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ENSC 105N.01: Environmental Science

Marilyn J. Marler

University of Montana, Missoula

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Environmental Sciences 105N, CRN 34319

MWF 10:00am-10:50am, SS 254

Jan 18-May 13, 2022

****UPDATED Feb 1, 2022****

Instructor: Marilyn Marler, 406-544-7189, Marilyn.Marler@mso.umt.edu
Office hours by appointment

TA: Brianna Ashley, 757-667-9200, brianna.ashley@umontana.edu
Office Hours Monday/Wednesday 11am-12pm, and by appointment
Jannette Rankin Hall Rm. M5 or via Zoom

Class overview:

This course reviews the major fields of environmental science (geology, biology, forestry, hydrology and more) and social policy in the context of crafting sustainable solutions for human needs.

Learning objectives:

- Develop scientific literacy and critical thinking skills, basic research and self-instruction
- Understand the scientific basis of environmental issues, policies and laws
- Explore scientifically-informed habits of sustainable living and active participation in social decisions
- Discover opportunities to make a difference in our communities and on our planet

Textbook

The Environment and You, Third Edition. Christensen, Leege and St.Juliana, editors. Pearson.

UM Land Acknowledgement:

The University of Montana acknowledges that we are in the aboriginal territories of the Salish and Kalispel people. Today, we honor the path they have always shown us in caring for this place for the generations to come.

What is a land acknowledgment, and why do we do this?

Schedule (The instructor reserves the right to make changes or additions to the requirements in the syllabus with prior notice and announcement in class)

1/19 1/ 21	Introduction: Environmental Science, Ecology and Natural Resources; Ch 1.1-1.4 Sustainability, Science and You (Ways of Knowing Part 1) Ch 1.5-1.6
1/24 1/26 1/28	Traditional Ecological Knowledge (Ways of Knowing Part 2)- Dr. Roz LaPier Environmental policy: federal, state and local; Examples of current issues Changing views of nature and environmental ethics; Ch 2.1-2.2
1/31 2/2 2/4	Environmental ethics continued Scientific method wrap up; begin Ch 3 Earth Sciences UM Sustainability Program, Eva Rocke
2/7 2/9 2/11	Earth Sciences: Biogeochemical cycles (C and N); Ch 3.5 The atmosphere, energy budget, weather and climate (Ch 3.6, 3.7) Exam 1 Ch 1-3 and guest lecture
2/14 2/16 2/18	Field trip with Brian Kerns, UM Utilities Engineer Energy Systems, Dr Len Broberg (Ch 14) Energy, continued
2/21 2/23 2/25	President's Day, NO CLASS Solar energy, Dr. Len Broberg Shift gears! Ch 4, Organism and Population Ecology; Growth and limits on growth
2/28 3/2 3/4	Human population growth Ch 5 Communities and Ecosystems 6.1-6.3 Flow of energy through ecosystems Ch 6.4-6.6
3/7 3/9 3/11	Biomes of the world Part 1: Terrestrial 7.1-7.6 Biomes of the world Part 2: Aquatic 7.7-7.8 Exam 2 Chapters 4-7 and Ch 14, plus guest lectures
3/14 3/16 3/18	Biodiversity 8.1-8.5 Policies for conserving biodiversity 8.7-8.8 Intro to climate change, including Indigenous Perspectives, Brianna Ashley
3/21-25	<i>Spring break, no class</i>
3/28 3/30 4/1	Climate change and Global warming Ch 9.1-9.5 Climate change and Global warming Ch 9.6-9.8 Air quality 1; Ch 10.1-10.4
4/4 4/6 4/8	Air quality 2; Ch 10.5 and Fire cycles Water Ch 11.1-11.4 Water quality: Milltown and Stone Container w David Schmetterling
4/11 4/13	Water conservation Ch 11.5-11.8 Agriculture and Food Systems Ch 12.1-12.5

4/15	Local sustainable agriculture, Caroline Stephens
4/18 4/20 4/22	Exam 3 Ch 9, 10,11, 12 and guest lectures Forest resources 1 Ch 13.1-13.2 Forest resources 2 Ch 13.3-13.5
4/25 4/27 4/29	Urban Ecosystems 1, Ch 16.1-16.5 Urban Ecosystems 2, Ch 16.6-16.8 Waste Management 1 Ch 17.1-17.5
5/2 5/4 5/6	Waste Management 2 Local issues TBA as needed Course wrap up and evaluations
May 12	Final exam 10a-noon (it is not cumulative)

Grading

Exam 1	100	
Exam 2	100	
Exam 3	100	
Exam 4	100	Not cumulative
Participation	30	Decided by instructors, combined with a self-evaluation
Field trips	20	You must attend 2 field trips
Service proj.	50	Details below

Total possible: 500 points

Service project assignment details.

Experiential learning is an important way of understanding material covered in class. In this assignment, you will:

- 1) choose a service project (several will be offered, and you can also arrange your own as long as you coordinate with Marilyn)
- 2) write a 1-page proposal describing the project and why it is worthwhile PRIOR to attending (10 points)
- 3) participate in the project for at least 3 hours (25 points)
- 4) write a thank you note to the person who led the service project and request a confirmation email back (to confirm that you attended) (required for any amount of credit)
- 5) write a one page reflection on the experience (15 points)

Field trips will be announced shortly. You need to attend at least 2.

Here is UM- provided information on resources available to help you be successful. Please reach out for help any time. We all want you to be successful! This is also on the Moodle page for this class.

Accessibility

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students. If you think you may have a disability adversely affecting your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommasson Center 154 or call 406.243.2243. I will work with you and Disability Services to provide an appropriate modification.

Student Conduct Code Plagiarism or other misconduct as defined in the Student Conduct Code will result in sanctions possibly including receiving a failing grade for the course and referral to a formal misconduct process.

Covid-19 Safety We expect everyone in the classroom (students, guest speakers, TA's and instructors) to all follow safety protocols as listed below. This is for everyone's safety.

(Mostly asymptomatic) transmission is likely to occur in a campus setting, whether it be in school, at work, or while socializing. We all need to do our best to minimize that transmission. Even if you are young and healthy and your risk of severe infection is low, it is not zero, and we need to be mindful of starting a chain of transmission that may eventually infect someone who is high risk. It is a challenging time, but we are in this together!

UM Safety Guidelines:

- Mask use is required within the classroom.
- Each student is provided with a cleaning kit. The expectation is that students will clean their personal work space when they arrive for class, and before they leave the classroom.
- Classrooms may have one-way entrances / exits to minimize crowding.
- Students should be discouraged from congregating outside the classroom before and after class
- Specific seating arrangements will be used to ensure social distancing and support contact tracing efforts.
- Class attendance will be recorded to support contact tracing efforts.
- Drinking liquids and eating food is discouraged within the classroom (which requires mask removal).
- Information on the nearest "refill" stations for cleaning supplies/hand sanitizer if applicable.
- If the class is being recorded, students must be notified of the recording.
- Stay home if you feel sick and/or if exhibiting COVID-19 symptoms.
- If the student is sick or displaying symptoms, please contact the Curry Health Center at (406) 243-4330.
- Strongly encourage students to remain vigilant outside the classroom in mitigating the spread of COVID-19.

Student Supports for Online and Remote Learning

Supports are available for many facets of student life: academic, staying connected, and personal well-being. The following are resources, strategies, and links for students. [Keep on Learning](#) provides strategies for supporting students for online and remote learning and the Student Resources tab at the [Moodle home page](#) provides links to updated resources as well.

Tutorials:

- [Moodle 101 for Students](#): A self-enrollable, technical step-by-step tutorial on how to use Moodle as a student.
- [Strategies for Online Students](#): A self-enrollable, self-paced tutorial for students to help them identify their preferred learning styles and learn strategies for being a successful online student.

Academic Strategies:

- Pay attention to communications
- Keep up on coursework
- Avoid distractions
- Maintain a normal daily routine
- Ensure your tools are working
- Identify plans ahead of time
- Have a backup plan
- Use [Navigate for Students](#) to help manage your class schedule
- Use a phone app that can be used for planning and managing time or download the simple weekly planner found in the Learning Strategies module of [Strategies for Online Students](#) tutorial to help you get organized.

Academic Support:

- [Advising Center](#) and [Tutoring Resources](#): Schedule advising or tutoring appointments, available online or by phone. Tutoring available for math, writing, public speaking, Study Jam groups, and TRiO services.
- [Office for Disability Equity](#): Ensures students receive appropriate accommodations, services, and assistance to fully access the campus programs and facilities.
- [Writing and Public Speaking Center](#): Provides help at any point with writing, presentation, and research projects. Online and in-person appointments available.
- [Office for Student Success \(OSS\)](#): Helps students to meet three goals: transition smoothly to college, remain enrolled and progress in a program of study, and graduate in a timely manner.
 - [OSS COVID-19 Website](#)
 - Download the OSS [Online Student Success Guide](#) or [condensed Student Success Checklist](#)

Tools and Spaces:

- **Tools for online and remote learning include:** Moodle, Zoom, UM mobile app, Navigate app, Cyberbear and UMBox. Find specific information about these tools at [Keep on Learning - Tools](#).
- **Remote Learning Spaces:** The University of Montana has many areas where there are strong Wi-Fi signals and good study spaces. Should you need to attend a class remotely we encourage you to look for a space in the library or the University Center. You can [reserve and checkout Wi-Fi](#)

[hotspots](#) from the library which allow you to create a Wi-Fi signal wherever you have a good cellular signal.

- **Computer labs:** [Check availability of computer stations and labs](#) across campus.
- **Mansfield Library:**
 - [Library Hours](#)
 - [Request learning technology](#): laptops, webcams, and WiFi hotspots
 - [Mansfield Library Remote Services](#)

Technical Support:

The UM IT Help Desk is available to provide technical support from 8AM-5PM, M-F.

For help with email, UMBBox, Zoom, or other technical issues:

- Call 406-243-HELP
- Submit a ticket by emailing ithelpdesk@umontana.edu or by filling out the [General Help/Questions request form](#).

For help with

- Moodle: Call 406-243-HELP
- Submit a ticket by emailing umonline-help@umontana.edu or by filling out the [Moodle Help request form](#).
- View [UM IT's Self-Help Articles](#).

Communication and Staying Connected:

- [The Branch Center](#): A space dedicated to promoting respectful and collaborative dialogue, programming, and resources, in an effort to foster understanding, support, and inclusion for underrepresented students.
- [University of Montana app](#): Download to stay connected! There is an updated virtual events and activities tab to keep you connected to your fellow Grizzlies. It is available for download on the [iPhone App Store](#) or [Google Play](#).
- [Join UM-alerts](#): Subscribe by texting "Join UM-alerts" to 30890. Signing up for these alerts will inform participants, via direct text message, of immediate safety and health notices. [The University of Montana's Emergency notification system](#) will also transmit an email with emergency information to all 'umontana' e-mail addresses.
- Look for the UM Student Weekly Events every Monday in your UM email.
- Stay informed with [UM Events](#) and [UMNews](#).
- Get involved! Use [Griz Hub](#) to stay connected to the campus community.

Personal Wellness Supports:

- **[Curry Health Center](#)**: Provides quality, affordable, accessible health care for students.
 - Call (406) 243-2122 to schedule a tele-health appointment with medical or counseling
 - [Be Well at Home](#)
 - [What to do if I think I have been exposed to COVID-19?](#) (scroll down the page)
- **[Campus Rec](#)**: Keep up with your fitness workouts! Check out the Campus Rec website for modified hours and classes available.
- **[University of Montana Emergency Student Support Fund](#)**: Established to help enrolled students with unexpected crisis or hardship created by COVID-19.
- **[UM Food Pantry](#)**: Currently providing free meal kits and hygiene products for students, staff, faculty, and community members.

Expectations and behavior:

Teaching and learning take place in a relationship. Relationships work best when both parties understand the expectations. Here is what I commit, and I ask you to sign the agreement so I know that you have read it.

Marilyn: I commit to being at class on time and prepared every day of class. If I am not able to attend I will arrange for a guest speaker, or if my absence is unexpected I will let you know as soon as possible. I commit to treating all students with respect. I will try to learn everyone's names in the first several weeks.

I will be available to you outside of class within reason, and I invite you to make an appointment if you want to meet in person. I will respond to emails and texts right away (within 24 hours!)

(Your name:), _____, promise to be at class on time and ready to focus. I will not have my phone or other devices out unless they are an explicit part of a classroom exercise. I will treat my instructors with basic courtesy, and I will respect other students in the class. That means listening when they are asking questions or participating in discussions, and speaking up in a way that is not defensive, rude or dismissive. I know that I can disagree with others without being disagreeable, and if I need help in that area I will seek advice from Marilyn or Brianna. I promise to not gather up my belongings until the presenter indicates that class is over, because I understand that this is disruptive.

If I am going to miss a class, I will let Brianna know in advance. If it is because of an emergency, I will let Brianna know as soon as possible. I will not come to class if I think I have covid.