BIOL 208 999 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
Email: ricae@andrews.edu
Phone: 360.708.3286

Other Assistance
<table>
<thead>
<tr>
<th>Assistance</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Username and password assistance</td>
<td><a href="mailto:helpdesk@andrews.edu">helpdesk@andrews.edu</a></td>
<td>(269) 471-6016</td>
</tr>
<tr>
<td>Enrollment and withdrawal questions</td>
<td><a href="mailto:sderegister@andrews.edu">sderegister@andrews.edu</a></td>
<td>(269) 471-6323</td>
</tr>
<tr>
<td>Technical assistance with online courses</td>
<td><a href="mailto:dlit@andrews.edu">dlit@andrews.edu</a></td>
<td>(269) 471-3960</td>
</tr>
<tr>
<td>Exam requests and online proctoring</td>
<td><a href="mailto:sdeexams@andrews.edu">sdeexams@andrews.edu</a></td>
<td>(269) 471-6566</td>
</tr>
<tr>
<td>Distance Student Services - any other questions</td>
<td><a href="mailto:sdestudents@andrews.edu">sdestudents@andrews.edu</a></td>
<td>(269) 471-6566</td>
</tr>
</tbody>
</table>

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

Course 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.
Required Text/Material

NOTE: Purchase textbooks through any online bookstore, such as amazon.com, which can deliver within 2 days. If you need to use financial aid to purchase textbooks, email sdestudents@andrews.edu, cutting and pasting the textbook information from syllabi, including course title and section, your full name and student ID#.

Credit Hour and Commitment
BIOL 208 Environmental Science is a 4.0 Credit Course. The successful student should expect to spend approximately 2 hours for every credit hour in study/class activities outside of regular class activities. There will be 1 Exams, 7 Quizzes, and 13 Assignments.

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**

**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.

**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.

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

**Rubrics**

**BIOL 208 Environmental Worldview Paper Rubric**

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

Last Updated: 3/12/2018
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 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 is 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**

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

Please review the [current policy on approved proctors](#) before completing the exam request form, which is linked through your course space. It is your responsibility to make arrangements for an approved proctor (unless living near the main campus) and to complete the exam request form at least two weeks prior to each exam date. Bring an official photo ID to show the proctor at the start of the exam session.

The Final comprehensive exam is worth 15% of your grade. You are allowed 90 minutes to complete this exam.

If you cannot take your exam within the period noted in the email regarding exam arrangements, email sdeexams@andrews.edu with the reason you cannot meet this deadline, and a proposed alternate time within a week, and prior to the course end date.

Completed exams are never available to you or your proctor. Instructors provide feedback on exams other than the final exam. Exam grades can be viewed in the course space, and the final course grade is included in the University Academic Record accessible through your IVUE page.
## Schedule:
All times in the schedule are for the U.S. Eastern Time Zone.

<table>
<thead>
<tr>
<th>Modules</th>
<th>Lessons</th>
<th>Readings</th>
<th>Assignments</th>
<th>Course Objectives Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Read “Planet in Distress” By Scott Christiansen in preparation for end of semester (week 13) Personal World View Report.</td>
<td>Personal Introduction</td>
<td>CO 1</td>
</tr>
<tr>
<td>1</td>
<td>June 11 - 17</td>
<td>Introduction to Environmental Science Chapter 1 Lecture Slides</td>
<td>Miller &amp; Spoolman Chapter 1 pg 5-10, 16-23</td>
<td>Ecological Footprint Activity Quiz #1 Due Wed, June 13, 11:55 p.m.</td>
</tr>
<tr>
<td></td>
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<td>Science and Systems: Principles Chapter 2 &amp; 3 Lecture Slides View Lesson Video #1</td>
<td>Miller &amp; Spoolman Chapter 2; Pgs. 31-35, 41-47 Miller &amp; Spoolman Chapter 3; Pgs. 53-54, 62-70</td>
<td>Exploring Science and the Media. Due Sun, June 17, 11:55 p.m.</td>
</tr>
<tr>
<td>2</td>
<td>June 18 - 24</td>
<td>Science and Systems: Communities Chapter 5 Lecture Slides</td>
<td>Miller &amp; Spoolman Chapter 5; Pgs. 109-111, 102, 105, 114, 117</td>
<td>Explore Kelp Communities Paper Discussion Forum #1: Explore Kelp Communities Quiz #2 Due Wed June 20, 11:55 p.m.</td>
</tr>
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<td>Human Populations, Science and Systems: Biomes Chapter 6 &amp; 7 Lecture Slides View Lesson Video #2</td>
<td>Miller &amp; Spoolman Chapter 6 Pgs. 126-131 Miller &amp; Spoolman Chapter 7 Pgs. 148-159</td>
<td>Continue Reading Planet in Distress. Due Sun June 24 11:55 p.m.</td>
</tr>
<tr>
<td>3</td>
<td>June 25 - July 1</td>
<td>Worldviews; Sustaining Biodiversity: Species Chapter 9 &amp; 25 Lecture Slides</td>
<td>Miller &amp; Spoolman Chapter 25; Pgs. 685-690 Miller &amp; Spoolman Chapter 9; Pgs. 194-196 208-212</td>
<td>Sense of Place Infographic Activity Quiz #3 Due Wed June 27, 11:55 p.m.</td>
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<td>Sustaining Biodiversity: Terrestrial Chapter 10 Lecture Slides View Lesson Video #3</td>
<td>Miller &amp; Spoolman Chapter 10; Pgs. 219-226</td>
<td>Discussion Forum #2: Conservation Due Sun July 1, 11:55 p.m.</td>
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<tr>
<td>4</td>
<td>July 2 - 8</td>
<td>Sustaining Biodiversity: Aquatic Natural Resources: Land Chapter 11 Lecture Slides</td>
<td>Miller &amp; Spoolman Chapter 11; Pgs. 259-274</td>
<td>Discussion Forum #3: Resource Use Quiz #4 Due Wed July 4, 11:55 p.m.</td>
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<td>Sustainable Food Chapter 12 Lecture Slides View Lesson Video #4</td>
<td>Miller &amp; Spoolman Chapter 12; Pgs. 280-295, 301-312</td>
<td>The Future of Food Activity Discussion Forum #4: The Future of Food Due Sun July 8, 11:55 p.m.</td>
</tr>
<tr>
<td>5</td>
<td>July 9-15</td>
<td>Natural Resources: Energy Chapter 15 &amp; 16 Lecture Slides</td>
<td>Miller &amp; Spoolman Chapter 15; Pgs. 375-385, 389-396 Miller &amp; Spoolman Chapter 16; Pgs. 403-435</td>
<td>An Eco-Home Design Quiz #5 Due Wed July 10, 11:55 p.m.</td>
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<td></td>
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<td>Environmental Quality: Waste &amp; Water Chapter 21 Lecture Slides View Lesson Video #5</td>
<td>Miller &amp; Spoolman Chapter 21; Pgs. 577-600</td>
<td>Ecological Footprint Analysis Activity Due Sun July 15, 11:55 p.m.</td>
</tr>
<tr>
<td>6</td>
<td>July 16-22</td>
<td>Environmental Quality: Air Pollution (historical) Chapter 18 Lecture Slides</td>
<td>Miller &amp; Spoolman Chapter 18; Pgs. 475-501</td>
<td>Calculating Clear Air Activity Quiz #6 Due Wed July 18, 11:55 p.m.</td>
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<td>Environmental Quality: Water Pollution, Human Well Being Chapter 20 Lecture Slides View Lesson Video #6</td>
<td>Miller &amp; Spoolman Chapter 20; Pgs. 545-570</td>
<td>Discussion Forum #5: Environmental Quality Due Sun July 22, 11:55 p.m.</td>
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<tr>
<td>7</td>
<td>July 23-29</td>
<td>Environmental Quality: Climate Disruption; Human Societies: Urbanization Chapter 19 Lecture Slides</td>
<td>Miller &amp; Spoolman Chapter 19; Pgs. 507-538</td>
<td>Submit Environmental Worldview Paper Quiz #7 Due Wed July 25, 11:55 p.m.</td>
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<tr>
<td></td>
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<td>Human Societies: Design for Sustainability Chapter 22 Lecture Slides View Lesson Video #7</td>
<td>Miller &amp; Spoolman Chapter 22; Pgs. 606-627</td>
<td>Discussion Forum #6: sustainability in home design Due Sun July 29, 11:55 p.m.</td>
</tr>
<tr>
<td>8</td>
<td>Jul 30 – Aug. 2</td>
<td>Course Reflection</td>
<td>Miller &amp; Spoolman Page 540, 541</td>
<td>Personal Ecological Footprint Analysis Activity Due Thurs, Aug 2 11:55 p.m.</td>
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<tr>
<td></td>
<td></td>
<td>Course Project Wrap Up</td>
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**FINAL Comprehensive EXAM**
*(needs to be completed by Thursday, August 2, 11:59 p.m.)*

Last Updated: 3/12/2018

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

Part 4: Grading Policy

Graded Course Activities

<table>
<thead>
<tr>
<th>Percent %</th>
<th>Description</th>
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<tbody>
<tr>
<td>15%</td>
<td>Discussion Posts 6 posts @ 20 pts each = 100 pts</td>
</tr>
<tr>
<td>20%</td>
<td>Activities 6 activities @ 10 pts each = 60 pts</td>
</tr>
<tr>
<td>10%</td>
<td>Infographics 2 graphics @ 20 pts each = 40 pts</td>
</tr>
<tr>
<td>10%</td>
<td>Eco-home design 1 design = 50 points</td>
</tr>
<tr>
<td>15%</td>
<td>Quizzes 7 quizzes @ 20 pts = 140 pts</td>
</tr>
<tr>
<td>15%</td>
<td>Environmental Worldview Paper 1 paper = 50 pts</td>
</tr>
<tr>
<td>15%</td>
<td>Final Comprehensive Exam 1 Exam = 100 pts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
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</table>

<table>
<thead>
<tr>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Total Percent Possible</td>
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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

<table>
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<th>Letter Grade</th>
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<tr>
<td>A-</td>
<td>90-92%</td>
</tr>
<tr>
<td>B+</td>
<td>88-89%</td>
</tr>
<tr>
<td>B</td>
<td>83-87%</td>
</tr>
<tr>
<td>B-</td>
<td>80-82%</td>
</tr>
<tr>
<td>C+</td>
<td>78-79%</td>
</tr>
<tr>
<td>C</td>
<td>73-77%</td>
</tr>
<tr>
<td>C-</td>
<td>70-72%</td>
</tr>
<tr>
<td>D</td>
<td>60-69%</td>
</tr>
<tr>
<td>F</td>
<td>0-59%</td>
</tr>
</tbody>
</table>

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/weblmsc/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.