**Course Description**

Assesses fundamental topics in environmental science, providing a foundation for understanding and analyzing today's environmental problems. Discusses environmental systems, human population growth, biodiversity, air and water quality, waste disposal, conservation, pollution, energy, and sustainability. Introduces the basic steps of risk assessment and Phase I, II, and III Environmental Site Assessments.

**Prerequisites**

None

**Course Textbook**


**Course Learning Objectives**

Upon completion of this course, students should be able to:

1. Assess and explain the components of our environment.
2. Discuss the important concepts concerning ecology including matter, energy and life.
3. Determine the important elements and interactions of populations, communities and species.
4. Determine and explain the important elements of human population.
5. Assess and explain biome and biodiversity principles.
6. Review and explain the system of environmental conservation to include forest, grasslands, parks, and nature preserves.
7. Discuss the importance of food, agriculture, and water as it relates to applications of environmental science.
8. Describe the various aspects of environmental geology and identify Earth's important resources.
9. Explain the important considerations involving solid and hazardous waste.
10. Determine both sustainability and human development factors.
11. Discuss the system of environmental science as it relates to policy and practice.
12. Define and discuss risk assessment from a human health and ecological perspective.
13. Define and discuss Environmental Site Assessments (Phase I and II).
14. Discuss the federal legislation that governs the cleanup of hazardous waste sites.

**Credits**

Upon completion of this course, the students will earn three (3) hours of college credit.

**Course Structure**

1. **Unit Learning Objectives**: Each unit contains Unit Learning Objectives that specify the measurable skills and knowledge students should gain upon completion of the unit.
2. **Written Lectures**: Each unit contains a Written Lecture, which discusses lesson material.
Reading Assignments: Each unit contains Reading Assignments from one or more chapters from the textbook. Supplemental Resources are provided in the unit study guides to aid students in their course of study.

Learning Activities (Non-Graded): These non-graded Learning Activities are provided to aid students in their course of study.

Key Terms: Key Terms are intended to guide students in their course of study. Students should pay particular attention to Key Terms as they represent important concepts within the unit material and reading.

Discussion Boards: Discussion Boards are a part of all CSU term courses. Information and specifications regarding these assignments are provided in the Academic Policies listed in the Course Menu bar.

Unit Assessments: This course contains eight Unit Assessments, one to be completed at the end of each unit. Assessments are composed of multiple-choice questions and written response questions.

Unit Assignments: Students are required to submit for grading Unit Assignments in Units II, IV, and V. Specific information and instructions regarding these assignments are provided below.

Research Paper: Students are required to submit for grading an Outline in Unit VI and a Research Paper in Unit VIII. Specific information and instructions regarding this assignment are provided below.

Final Exam (Proctored): Students are to complete a Final Exam in Unit VIII. All Final Exams are proctored—see below for additional information. You are permitted four (4) hours to complete this exam, in the presence of your approved proctor. This is an open book exam. Only course textbooks and a calculator, if necessary, are allowed when taking proctored exams.

Ask the Professor: This communication forum provides you with an opportunity to ask your professor general or course content related questions.

Student Break Room: This communication forum allows for casual conversation with your classmates.

Unit Assignments

Unit II Assignment

Search for the following audio file in the CSU Online Library’s Academic OneFile:


Listen to the audio file (or read the text of the interview), and answer the following questions. Your responses should total a minimum of 400 words:

- What is the concern with hunters and fishermen targeting the biggest and the strongest individuals of a species? Describe how this appears to be leading to evolutionary changes.

- What are your thoughts on this study? What action, if any, should be taken? Justify your response with information from the interview.

Remember to provide citations in APA format.

Unit IV PowerPoint Presentation

Create a five- to seven-slide PowerPoint presentation on the EPA’s human health risk assessment process. Your presentation should include speaker’s notes that narrate the presentation as if you were in front of an audience.

Use the EPA’s Risk Assessment Portal to access the information you will need to complete your presentation. You may include other sources as you see fit.

To find the Risk Assessment Portal, use your favorite search engine to access the EPA Web site (http://www.epa.gov/). Once on the site, type “Step 1 – Hazard Identification” (without quotes). The first site listed should be the one you want. Click on it, and you will see Step 1 of the process. To go to Step 2, click on the link at the bottom of the page. Steps 3 and 4 will follow Steps 2 and 3 in the same way.

Be sure to use your own words in your presentation, and include graphics to create visually interesting slides. Include a slide that lists all of your sources in APA format.
Unit V Essay

Visit the Intergovernmental Panel on Climate Change (IPCC) Web page (http://www.ipcc.ch/) and locate the IPCC Fourth Assessment Report. You can find this information by typing “IPCC” (without quotes) into an Internet search engine, which will bring up a link “IPCC – Intergovernmental Panel on Climate Change” (should be the first link on the list). Click on the link, then click on the “Search” link in the upper right of the IPCC screen, which will bring up a page saying “Search for IPCC Documents Related to:”. Double-click on Assessment Reports, then type in “2007 projected climate change and its impacts” (without quotes) in the search box below “Search all Assessment Reports.” When you click the green Search icon or click Enter, “3 Project climate change and its impacts” should be the first link in the resulting list. This link will bring up the information you need for your report.

Read this section, and write a minimum 600-word essay on your personal thoughts about the actions we should take to deal with climate change based on the potential consequences discussed in the IPCC report. Discuss the consequences that you believe are most dire, and what action should be taken to address them.

Use APA format for any in-text citations and references.

Research Paper

Research Paper Outline

Provide a detailed outline in Unit VI, of your research paper that will be due in Unit VIII. Your outline should be at least two pages in length. Please include a fully developed introductory paragraph within your outline. This will help you to develop a clear vision of the scope of your final paper.

Research Paper

For your final research paper, choose any topic listed in the table of contents and write a five page minimum paper that analyzes the topic.

You may choose to explore a very specific subtopic (e.g., how melting polar ice caps will affect the polar bear population), or you may choose to write a broader overview (e.g., a discussion about both sides of the climate change debate).

You may use the textbook as a reference, but the majority of your paper must be researched from outside sources. Your paper must be supported by a minimum of five outside references from credible sources (i.e., peer-reviewed journal articles, textbooks, Internet search, and governmental position statements).

NOTE: Unmonitored Web sites such as Wikipedia are NOT acceptable reference sources for a research paper; they may NOT be used in this course. The CSU Library is an excellent source of resource material for research papers. To view a list of library resources and features, click on the My Library link in the Course Menu.

The paper will be a minimum of five pages in length, double-spaced, 12 point type, APA Style (title page and reference page are not included in page length).

Submitting Course Papers/Projects

Once you have completed your paper projects, submit your completed papers by uploading them through the “view/complete” link under the Assignment/Research Paper tab in each unit. Do not e-mail your paper directly to your professor. By using the Assignment/Research Paper tabs, your university record will automatically be updated to indicate you have submitted your paper and the paper will be provided to your professor for grading. Instructions for submitting your assignment can be found under the Assignment/Research Paper tab in each unit.

APA Guidelines

CSU requires that students use the APA style for papers and projects. Therefore, the APA rules for formatting, quoting, paraphrasing, citing, and listing of sources are to be followed. A document titled “APA Guidelines Summary” is available for you to download from the APA Guide Link, found in the Learning Resources area of the myCSU Student Portal. It may
also be accessed from the Student Resources link on the Course Menu. This document provides links to several internet sites that provide comprehensive information on APA formatting, including examples and sample papers.

**CSU Grading Rubric for Papers/Projects**

The course papers will be graded based on the CSU Grading Rubric for all types of papers. In addition, all papers will be submitted for electronic evaluation to rule out plagiarism. Course projects will contain project specific grading criteria defined in the project directions. To view the rubric, click the Academic Policies link on the Course Menu, or by accessing the CSU Grading Rubric link, found in the Learning Resources area of the myCSU Student Portal.

**Final Examination Guidelines**

Final Examinations are to be administered to students by an approved proctor on a date that is mutually convenient. The student is responsible for selecting a qualified proctor that must be approved by the university.

A list of acceptable proctors is provided in the Examination Proctor Policy. To review the complete Examination Proctor Policy including a list of acceptable proctors, proctor responsibilities, proctor approval procedures and the Proctor Agreement Form, go to the myCSU Student Portal from the link below.

[http://mycsu.columbiasouthern.edu](http://mycsu.columbiasouthern.edu)

You are permitted four (4) hours to complete this exam, in the presence of your approved proctor. This is an open book exam. Only course textbooks and a calculator, if necessary, are allowed when taking proctored exams.

**Communication Forums**

These are non-graded discussion forums that allow you to communicate with your professor and other students. Participation in these discussion forums is encouraged, but not required. You can access these forums with the buttons in the Course Menu. Instructions for subscribing/unsubscribing to these forums are provided below.

[Click here for instructions on how to subscribe/unsubscribe and post to the Communication Forums.](http://mycsu.columbiasouthern.edu)

**Ask the Professor**

This communication forum provides you with an opportunity to ask your professor general or course content questions. Questions may focus on Blackboard locations of online course components, textbook or course content elaboration, additional guidance on assessment requirements, or general advice from other students.

Questions that are specific in nature, such as inquiries regarding assessment/assignment grades or personal accommodation requests, are NOT to be posted on this forum. If you have questions, comments, or concerns of a non-public nature, please feel free to email your professor. Responses to your post will be addressed or emailed by the professor within 48 hours.

Before posting, please ensure that you have read all relevant course documentation, including the syllabus, assessment/assignment instructions, faculty feedback, and other important information.

**Student Break Room**

This communication forum allows for casual conversation with your classmates. Communication on this forum should always maintain a standard of appropriateness and respect for your fellow classmates. This forum should NOT be used to share assessment answers.
Grading

Discussion Boards (8 @ 2%) = 16%
Unit Assessments (7 @ 5% and 1 @ 4%) = 39%
Assignment = 5%
PowerPoint Presentation = 6%
Essay = 7%
Research Paper Outline = 4%
Research Paper = 13%
Final Exam = 10%
Total = 100%

Course Schedule/Checklist (PLEASE PRINT)

The following pages contain a printable Course Schedule to assist you through this course. By following this schedule, you will be assured that you will complete the course within the time allotted.
By following this schedule, you will be assured that you will complete the course within the time allotted. Please keep this schedule for reference as you progress through your course.

<table>
<thead>
<tr>
<th>Unit I</th>
<th>Environmental Science and Environmental Systems</th>
</tr>
</thead>
</table>
| Review: | - Unit Study Guide  
          - **Learning Activities (Non-Graded):** See Study Guide |
| Read:   | - **Chapter 1:** Understanding Our Environment  
          - **Chapter 2:** Environmental Systems: Connections, Cycles, Flows, and Feedback Loops  
          - **Supplemental Resources:** See Study Guide |
| Discuss:| - **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, Midnight (Central Time) |
| Submit: | - **Assessment** by Tuesday, Midnight (Central Time) |

Notes/Goals:

<table>
<thead>
<tr>
<th>Unit II</th>
<th>Evolution, Species Interactions, and Population Growth</th>
</tr>
</thead>
</table>
| Review: | - Unit Study Guide  
          - **Learning Activities (Non-Graded):** See Study Guide |
| Read:   | - **Chapter 3:** Evolution, Species Interactions, and Biological Communities  
          - **Chapter 4:** Human Populations  
          - **Supplemental Resources:** See Study Guide |
| Discuss:| - **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)  
          - **Discussion Board Comment:** Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time) |
| Submit: | - **Assessment** by Tuesday, Midnight (Central Time)  
          - **Assignment** by Tuesday, Midnight (Central Time)  
          - **Proctor Approval Form** |

Notes/Goals:
## Unit III
### The Earth’s Biomes, Biodiversity, and Conservation

**Review:**
- Unit Study Guide
- **Learning Activities (Non-Graded):** See Study Guide

**Read:**
- Chapter 5: Biomes and Biodiversity
- Chapter 6: Environmental Conservation: Forests, Grasslands, Parks, and Nature Preserves
- **Supplemental Resources:** See Study Guide

**Discuss:**
- **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
- **Discussion Board Comment:** Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time)

**Submit:**
- **Assessment** by Tuesday, Midnight (Central Time)

**Notes/Goals:**

---

## Unit IV
### Food and Agriculture, Environmental Health, and Risk Assessment

**Review:**
- Unit Study Guide
- **Learning Activities (Non-Graded):** See Study Guide

**Read:**
- Chapter 7: Food and Agriculture
- Chapter 8: Environmental Health and Toxicology
- **Internet Reading:** See Study Guide for link
- **Supplemental Resources:** See Study Guide

**Discuss:**
- **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
- **Discussion Board Comment:** Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time)

**Submit:**
- **Assessment** by Tuesday, Midnight (Central Time)
- **PowerPoint Presentation** by Tuesday, Midnight (Central Time)

**Notes/Goals:**
# BEM 3201, Environmental Assessment

## Course Schedule

### Unit V

**Air Pollution, Climate Change, and Water Resources**

**Review:**
- Unit Study Guide
- **Learning Activities (Non-Graded):** See Study Guide

**Read:**
- Chapter 9: Air: Climate and Pollution
- Chapter 10: Water: Resources and Pollution
- **Supplemental Resources:** See Study Guide

**Discuss:**
- **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
- **Discussion Board Comment:** Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time)

**Submit:**
- **Assessment** by Tuesday, Midnight (Central Time)
- **Essay** by Tuesday, Midnight (Central Time)

**Notes/Goals:**

### Unit VI

**Environmental Geology, Mineral Resources, and Energy**

**Review:**
- Unit Study Guide
- **Learning Activities (Non-Graded):** See Study Guide

**Read:**
- Chapter 11: Environmental Geology and Earth Resources
- Chapter 12: Energy
- **Supplemental Resources:** See Study Guide

**Discuss:**
- **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
- **Discussion Board Comment:** Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time)

**Submit:**
- **Assessment** by Tuesday, Midnight (Central Time)
- **Research Paper Outline** by Tuesday, Midnight (Central Time)

**Notes/Goals:**
# BEM 3201, Environmental Assessment

## Course Schedule

<table>
<thead>
<tr>
<th>Unit VII</th>
<th>Waste Management, Site Assessment, and Sustainable Development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Discuss:</strong></td>
<td>&lt;ul&gt;&lt;li&gt;&lt;strong&gt;Discussion Board Response:&lt;/strong&gt; Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)&lt;/li&gt;&lt;li&gt;&lt;strong&gt;Discussion Board Comment:&lt;/strong&gt; Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time)&lt;/li&gt;&lt;/ul&gt;</td>
</tr>
<tr>
<td><strong>Submit:</strong></td>
<td>&lt;ul&gt;&lt;li&gt;&lt;strong&gt;Assessment&lt;/strong&gt; by Tuesday, Midnight (Central Time)&lt;/li&gt;&lt;li&gt;&lt;strong&gt;Request to take Final Exam&lt;/strong&gt;&lt;/li&gt;&lt;/ul&gt;</td>
</tr>
</tbody>
</table>

**Notes/Goals:**

---

<table>
<thead>
<tr>
<th>Unit VIII</th>
<th>Environmental Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Read:</strong></td>
<td>&lt;ul&gt;&lt;li&gt;Chapter 15: Environmental Policy and Sustainability&lt;/li&gt;&lt;li&gt;&lt;strong&gt;Supplemental Resources:&lt;/strong&gt; See Study Guide&lt;/li&gt;&lt;/ul&gt;</td>
</tr>
<tr>
<td><strong>Discuss:</strong></td>
<td>&lt;ul&gt;&lt;li&gt;&lt;strong&gt;Discussion Board Response:&lt;/strong&gt; Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)&lt;/li&gt;&lt;li&gt;&lt;strong&gt;Discussion Board Comment:&lt;/strong&gt; Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time)&lt;/li&gt;&lt;/ul&gt;</td>
</tr>
<tr>
<td><strong>Submit:</strong></td>
<td>&lt;ul&gt;&lt;li&gt;&lt;strong&gt;Assessment&lt;/strong&gt; by Tuesday, Midnight (Central Time)&lt;/li&gt;&lt;li&gt;&lt;strong&gt;Research Paper&lt;/strong&gt; by Tuesday, Midnight (Central Time)&lt;/li&gt;&lt;li&gt;&lt;strong&gt;Final Exam&lt;/strong&gt; by Tuesday, Midnight (Central Time)&lt;/li&gt;&lt;/ul&gt;</td>
</tr>
</tbody>
</table>

**Notes/Goals:**