

# **ATS 660: Social Responsibility in Atmospheric Science**

## **Course Syllabus**

**Spring 2024 (2 credit hours)**

### **Instructor:**

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Associate Professor

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### **Class Meetings:**

Day and Time: Tuesdays, 1:00-2:50 PM  
Location: Atmospheric Science West 121  
Office Hours: By appointment

### **Prerequisites:**

There are no prerequisites.

### **Course Overview:**

This course will provide the structure and resources to help prepare students to address issues of participation, representation, equity, and inclusion challenges that are unique to the field of atmospheric science. Students will engage with a diversity of scholarship to develop a robust understanding of foundational concepts and practices for personal and social change and to incorporate and disseminate these concepts through their science.

The geosciences have the lowest racial and ethnic diversity of all STEM fields at all levels of higher education, and atmospheric science is emblematic of this discrepancy. This course will help atmospheric science graduate students begin their journey toward being a “diversity champion” and a more socially responsible scientist. This course will provide students an opportunity to expand their personal and professional growth through readings, video lectures, guest speakers and other activities to gain a critical understanding of intersectionality, gender, social identity, systems of oppression, and historical perspectives on social change movements.

## Course learning objectives

Upon completion of this class students will:

- Identify how social identity shapes scientific thought and practice;
- Evaluate and explain the impacts (positive and negative) of science and technology on marginalized and minoritized groups;
- Identify and respond to manifestations of implicit and explicit bias in atmospheric science/STEM;
- Recognize social justice issues in the atmospheric science community, and be able to design and implement interventions to affect change;
- Act as advocates and allies for people with different life-experiences than their own

## Course Structure and Content:

The course will be discussion based and benefit from participation by all. We will couple our discussions with guest speakers. All weekly readings for the class will be posted on Canvas.

## Grading:

Grades are based on attendance and participation in class discussion, homework assignments and term projects. Based on course content and discussions, students will work in small teams to develop a community action service-learning project.

Grades are weighted as follows: reflection assignments: 10%, in-class discussion: 60%, term project: 30%.

## Weekly Schedule for Spring 2024

Week	Topic	Activities/ Guest Speakers	Readings (Provisional, may change)
1 :January 16	Class Overview  The Big Picture: Why do we need this class?		

2 :January 23	Introductions, Motivation, Class Engagement	Exercise: What is the class environment we want? How will we engage during challenging conversations?	
3:January 30	Social Identity	Social Identity Wheel	Powell (2018): The power of diversity  Bernard and Cooperdock (2018): No progress in diversity in 40 years
4: February 6	Bias in STEM	Kirwan Institute for Implicit Bias  Project Implicit	Dutt et al., 2016: Gender differences in recommendation letters for postdoctoral fellowships in geoscience  Moss-Racusin et al., 2012: Science faculty's subtle gender biases favor male students
5:February 13	Gender equity and Intersectionality	WAGES	Ranganathan et al. (2021): Trends in the Representation of Women Among US Geoscience Faculty From 1999 to 2020: The Long Road Toward Gender Parity

6:February 20	Critical race theory		Dutt (2020): Race and Racism in the Geosciences
7: February 27	Community Service Action Project Planning		TBD
8:March 5	Gender harassment and discrimination in the Geosciences		Mattheis et al. 2022 - "Maybe this is just not the place for me:" Gender harassment and discrimination in the geosciences
March 12: Spring Break			
9: March 19	Access, Cognitive and Physical Diversity		Atchison et al. 2019: A multiple case study of inclusive learning communities enabling active participation in geoscience field courses for students with physical disabilities  Kingsbury et al. (2020): "Nothing about us without us"
10: March 26	Science Communication and Social Justice		Curating something new

11: April 2	Stereotype threat and imposter syndrome		<p>Steele (1999): Thin Ice: Stereotype Threat and Black College Students</p> <p>Tulshyan and Burey (2021): Stop Telling Women They have Imposter Syndrome</p>
12: April 9	Inclusion and Belonging		<p>Harris et al. (2021): Equitable Exchange: A Framework for Diversity and Inclusion in the Geosciences</p> <p>Cooperdock (2021): Counteracting Systemic Bias in the Lab, Field, and Classroom</p> <p>NPR Code switch Podcast, 'Where we Come From': By Any Other Name</p>
13: April 16	Project Planning		
14: April 23	Guest Lecture		
15: April 30	Committing to Action: Fostering Allies and Accomplices in the Geosciences		
16: May 7	Project Presentations (finals week)		

**Inclusion Statement:** CSU Atmospheric Science is a leading global institution, and as such, all members of our community regardless of race, ethnicity, culture, religion, sexual orientation, gender identity and expression, physical ability, age, socioeconomic status or nationality are welcome as equal contributors. We value and appreciate diversity, and we believe that diversity on our campus strengthens our entire scientific community. It is my intent that students from all backgrounds and perspectives be well-served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that the students bring to this class be viewed as a resource, strength and benefit. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally, or for other students or student groups.

**Statement on Academic Integrity:** The course will adhere to the CSU Academic Integrity Policy as found in the General Catalog and the Student Conduct Code. At a minimum violations will result in a grading penalty in this course and a report to the Office of Conflict Resolution and Student Conduct services.