Course Description from the SPEA Undergraduate Bulletin
Environment and People is an introductory course that examines how humans interact with their environment. This course covers multiple topics, centered around human-environment dimensions of environmental change. The overarching objective is to develop an understanding of our impact on the planet and possible solutions to environmental degradation.

Instructor: Dr. Christine Glaser

CONTACT INSTRUCTOR:
- Through Canvas Mail
- Or email (cglaser@iu.edu); if using email, make sure you put E183 in the subject line, and your full name somewhere in the body of the email.

INSTRUCTOR’S OFFICE HOURS: Tuesdays and Thursday 1-2pm, SPEA Room 412,
Additional, individually arranged meetings with students can happen in person or on zoom…contact instructor to set up!
Zoom link for Zoom Office Hours (see Canvas Syllabus or Canvas Home tab)

GRADUATE TEACHING ASSISTANT
Claire Fredin   Email: cfredin@iu.edu

GEN ED LEARNING OUTCOMES
This course meets the Social/Historical component of IU’s general education requirements. It meets the following learning outcomes:
- Students demonstrate knowledge of human cultures based on an understanding of history, social situations, and social institutions
- Students demonstrate the ability to think critically and creatively
- Students demonstrate skills of inquiry and analysis
- Students demonstrate intercultural and/or civic knowledge

REQUIRED LEARNING OUTCOMES FOR THIS COURSE
- Human-Environment Interactions & Impacts: Students should be able to explain ways in which a student’s/a society’s actions impact the surrounding environment and explain ways in which the environment affects a student/a society.
- Environmental Literacy and Fluency: Students will be able to summarize, explain, and analyze environmental problems they encounter in the media articles and news stories. They will also be able to find more information on these environmental problems by using appropriate research methods and resources. They will be able to then summarize and interpret the information, then ask questions for gaps in information provided and gaps in their conceptual knowledge.
• **Policy Tools:** Students should be able to *recognize* and *explain* policy tools (or policies) that are in place to deal with environmental problems as well as articulate the roles of these *identify* organizations/government agencies that are responsible for designing and monitoring those policies.

• **Environmental Solutions:** Students should be able to recommend alternatives to existing environmental policies.

• **Informed Arguments & Fluency:** Students will be able to analyze media articles and news stories. They will be able to then summarize and interpret the information, then ask questions for gaps in information provided and gaps in their conceptual knowledge. Student will be able to review opposing viewpoints on environmental issues, find credible sources and make coherent arguments using the correct scientific terminology.

• **Environmental Justice in the US:** Students should be able to *recognize* cases of US communities whose health and safety is disproportionately burdened by exposure to pollution (air, water, or soil contaminants). Students should *explain* how this discrimination occurs on the basis of sociodemographic characteristics [such as race, ethnicity, income, sexual orientation, gender, education, age or geographic location].

---

**O’Neill School expectations of civility and professional conduct**

The O’Neill School takes matters of honesty and integrity seriously because O’Neill is the training ground for future leaders in government, civic organizations, health organizations, and other institutions charged with providing resources for the public, and for members of society who are vulnerable and who are lacking in power and status. Precisely because O’Neill graduates tend to rise to positions of power and responsibility, it is critical that the lessons of honesty and integrity are learned early.

O’Neill requires that all members of its community – students, faculty, and staff – treat others with an attitude of mutual respect both in the classroom and during all academic and nonacademic activities outside the classroom. A student is expected to show respect through behavior that promotes conditions in which all students can learn without interruption or distraction. These behaviors foster an appropriate atmosphere inside and outside the classroom:

- Students are expected to attend class regularly and to be prepared for class.
- Students must be punctual in their arrival to class and be present and attentive for the duration of the class. Eating, sleeping, reading the newspaper, doing work for another class, wandering in and out of the classroom, and packing up or leaving class early are not civil or professional behaviors.
- Students must abide by the course policy regarding use of electronic devices in the classroom.
- Students must responsibly participate in class activities and during team meetings.
- Students must address faculty members, other students, and others appropriately and with respect, whether in person, in writing, or in electronic communications.
- Students must show tolerance and respect for diverse nationalities, religions, races, sexual orientations, and physical abilities.
- Students must not destroy or deface classroom property nor leave litter in the classroom.

* These expectations are excerpted from the O’Neill School Honor Code which can be found at: [https://oneill.indiana.edu/doc/undergraduate/ugrd_student_honorcode.pdf]
**Academic Integrity**

**Note Selling:** Several commercial services have approached students regarding selling class notes/study guides to their classmates. Selling the instructor’s notes/study guides in this course is not permitted. Violations of this policy will be reported to the Dean of Students as academic misconduct (violation of course rules). Sanctions for academic misconduct may include a failing grade on the assignment for which the notes/study guides are being sold, a reduction in your final course grade, or a failing grade in the course, among other possibilities. Additionally, you should know that selling a faculty member’s notes/study guides individually or on behalf of one of these services using IU email, or via Canvas may also constitute a violation of IU information technology and IU intellectual property policies; additional consequences may result.

**Materials:** The faculty member teaching this course holds the exclusive right to distribute, modify, post, and reproduce course materials, including all written materials, study guides, lectures, assignments, exercises, and exams. While you are permitted to take notes on the online materials and lectures posted for this course for your personal use, you are not permitted to re-post in another forum, distribute, or reproduce content from this course without the express written permission of the faculty member. Any violation of this course rule will be reported to the appropriate university offices and officials, including to the Dean of Students as academic misconduct.

**Plagiarism and Academic Dishonesty:**
SPEA faculty do not tolerate cheating, plagiarism, or any other form of academic misconduct. Please read the Indiana University student code of ethics at [http://www.iu.edu/~code](http://www.iu.edu/~code) so that you will be sure to understand what these terms mean and what penalties can be issued for academic dishonesty. Academic dishonesty can result in a grade of F for the class, and an F for academic dishonesty cannot be removed from your transcript. Faculty members are required to report academic dishonesty to the Dean of Students and disciplinary action can be taken by the Dean. Significant violations of the Code can result in expulsion from the university. Academic dishonesty includes cheating in any form on the team project, quizzes, tests, and the final exam.

**Incompletes and Late Withdrawal**

**Incompletes:**
The grade of Incomplete used on the final grade reports indicates that the work is satisfactory as of the end of the semester but has not been completed. The grade of Incomplete may be given only when the completed portion of a student’s work in the course is of passing quality. Instructors may award the grade of Incomplete upon a showing of such hardship to a student as would render it unjust to hold the student to the time limits previously fixed for the completion of his/her work. ([http://policies.iu.edu/policies/categories/academic-faculty-students/academic-student-affairs/incompletes.shtml](http://policies.iu.edu/policies/categories/academic-faculty-students/academic-student-affairs/incompletes.shtml)) In this course, Incompletes will be considered only with documentation of very serious extenuating circumstances. If an Incomplete grade is recorded, the student must agree in writing to complete missing work according to a written schedule provided by the instructor. Per IU policy, Incompletes revert to an F if not corrected within one year.

**Late Withdrawal:**
Withdrawal after the automatic withdrawal period requires approval by the instructor and SPEA’s Director of Undergraduate Studies, and must be based on dire circumstances relating to extended illness or equivalent distress ([IU Enrollment and Student Academic Information Bulletin](http://policies.iu.edu/policies/categories/academic-faculty-students/academic-student-affairs/incompletes.shtml)). Requests to drop due to a failing grade will not be approved. You must be passing the course at the time of withdrawal. Contact your advisor.
Students with Disabilities

Students with a learning disability, hearing impairment, speech impairment, or any other disability that may affect their ability to fulfill a course requirement should contact the Disability Services for Students in the Wells Library, (812) 855-7578. (Source: http://www.indiana.edu/~college/ado/policies.shtml). You must contact Professor Glaser right away if you have documents from Disability Services that indicate a need for accommodation. This should not be discussed in the classroom. Please make an appointment by sending an e-mail to cglasser@iu.edu or stop by during office hours.

INFORMATION ABOUT STUDENT SUPPORT

RESOURCES for STUDENT SUPPORT
For all IU Campuses and Specific to Bloomington
KEEP LEARNING https://keeplearning.iu.edu/help/index.html

Examples:
Academic Support
Healthcare and well-being
Housing and Financial Assistance
Food Insecurity
and more...

Student Advocates:
Retired faculty and staff work at this university office to help students resolve academic, financial, and personal problems so that they can make progress toward a degree. https://studentaffairs.indiana.edu/student-advocates/index.shtml

Counseling and Psychological Services
For information about services offered to students by CAPS: http://healthcenter.indiana.edu/counseling/index.shtml.

Religious Observation

In accordance with the Office of the Dean of Faculties, any student who wishes to receive an excused absence from class must submit a request form available from the Dean of Faculties for each day to be absent. This form must be presented to the course instructor by the end of the second week of this semester. A separate form must be submitted for each day. The instructor will fill in the bottom section of the form and then return the original to the student. Information about the policy on religious observation can be found at the following website: http://vpfaa.indiana.edu/policies/bloomington/instructional-responsibilities/religious-observances.shtml.

Disability Services for Students

Securing accommodations for a student with disabilities is a responsibility shared by the student, the instructor and the DSS Office. For information about support services or accommodations available to students with disabilities, and for the procedures to be followed by students and instructors: http://studentaffairs.iub.edu/dss/.

Sexual Harassment

As your instructor, one of my responsibilities is to help create a safe learning environment on our campus. Title IX and our own Sexual Misconduct policy prohibit sexual misconduct. If you have experienced sexual misconduct, or know someone who has, the University can help.
If you are seeking help and would like to talk to someone confidentially, you can make an appointment with:

i. The Sexual Assault Crisis Service (SACS) at 812-855-8900
ii. Counseling and Psychological Services (CAPS) at 812-855-5711
iii. Confidential Victim Advocates (CVA) at 812-856-2469
iv. IU Health Center at 812-855-4011

For more information about available resources: [http://stopsexualviolence.iu.edu/help/index.html](http://stopsexualviolence.iu.edu/help/index.html). It is also important to know that federal regulations and University policy require me to promptly convey any information about potential sexual misconduct known to me to our campus’ Deputy Title IX Coordinator or IU’s Title IX Coordinator. In that event, they will work with a small number of others on campus to ensure that appropriate measures are taken and resources are made available to the student who may have been harmed. Protecting a student’s privacy is of utmost concern, and all involved will only share information with those that need to know to ensure the University can respond and assist. I encourage you to visit [http://stopsexualviolence.iu.edu/help/index.html](http://stopsexualviolence.iu.edu/help/index.html) to learn more.

**Commitment to Diversity: Find your home and community at IU**

**Asian Culture Center**
Address: 807 East Tenth Street, Bloomington, IN 47408
Phone: 812-856-5361
Email: acc@indiana.edu
Website: [https://asianresource.indiana.edu/index.html](https://asianresource.indiana.edu/index.html)

**First Nations Educational & Cultural Center**
Address: 712 E 8th St., Bloomington, IN 47408
Phone: 812-855-4814
Email: fnecc@indiana.edu
Website: [https://firstnations.indiana.edu/contact/index.html](https://firstnations.indiana.edu/contact/index.html)

**LGBTQ+ Culture Center**
Address: 705 E 7th St., Bloomington, Indiana 47408
Phone: 812-855-4252
Email: glbtserv@indiana.edu
Website: [https://lgbtq.indiana.edu/contact/index.html](https://lgbtq.indiana.edu/contact/index.html)

**La Casa Latino Culture Center**
Address: 715 E 7th St., Bloomington IN, 47408
Phone: 812-855-0174
Email: lacasa@indiana.edu
Website: [https://lacasa.indiana.edu/](https://lacasa.indiana.edu/)

**Neal Marshall Black Culture Center**
Address: 275 N Jordan Ave Bloomington, Indiana 47405
Phone: 812-855-9271
Email: nmgrad@indiana.edu
Website: [https://blackculture.indiana.edu/index.html](https://blackculture.indiana.edu/index.html)
Assignments

**Quizzes (20% of course grade)**

- Quizzes are based on assigned readings and have to be completed before class,

- Each quiz is worth 5 points and can consist of 5-10 questions. Those could be multiple choice, short answer, multiple answer, or True/False questions, or short essay questions, reflections or summaries.

- Reading assigned materials and completing quizzes are the first steps in your learning process, which will then be followed by applying what you learned during class sessions, in Reports, and Tests. **DO NOT CUT CORNERS ON READINGS/PREP FOR CLASS! YOU WILL MISS OUT ON IMPORTANT IN-CLASS LEARNING OPPORTUNITIES IF YOU COME UNPREPARED!** Lectures and work in class, including group work, build on your preparation.

- Check **Weekly Overviews** in Canvas **Modules** for **up-to-date assignments.**

- Quizzes will be available one week before the due date. Once started, they have to be completed within 30 minutes.

- Missing quizzes will automatically be marked Zero by Canvas. If you turn your quiz in late, Canvas will automatically assign a penalty of 10% per day, but no higher than a total of 40%.

- To make accommodations for illness or family emergencies and other unforeseen events, your **two lowest quiz grades will be automatically dropped.** This includes missed quizzes or quizzes with low grades, including those that had a late penalty applied.

_YOU ARE STRONGLY ADVISED TO SAVE THESE ACCOMMODATIONS FOR REAL EMERGENCIES._ Late penalties may be dropped only in extraordinary circumstances. Contact Instructor ASAP if you think your situation justifies an accommodation.

**Participation (15% of course grade)**

**Participation is about more than just attendance.** Your active engagement in class and contributions to discussion, problem-solving and analysis are important for success in this class. And your classmates benefit from the unique perspectives, questions, and critical thinking you bring to this class, and you from theirs!

**For each class you can earn up to 5 points for participating in and successfully completing graded in-class activities.** The specific activity required for each class will be announced in class and may include the following types of participation:
With these activities you are asked to demonstrate **KNOWLEDGE** and **UNDERSTANDING**, to **APPLY** this knowledge and understanding to new situations, or to conducting policy **ANALYSIS** (**Bloom Taxonomy**).

This semester we continue to face extraordinary challenges with regard to COVID. Everyone is asked to take measures to prevent its spread within the school, such as wearing masks, monitoring symptoms, staying home when you are sick, and getting tested. Additionally, you may be faced with challenging situations unrelated to any illness.

### Grading Accommodations

1) **For everyone**

   Your **two lowest grades** on Participation Assignments will be dropped. Please note that your lowest grades may change throughout the semester. The ones that have been dropped appear in grey instead of black.

   It is up to you to decide whether you will accept a zero for missing class or make use of option 2).

2) **For students turning in Late Participation Assignments**

   You will have **FOUR** opportunities to turn in late participation assignments **outside of class** without penalties.

   To turn those in, look up the Lecture Powerpoint, Worksheet or other Handouts and Participation Assignment of the day in Canvas Modules or Canvas Files, and follow the instructions given in the assignment - including instructions of where to submit your late assignment, and what files to include.

   This has to be **done within ONE WEEK of the assignment due date** (for example, if the Participation Assignment was due on a Tuesday, then your late Participation Assignment needs to be received by Tuesday 11:59 PM the following week).

   Until you turn in that late assignment, you will see a zero in the Canvas gradebook, which will be removed after your Participation Assignment is graded.

   **You need not notify the instructor or TA about reasons for missing class** to be able to turn in 4 late assignments and/or to have two absences dropped.

   **Altogether, accommodations 1) and 2) make sure you can have up to 6 absences without a negative effect on your course grade.**
YOU ARE STRONGLY ADVISED TO SAVE THESE ACCOMMODATIONS FOR REAL EMERGENCIES.

3) For students with 6 or more absences or late Participation Assignments:

After you have used up your FOUR Opportunities for turning in late assignments without receiving a penalty, and two of your zeros for absences have been dropped, you will receive zeros for missed participation assignments, except in extraordinary circumstances.

I will make decisions as to what qualifies as an extraordinary circumstance, and whether additional accommodations are justified, on a case by case basis.

If you find yourself in what you consider an extraordinary situation, you need to contact me ASAP by email.

In considering how to handle the situation, I may ask you to provide documentation for this emergency, as well as documentation for any previous emergencies that kept you away from class.

Therefore, I recommend that everyone who misses class keep a record of all their absences and of any available documentation, so you can provide these for my consideration when asking for further accommodations.

Here are some examples of extraordinary circumstances that could result in additional accommodations, such as being allowed to turn in more late participation assignments or having absences excused:

You have used up your Four Opportunities and two absences:
- because of the need for Covid tests and subsequent quarantine (with documentation for tests and IUB instructions to go into quarantine), and still have not been cleared to come back to class.
- because of another serious illness that could not be quickly diagnosed, and you have been instructed to keep away from class for a long time.
- Because of an accumulation of other extraordinary circumstances (accidents, family emergencies or deaths in the family) that made it impossible for you to come to class and for which you have documentation, and now some other emergency is happening.

As you can see from these examples, additional accommodations will not automatically be granted just because of a current documented emergency, but require at least some credible evidence of good reasons for having missed previous classes.

Religious holidays: You need to inform the instructor in advance if you will miss class.
**Reports (15% of course grade)**

- There will be 2 Reports.
- Check Due Dates in the Course Summary below.
- Reports relate most closely to the following **Learning Outcomes:**
  
  **Environmental Literacy:** Students will be able to summarize, explain, and analyze environmental problems they encounter in media articles and news stories. They will also be able to find more information on these environmental problems by using appropriate research methods and resources.

  **Informed Arguments & Fluency:** Students will be able to summarize and interpret opposing viewpoints in media articles and news stories, and ask questions about gaps in the information these sources provide. Their analysis will be based on credible sources they find, and by making coherent arguments using the correct scientific terminology.

- Missing assignments will be automatically set to Zero by Canvas. If you turn in late, Canvas will automatically assign a penalty of 10% per day (up to a total of 40%).

- Late penalties may be dropped only in extraordinary circumstances. Contact Instructor ASAP if you think your situation justifies an accommodation.

---

**TESTS AND FINAL EXAM (50% of course grade)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Date</th>
<th>% of course grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test 1</td>
<td>2/15</td>
<td>13</td>
</tr>
<tr>
<td>Test 2</td>
<td>3/29</td>
<td>17</td>
</tr>
<tr>
<td>Final Exam</td>
<td>5/4, 5:20-7:20 PM</td>
<td>20</td>
</tr>
</tbody>
</table>

- Tests and the Final consist of Multiple Choice, Short Answer and Essay Questions.

- *Test #2 and the Final Exam will be comprehensive as we will build on earlier material throughout the semester.*

---

**IF YOU HAVE TO MISS a TEST or the FINAL EXAM,**

…CONTACT me as early as possible so we can discuss ways to address the difficulty you are facing and find solutions.
ASSIGNMENTS AND GRADING:

How Will I Know How I’m Doing in This Course?

Grades will be posted in Canvas.

Canvas keeps track of all the grades and shows you your average grade in each assignment category. It also calculates your combined course grade at any point in time.

To figure your grade, Canvas will determine - separately for quizzes, participation etc. - your **percentage points** (percentage of actual to available points) earned in each of those categories.

The percentage you earned in each category will then be multiplied with the weight the category has in your course grade.

**Assignments’ Weight of Course Grade**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Weight of Course Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>20%</td>
</tr>
<tr>
<td>In-class Participation</td>
<td>15%</td>
</tr>
<tr>
<td>Reports</td>
<td>15%</td>
</tr>
<tr>
<td>Test 1</td>
<td>13%</td>
</tr>
<tr>
<td>Test 2</td>
<td>17%</td>
</tr>
<tr>
<td>Final</td>
<td>20%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Grading Scale**

<table>
<thead>
<tr>
<th>Percent Range</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>97.00% to 100%</td>
<td>A+</td>
</tr>
<tr>
<td>93.00% to 96.99%</td>
<td>A</td>
</tr>
<tr>
<td>90.00% to 92.99%</td>
<td>A-</td>
</tr>
<tr>
<td>87.00% to 89.99%</td>
<td>B+</td>
</tr>
<tr>
<td>83.00% to 86.99%</td>
<td>B</td>
</tr>
<tr>
<td>80.00% to 82.99%</td>
<td>B-</td>
</tr>
<tr>
<td>77.00% to 79.99%</td>
<td>C+</td>
</tr>
<tr>
<td>73.00% to 76.99%</td>
<td>C</td>
</tr>
<tr>
<td>70.00% to 72.99%</td>
<td>C-</td>
</tr>
<tr>
<td>67.00% to 69.99%</td>
<td>D+</td>
</tr>
<tr>
<td>63.00% to 66.99%</td>
<td>D</td>
</tr>
<tr>
<td>60.00% to 62.99%</td>
<td>D-</td>
</tr>
<tr>
<td>Below 60%</td>
<td>F</td>
</tr>
</tbody>
</table>
Schedule of Classes

PLEASE NOTE:

Course assignments (including for example readings or assignment due dates, etc.)
are subject to change at the instructor’s discretion.

Once the class has started, always use Canvas Modules/Assignments/Syllabus for up-to-date information.

- Do not rely on the document that you may have printed or downloaded at the beginning of the semester.
- Once a Weekly Module is unlocked, you will find the most up-to-date information there.
- In the unlikely case that I will have to make changes after a Module is unlocked, I will send out a Canvas Announcement to inform you of the changes.

For UP-TO-DATE ASSIGNMENTS,
ALWAYS go to CANVAS

<table>
<thead>
<tr>
<th>WEEK 1</th>
<th>1/11</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>• Course Introduction and Overview,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Syllabus.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Learning Outcomes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Three major ways we impact our earth</td>
</tr>
<tr>
<td></td>
<td>Quiz Syllabus</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1/13</th>
<th>Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BUILDING ENVIRONMENTAL LITERACY—Some basic concepts</td>
</tr>
</tbody>
</table>

Topics:

- Earth’s Spheres
- Tectonic Plates
- Climate and Weather
- Soil
- Wind

Readings

National Oceanic and Atmospheric Administration (NOAA), Earth’s Spheres

Weather and Climate Definition
### Climate Components


### Climate Factors


### Week 2

#### 1/18

**Learning Outcomes**

BUILDING ENVIRONMENTAL LITERACY – Some basic concepts

HUMAN-ENVIRONMENT INTERACTIONS

**Topics**

- Earth’s Cycles
- Fast and Slow carbon Cycle
- Overloading Cycles with Molecular Garbage
- Oxygen, Phosphorus and Nitrogen Cycles

**Readings:**

**Carbon and oxygen cycles in the atmosphere**


The Carbon Cycle, NASA Earth Observatory, June 16, 2011

[https://earthobservatory.nasa.gov/features/CarbonCycle](https://earthobservatory.nasa.gov/features/CarbonCycle)

#### 1/20

**Learning Outcomes**

BUILDING ENVIRONMENTAL LITERACY – Some basic concepts

**Topics**

- Biomes,
- Ecosystems,
- Habitats
- Food Chains and Webs
- Energy Pyramid
- Trophic Cascades

1) **Paul Colinvaux, Why Big Fierce Animals Are Rare**, 1978, Ch. 5: The Nation States of Trees (Canvas Files)

2) **Arizona State University, Boundless Biomes**

[https://askabiologist.asu.edu/explore/biome](https://askabiologist.asu.edu/explore/biome)

3) **National Geographic, Ecosystems**

[https://www.nationalgeographic.org/encyclopedia/ecosystem/](https://www.nationalgeographic.org/encyclopedia/ecosystem/)

4) **National Geographic, Habitat**

[https://www.nationalgeographic.org/encyclopedia/habitat/](https://www.nationalgeographic.org/encyclopedia/habitat/)

5) **National Geographic, Food Chain**

<table>
<thead>
<tr>
<th>Week 3</th>
<th>1/25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Outcomes</td>
<td><strong>BUILDING ENVIRONMENTAL LITERACY</strong> – Some basic concepts</td>
</tr>
<tr>
<td><strong>HUMAN-ENVIRONMENT INTERACTIONS</strong></td>
<td></td>
</tr>
</tbody>
</table>
| **Topics** | - Human and Non-Human Populations  
- Tolerance Ranges  
- Limiting Factors and Carrying Capacity  
- Adaptation  
- Ecosystem Services |
| **Readings** | 1) **National Geographic, Limiting Factors**  
[https://www.nationalgeographic.org/topics/limiting-factors/?q=&page=1&per_page=25](https://www.nationalgeographic.org/topics/limiting-factors/?q=&page=1&per_page=25) |
|  | 3) **What Has Nature Ever Done for Us?** (2013) Tony Juniper  
[https://www.theguardian.com/books/2013/jan/20/what-has-nature-juniper-review](https://www.theguardian.com/books/2013/jan/20/what-has-nature-juniper-review) |
|  | 3) **FAO, Ecosystem Services and Biodiversity**, Ecosystems provide four types of services to the world,  

| 1/27 |
| Learning Outcomes | **BUILDING ENVIRONMENTAL LITERACY** – Some basic concepts |
| **HUMAN-ENVIRONMENT INTERACTION** | |
| **Topics** | - Biodiversity  
- The long view on species extinction  
- Anthropocene |
| **Readings** | 1) **The 5 mass extinction events that shaped the history of Earth — and the 6th that's happening now**  
By Scott Dutfield, How It Works magazine May 17, 2021  
[https://www.livescience.com/mass-extinction-events-that-shaped-Earth.html](https://www.livescience.com/mass-extinction-events-that-shaped-Earth.html) |
|  | 2) **What is Biodiversity? THE THREE LEVELS**  
|  | 4) **The Anthropocene epoch: scientists declare dawn of human-influenced age.**  
### Learning Outcomes

**Building Environmental Literacy** – Some basic concepts

**Human-Environment Interaction**

### Climate Change Basics

**Topics**
- Weather and Climate
- Greenhouse effect
- Forcing factors (Climate Drivers)
- Human Activities contributing to climate change
- Current & projected impacts of Climate Change
  - Why is an increase in global temperatures of 2 degrees Fahrenheit (~1 degree Celsius) significant?
  - Risks --- Role of IPCC and why it recommends to limit increase to 1.5 Celsius
- Risks (known knowns, know unknowns, unknown unknowns ...)
- Attribution of weather events
- Net Zero by 2050?

### Readings

1) GLASER TEXT Climate Change Basics (Canvas)

2) The Unfolding Tragedy of Climate Change in Bangladesh
   By Robert Glennon on April 21, 2017. Scientific American Blog site. (Canvas Files)

3) Central America’s choice: Pray for rain or migrate
   By Georgina Gustin, InsideClimate News, and Mariana Henninger, NBC News, July 9, 2019

### Learning Goals

**Human-Environment Interactions & Impacts**

**Environmental Literacy**

**Environmental Justice**

**Topic**
- Unequal Climate Impacts in the US
- Legacies of Redlining

**Readings:**

1) Start with reading this brief background info about heat waves:
   a) EPA Climate Change Indicators: Heat-Related Deaths,
      [https://www.epa.gov/climate-indicators/climate-change-indicators-heat-related-deaths](https://www.epa.gov/climate-indicators/climate-change-indicators-heat-related-deaths)

   **Scroll down to the short section entitled “BACKGROUND” about health impacts and possible causes of death, and especially vulnerable age groups**

As an IUB student you can get free access to the NYT, [https://libraries.indiana.edu/new-york-times-online](https://libraries.indiana.edu/new-york-times-online)

| Week 5 | 2/8 | Learning Outcomes:
| | ENVIRONMENTAL JUSTICE IN THE US |
| Topics:
| • How the Environmental Justice Movement started |
| Reading/Podcast:
The father of environmental justice, on whether we’re all doomed [https://www.vox.com/2021/12/10/22826247/robert-bullard-environmental-justice-vox-conversations-interview](https://www.vox.com/2021/12/10/22826247/robert-bullard-environmental-justice-vox-conversations-interview) |

| Week 5 | 2/10 | Learning Outcomes:
| BUILDING ENVIRONMENTAL LITERACY –Some basic concepts |
| HUMAN ENVIRONMENT INTERACTIONS |
| POLICY TOOLS |
| • How markets work |
| • Self-Interest and Enlightened Self Interest |
| • Prices, Costs, Capital and Profits |
| • How Markets Fail |
| • Externalities |
| • Market driven change for environmental protection? |
| • US Government Institutions, How they Work (Federal, State, Local) and the Environment |
| • Policy tools |
| • How Governments Fail |
| Readings:

| Week 6 | 2/15 | TEST #1 |

| Week 6 | 2/17 | Learning Outcomes:
| POLICY TOOLS |
| Topic:
| Making Regulations |
### Reading

1) **Rulemaking Process**
   

2) **The EPA is banning chlorpyrifos**, a pesticide widely used on food crops, after 14 years of pressure from environmental and labor groups
   
   August 24, 2021 8.17am EDT
   

<table>
<thead>
<tr>
<th>Week 7</th>
<th>2/22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Outcomes</td>
<td></td>
</tr>
<tr>
<td><strong>POLICY TOOLS</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Topics</strong></td>
<td></td>
</tr>
<tr>
<td>- Air Pollution legislation</td>
<td></td>
</tr>
<tr>
<td>- Clean Air Act</td>
<td></td>
</tr>
<tr>
<td>- Criteria Pollutants</td>
<td></td>
</tr>
<tr>
<td>- Regulatory Tools</td>
<td></td>
</tr>
</tbody>
</table>
| 1) **EPA, The Clean Air Act in a Nutshell: How it Works**, March 22, 2013, p. 1-6 (How the Clean Air Act controls common, widespread pollutants); and 15-16 (about Acid Rain)
   
| 2) **EPA, Plain English Guide To The Clean Air Act**, p. 6 Box: But I thought the Ozone Layer Was a Good Thing.
   
| 3) **Glaser, Command and Control Tools** (Canvas Files) |

| 2/24 |
| Learning Goals |
| **POLICY TOOLS** |
| **ENVIRONMENTAL JUSTICE** |
| **Topics** |
| Mitigation of Climate Change |
| - Cap and Trade |
| - Offsets |
| - Clean Power Plan |
| - Biden Plan |
| **Reading:** |
| **Julia Rosen, Can California’s Cap and Trade Actually Address Environmental Justice?** YesMagazine, Nov 20, 2020
   
   https://www.yesmagazine.org/environment/2020/11/20/california-pollution-cap-trade/ (Links to an external site.) |

| Week 8 | 3/1 |
| Learning Outcomes |
| **BUILDING ENVIRONMENTAL LITERACY –Some basic concepts** |
| **HUMAN ENVIRONMENT INTERACTIONS** |
| **ENVIRONMENTAL SOLUTIONS** |
Topics

Mitigation of Climate Change

- Carbon Taxes
- Citizens Climate Lobby Carbon Fee and Dividend
- Other Mitigation Tools

1) For a quick overview: The Basics of Carbon Fee and Dividend: https://citizensclimatelobby.org/basics-carbon-fee-dividend/

2) The FAQ: Carbon Fee and Dividend

Learning Outcomes

HUMAN ENVIRONMENT INTERACTIONS
POLICY TOOLS
ENVIRONMENTAL SOLUTIONS

Topics

- Tragedy of the Commons
- Successful Commons Management
- Intergovernmental Organizations

Readings


Week 9

3/8 Report #1

3/10 Learning Outcomes

HUMAN ENVIRONMENT INTERACTIONS
POLICY TOOLS
ENVIRONMENTAL SOLUTIONS

Topics

- International Commons
- Ozone Hole
- Montreal Protocol

Reading:
1) US Environmental Protection Agency, Basic Ozone Layer Science, [https://www.epa.gov/ozone-layer-protection/basic-ozone-layer-science](https://www.epa.gov/ozone-layer-protection/basic-ozone-layer-science)


3) Glaser, IGOs: Some Basic Terms (IGO stands for Intergovernmental Organizations) (Canvas Files)

4) Glaser, Montreal Protocol Case Study (Canvas Files)

<table>
<thead>
<tr>
<th>Week 10</th>
<th>3/22</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Learning Outcomes</strong></td>
<td></td>
</tr>
<tr>
<td><strong>HUMAN ENVIRONMENT INTERACTIONS</strong></td>
<td></td>
</tr>
<tr>
<td><strong>POLICY TOOLS</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Topics</strong></td>
<td></td>
</tr>
<tr>
<td>• The Global Climate Commons</td>
<td></td>
</tr>
<tr>
<td>• IPCC</td>
<td></td>
</tr>
<tr>
<td>• UNFCCC</td>
<td></td>
</tr>
<tr>
<td>• Developing and Developed Countries’ Responsibilities</td>
<td></td>
</tr>
<tr>
<td>• Kyoto Protocol</td>
<td></td>
</tr>
<tr>
<td>• How US Climate Policies Got Derailed</td>
<td></td>
</tr>
<tr>
<td>• US State and Local Initiatives</td>
<td></td>
</tr>
<tr>
<td>• Petition to the EPA</td>
<td></td>
</tr>
<tr>
<td>• Green Climate Fund</td>
<td></td>
</tr>
<tr>
<td>• Paris Agreement</td>
<td></td>
</tr>
<tr>
<td>• IPCC- Net Zero by 2050</td>
<td></td>
</tr>
<tr>
<td><strong>Reading</strong></td>
<td></td>
</tr>
<tr>
<td>Glaser Text, Climate Change in the International and National Policy Realm (Canvas Files)</td>
<td></td>
</tr>
<tr>
<td>Glaser Text, Clean Power Plan (Canvas Files)</td>
<td></td>
</tr>
</tbody>
</table>

| 3/24 | |
| **Learning Outcomes** | |
| **ENVIRONMENTAL LITERACY** | |
| **POLICY TOOLS** | |
| **Topic** | |
| • Electric Cars | |
| • LifeCycle Greenhouse Gas Emissions | |
| • Other Environmental Considerations | |
| **Readings** | |
| 1) Carbon Brief, Factcheck: How electric vehicles help to tackle climate change, 13 May 2019 17:01 | |
https://www.carbonbrief.org/factcheck-how-electric-vehicles-help-to-tackle-climate-change (Links to an external site.)

(Read until you get to "problematic fuel economy estimates, i.e. you can stop after getting through 'paying back the carbon debt')

2) Emissions Analytics Press Release: Pollution From Tyre wear 1000 times worse than Exhaust Emissions, 6th March 2020

https://static1.squarespace.com/static/5a9400b37e3c3a8c47522029/t/5e62681e9d3e112279aaf50/1583507486738/EA_tyres_Final.pdf

<table>
<thead>
<tr>
<th>Week 11</th>
<th>3/29</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Outcomes</td>
<td></td>
</tr>
<tr>
<td>ENVIROMENTAL LITERANCY</td>
<td></td>
</tr>
<tr>
<td>POLICY TOOLS</td>
<td></td>
</tr>
<tr>
<td>ENVIROMENTAL SOLUTIONS</td>
<td></td>
</tr>
<tr>
<td>Topic</td>
<td></td>
</tr>
<tr>
<td>• Agriculture an Climate Change</td>
<td></td>
</tr>
<tr>
<td>• Agricultural Greenhouse Gas Emissions</td>
<td></td>
</tr>
<tr>
<td>• Climate Change Impacts on Agriculture</td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td></td>
</tr>
<tr>
<td>1) Animal Agriculture’s Impact on Climate Change</td>
<td></td>
</tr>
<tr>
<td><a href="https://climatenexus.org/climate-issues/food/animal-agricultures-impact-on-climate-change/">https://climatenexus.org/climate-issues/food/animal-agricultures-impact-on-climate-change/</a> (Links to an external site.)</td>
<td></td>
</tr>
<tr>
<td>2) EPA: Climate Impacts on Agriculture and Food Supply</td>
<td></td>
</tr>
<tr>
<td><a href="https://climatechange.chicago.gov/climate-impacts/climate-impacts-agriculture-and-food-supply">https://climatechange.chicago.gov/climate-impacts/climate-impacts-agriculture-and-food-supply</a> (Links to an external site.)</td>
<td></td>
</tr>
<tr>
<td>3) 9 Nutrition Tips for Reducing Your Carbon Footprint</td>
<td></td>
</tr>
<tr>
<td><a href="https://www.healthline.com/nutrition/how-to-reduce-carbon-footprint#1.-Stop-wasting-food">https://www.healthline.com/nutrition/how-to-reduce-carbon-footprint#1.-Stop-wasting-food</a> (Links to an external site.)</td>
<td></td>
</tr>
<tr>
<td>4) FOOD AND FARMING 16 September 2020 7:00, Experts: How do diets need to change to meet climate targets?</td>
<td></td>
</tr>
<tr>
<td><a href="https://www.healthline.com/nutrition/how-to-reduce-carbon-footprint#5.-Cut-back-on-dairy">https://www.healthline.com/nutrition/how-to-reduce-carbon-footprint#5.-Cut-back-on-dairy</a> (Links to an external site.)</td>
<td></td>
</tr>
</tbody>
</table>

| Week 12 | 4/5 |
| Learning Outcomes |
| ENVIRONMENTAL LITERACY |
| HUMAN ENVIRONMENT INTERACTIONS |
| POLICY TOOLS |
| Topics |
| Climate Adaptation |
Readings/Listenings:

You can pick whether you want to listen to the podcast or read the transcript.

Podcast Link: https://www.nytimes.com/2020/09/11/podcasts/the-daily/wildfires-california-fire-zones.html (Links to an external site.)?


Learning Outcomes

ENVIRONMENTAL LITERACY
HUMAN ENVIRONMENT INTERACTIONS
POLICY TOOLS
ENVIRONMENTAL SOLUTIONS

Topic
Geoengineering


2) By Fred Pearce, Geoengineer the Planet? More Scientists Now Say It Must Be an Option, Yale Environment 360, May 29, 2019 https://e360.yale.edu/features/geoengineer-the-planet-more-scientists-now-say-it-must-be-an-option

3) Excerpts from Britannica and MIT Technology Review: Geoengineering Excerpts (Canvas Files)

Week 13
4/12 Report #2

4/14
Learning Outcomes
BUILDING ENVIRONMENTAL LITERACY – Some basic concepts
HUMAN-ENVIRONMENT INTERACTION
POLICY TOOLS

Topics
- Manmade substances (DDT)
- Bio-accumulation and bio-magnification
- Health and Environmental Effects
- Toxic Substances Control Act

**Readings**


2) Catalina Island Marine Institute, Bioaccumulation and Bio-Magnification  

3) These Everyday Toxins May Be Hurting Pregnant Women and Their Babies. PFAS, industrial chemicals used to waterproof jackets and grease-proof fast-food containers, may disrupt pregnancy with lasting effects. By Liza Gross, Sept. 23, 2020  

4) The Challenge: Chemicals in Today’s Society  

<table>
<thead>
<tr>
<th>Week 14</th>
<th>4/19</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Learning Outcomes</strong></td>
<td>ENVIRONMENTAL SOLUTIONS</td>
</tr>
</tbody>
</table>
| **Topics** | • Zero Waste  
• Circular Economies |

| 4/21 |
| **Learning Outcomes** | BUILDING ENVIRONMENTAL LITERACY – Some basic concepts  
HUMAN-ENVIRONMENT INTERACTION  
POLICY TOOLS  
ENVIRONMENTAL SOLUTIONS |
| **Topics** | • Manmade substances (Plastic)  
• Bio-accumulation and bio-magnification  
• Recycling? |

**Readings**  
National Geographic, The world’s plastic pollution crisis explained. READ article and WATCH Plastic 101 Video  

**Films**  
2) The Plastic Problem - A PBS NewsHour Documentary  
[https://www.youtube.com/watch?v=1RDc2opwg0I](https://www.youtube.com/watch?v=1RDc2opwg0I)
<table>
<thead>
<tr>
<th>Week 15</th>
<th>4/26</th>
<th>Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>BUILDING ENVIRONMENTAL LITERACY – Some basic concepts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HUMAN-ENVIRONMENT INTERACTION</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ENVIRONMENTAL SOLUTIONS</td>
</tr>
<tr>
<td>Topics</td>
<td></td>
<td>Plastics Recycling Innovations?</td>
</tr>
</tbody>
</table>

1) Can Chemical Recycling Solve The World’s Plastic Problem?  
[https://www.youtube.com/watch?v=LPlpwMuV9Y](https://www.youtube.com/watch?v=LPlpwMuV9Y)

2) Eliminating Plastic Pollution: How a Voluntary Contribution From Industry Will Drive the Circular Plastics Economy  
Andrew Forrest1,2*, et al.  

**OPTIONAL**

The Intercept,  Waste Only  How the Plastics Industry Is Fighting to Keep Polluting the World (a lengthy investigative report)  
[https://theintercept.com/2019/07/20/plastics-industry-plastic-recycling/](https://theintercept.com/2019/07/20/plastics-industry-plastic-recycling/)

<table>
<thead>
<tr>
<th>4/28</th>
<th>Wrapping Up  Finals Prep</th>
</tr>
</thead>
<tbody>
<tr>
<td>FINALS WEEK</td>
<td>May 4 5:20-7:20 PM</td>
</tr>
</tbody>
</table>