

## ESM 355      Understanding Environmental Sustainability      Spring 2022

### **Instructor:**

Arick Rouhe, PhD

ESM Instructor at PSU

Email – [arouhe@pdx.edu](mailto:arouhe@pdx.edu)

Office hours: 9am – 12pm M-Th via email and D2L mail

*Role: Answer general course questions, read and score the module posts, and grade the final write-up.*

### **Teaching/Learning assistants:**

Maddy Green: [madgreen@pdx.edu](mailto:madgreen@pdx.edu)

Saville Feist: [saville@pdx.edu](mailto:saville@pdx.edu)

Both ESM majors at PSU

Contact hours: These will be listed on Canvas

*Role: Provide feedback on project assignments, answer questions about project assignments.*

## **Materials for this Course:**

### **Textbook:**

Mulligan, Martin. An Introduction to Sustainability: Environmental, Social and Personal Perspectives 2<sup>nd</sup> edition. New York: Routledge 2018.

ISBN: 978-1-138-69830-7 (paperpack)

ISBN: 978-1-315-51945-6 (ebook)

### **Additional Resources:**

All other the resources for this course will be available as documents on the course D2L site, or links to the resources will be provided on Canvas. Resources will include:

- Links to PDF's and online sources for studying weekly topics
- Links to videos for studying weekly topics
- PDF's of journal articles and Case Studies
- Links to websites and online articles

## **Course Description**

The goal of this course is for students to understand environmental sustainability by focusing on ecosystems, ecosystem functions, ecosystem services, management of ecosystems, and by reviewing case studies. The emphasis of the course is sustainability but the focus of the assignments and readings will be the study of the scientific and ecological principles that govern human interactions with physical and biological systems. Topics will include ecosystem properties, biodiversity, the health of ecosystems, ecosystem services, values humans place on ecosystems, adaptive management practices, and ecosystem restoration. This course is intended for both science and non-science majors, so it does not have any science requirements, there are no expectations of previous scientific knowledge.

## **General Course Overview and Expectations**

This course is designed to help you understand environmental sustainability by studying the function of ecosystems, how humans impact ecosystems, and how humans adaptively manage ecosystems. To reach the goal of understanding sustainability, you will read and/or watch resources in the form of articles, presentations, videos, and textbook chapters. The resources with a common theme are grouped into modules. In all, you will complete 10 modules which contain a short lecture video from the professor, a textbook chapter, and 10+ resources. Along with module content each week, you will complete two quizzes and discuss topics with classmates on a discussion thread. In addition to the weekly, modules, you will complete a term long project for which you will choose an ecosystem to research and then write an extensive value assessment. The value assessment is referred to as the Ecosystem Project. You will start on this project right away and complete 6 assignments throughout the quarter from which you will build an extensive write-up due during the last week of the term.

## Assignments and Grading

| <u>Assignment type</u>     | <u>Percent of total grade</u> |
|----------------------------|-------------------------------|
| Module content and quizzes | 45                            |
| Ecosystem project          | 35                            |
| Student discussion groups  | 20                            |
| <b>Total percent</b>       | <b>100</b>                    |

Grades will be assigned based on fixed cutoffs (60-70-80-90: D-C-B-A). Plus and minus for each grade will be based upon 2% above and 2% below each cut off.

### Assignment Point Values

There are 1075 total points that can be earned in this course: 605 quiz points, 300 ecosystem project points, and 170 discussion points. However, the specific point values of each assignment in each category don't carry the same weight as the points of the assignments in other categories. For example, each quiz is worth 10-40 points, and the total quiz points in this class will total 605/1075 points. Quizzes are worth 45% of your grade, so 605/1075 quiz points would be 56% based on straight points but quizzes = 45% of your grade. As a point of comparison, the ecosystem project will be worth 300 total points and is worth 35% of your grade. That means each of the 300 project points carry a little more weight than each of the 605 quiz points. It is organized this way so that quiz scores don't dominate your grade, making each of the points you earn from the project and discussions worth more to your grade than quizzes. The Grades tab on Canvas will not calculate weighted categories throughout the term, but the total points during each week can be used to roughly indicate your correct grade at any time throughout the term.

### Due dates and late policy

All assignments have a due time and date. Quizzes must be submitted by the date and time deadline or you will receive a score of zero for that quiz. When you submit the write-ups for each project assignment and the ecosystem project final write-up through Canvas, the submission will receive a time and date stamp. Quizzes will not be accepted late for any amount of credit. Project assignments can be submitted up to 24hrs late, but if it is submitted late your assignment score will automatically be reduced by 25% of the credit you earn. After 24hrs, your assignment will not be graded and it will receive a score of zero. Due to the large number of students in this course, this late policy is necessary in order for the instructor and the graders to grade and return feedback in a timely manner.

## Module Content and Quizzes

For each module, you will be provided with a recorded instructor lecture and links to readings and videos with a common theme. You will need to read, study, and take notes on the lecture, corresponding textbook chapter(s), and the readings and videos. Paired with the lecture and textbook reading will be a 5-10 question quiz that covers the content of the lecture and textbook. Paired with the additional readings and video links will be a 10-20 question quiz that covers the content of the readings and videos. After studying and taking notes on each resource, you should then take the quizzes. The questions for each quiz will be written from information covered in each resource. However, the resource documents and videos are sometimes extensive and the quiz questions can be specific. You can use your notes and the resources themselves to help you answer the questions, but there is often too much information to simply scan the resources and expect to do well on the quizzes without studying ahead of time. Each resource quiz has a time limit, can be taken UP TO TWO times, and your highest attempted score will be accepted. After you complete your first attempt of each content quiz, your score will be shown and the questions you missed will be indicated. If you missed any questions, you can retake the quiz one more time in order to answer all questions correctly.

## Important quiz details

- Every quiz in this class will be multiple-choice
- Quizzes and content for each module will be available starting at 9am on Fridays.
- Quizzes will be available 11 days for each module, and due at 11:59pm on their due date.
- Canvas does not allow you to stop or pause a quiz once you begin
- For all quiz attempts, total allowed time will be set based upon 5 minutes per question (ie 25 minutes for a 5 question quiz, 50 minutes for a 10 question quiz)
- Dates of availability, due dates and times, and time allowed can be seen by clicking the quiz link.
- You can retake weekly quizzes 1 time (2 total attempts) and initial module quizzes 2 times (3 total attempts)
- You can start the quizzes at any time once you are ready, you don't have to wait until end of the availability period in which they are available
- There will be NO DROP QUIZZES

All quizzes must be submitted by the due dates and times listed on the course schedule (shown below) in order to receive credit. These dates and times are also shown on the Canvas for each quiz and will show up in the calendar for this course on Canvas. NOTE: Module 9 quizzes are due on Tuesday May 31 due to the Labor Day holiday, For extra time, Module 10 quizzes are due on Thursday of Finals Week

| Module Number | Module Topic                                   | Module Start Date   | Quizzes due at 11:59pm on these dates      |
|---------------|--|---------------------|--|
|               | Initial Module                                 | 8am Monday March 28 | All items due by Monday Apr 4              |
| 1             | Introduction to sustainability                 | 8am Monday March 28 | All items due by Monday Apr 4              |
| 2             | Wicked problems                                | 9am Friday April 1  | All quizzes due Monday Apr 11              |
| 3             | Biodiversity and habitat loss                  | 9am Friday April 8  | All quizzes due Monday Apr 18              |
| 4             | Ecosystem services and the ecosystem approach  | 9am Friday April 15 | All quizzes due Monday Apr 25              |
| 5             | Ecosystem Structure                            | 9am Friday April 22 | All quizzes due Monday May 2               |
| 6             | Ecosystem Dynamics                             | 9am Friday April 29 | All quizzes due Monday May 9               |
| 7             | Ecosystem stress and resilience                | 9am Friday May 6    | All quizzes due Monday May 16              |
| 8             | The value of Ecosystems                        | 9am Friday May 13   | All quizzes due Monday May 23              |
| 9             | Managing ecosystems and common pool resources  | 9am Friday May 20   | All quizzes due <b><u>TUES May 31</u></b>  |
| 10            | Ecological worldview and sustainable solutions | 9am Friday May 27   | All quizzes due <b><u>Thurs June 9</u></b> |

## Ecosystem Project

The ecosystem project consists of seven total assignments. The seventh (and final) assignment will be a 4-page write-up about the services and value of the ecosystem that you choose to research. It will include background details on the system, actions that have been taken in a system, the ecosystem services that the system provides, the value of the ecosystem services, and a comparison of the value of services to management actions or costs accrued by not having that system. The first two assignments are designed to help you pick your ecosystem and research your ecosystem. The other 4 assignments (Assignments 1-4) are designed to help you develop crucial sections of your final write-up (these are drafts of the sections of your final write-up). After you turn in each of the assignments, the grader will read your work and provide general feedback on what you have written. You should use the feedback you get from assignments 1-4 to make crucial edits and additions in order to assure that a good/great final grade on your final write-up. To begin the project, click on the Ecosystem Project module, read the overview description, and then complete the topic choice assignment. The other assignment descriptions will be released as the term advances. Note: there are no drops for this assignment category.

| <u>Assignment</u> | <u>Points</u> | <u>Topic</u>                                  | <u>Due by</u>        |
|-------------------|---------------|---|----------------------|
| Topic Choice      | 20            | Pick and explain your QLP topic choice        | Thur Apr 7@ 11:59pm  |
| Research          | 30            | Find quality sources for your QLP topic       | Thur Apr 14@ 11:59pm |
| Assignment 1      | 25            | Description/background for your chosen system | Thur Apr 21@ 11:59pm |
| Assignment 2      | 25            | Problems and human actions taken              | Thur Apr 28@ 11:59pm |
| Assignment 3      | 25            | Ecosystem services provided by your system    | Thur May 5@ 11:59pm  |
| Assignment 4      | 25            | Value of the services provided by your system | Thur May 19@ 11:59pm |
| Final Write-up    | 150           | Complete system assessment and valuation      | Mon June 6@11:59pm   |

## Student Discussion Groups

For eight of the ten modules, you will be provided with questions for discussion. These questions will be provided to you through the discussion tab on Canvas. Each student will be placed in a discussion group with 5-10 other students. For this portion of the course, you will be required to provide a detailed answer to one of the posted questions. Then, you will read the responses of the other students to the questions and make two comments on their responses. For each module, discussion posts will be worth 20 points. Ten points for posting your answer to one of the questions and ten points for commenting on two other student posted answers (5 points for each of your two responses).

When writing comments to other student answers/posts, you need to consider three things. First, the discussion activity for this course is meant to be an exercise that helps all students to better understand the material in this course. This means that your posts need to be constructive and detailed, with full explanations. Short answers or comments like "I agree" or "That sounds good" will not earn you full points. Make sure your comments are thoughtful and useful. Second, this is a discussion activity so you can either agree with the other student posts or disagree. Sometimes good feedback is used to point out alternative viewpoints or mistakes. However, it's important to be constructive with your comments even if you disagree. Finally, your comments need to be appropriate. Even if you feel a post or answer is terrible, a comment or suggestions is not useful if it is offensive or rude. There are always tactful ways of saying that you don't think something is done well. Make sure that all of your comments are worded and phrased appropriately and are not offensive in any way. If the instructor reads an offensive comment or another

student notifies the instructor of rude or offensive comments, you may lose points for the discussion that week (all 20 points, not just the five or ten points for the answer or response).

If you provide thoughtful, useful, and appropriate comments, you will receive full points for the discussion for each module. Loss of points for any part of this assignment will be based upon lack of comments, lack of appropriateness of the comments, and/or a late submission. Starting in the third week of the term, answers to discussion questions will be due on Tuesdays at 11:59pm and responses comments to other students answers will be due by each Friday at 11:59pm. Note: All module discussions occur the week after each module is due (i.e. Module 2 quizzes are due on Monday of week 3 and your answer to one of the module 2 discussion questions is due the next day on Tuesday). This is to ensure that all students in each group have completed the module material before answering one of the questions. **Note: your module 9 discussion answer will be due on Wednesday Jun 1 due to Memorial Day, and there will not be a discussion for Module 10 due finals week.**

| Module | Module Topic                        | Answer to question due on Tuesdays              | Response comments due on Fridays |
|--------|-------------------------------------|---|----------------------------------|
|        | Group Introduction                  | No question, post intro by Mon Apr 11 @ 11:59pm |                                  |
| 1      | Introduction to Sustainability      | <b>No Discussion for Module 1</b>               |                                  |
| 2      | Wicked problems                     | Apr 12, 11:59pm                                 | Apr 15, 11:59pm                  |
| 3      | Biodiversity and habitat loss       | Apr 19, 11:59pm                                 | Apr 22, 11:59pm                  |
| 4      | Services and the ecosystem approach | Apr 26, 11:59pm                                 | Apr 29, 11:59pm                  |
| 5      | Ecosystem structure                 | May 3, 11:59pm                                  | May 6, 11:59pm                   |
| 6      | Ecosystem dynamics                  | May 10, 11:59pm                                 | May 13, 11:59pm                  |
| 7      | Ecosystem stress and resilience     | May 17, 11:59pm                                 | May 20, 11:59pm                  |
| 8      | The value of ecosystems             | May 24, 11:59pm                                 | May 27, 11:59pm                  |
| 9      | Managing and restoring ecosystems   | <b>June 1, 11:59pm</b>                          | June 3, 11:59pm                  |
| 10     | Ecological worldviews and solutions | <b>FINALS WEEK, NO DISCUSSION</b>               |                                  |

## School policies, department requirements, and student resources

### 1. Student Conduct Code

At Portland State, the highest ethical standard of behavior is expected during lecture periods and during general interactions with students on projects. Portland State has a well-defined conduct code. Please review it by using the link: <http://www.pdx.edu/dos/codeofconduct#ProscribedPSU>.

### 2. Academic Honesty

The issue of academic dishonesty has become a growing issue with which most universities have had to contend. There are various reasons why students 'cheat' in their classes such as lack of time, unwillingness to put forth own effort, lack of understanding of course material or assignments, and a different interpretation of what constitutes academic dishonesty. In this class, academic dishonesty is broadly defined as the use of someone else's work as yours. This includes some obvious actions such as:

- Having someone take a class for you
- Having someone take or complete part of your test or an assignment for you
- Having someone else write a paper, or a section of a paper for you
- Using a quote or direct passage from some secondary source (e.g., book, article) in a paper without citing it (this does not include your responses provided on tests that are taken directly from the professor's lecture or other class material]

- Working collaboratively on projects or assignments that are expected to be completed on an individual basis.

There are also other actions that are considered academically dishonest that are not as obvious, such as:

- Submitting a paper that utilizes another person or source's theories, thoughts, ideas, concepts without proper citation
- Using a paper or assignment, or a segment of a previous paper or assignment created by another group in which you participated.
- Taking material off of the Internet and using it without full and proper citation.

The above list of actions is not intended to be exhaustive. If you have any question about what is an appropriate way to cite particular information, please contact your instructor or teaching assistant.

Please consult the Purdue OWL, one of the TAs, or the instructor regarding plagiarism and other writing issues: <https://owl.english.purdue.edu/owl/resource/589/01/>

### **3. DRC statement**

Access and Inclusion for Students with Disabilities. PSU values diversity and inclusion; we are committed to fostering mutual respect and full participation for all students. My goal is to create a learning environment that is equitable, useable, inclusive, and welcoming. If any aspects of instruction or course design result in barriers to your inclusion or learning, please notify me. The Disability Resource Center (DRC) provides reasonable accommodations for students who encounter barriers in the learning environment. If you have, or think you may have, a disability that may affect your work in this class and feel you need accommodations, contact the Disability Resource Center to schedule an appointment and initiate a conversation about reasonable accommodations. The DRC is located in 116 Smith Memorial Student Union, 503-725-4150, [drc@pdx.edu](mailto:drc@pdx.edu), or <https://www.pdx.edu/drc>

If you already have accommodations, please contact me to make sure that I have received a faculty notification letter and discuss your accommodations. Students who need accommodations for tests and quizzes are expected to schedule their tests to overlap with the time the class is taking the test. Please be aware that the accessible tables or chairs in the room should remain available for students who find that standard classroom seating is not useable.

For information about emergency preparedness, please go to the Fire and Life Safety webpage <https://www.pdx.edu/environmental-health-safety/fire-and-life-safety> for information.

### **4. Syllabi Statement for Title IX Reporting Obligations**

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 federal, state, and PSU policies require faculty members to report any instances of sexual harassment, sexual violence and/or other forms of prohibited discrimination. Similarly, PSU faculty are required to file a report if they have reasonable cause to believe that a child with whom they come into contact has suffered abuse, or that any person with whom they come into contact has abused a child. If you would rather share information about these experiences with an employee who does not have these reporting responsibilities and can keep the information confidential, please contact one of the following campus resources (or visit this link):

- Women's Resource Center (503-725-5672)
- Queer Resource Center (503-725-9742)
- Center for Student Health and Counseling (SHAC): 1880 SW 6th Ave, (503) 725-2800
- Student Legal Services: 1825 SW Broadway, (SMSU) M343, (503) 725-4556

For more information about the applicable regulations please complete the required student module Creating a Safe Campus in your D2L.

## **5. Mandatory Safe Campus Online Training Module**

If you have not done so already, please complete the Safe Campus Module in D2L. The course is titled "Creating a Safe Campus: Preventing Gender Discrimination, Sexual Harassment, Sexual Misconduct and Sexual Assault."

As of Fall, 2014, PSU requires all students to take the learning module entitled "Creating a Safe Campus: Preventing Gender Discrimination, Sexual Harassment, Sexual Misconduct and Sexual Assault." The module should take approximately 45 minutes to complete and contains important information and resources.

If you or someone you know has been harassed or assaulted, you can find resources on PSU's Enrollment Management & Student Affairs: Sexual Prevention & Response website at <http://www.pdx.edu/sexual-assault>. PSU's Student Code of Conduct makes it clear that violence and harassment based on sex and gender are strictly prohibited and offenses are subject to the full realm of sanctions, up to and including suspension and expulsion.

If you are having technical difficulties with the module contact OIT's help desk at 503-725-HELP (4357) or [help@pdx.edu](mailto:help@pdx.edu). If you have any questions about the module requirement refer to Safe Campus Module FAQs or contact [saveact@pdx.edu](mailto:saveact@pdx.edu). Do not contact your instructor.

## **6. Students' Right to Privacy**

The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. Â§ 1232g; 34 CFR Part 99) is a<sup>[SEP]</sup>Federal law that protects the privacy of student education records. Under FERPA, students have the right to inspect and review their education records maintained by the school. Schools are not required to provide copies of records unless, for reasons such as great distance, it is impossible for parents or eligible students to review the records. Schools may charge a fee for copies.

Students have the right to request that a school correct records which they believe to be inaccurate or misleading. If the school decides not to amend the record, the student has the right to place a statement with the record setting forth his or her view about the contested information.

Generally, schools must have written permission from the student in order to release any information from a student's education record. However, FERPA allows schools to disclose those records, without consent, to certain parties or under the specific conditions (34 CFR Â§ 99.31): for example, school officials with legitimate educational interest; other schools to which a student is transferring; financial aid officers; state and local authorities in cases of health and safety emergencies; etc.

Schools may disclose, without consent, "directory" information such as a student's name, address, telephone number, unless the student has requested that the school not disclose directory information about them. For additional information about the law, see these sites:

[www.pdx.edu/dos/ferpa-facts](http://www.pdx.edu/dos/ferpa-facts)

[www.pdx.edu/registration/student-records-privacy](http://www.pdx.edu/registration/student-records-privacy)

[www.pdx.edu/registration/guidelines-release-studentrecords](http://www.pdx.edu/registration/guidelines-release-studentrecords)

[http://www.pdx.edu/sites/www.pdx.edu.education/files/gse\\_handbook\\_student\\_privacy.pdf](http://www.pdx.edu/sites/www.pdx.edu.education/files/gse_handbook_student_privacy.pdf)

## 7. Returning Work to Students

FERPA requires us to be very careful in safeguarding our students' right to privacy when returning students' exams papers. Putting them in a self-serve box or envelope outside your office violates their confidentiality by making protected records available to others. This is not an acceptable practice.

Faculty can do one of the following:

1. Return work directly to students in class
  - Pass out assignments to students at the end of class
  - Students retrieve their work, before or at the end of class, in individual, labeled file folders or envelopes that guard the confidentiality of the work inside, under the observation of the instructor, ensuring that only the student whose name is on the label removes the material.
2. Return work and send feedback electronically
3. Students arrange to pick up work from instructors outside of class.
4. Students provide instructors with a self-addressed and stamped envelope that instructors can use to return material directly to students. (It is helpful to put a statement on the syllabus making this a course requirement.)

## 8. Communication

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 355, Quiz 1A question 4)

include a salutation (e.g., Hello Dr. Rouhe,...)

include your name (Thanks for your time, Danielle)

do not expect an immediate reply.

Some days I will be able to respond you your <sup>[L]</sup><sub>[SEP]</sub>email within the day, while other times it may take me 1-2 days to respond. I typically check email early in the morning and in the early afternoon. I rarely check email later in the afternoon or at night. Also, I rarely check or respond to email on Saturdays, so if you email me Friday evening, I may not respond until Sunday night or early Monday morning. <sup>[L]</sup><sub>[SEP]</sub>

## 9. 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> 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>

<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.



### *Veterans*

If you are a Veteran and have questions about University services or need assistance with your transition from military to campus life, please contact the Coordinator of Veterans Services at the Office of Veterans' Services, SMSU room 425 or <https://www.pdx.edu/veterans/>

### *Learning Services*

Tutoring: <http://www.pdx.edu/tutoring/> or visit the PSU library rm 245

Writing Center: <http://www.writingcenter.pdx.edu/> or visit Cramer rm 188

Please consult the Purdue OWL regarding plagiarism and other writing issues:

<https://owl.english.purdue.edu/owl/resource/589/01/>

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

### *Other services and resources*

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

<https://www.pdx.edu/dmss/native-american-student-community-center>

<https://www.pdx.edu/dmss/la-casa-latina-student-center>

Queer Resource Center: [www.pdx.edu/queer](http://www.pdx.edu/queer) <sup>[SEP]</sup>

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>, SRTC 238e, or check out: <http://www.pdx.edu/lsamp/home>

PSU Food Pantry: SMSU 325, <https://sites.google.com/a/pdx.edu/psufoodpantry/>