SCIENCE AND SOCIETY

SCED 370, Fall 2022 (WP-3)

Course Information

Class Meetings:	Mondays & Wednesdays 2:30 – 3:50pm in SL210
Instructor:	Dr. Robyn Mieko Dahl (she/her)
Email:	dahlr4@wwu.edu
Office:	ES 340
Office Hours:	Wednesdays 9:00 – 11:00am Thursdays 9:00 – 11:00am Or by appointment In person or via Zoom (link on Canvas)
TA:	Logan Sizemore
Email:	sizemol@wwu.edu
Office:	TBD
Office Hours:	TBD

Course Description

Welcome to SCED 370: Science in Society! In this course, we will explore the meaning and importance of scientific literacy and consider how scientific literacy relates to issues of equity and social justice. We will discuss different types of scientific controversy, study how scientific research is portrayed in news and popular media, and examine frameworks for teaching scientific literacy at the secondary level.

Climate change will often be used as a backdrop for our explorations and discussions. We will develop a deeper understanding of the science of climate change so that we can discuss how climate science is consumed and perceived by the public and considered implications for teaching about climate change.

Communication is paramount to applying science to societal issues, so your development of written and oral communication skills will be a major goal of this course. You will have several opportunities to practice developing scientific arguments in written and oral form. Because this course is worth 3 Writing Points (WP), you will also have several opportunities to revise your arguments based on peer and instructor feedback.

Classroom Climate

Your active participation in this course will ensure that you and your classmates will have a productive and positive learning experience. We will work together to maintain a classroom environment that is inclusive and respectful of all members 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 other's names correctly and to respect one another's personal pronouns. Discriminatory talk and actions will not be tolerated.

Course Outcomes

By the end of the course, 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 in the media.
3. Gain an 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

This is a seminar-style course and thus relies heavily on your participation. Class meetings will generally revolve around discussions of assigned reading and your own research. Part of your grade will be determined by participation. Several different data points will contribute to your participation grade, including periodic self, peer, and instructor evaluations.

Missing a class: Because this course centers discussion and collaboration, 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 instructor prior to class. ***Each unexcused absence will drop your course grade by 3%.*** If you do miss a class, you must make up the work prior to the next class period, and assigned homework is still due at the assigned time unless otherwise agreed upon with your instructor.

COVID accommodations: Keeping our community safe and healthy is a priority, so please do not attend class if you are experiencing COVID symptoms or have tested positive for COVID. Absences due to COVID will not have any impact on your grade as long as you coordinate with your instructor about the missed meeting(s). Wearing a mask in the classroom will reduce the chance of contraction or spread.

Assignments and Grading

Scientific literacy and social justice position paper	10%
Curriculum presentation and written brief	20%
Science in the News project	10%
Causal links poster	10%
Big Issue paper	20%
Big Issue presentation	10%
Active participation	20%
In-class discussions	
Online discussions	
Self, peer, and instructor evaluations	

University Resources and Policies

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; and on the web at https://disability.wwu.edu. Review their **Documentation Guidelines** (https://disability.wwu.edu/new-students/documentation-guidelines) for the procedure for providing reasonable accommodations for students with disabilities.

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 specific dates for which they will be absent. "Reasonable accommodation" means 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.

Student Services

Western encourages students to seek assistance and support at the onset of an illness, difficulty, or crises.

- In the case of a medical concern or question, please contact the **Student Health Center**: 360-650-3400 or https://studenthealth.wwu.edu
- In the case of an emotional or psychological concern or question, please contact the **Counseling and Wellness Center**: 360-650-3164 or https://cwc.wwu.edu
- In the case of a health and safety concern, please contact the **University Police**: 360-650-3555 or https://police.wwu.edu
- In case of a family or personal crisis or emergency, please contact the **Office of Student Life**: 360-650-3706 or https://wp.wwu.edu/officeofstudentlife/

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 their own the achievements, work, or arguments of others, nor shall they be 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 and Procedure** (https://catalog.wwu.edu/content.php?catoid=15&navoid=3367) of the catalog for examples, procedures, and methods of appeal and **Ensuring Academic Honesty** (https://policy.wwu.edu/POL-U2100.02-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 and Guidelines** (https://libguides.wwu.edu/plagiarism) for examples and citation guides. See also **Appendix D: Academic Honesty Policy and Procedure** of the catalog for examples, procedures, and methods of appeal and **Ensuring Academic Honesty** for appeal rules and timeline.

Course Schedule

(dates are tentative and subject to change; see Canvas for the most up-to-date schedule)

Date	Reading or Writing Due	In-Class Activities
Wed 9/21	***Take*** the online Pew quiz on scientific literacy ***Review*** the course syllabus and writing rubric	Course introduction Scientific literacy Intro to the writing rubric Intro to Science in the News Project
Mon 9/26	***Listen*** to Code Switch podcast episode "School Daze" ***Post*** responses to podcast on Canvas ***Read*** Mooney Ch. 2, *Framework on K12 Science Education* Introduction	Discussion: What is scientific literacy Develop classroom norms Brave conversations
Wed 9/28	***Read*** *Framework* pp. 41-49, 71-74, Covitt article on fast & slow thinking and scientific argumentation ***Find*** a science news article that you believe exemplifies the three elements of scientific argument (print and bring copy to share during class)	Discussion: scientific argument
Mon 10/3	***Position paper due*** ***Post*** Science in the News data in class database	Discussion: Equity in science and science education Underrepresentation Curriculum Unit 1: Subjectivity, Data Analysis Update: Science in the News
Wed 10/5	***Read*** McComas *Ten Myths of Science*; Pleasents & Olson *What is Engineering?* (pp. 153-159; Section 5)	Discussion: the nature of science and engineering Intro to Curriculum project
Mon 10/10	***Position paper revisions due*** ***Read*** papers on feedback ***Post*** responses to readings on Canvas ***Post*** Science in the News data in class database	Peer review using writing rubric Identify scientific arguments in position papers
Wed 10/12	***Read*** *Framework* (pp. 56-59); Science Teacher article on climate modeling; IPCC Report summary of radiative forcing; NGSS Phenomena reading	Discussion: scientific models Lesson: climate modeling Curriculum project work time
Mon 10/17	***Position paper revisions due*** ***Post*** Science in the News data in class database	Curriculum project work time
Wed 10/19	***Curriculum project due***	Curriculum project presentations
Mon 10/24	***Complete*** "Dirty Data" case study, part 1 ***Post*** Science in the News data in class database	Dirty Data case study Discussion: scientific study design Intro to Causal Links poster project
Wed 10/26	***Read*** Understanding Science website "Your Science Toolkit," Mooney *Blinded by Science* ***Bring*** Causal Links poster project topic	Discussion: Types of scientific controversy
Mon 10/31	***Read*** Bauer article; Mooney Ch. 4; Craven Ch. 4 ***Post*** Science in the News data in class database	Discussion: Science and the media
Wed 11/2		Causal Links project work time
Mon 11/7	***Post*** Science in the News data in class database	Underrepresentation Curriculum Unit 2: Meritocracy, Multiple Identities
Wed 11/9	***Science and the Media Posters due***	Poster Session Intro to Big Issue project
Mon 11/14	***Bring*** topic for Big Issues project ***Post*** Science in the News data in class database	
Wed 11/16	***Prepare*** introduction for Big Issues paper, bring 2 copies to class	Peer review of Big Issue paper introduction
Mon 11/21	***Science in the News Summary Reports Due*** ***Class meeting optional***	Come to class if you would like to discuss your Big Issue project with instructors
Wed 11/23	***No Class Meeting – Thanksgiving Break***	
Mon 11/28	***Big Issue Paper due***	Big Issue presentations
Wed 11/30		Big Issue presentations
Wed 12/7		Big Issue presentations