

ATS680A3: Social Responsibility in Atmospheric Science

Course Syllabus

Fall 2022 (2 credit hours)

Instructor:

Melissa Burt, she/her/hers

Assistant Professor and Assistant Dean for Diversity and Inclusion

Office: ATS West 226

Email: Melissa.Burt@colostate.edu

Class Meetings:

Day and Time: Mondays, 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 Fall 2022

| Week | Topic | Activities/ Guest Speakers | Readings (Provisional, may change) |
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| 1 : August 22 | Introductions, Motivation, Class Engagement | Exercise: What is the class environment we want? How will we engage during | |

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| | | challenging conversations? | |
| 2: August 29 | The Big Picture: Why do we need this class? Social Identity | Social Identity Wheel | Powell (2018): The power of diversity Bernard and Cooperdock (2018): No progress in diversity in 40 years |
| 3: September 5 | No class – University Holiday | | |
| 4: September 12 | Bias in STEM | Kirwan Institute for Implicit Bias Project Implicit | Dutt et al., 2016: Gender differences in recommendation letters for postdoctoral fellowships in geoscience Devine et al., 2012: Long-term reduction in implicit bias Moss-Racusin et al., 2012: Science faculty's subtle gender biases favor male students |
| 5: September 19 | Racial equity, Part 1 | | Dowey et al. (2020): A UK perspective on tackling the geoscience racial diversity crisis in the Global North Dutt (2020): Race and Racism in the Geosciences |
| 6: September 26 | Racial equity, part 2 | Guest Lecture: Dr. Naomi Nishi | |

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| 7: October 3 | Sexual Harassment in the Geosciences | AdvanceGEO Bystander Intervention Training | Fischer et. al. (2021): Leveraging field-campaign networks to identify sexual harassment in Atmospheric Science and pilot promising interventions |
| 8: October 10 | Inclusion and Belonging | | <p>NPR Code switch Podcast, 'Where we Come From': By Any Other Name</p> <p>Sherbin and Rashid 2017: Diversity doesn't stick without inclusion</p> <p>Tanner 2013: Structure Matters: Twenty-One Teaching Strategies to Promote Student Engagement and Cultivate Classroom Equity</p> |
| 9: October 17 | 2022 Symposium for Inclusive Excellence | | |
| 10: October 24 | Stereotype threat and imposter syndrome | | <p>Steele (1999): Thin Ice: Stereotype Threat and Black College Students</p> <p>NPR Podcast: 'Whistling Vivaldi' and Beating Stereotypes</p> <p>Tulshyan and Burey (2021): Stop Telling Women They have Imposter Syndrome</p> |

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| 11: October 31 | Science Communication and Social Justice | Guest Lecture: Dr. Nicole Kelp | Katharine Hayhoe Essay: "How to Talk About Climate Change" from anthology All We Can Save |
| 12: November 7 | Inclusive practices: Access, Cognitive and Physical Diversity | Guest Lecture: TBD | 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" |
| 13: November 14 | Inclusive practices: What can we do? | | Harris et al. (2021): Equitable Exchange: A Framework for Diversity and Inclusion in the Geosciences Cooperdock (2021): Counteracting Systemic Bias in the Lab, Field, and Classroom |
| November 21 | No Class - Fall Break | | |
| 14: November 28 | Committing to Action: Fostering Allies and Accomplices in the Geosciences | | Podcast: Brené Brown and Aiko Bethea: Creating Transformative Cultures |
| 15: December 5 | Project Presentations (final class) | | |

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| 16: December 12 | AGU Week (no class) |
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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.