Instructor  
Dr. Patrick Krantz  
Hoyt 231  
724-946-6097  
krantzpd@westminster.edu

Office Hours  
M 11:15-12:15 & after class  
W 11:15-12:15 & after class  
F 11:15-12:15 & after class  
Others by appointment

Lecture  
WMF 12:50-1:50

Lab  
R 2:00-5:00 pm HSC 206

Text  

Course Description  
This course is “an investigation of the effect of humans on the Earth’s environment and on the other species that inhabit our planet. The course will look at the impact that an increasing human population has on the resource utilization, pollution production, habitat degradation, and the extinction of species. It will include a brief look at the policies and laws that specifically relate to environmental problems.”

The goal of this course is to give the students an overview of the environmental issues facing our planet. In this course, the students should also expand upon skills needed for the environmental scientist of the future: critical thinking, articulation of an idea, team approach to problem solving, use of environmental resources, data collection and analysis, basic laboratory skills, etc. A variety of instruction methods will be used to promote a highly interactive course.

Student Learning Objectives
• To demonstrate an understanding of current topics in environmental science.
• To use the scientific method to approach environmental investigations.
• To communicate environmental issues in both written and oral form.
• To evaluate various perspectives and opinions about environmental debates.
• To demonstrate practical working knowledge of basic field ecology.

Academic Integrity  
The College’s Academic Integrity Policy (AIP) will be strongly enforced. Violations of the AIP include cheating, misconduct, plagiarism, and providing false information. Academic dishonesty will not be tolerated. The first citation for academic dishonesty will result in a zero grade for the specific assignment. The second citation will result in a failing grade for the course. All citations for academic dishonesty will be reported to the Dean of the College, in accordance with college policy. Details of the AIP can be found in the Westminster College Undergraduate Catalog. Turnit in.com may be used to evaluate papers for plagiarism.

Attendance Policy
• Students will not be permitted to make up an exam or a lab unless permission is granted from the instructor prior to the scheduled exam/ lab time.
• Attendance to class and laboratory is mandatory.
  o 3 unexcused absences result in lowering of the student’s final grade by 1 letter grade.
  o 5 unexcused absences result in lowering of the student’s final grade by 2 letter grades.
  o More than 5 unexcused absences may result in a failing grade for the course.
• Students are responsible for all class work, quizzes, homework, and lectures whether in attendance or not.
• Work handed in late will be penalized 20% for each day that it is late.
• Let me be clear, if you are not in class, you are absent.
Grading System

Grade Scale (out of 100%)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Point Distribution (pts) - TENTATIVE</th>
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<tbody>
<tr>
<td>A</td>
<td>93 &gt; A- ≥ 90</td>
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<tr>
<td>B+</td>
<td>90 &gt; B ≥ 87</td>
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<tr>
<td>B-</td>
<td>87 &gt; B ≥ 83</td>
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<tr>
<td>C+</td>
<td>83 &gt; C ≥ 77</td>
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<tr>
<td>C-</td>
<td>77 &gt; C ≥ 73</td>
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<tr>
<td>D</td>
<td>73 &gt; D ≥ 70</td>
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<tr>
<td>F</td>
<td>70 &gt; F ≤ 60</td>
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Reading

Students are expected to read and consider the assigned reading from the textbook before coming to class. Rather than using class time to revisit the material covered in the text, class time will be used to discuss the content and explore it more in depth. Reading guide questions will be posted for each chapter.

Quizzes

Quizzes may or may not be announced. They will cover the assigned reading material from the text as well as notes from the previous week. Quizzes may not be made up. Quiz scores will be added to the total number of points possible in the course.

Reading Guides & Other Assignments/Activities

In addition to the weekly reading guides, students may be required to complete additional assignments and/or in-class activities. Case studies, current topics, and controversial issues will be explored.

Laboratory

Lab work will be done in both laboratory and field settings. Long pants and closed-toed shoes are required when working in the lab. Weather-appropriate attire and shoes should be worn for outdoor activities.

ES in the Media

Extra credit can be obtained by “environmental science in the media” (print, digital, or audio media acceptable). (NPR’s radio program “Living on Earth” is a great option.) A copy of the article or broadcast and a 2-page summary, which includes an explanation of how it relates to class, is required. Alternatively, additional co-curricular activities or an additional hour at the symposium can be submitted for extra credit. A total of three extra credit assignments (each worth up to .75%) may be submitted.

A note from Dr. Krantz:

I taught this course for the first time in Fall 2016. During that semester, using a similar syllabus, we ended up with 381 total points and 10 graded assignments. Those assignments consisted of 4 exams, 3 practicals, and other projects.

This is a course about the environment, therefore, it is very appropriate for us to be outside as often as possible. Sometimes this means that we will get rained on, snowed on, it will be cold, and you may find yourself very uncomfortable. It may also mean that our lab my get rained out or snowed in!
Our day to day schedule will change and we will not be able to follow everything in our schedule verbatim. We do our best to predict and record the weather but we do not make it – such is life.

Flexibility on your part is not only appreciated but also necessary. Commit yourself to being open-minded and be prepared for class. We will have an excellent experience.

**Cell phone usage:** If you need a laptop, tablet, or any other device for taking notes or otherwise participating in class, that’s fine. However, please do not use a personal device for any purpose unrelated to our class. All devices should be silenced. Cell phones should be put away, except in the rare instance that I ask you to use them for an activity. I recommend that you power them down. If there is a serious need to leave your cell phone on, such as a family emergency, please put it on vibrate and let me know. If you leave the classroom to take a call, I’ll understand why. Please know that I routinely reduce professionalism grades for cell phone use unrelated to class.

I am a dad and I will have mine on and with me, but you will not hear it. I expect the same courtesy. If I see your phone out and in use, I will pause and watch you and wait for you to put it away the first time. The second time, I will ask you to leave and you will be counted absent.

If a peer tells me your actions on your laptop are distracting during a lecture, you will lose the privilege.

**Tentative Topic Schedule**

<table>
<thead>
<tr>
<th>Week 1</th>
<th>The Environment, Economics, and Society</th>
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<tbody>
<tr>
<td><strong>Topics</strong> – Chapter 1</td>
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<tr>
<td>• Environmental Science vs Environmentalism</td>
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<tr>
<td><strong>Lab:</strong></td>
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<tr>
<td>January 18th – NO LAB</td>
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<table>
<thead>
<tr>
<th>Week 2</th>
<th>The Environment, Economics, and Society</th>
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<tr>
<td><strong>Topics</strong> – Chapter 1</td>
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<tr>
<td>• Environmental Science vs Environmentalism</td>
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<tr>
<td>• Conservation vs Preservation –</td>
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<tr>
<td>• Case Study: Snowmobiles in Yellowstone</td>
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<td>• Major Issues influencing the environment and earth</td>
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<td>• Biodiversity Loss</td>
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<td>• <em>Tragedy of the Commons</em></td>
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<td>• Sustainability and Social Progress</td>
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<td>• Population control in China</td>
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<td>• The Nature of Science</td>
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<td>• Scientific Theory and Everyday Use</td>
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<td>• Monty Python, deductive reasoning</td>
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**Lab:**
January 25th
Dr. Sue Witt – meet at the Field Station, 2:00.
### Week 3

**Topics – Chapter 1**
- Where do we get our ideas?
  - Video, *The National Parks: The Scripture of Nature*
    - Warming: [YouTube Video](https://www.youtube.com/watch?v=Za5wpCo0Sqg)
    - Asian Brown Cloud: [YouTube Video](https://www.youtube.com/watch?v=qYYK-2sDN4U)
    - And a few bombs! [YouTube Video](https://www.youtube.com/watch?v=dXxPRHkyAvY)
  - Poverty and wealth (global trends and realities)
- Birds, an introduction

**Lab:**
February 1st
- Field Station Orientation
- Composting Sign-Up

### Week 4

**Topics – Chapter 2**
- Environmental Systems
  - Chesapeake Bay watershed example – *Pfiesteria p.*
    - [Google Search](https://www.google.com/search?q=pfiesteria&biw=1920&bih=963&source=lnms&tbm=isch&sa=X&ved=0ahUKEwjTpvujypTPAhWGJR4KHURtAW4Q_AUIBigB)
    - [Bioscience Article](http://bioscience.oxfordjournals.org/content/51/10/803.full)
    - [CBF Article](http://www.cbf.org/about-cbf/offices-operations/eastern-shore-maryland/the-issues/phosphorus-management-tool)
  - Section 2.1 and 2.2

**Lab:**
February 8th
BIG signs

### Week 5

**Topics – Chapter 2**
- Energy
  - 2.3, 2.4, 2.5

**Lab:**
February 15th
### Week 6

**Topics** – Chapter 2 Completed
- Assessments - Review on Monday
  - Wednesday - Ch 1 Test
  - Friday - Ch 2 Test

**Lab:**
February 22nd
*Christmas Tree Shredding*

### Week 7

**Topics** – Chapter 3
- Evolution leads to diversity
- Species interact
- Community Diversity
- Communities Change

**Lab:**
March 1st
*Assemble and display BIG signs*

### Week 8

**SPRING BREAK**

**Lab:**
March 8th – NO LAB

### Week 9

Chapter 3 notes continued

**Lab:**
March 15th
*Welcome Mrs. Debbie*

### Week 10

**Topics** – Assessments – Review on Monday
- Wednesday - Ch 3 Test
- Friday - Ch 5 begin

**Lab:**
March 22nd
# Bird Practicum & Re-seeding B&B

## Week 11

**Topics**  
Chapter 5 continued

**EASTER**  
no class R or F

**Lab:**  
March 29<sup>th</sup> - NO LAB

## Week 12

**The Environment, Economics, and Society**

**Topics**  
no class Monday, Tuesday class schedule is Monday classes

- Chapter 5 continued
- Chapter 5 review
- Chapter 5 test

**Lab:**  
April 5<sup>th</sup>
Return of Mrs. Debbie

## Week 13

**Society**

**Topics**  
Chapter 5 cont.

**Lab:**  
April 12<sup>th</sup>
AMD Jennings

## Week 14

**The Environment, Economics, and Society**

**Topics**  
Ch 5 test  
Ch 14 Introduction - waste management

**Lab:**  
April 19<sup>th</sup>
Composting  
Planting Trees

## Week 15

**Society**

**Topics**  
Ch 14 continued

**Lab:**  
April 26<sup>th</sup>
No Wednesday class due to URAC
Planting Trees

Week 16

Review and exam Ch 14
Wrapping up the big ideas

Lab – Al or Leo
May 3rd