Syllabus
Natural Science Inquiry (Remote)
SCI 201, UNST 286

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Overview of Natural Science Inquiry

Natural Science Inquiry is designed to engage you in scientific investigations of problems of the sort you might encounter as an attentive citizen. The course uses no textbook and involves little formal lecture. *The learning you accomplish in this course will take place largely through your own effort and the efforts of those with whom you work.* The use of collaborative inquiry takes account of the fact that the modern sciences, as well as the questions they address, require teamwork both within and between specific disciplines. We wish to create a context within which this sort of teamwork is required to tackle the problems put before you.

As you will see right away, the schedule of events does not look like the listing of lectures and textbook reading assignments that characterize many science courses. Instead, learning in Natural Science Inquiry is accomplished through inquiry-based projects on a variety of topics that you may complete on your own or in class. The successful completion of these projects requires that you: (1) work independently and collaboratively, (2) conduct literature reviews, (3) collect and organize data, (4) use computers to analyze and interpret data, and (5) make and defend knowledge claims.

Student learning in this section of Natural Science Inquiry

As outlined above, this section of Natural Science Inquiry (NSI) relies heavily on student-directed projects and inquiry. If you do not facilitate your own engagement in the course you will not learn and as a result, your grade will be affected. Throughout the term you are expected to work collaboratively on a variety of connected projects that ultimately lead to the completion of a final research project. The results of the final project will be communicated to the class and the instructor through a scientific poster.

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Course Goals

Students will:

- View science as a process for creating knowledge.
- Be familiar with the basic characteristics of natural science research.
- Distinguish science from pseudoscience.
- Evaluate and critique knowledge claims.
- Recognize and understand scientific literature.
- Examine the role and influence of science in society, in culture and in policy-making.
- Use computers and statistical software as a research tool.
- Design and conduct a research investigation.
- Improve their ability to communicate scientific research through poster presentations.
- Recognize the power and limits of science as a way of creating knowledge.

Evaluation and Grading Categories

Quizzes	25 %
Discussion	15 %
Experiment Proposals	10 %
Peer Review	5 %
Experiment PowerPoints and Videos	30 %
Attendance and Participation	15%

Statement on Academic Honesty

Plagiarism or academic dishonesty of any form will not be permitted in this class and will result in a failing grade. For more information, please see Portland State University's Bulletin information on Academic Honesty.

Late Assignments or Arrivals: Late assignments will be penalized 15%.

Incompletes: Departmental and university policies dictate that incompletes can be given only for verified medical reasons (through the Office of the Dean of Student Life).

Grading criteria and percentages

C for basic quality, mostly accurate and simply factual, modest conceptual development;
B "above average", accurate with significant integration and conceptual development;
A "superior", high level integration and conceptual development with factual accuracy.

Percent scores and grade break points for letter grades:

A 94 - 100	B+ 87 – 89	C+ 77 – 79	D+ 67 - 69
A- 90 - 93	B 83 – 86	C 73 – 76	D 63 - 66
	B- 80 – 82	C- 70 – 72	D- 60 - 62

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Overview of Course Work

A video introduction to the course can be found in the course introduction section on D2L. This class is divided into 7 learning units. Each learning has a discussion, quiz and or a project associated with it. The due dates for each unit are listed on the course schedule. This class is organized into groups that you will work with the entire term. Students in each group have been randomly assigned, and you will be required to meet with your group members via Zoom during class hours.

Discussions: Most learning units will have an online discussion activity associated with it. Virtual discussions will take place among groups via Zoom breakout sessions during class hours. To get full credit, students must participate in each virtual discussion, then make a post in the discussion forum by the end of the date posted on the schedule.

Quizzes: Course material will be assessed with online quizzes. Quizzes are matching, multiple choice, true/false or short answer. Quizzes must be complete by due dates listed on the schedule.

Research Proposal: The final research project requires an approval signed by the Professor. **Data collection for final project cannot begin before research is approved.**

Final Research Project: The final research project is a natural science experiment designed and conducted by students working as a group. Surveys are not allowed as means for collecting data. **All experiments must be approved by the Professor. All final projects must be must include a video of each sample collected.**

Peer Review: Posters will be graded by other students during an online peer review activity. You must grade 2 posters in order to receive full credit. Students may not participate in the review until their group has turned in a complete poster.

Posters Presentation: Posters describing the experiment will be created by each group using the template provided. Posters will be graded three times: peer review, first draft and final draft.

Data Collection Safety Guidelines: This class requires that you conduct simple experiments in the field.

- All experiments must be approved by the instructor before conducting the experiment.
- For your safety, it's strongly recommended that students in this course travel to field locations during daylight and with another adult.
- For indoor lab work, have a responsible person within shouting distance in the event you need assistance.
- If you travel by car to a field site, the vehicle owner's personal auto insurance is the primary coverage in the event of an accident. Students are expected to follow all applicable laws in the operation of their motor vehicle.

PSU Student Resources

- Title IX reporting
- Disability accommodations and the Disability Resource Center
- Dean of student life
- Religious accommodations policy
- Library
- Writing Center
- Food assistance
- General PSU Policies (e.g., Student Conduct and Responsibility Policy)
- Student Resources and Centers (e.g., campus public safety, veterans resource center, etc.)
- Sanctuary campus information and resources
- DACA resources

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, 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.

Title IX Reporting

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. We expect a culture of professionalism and mutual respect in our department and class. You may report any incident of discrimination or discriminatory harassment, including sexual harassment, to either the Office of Equity and Compliance or the Office of the Dean of Student Life.

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 or sexual violence to a confidential employee who does not have this reporting responsibility, including an Interpersonal Violence Advocate at the Women's Resource Center or the Queer Resource Center. You may contact a confidential advocate by calling 503-725-5672. This Sexual Misconduct Website provides a complete of those confidential employees and off campus resources.
For more information about Title IX please complete the required student module: Creating a Safe Campus in your D2L.