

**SCIENCE AND SOCIETY**  
SCED 370, Spring 2022 (WP-3)

Instructors	Email	Office	Office Hours
Dr. Deb Donovan (Biology, SMATE)	donovad@wwu.edu	BI 310	Mon 1-2, Tues 10-11, or by appt.
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TA:			

Class Zoom link (please contact me **before class** if you can't meet in person): <https://wwu-edu.zoom.us/j/92548276718?pwd=TUt3Wnp1TXpDaklHNUFoSzB4eHhhdz09>

Office hours Zoom link: <https://wwu-edu.zoom.us/j/98143167020?pwd=UDFicWtqMTZuNDM4eVRDYVhnSkgrdz09>

### **Classroom Climate**

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Welcome to SCED 370! Your active participation in this class will ensure you, and the class, have a productive, positive learning experience. We will work hard to establish and maintain a classroom climate that is inclusive and respectful of all students, and makes active participation productive and fun. Learning includes being able to voice and hear a variety of perspectives. While students' ideas may vary, it is important that we engage respectfully with each other. We will make our best efforts to pronounce each others' names correctly and to respect one another's personal pronouns. Discriminatory talk and actions, including microaggressions, will not be tolerated.

### **Course Description**

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As human activities have more and more profound effects on public health and the environment, science becomes an essential tool for understanding and solving problems. Further, scientific and technological advances impact all of us in both positive and problematic ways. Scientific literacy, which teachers have a critical role in helping society achieve, is not only essential for every person, but is a matter of social justice. In this course, we will explore the meaning and importance of scientific literacy and how scientific literacy relates to issues of equity and social justice, discuss different types of scientific controversies, and explore frameworks for teaching scientific literacy at the secondary level. Climate change will be used as a backdrop for many of our explorations and discussions, and we will therefore develop a deeper understanding of the science of climate change, how the science is consumed and perceived by the public, and implications for teaching about climate change. Finally, as communication is paramount to applying science to societal issues, the development of written and oral communication skills around scientific issues will be a major goal of this course. You will have several opportunities to practice and get feedback on developing scientific arguments and communicating these in written and oral form. You will therefore earn 3 Writing Proficiency (WP) points by successfully completing this course.

### **Course Outcomes**

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You will. . .

1. Understand why science involves controversy and what its strengths and limitations are in solving societal issues.
2. Develop the skills to productively analyze scientific claims and claims about science-related topics from the media.
3. Gain awareness of how issues of equity and social justice are inextricably linked to the scientific enterprise.
4. Gain skill in developing and expressing scientific arguments in oral and written form. **This is a WP-3 Course.**

## **Attendance and Participation**

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This is a seminar course and thus will rely heavily on your participation. Class meetings will generally revolve around discussions of assigned readings and of your research.

- At the beginning of classes during the first part of the quarter we will spend a few minutes sharing news items. **You are required to find science news articles and bring them to class. Links for services the report science news are provided on Canvas, if you want to subscribe.**
- Part of your grade will be determined based on participation. Several different data points will go into your participation score, including periodic self, peer, and instructor evaluations.

### Missing a Class

Because this is a collaborative seminar-style course, a missed class cannot simply be made up by getting the notes from a peer or the instructor. Because of this, **attendance is required** unless you have a valid excuse \*and\* have communicated with the instructor (via phone or email) PRIOR to class.

Valid reasons include:

- If you are ill and don't feel well enough to participate in class and/or are contagious,
- A planned trip away from campus that is associated with a school organization (e.g., you are a WWU soccer player traveling to a game in Ellensburg), or
- A family emergency (a letter from the Office of Student Life documenting that the student's absence from the university is excused will need to be provided after the fact.)

Reasons that are not valid include:

- A family vacation for which your plane ticket was already purchased,
- A dentist appointment,
- Going to the office hours of the instructor for one of your other classes, etc.

Late arrivals: Due to the collaborative nature of this class, it is imperative that everyone arrives to class on time ready to go. Late arrivals are unacceptable and will negatively impact your grade. You must call/email in advance and/or have a valid emergency for a late arrival to be excused.

Religious Accommodation: Western provides reasonable accommodation for students to take holidays for reasons of faith or conscience or for organized activities conducted under the auspices of a religious denomination, church, or religious organization. Students seeking such accommodation must provide written notice to their faculty within the first two weeks of the course, citing the specific dates for which they will be absent. "Reasonable accommodation" means that faculty will coordinate with the student on scheduling examinations or other activities necessary for completion of the course or program and includes rescheduling examinations or activities or offering different times for examinations or activities. Additional information about this accommodation can be found in [SB 5166: Providing religious accommodations for postsecondary students](#).

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## Assignments and Grading

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Scientific Literacy and Social Justice position paper	15%	
Context-Based Learning presentation & written description	15%	A: 90-100%
Causal Link poster	20%	B: 80-89%
Big Issues Paper	20%	C: 70-79%
Big Issues Presentation	10%	D: 60-69%
Active Participation	20%	F: 59% and below
• Participation in in-class discussions (includes adequate preparation for discussions)		
• Participation in online discussions		+/- grades will be assigned based on
• Self, peer, and instructor evaluations		

## University Resources and Policies

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Reasonable Accommodation: Reasonable accommodation for persons with documented disabilities should be established within the first week of class and arranged through the Disability Access Center: telephone 360-650-3083; email [drs@wwu.edu](mailto:drs@wwu.edu); and on the web at the [Disability Access Center](#). Review their [Documentation Guidelines](#) for the procedure for providing reasonable accommodations for students with disabilities. See also the [Accessibility Map](#).

Student Services: Western encourages students to seek assistance and support at the onset of an illness, difficulty, or crisis.

- In the case of a medical concern or question, please contact the Health Center: 650-3400 or [www.wwu.edu/chw/student\\_health/](http://www.wwu.edu/chw/student_health/)
- In the case of an emotional or psychological concern or question, please contact the Counseling Center: 650-3400 or [www.wwu.edu/chw](http://www.wwu.edu/chw)
- In the case of a health and safety concern, please contact the University Police: 650-3555 or [www.wwu.edu/ps/](http://www.wwu.edu/ps/)
- In the case of a family or personal crisis or emergency, please contact the Office of Student Life: 650-3706 or [http://www.wwu.edu/dos/office/slo\\_student\\_assistance.shtml](http://www.wwu.edu/dos/office/slo_student_assistance.shtml)

### Academic Integrity:

- **Academic Honesty:** All Western Washington University students have an obligation to fulfill their responsibilities as members of an academic community. Academic integrity is demanded; moreover, academic dishonesty at Western is a serious infraction dealt with severely. No student shall claim as his or her own the achievements, work, or arguments of others, nor shall he or she be a party to such claims. It is the instructor's responsibility to confront a student and to take appropriate action if such academic dishonesty has occurred. See [Appendix D: Academic Honesty Policy & Procedure](#) of the catalog for examples, procedures, and methods of appeal and [Ensuring Academic Honesty](#) for appeal rules and timeline.
- **Plagiarism:** Plagiarism is presenting as one's own—in whole or in part—the argument, language, creations, conclusions, or scientific data of another without explicit acknowledgement. See the Library's [Plagiarism Policies & Guidelines](#) for examples and citation guides. See [Appendix D: Academic Honesty Policy & Procedure](#) of the catalog for examples, procedures, and methods of appeal and [Ensuring Academic Honesty](#) for appeal rules and timeline.

Tentative Schedule

Date	Reading or Writing due	Class Activities
Wed 3/30	<b>Take</b> the online Pew Quiz on Scientific Literacy	Course Introduction; Scientific Literacy Intro to the writing rubric
Mon 4/4	<b>Listen</b> to <i>This American Life</i> Episode on immigration <b>Post</b> responses to TAL episode prompts on Canvas <b>Read</b> Mooney Chap. 2, Framework for K-12 Science Education Introduction	Discussion: "Open-mindedness," What is scientific literacy? Develop class norms: Brave conversations
Wed 4/6	<b>Read</b> Framework pp. 41-49, 71-74, Covitt article fast & slow thinking and scientific argumentation <b>Find</b> a science news article you believe exemplifies the 3 elements of scientific argument; bring 2 copies to class.	Discussion of scientific argument
Mon 4/11	<b>Prepare</b> a written argument for the need to address equity and inclusion in science classrooms. (≤500 words) Self evaluation according to writing rubric.	Draw a Scientist Do part of Underrepresentation curriculum: Norms then Day 2 + Subjectivity in science initial ideas Turn in equity and inclusion paper for feedback from instructors
Wed 4/13	<b>Read</b> McComas "Ten Myths" paper, Craven chap. 2	Discussion: The Nature of Science Intro to Context-based Learning assignment
Mon 4/18	<b>Read</b> papers on feedback <b>Post</b> responses to discussion board on feedback <b>Prepare</b> <u>revised</u> position paper for peer review	Peer review according to writing rubric ID scientific arguments in position papers
Wed 4/20	<b>Read</b> Framework pp. 56-59; <b>Complete</b> initial ideas portion of modeling activity	Modeling activity
Mon 4/25	<b>Complete</b> Modeling activity HW	Discussion: scientific models
Wed 4/27	<b>Prepare</b> a 1-page description and 8-min. presentation on a context-based learning curriculum of your choice.	Context-Based Learning Presentations Intro to Causal Links assignment
Mon 5/2	<b>Complete</b> "Dirty Data" Case Study Part I <b>Watch</b> NOVA Alzheimer's episode	Dirty Data Case Study Discussion: Scientific study design
Wed 5/4	<b>Read</b> Understanding Science website: Esp. "Your Science Toolkit"; Mooney "Blinded by science", <b>Bring</b> CL Topic	Types of scientific controversy The "Hobbit" example
Mon 5/9	<b>Read</b> IPCC Report (Synthesis SPM 2-8)+ NIPCC Report (xix-xxii)+ Framework pp. 196 (bottom) - 199	Share responses The art of making a poster
Wed 5/11	<b>Read</b> Bauer article, Mooney chap. 4, Craven chap. 4	Discussion: Science and the media
Mon 5/16	<b>Posters due</b> <b>Bring</b> Topic for Big Issues paper	CL poster session
Wed 5/18		
Mon 5/23		
Wed 5/25	<b>Bring</b> 2 copies of Big Issue introduction	Peer Review of Big Issues Introductions
Mon 5/30	<b>NO CLASS: Memorial Day Holiday</b>	
Wed 6/1	<b>Big Issue Papers due</b>	Class presentations/lessons on Big Issues
Wed 6/8 3:30-5:30	<b>Self Evaluations due</b>	Class presentations/lessons on Big Issues