

**Applied Environmental Studies:  
Preparation for Problem Solving  
ESM 221  
Spring 2017**

**Instructor:** Professor Rueter, rueterj@pdx.edu;  
Open office: TBA

**Laboratory Teaching Assistant:** Ben Shetterly

**Course Prerequisites:** STAT 243 (can be concurrent); MATH 112 & ESM 220 or equivalents

**Course Description:** This course introduces Environmental Science and Environmental Studies majors to principles and practices of environmental science, especially approaches to solving environmental problems.

We will focus on solving problems: solving problems with algebraic solutions, solving problems using basic models, solving problems by analyzing data and sometimes designing protocols for data collection and collecting the data as well, and working towards solving larger problems that also require team building approaches.

To help with this problem solving, we will work on improving skills of reading and interpreting scientific studies and evaluating environmental management options. We will address questions such as what is a target population size for a managed population and how much does carbon sequestration by trees mitigate global climate change? In class, the focus will often be on individual and peer problem-solving of real world issues with the goal of helping you become independent learners and garnering skills that would be used by a scientist or natural resource manager.

The **Course Objectives** for the lecture combined with lab are to enable you to:

- a) Identify environmental stressors and their effects as well as information needed to address them;

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- b) Develop approaches to environmental problem solving for different categories of problems;
- c) Using basic conceptual/graphical and quantitative models in combination with writing, describe and predict processes and solutions relevant to the management of biodiversity;
- d) Characterize environmental data via graphical representation and statistical analysis;
- e) Search for, read, and analyze scientific papers;
- f) Clearly communicate science with coherent written papers and short oral presentations.

### Assignments & Readings

**D2L:** Assignments will be posted on D2L: <https://d2l.pdx.edu/> To get an Odin ID, go to <http://oit.pdx.edu/set-up-odinacct>

**Required Text:** Environmental Science: Foundations and Applications by Friedland, Relyea, and

Courard-Hauri. Check out the end of chapter materials and the website: [http://bcs.whfreeman.com/friedland/#t\\_666211](http://bcs.whfreeman.com/friedland/#t_666211)

**Additional Readings** – Other readings are online via the PSU library: <http://library.pdx.edu/> and will be listed on your assignments. You can access them by typing in the journal name into the ‘Books & More’ bar or by clicking on the ‘Databases and Articles’ link and going from there to Google Scholar or Biosis. Need help? Ask in class.

### Grading

#### **Course Grade Breakdown**

- **Assignments** (10% total) Homework assignments will be due Monday in the appropriate D2L drop box by the start of lecture (10:00 am). The style of these assignments will vary, but will be applicable to the current lecture topic. I will then post a key and you should verify your answers are correct. These assignments are crucial to do to learn the material and succeed on the exams. Please work with your peers to master the homework, approaches to problem solving, and course content in general. Attend my office hours if you need assistance.
- **In-class assignments** (10% of total): The style of these assignments will vary from activities, short descriptions, discussions, or written assignments based upon reading or data

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analysis. When these occur you must complete them and turn the in during the lecture period in which they are assigned.

- **Exams** (40% of total): Based on lectures, readings, discussions, and labs. 3 exams, 12% for each midterm, 16% for the cumulative final exam. Exam question style and format will be discussed before each exam.
- **Lab Component** (40% of total) See lab syllabus for more detail.

**Final Grades:** All course components will be graded on a percentage basis, adding to 100%. Final grades will be assigned according to the scale below.

Grade	% of possible points
A	90
B	80
C	70
D	60
F	Below 60

### Class Policies:

- Class and lab is a special time is when we get together to interact human-to-human. Only class related electronic communications will be allowed.
- There will be no side conversations during lecture. Please be considerate to your classmates. If you have a question, please raise your hand and ask it.
- Assignments must be in *on time*. I will not accept unexcused late homework. Assignments must also be typed and turned in electronically, either as a Word or PDF document.
- *Type* your homework assignments.
- *Quality* is important and is factored into the grade of each assignment
- Although much of the work will be conducted as a class or in small groups, your homework must be your *own work*. I encourage you to discuss the *concepts* and interpretations of

the data with your classmates, however, you must generate your own reports, graphs, etc. Do not turn in identical or strikingly similar assignments as your classmates (current or anyone who has taken this class previously). You will not receive a score and you risk further academic prosecution for plagiarism.

- Be considerate of your classmates. Because this class will involve group activities, please come prepared and ready to participate in group and class activities.
- **Please bring to class:** writing utensil and paper for notes and for graphing; calculator or computer; text book/ scientific paper to read that day (in print or on line).
- **Participation:** To get the most out of this course, please do the assigned readings before class and be prepared to participate. I appreciate it when you ask questions, whether they are to clarify assignments or concepts. You are responsible for completing all assignments; if you are absent or late, it is your responsibility to find out what you missed – check with peers first. Please try very hard not to miss your lab section (see lab syllabus for more detail). Please stay home, however, if you're sick and contagious!
- **Conduct:** We are to realize the highest ethical standards of behavior, as per the Code of Conduct to which we are bound: <http://www.pdx.edu/dos/codeofconduct#ProscribedPSU>. If you have not yet done so, please go through the on-line training for creating a safe, respectful campus: <https://d2l.pdx.edu/d2l/home/425907> .
- **Sex/Gender Discrimination:** As an instructor, one of my responsibilities is to help create a safe learning environment for my students and for the campus as a whole. Please be aware that as a faculty member, I have the responsibility to report any instances of sexual harassment, sexual violence and/or other forms of prohibited discrimination. If you would rather share information about sexual harassment, sexual violence or discrimination to a confidential employee who does not have this reporting responsibility, you can find a list of those individuals. For more information about Title IX please complete the required student module [Creating a Safe Campus](#) in your D2L.

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- **Plagiarism** or other academic dishonesty will not be permitted and will yield a failing grade for the project. There are many forms of plagiarism, including:
  - Copying word for word without quotation marks and proper citation
  - Closely paraphrasing without proper citation
  - Be especially careful of information obtained from the Internet. In general, for your lab reports *do not cite work from the web*. Follow the information to its source and cite the primary, peer reviewed literature.
- Please consult the Purdue OWL, one of the TAs, or me regarding plagiarism and other writing issues:  
<https://owl.english.purdue.edu/owl/resource/589/01/>

**Questions and Email:** As much as possible, please ask questions during and after class and come to my office hours. If these times do not work for you, send me a message to set up an alternative time. If you email me, please follow these general guidelines:

- Include an informative subject line (e.g., ESM 221, assignment #1).
- Include a salutation (e.g., Hello Dr Scheller,...).
- Include your name.
- Do not expect an immediate reply.

### **Technology**

You are allowed to use a laptop to take notes. Cell phones are not allowed in any capacity. All assignments and tests will be turned in via D2L.

### **Sickness policy:**

You are encouraged NOT to attend class if you are sick with the flu or any other contagious disease. Do not bring your sick children to PSU either. You should stay away from school and other crowds until your fever has been gone for 24 hours (without medication).

If the lecturer is sick, you are still responsible for reading the lecture notes from that day and any reading. All assignments are due on time whether or not the lab or lecture instructor is sick.

### **Resources & Services:**

Don't forget to check out the ESM webpage for all sorts of info on what the department is doing...: <http://www.pdx.edu/esm/>  
ESM student council: Email the ESM student council <[esmsc@pdx.edu](mailto:esmsc@pdx.edu)> with ideas for developing the ESM community, issues regarding student advocacy or to join the council.

Library Research Tutorials:

<http://guides.library.pdx.edu/home/howto> and

<http://guides.library.pdx.edu/biology>

DRC: If you are a student with a documented disability and are registered with the Disability Resource Center, please contact me so that we can arrange whatever academic accommodations you need.

Learning Center/Free Tutoring...: <http://www.pdx.edu/tutoring/>  
PSU library rm 245

Writing Center: for class assignments, resumes...

<http://www.writingcenter.pdx.edu/> Cramer rm 188

Departmental honors: <http://www.pdx.edu/esm/esm-undergraduate-honors-program>

LSAMP (Louise Stokes Alliance for Minority Participation) enhances the undergraduate experience for underrepresented students in STEM. Funded by the NSF, our LSAMP program focuses on: Creating a community among LSAMP scholars that values excellence, diversity, and persistence; and Expanding opportunities for LSAMP scholars through participation in undergraduate research experiences and leadership initiatives. If you're interested in finding out more, visit our LSAMP center in 103 Epler Hall, talk to ESM-LSAMP faculty advisory member Cat de Rivera <[derivera@pdx.edu](mailto:derivera@pdx.edu)>, SRTC 238e, or check out: <http://www.pdx.edu/lsamp/home>

Career Services: <https://www.pdx.edu/careers/> and

<https://www.pdx.edu/careers/what-can-i-do-degree-environmental-studiesenvironmental-sciences>

PSU Food Pantry: SMSU 325,

<https://sites.google.com/a/pdx.edu/psufoodpantry/>

Veterans: If you are a Veteran and have questions about University services or transitioning to campus life, please contact the Office of Veterans' Services, SMSU room 425.

Multicultural Centers: <https://www.pdx.edu/dmss/multicultural-student-center> ; <https://www.pdx.edu/dmss/native-american->

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[student-community-center ; https://www.pdx.edu/dmss/la-casa-latina-student-center](https://www.pdx.edu/dmss/la-casa-latina-student-center)