text/Material

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.

Miller and Spoolman, 2020, Living in the Environment, Cengage Learning.

Print ISBN: 9780357142202. eTextbook ISBN: 9780357705407

Christiansen, 2012, Planet in Distress: Environmental Deterioration and the Great Controversy, Review and Herald Pub: ISBN 9780828026604

Credit Hour and Commitment

This course is offered for 4 semester credits; therefore it is expected that you will spend 180 hours total on this course. This course has 16 modules with 15 lessons, 7 quizzes, 6 blog discussions, 13 lab activities, 3 infographic assignments, 1 Eco-Home design, and an Environmental Worldview Paper, and a final comprehensive exam. Each module represents a week of a typical semester course. It is recommended that you budget 12 hours for studying and completing the activities for each module. There are suggested schedules to accomplish this work included in this syllabus.

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 include 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 discussions, and two exams. Regular participation in the course is essential to good performance.

Technical Requirements

- Computer: PC (Win 10 or newer) or MAC (10.14 or better)
- A webcam with microphone, and speakers (or plug in headset)
- Internet: 2.4 Mbps or faster DSL, cable or Wi-Fi connection
- Browser: Current version of Chrome or Firefox
- Software: Office 2013 or newer ([Office 365 available here](#))

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 <mailto: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: Activity and assignment details will be explained in detail within each learning module. If you have any questions, please contact your instructor.

Your Schedule

In Learning Hub, you will access online lessons, course materials, and resources. This course is self-paced. You must complete the course within 180 days. This is the Consortium policy. You may have a stricter deadline imposed by graduation, financial aid, or other restrictions.

Start by creating a schedule for completion of the course.

- Determine your deadline. Do you need a transcript sent to your home institution?
- Working from your deadline, count backwards. Allow 2 weeks after you take your final exam for your final grade to be calculated. Allow another 2 weeks for the transcript to be processed and sent.
- Now use the suggested schedules to create a schedule for yourself that ensures completion 4 weeks before your deadline.

Submit your course plan to your instructor within Learning Hub AND discipline yourself to make regular progress.

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.

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.

Blog Posts – Periodic web postings on various topics in schedule.

Rubrics

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 |

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/R esource 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 require 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. The 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.

Suggested schedule for completion in 8 weeks:

| Modules | Lessons | Readings | Assignments | Course Objectives 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 | Schedule Introduce Yourself Academic Integrity Quiz Academic Integrity Statement | |
| 1 | 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. 3-8 (1.1), 13-19 (1.3-1.4) | Assignment #1: Proposed plan for site visits Quiz #1 Lab #1: Calculate Ecological Foot print. Miller & Spoolman pg 22 "Doing Environmental Science" | SLO 2, 4, 5 |
| | Science and Systems: Principles Chapter 2 & 3 Lecture Slides View Lesson Video #1 | Miller & Spoolman Chapter 2; Pg. 25-28 (2.1), 34-39 (2.3-2.4) Miller & Spoolman Chapter 3; Pg. 44 (3.1), 55-60 (3.4) | Assignment #2: Exploring Science and the Media (Infographic #1) Lab #2: Local Environmental Issue and site visit | SLO 3, 6 |
| 2 | Science and Systems: Communities Chapter 5 Lecture Slides | Miller & Spoolman Chapter 5; Pg. 90, 93, 96-98 (5.2), 103, 105 | Blog #1: Explore Kelp Communities Quiz #2 Lab #3: Green Space Mapping and site visit | SLO 3, 5, 6 |
| | Human Populations, Science and Systems: Biomes Chapter 6 & 7 Lecture Slides View Lesson Video#2 | Miller & Spoolman Chapter 6 Pg. 112-116 (6.2) Miller & Spoolman Chapter 7 Pg. 131-135 (7.2) | Lab #4: Managing Human Environmental Impacts and site visit | SLO 2 |

| Modules | Lessons | Readings | Assignments | Course Objectives Met |
|---------|--|---|--|----------------------------------|
| 3 | Worldviews; Sustaining Biodiversity: Species Chapter 9 & 25 Lecture Slides | Miller & Spoolman Chapter 25; pg. 637-642 (25.1) Miller & Spoolman Chapter 9; Pg. 179-181 (9.2) 194-198 (9.4) | Assignment #3 Sense of Place Activity (Infographic #2) Quiz #3 Lab #5: Share your place and site visit | SLO 1, 2, 5 |
| | Sustaining Biodiversity: Terrestrial Chapter 10 Lecture Slides View Lesson Video #3 | Miller & Spoolman Chapter 10; Pg. 203-211 (10.1) | Blog#2: Conservations Lab #6: Improving Environmental Quality by Serving | SLO 2, 3, 5, 6 |
| 4 | Sustaining Biodiversity: Aquatic Natural Resources: Land Chapter 11 Lecture slides | Miller & Spoolman Chapter 11; Pg. 245-256 (11.2-11.5) | Blog #3: Resources Use Quiz #4 Lab #7: Discover your watershed and site visit | SLO 2, 3, 5, 6 |
| | Sustainable Food Chapter 12 Lecture Slides View Lesson Video #4 | Miller & Spoolman Chapter 12; Pg. 265-280 (12.2-12.3), 286-296 (12.5- 12.6) | Blog #4: "The Future of Food" Lab #8: Visit a Farm/Food Source | SLO 1, 3, 6 |
| 5 | Natural Resources: Energy Chapter 15 & 16 Lecture Slides | Miller & Spoolman Chapter 15; Pg. 353-372 (15.1-15.5) Miller & Spoolman Chapter 16: Pg. 377-404 (16.1-16.8) Continue Reading "Planet in Distress" | Quiz #5 Project #1: Design an Eco-Home | SLO 1, 2, 5 |
| | Environmental Quality: Waste & Water Chapter 21 Lecture Slides View Lesson Video #5 | Miller & Spoolman Chapter 21; Pg. 538-560 (21.1-21.6) | Lab #9: Ecological Footprint Analysis. | SLO 1, 3, 4 |
| 6 | Environmental Quality: Air Pollution (historical) Chapter 18 Lecture Slides | Miller & Spoolman Chapter 18; Pg. 438-464 (18.1-18.7) | Quiz #6 Lab #10: Calculating Clear Air | SLO 2, 3, 5 |
| | Environmental Quality: Water Pollution, Human Well Being Chapter 20 Lecture Slides View Lesson Video #6 | Miller & Spoolman Chapter 20; Pg. 507-533 (20.1-20.5) | Blog #5: Environmental Quality Lab #11: Experimental Design Hypothesis | SLO 2, 3, 5, 6 |
| 7 | Environmental Quality: Climate Disruption; Human Societies: Urbanization Chapter 19 Lecture Slides | Miller & Spoolman Chapter 19; Pg. 469-501 (19.1-19.5) | Assignment #5: Project #2: Submit Environmental Worldview Paper Quiz #7 Lab #12: Sound Pollution | SLO 1, 2, 3, 6 SLO 2, 3, 5, 6 |
| | Human Societies: Design for Sustainability Chapter 22 Lecture Slides View Lesson Video #7 | Miller & Spoolman Chapter 22; Pg. 566-585 (22.1-22.5) | Blog #6: Sustainability in Home Design | |
| 8 | Course Reflection | Miller & Spoolman Pg. 540, 541 | Assignment #6: Personal Ecological Footprint Analysis (Infographic #3) Lab #13: Experimental Design | SLO 1, 3, 4, 5 |
| | Course Project Wrap Up | PROCTORED FINAL EXAM | | SLO 2 |

Suggested schedule for completion in 16 weeks:

| Modules | Lessons | Readings | Assignments | Course Objectives 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 | Schedule Introduce Yourself Academic Integrity Quiz Academic Integrity Statement | |
| 1 | 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. 3-8 (1.1), 13-19 (1.3-1.4) | Assignment #1: Proposed plan for site visits Quiz #1 Lab #1: Calculate Ecological Footprint. Miller & Spoolman pg 22 "Doing Environmental Science" | SLO 2, 4, 5 |
| 2 | Science and Systems: Principles Chapter 2 & 3 Lecture Slides View Lesson Video #1 | Miller & Spoolman Chapter 2; Pg. 25-28 (2.1), 34-39 (2.3-2.4) Miller & Spoolman Chapter 3; Pg. 44 (3.1), 55-60 (3.4) | Assignment #2: Exploring Science and the Media (Infographic #1) Lab #2: Local Environmental Issue and site visit | SLO 3, 6 |
| 3 | Science and Systems: Communities Chapter 5 Lecture Slides | Miller & Spoolman Chapter 5; Pg. 90, 93, 96-98 (5.2), 103, 105 | Blog #1: Explore Kelp Communities Quiz #2 Lab #3: Green Space Mapping and site visit | SLO 3, 5, 6 |
| 4 | Human Populations, Science and Systems: Biomes Chapter 6 & 7 Lecture Slides View Lesson Video#2 | Miller & Spoolman Chapter 6 Pg. 112-116 (6.2) Miller & Spoolman Chapter 7 Pg. 131-135 (7.2) | Lab #4: Managing Human Environmental Impacts and site visit | SLO 2 |
| 5 | Worldviews; Sustaining Biodiversity: Species Chapter 9 & 25 Lecture Slides | Miller & Spoolman Chapter 25; pg. 637-642 (25.1) Miller & Spoolman Chapter 9; Pg. 179-181 (9.2) 194-198 (9.4) | Assignment #3 Sense of Place Activity (Infographic #2) Quiz #3 Lab #5: Share your place and site visit | SLO 1, 2, 5 |
| 6 | Sustaining Biodiversity: Terrestrial Chapter 10 Lecture Slides View Lesson Video #3 | Miller & Spoolman Chapter 10; Pg. 203-211 (10.1) | Blog#2: Conservations Lab #6: Improving Environmental Quality by Serving | SLO 2, 3, 5, 6 |
| 7 | Sustaining Biodiversity: Aquatic Natural Resources: Land Chapter 11 Lecture slides | Miller & Spoolman Chapter 11; Pg. 245-256 (11.2-11.5) | Blog #3: Resources Use Quiz #4 Lab #7: Discover your watershed and site visit | SLO 2, 3, 5, 6 |
| 8 | Sustainable Food Chapter 12 Lecture Slides View Lesson Video #4 | Miller & Spoolman Chapter 12; Pg. 265-280 (12.2-12.3), 286-296 (12.5-12.6) | Blog #4: "The Future of Food" Lab #8: Visit a Farm/Food Source | SLO 1, 3, 6 |
| 9 | Natural Resources: Energy Chapter 15 & 16 Lecture Slides | Miller & Spoolman Chapter 15; Pg. 353-372 (15.1-15.5) Miller & Spoolman Chapter 16: Pg. 377-404 (16.1-16.8) Continue Reading "Planet in Distress" | Quiz #5 Project #1: Design an Eco-Home | SLO 1, 2, 5 |
| 10 | Environmental Quality: Waste & Water Chapter 21 Lecture Slides View Lesson Video #5 | Miller & Spoolman Chapter 21; Pg. 538-560 (21.1-21.6) | Lab #9: Ecological Footprint Analysis. | SLO 1, 3, 4 |

| Modules | Lessons | Readings | Assignments | Course Objectives Met |
|---------|---|--|---|----------------------------------|
| 11 | Environmental Quality: Air Pollution (historical) Chapter 18 Lecture Slides | Miller & Spoolman Chapter 18; Pg. 438-464 (18.1-18.7) | Quiz #6 Lab #10: Calculating Clear Air | SLO 2, 3, 5 |
| 12 | Environmental Quality: Water Pollution, Human Well Being Chapter 20 Lecture Slides View Lesson Video #6 | Miller & Spoolman Chapter 20; Pg. 507-533 (20.1-20.5) | Blog #5: Environmental Quality Lab #11: Experimental Design Hypothesis | SLO 2, 3, 5, 6 |
| 13 | Environmental Quality: Climate Disruption; Human Societies: Urbanization Chapter 19 Lecture Slides | Miller & Spoolman Chapter 19; Pg. 469-501 (19.1-19.5) | Assignment #5: Project #2: Submit Environmental Worldview Paper Quiz #7 Lab #12: Sound Pollution | SLO 1, 2, 3, 6 SLO 2, 3, 5, 6 |
| 14 | Human Societies: Design for Sustainability Chapter 22 Lecture Slides View Lesson Video #7 | Miller & Spoolman Chapter 22; Pg. 566-585 (22.1-22.5) | Blog #6: Sustainability in Home Design | |
| 15 | 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 | Course Project Wrap Up | PROCTORED FINAL EXAM | | 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% | Blog 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 Moodle

- Click into the course.
- Click on the **Grades** link in Administration Block 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.

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 the university, you are expected to maintain high degrees of professionalism, commitment to active learning, participation in this course, and integrity in your behavior in and out of this online 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. 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.