

BIOL 308: Pacific Northwest Ecology

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Dates:

This course will have an initial meeting on April 17 at 4:00 pm to go over the syllabus and supply checklists. We will have a breakfast meeting on study day, May 2, to get to know each other and double check supplies for pre-tip meeting and camping trip.

There will be pre-trip meeting and camping trip from May 12 to May 13. This overnight to Buffalo River State Park will give us a chance to learn about our regional ecology as well as to get to know each other and become familiar with the course expectations.

The actual dates for the travel portion of the course are: July 5 to July 15, 2018

All assignments, except for the field journal and the multimedia presentation, will be due at the end of the travel portion of the course.

Multimedia projects will be due July 25 and will be presented either live, virtual or pre-recorded. Select projects will the option of a public presentation to be given at a Biosciences Dept. FREE meeting – date TBD (typically Fri at 4 pm).

Course description:

This 3 credit summer travel course allows students to study general ecological principles and regional natural history within the context of a variety of ecosystems in the Pacific Northwest, including coastal, alpine, freshwater stream, lake, and river, and temperate rainforest systems. The ecological consequences and the science behind specific environmental and conservation issues will also be explored. The concept of local and global sustainability will be a pervasive theme throughout the course.

Required Materials

- *Course Reading Packet* – provided as packet and also on D2L
- *Camera (preferably with video capabilities)* – to record material for video project
- *Camping and Hiking Equipment* – sleeping bag and pad, water bottle, backpack and appropriate footwear for both hiking and beach tide pools. Some equipment like tents may be shared and others borrowed if needed. See packing supply list for complete description of recommended clothes and equipment.

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Required Reading

- *The Natural History of Puget Sound Country* by A.R. Kruckeberg (1991)
 - Chapter 1, Introduction
- *Olympic Park Natural History* by T. McNulty (2003)
 - Chapter 2, Legacies of Ice, and Chapter 7, Life at the Edge of Land and Sea
- *Seashore Life of the Northern Pacific Coast* by Eugene N. Kozloff (2000)
 - Chapter 1, Introduction
- *A Naturalist's Seashore Guide* by G.J. Bruscha and R.C. Bruscha (1978)
 - Chapter III ("Ecology of the Seashore")
- Living Planet Report Summary World Wildlife Fund (2016)
- Mammal in the Mirror Ecology chapter
- Assorted newspaper articles, scientific, and short reports

Course objectives (and LASC competencies)

1. To become familiar with general ecological processes as they apply to rocky coastal, temperate rainforest, freshwater, and alpine ecosystems in the Pacific Northwest.
LASC 10: Identify the structure, function, and processes of ecosystems (ecosystems include environmental systems such as climatic, hydrologic, soils, social, and biological systems).
2. To become familiar with common organisms inhabiting the above ecosystems and begin to explore the natural history of these organisms.
LASC 10: Identify the structure, function, and processes of ecosystems (ecosystems include environmental systems such as climatic, hydrologic, soils, social, and biological systems).
3. To gain an appreciation for the field of conservation biology as it specifically applies to sustaining natural ecosystems in the Pacific Northwest.
LASC 10: Explain the concept of sustainability.
4. To appreciate the complexity of the balance between human activity, and habitat conservation.
LASC 10: Explain the concept of sustainability. Assess and analyze the environmental problems of a technological society using the framework of well-founded physical and biological principles.
5. To understand the contributions and limitations of science when applied to complex environmental issues.
LASC 10: Identify and evaluate possible pathways to a sustainable future and demonstrate an awareness of the tradeoffs necessary to achieve a sustainable future.
6. To experience the physical and the psychological connectedness that exists between humans and their environments.
LASC 10: Understand how socio-cultural variables affect the ways in which environments are perceived and managed, and the ways in which people or societies react to environmental challenges.
7. To recognize societal decisions and actions that move towards a sustainable future that includes humans.
LASC 10: Describe the relationships between environments and socio-cultural groups, and identify how natural resource challenges are being addressed by the social, legal, economic, political, cultural, and religious systems within societies.

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Course assignments:

Pre-trip Quiz	Based on introductory readings.	20%
Ecology Scavenger Hunt	Record examples applying basic ecological concepts to field trip experiences.	10%
Getting to Know You	Research and share information about your assigned forest and ocean species.	10%
Dinner Discussions	Facilitate a small group evening discussion on one set of required readings.	10%
Book Sharing	Contribute information from your book to any of the dinner discussions and/or activities during the course. <i>One big or several smaller contributions</i> 😊	10%
Multimedia Project	Create a multimedia presentation on a Pacific NW topic/issue of your choice. <i>Group or individual.</i>	30%
Field Journal	Keep a daily log of activities and experiences during the field trips.	10%

Grading Scale: A =90-100%, B = 80-90%, C = 70-80%, D = 60-70% F <60%

Special Accommodations: Minnesota State University Moorhead is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.

- If you have, or think you may have, a disability (e.g. mental health, attentional, learning, chronic health, sensory or physical) please contact the DRC at (218) 477-4318 (V) or (800)627.3529 or 711 (MRS/TTY) to schedule an appointment for an intake.
- Additional information is available on the DRC website:
<http://www.mnstate.edu/disability/>
- If you are registered with the DRC and have a current Accommodation Letter, please schedule an appointment to visit with me, during my office hours, to discuss implementation of your accommodations.

Sexual Violence: Acts of sexual violence are intolerable. MSUM expects all members of the campus community to act in a manner that does not infringe on the rights of others. We are committed to eliminating all acts of sexual violence.

MSUM faculty and staff are concerned about the well-being and development of our students. We are obligated to share information with the MSUM Title IX Coordinator in certain situations to help ensure that the students' safety and welfare is being addressed, consistent with the requirements of the law. These disclosures include but are not limited to reports of sexual assault, relationship violence, and stalking.

If you have experienced or know someone who has experienced sexual violence, services and resources are available. You may also choose to file a report. For further information, contact Lynn Peterson, Coordinator of Sexual Assault Services at Hendrix Clinic and Counseling Center, 218-477-2211, or Ashley Atteberry, Title IX Coordinator in Owens Hall 208 (218-477-2174; ashley.atteberry@mnstate.edu). Additional information is available at: www.mnstate.edu/titleix