Being Human in STEM

Macalester College - Spring 2021; Module 3

Class meetings: Wednesdays, 11.30am - 1pm on Zoom
Instructors: Devavani Chatterjea and Louisa Bradtmiller
Office hours by appointment

Course Description: Learning communities and workspaces in science, technology, engineering, and math (STEM) continue to be considerably less diverse than the world in which we are located. Black, Indigenous, and Persons of Color (BIPOC) scientists in the US and elsewhere face barriers that reflect the structural racisms of our society at large and those entrenched within STEM communities. Female-identifying, LGBTQ+, differently-abled persons, first-generation college students, and those holding other and intersectional marginalized identities experience different, and compounded, injustices in the sciences. To be the formidable scientific force we can and deserve to be, we must critically evaluate and change who is invited into the sciences, how science is done, and how scientific discoveries are distributed and used. In this seminar, we will examine our own stories of being human in our scientific pursuits, and collaboratively begin to assemble a toolkit of strategies and practices that will help us chart a path toward greater equity and inclusion in STEM.

Course community

Students: Alison Lange, Brian Zou, Clarence Pan, Rory McCollum, Quyen Doan, Diego Lopez Gutierrez, Devlin Patton, Elyse Blank, Emma Iverson, Emma Janiszewski, George Kidess, Hayley Zacheis, Jason Beal, Helen Frieman, Maya Lawnicki, Kai Bosley, Mia Rothberg, Nick Velikonja, Nora Fried, Osmar Del Rio, Paige Fochtman, Shannon Dohr, Tali Berkman, Nita Sensathith, Albert Liu, Rafael Viana Furer

Instructors:
Louisa Bradtmiller (she/her): I am a queer white woman in an especially male-dominated STEM field - geoscience - which affects how I am perceived and treated in my professional life. My experience as a geoscience student at a women's college affects how I think of *myself* and my possibilities as a scientist. I love word puzzles, lots of outdoor activities, and exploring new places (sigh…). I'm looking forward to creating this course with each of you!

Devavani Chatterjea (she/they): I carry many identities, including South Asian Indian (Bengali), immigrant to the US, biologist, queer, parent, spouse (Louisa's!), graduate of a

women's college founded by chemist and educator Mary Lyon in 1837, which shape the ways in which I am received, perceived and connected by myself and others in STEM. I love words, learners, the ocean and ice cream (among many other things) and am excited for our pilot HSTEM venture at Macalester!

Course Organization

Each week we will share a selection of materials (short readings, videos, websites) on a particular set of topics for you to read/view before class. We will typically begin class with a short grounding activity, break into small groups to discuss the readings, and come together as a class at the end to share, reflect, and bring the week's meeting to a close.

Jan 27 - Introductions; History of the HSTEM initiative; reflecting on our identities
Feb 3 - Issues of gender/gender expression
Feb 10 - Race and indigeneity
Feb 17 - Class and socioeconomics
Feb 24 - Stereotype threat, microaggressions, white privilege
Mar 3 - Structural responses to dismantle injustice and exclusion
Mar 10 - Presentations and wrap-up

Assignments

Weekly reflections - opportunities to reflect on readings, class discussions and your responses to them through short written submissions on Moodle.

Your personal story of being human in STEM - A 1-2 page exploration of the human and scientist you are, and are becoming, using the axes of identity, intersectionality, and imagination and insights gathered from the readings, viewings and discussions we share. A first draft of your story will be due the week of February 10. You will be asked to exchange drafts with a partner in class to receive and give feedback, and submit a final version to share with the class and broader Macalester community by the end of Module 3

Designing an intervention (team project) - what is one concrete intervention a student, a faculty member, a department, or the college can make to promote justice in a STEM environment at Macalester. We will invite you in teams (of 4-5) to imagine one such initiative, and write up a 1-page summary to share with the Macalester community.

Community Expectations: We will use our in-class time to engage with one another in discussion, group activities, and in some cases group work. Because of the nature of the course, we will grapple with topics that may be difficult for some members of the class community to discuss; because we all bring multiple identities into this space, this may be true for different groups of students each week. In order to ensure that all students feel safe, welcome and valued, we propose the following as a starting point for a set of community expectations for our shared work together.

- Give the gift of your presence wholeheartedly
- Accept the gift of others' presence graciously
- Speak from your own experience
- Acknowledge and use with respect the stories and evidence others have gathered
- Listen and read to understand and not necessarily agree
- Disagree with respect and compassion
- When listening, focus on the other person's words not on what you might say next
- Pay attention to speakers' facial expressions and choice of words
- Pay attention to your body* and how it responds to certain topics, discussions

*Systems of oppression and power show up in internalized biases, and external structures/institutions that are built out of and perpetuate various forms of supremacy. We are impacted by these forces no matter what, and the impacts accumulate over time creating deep imprints in our bodies. *Therefore, when we enter these discussions and engage with stories of oppression and injustice, it is very important that we pay attention to our bodies.* This can mean many things including finding a space where you can be comfortable *and* attentive during class, taking care to move, nourish, hydrate as you need, and taking breaks if you need them. It also means paying attention to where reactions and responses show up in your bodies and making time for healing practices outside of class - walks, stretching, exercise, nutrition, sleep, time for reflection alone or with others - that will support your learning and engagement in our shared space.

Grading: This course will use mandatory S/D/NC ("pass-fail") grading. In order to pass this course, students should complete the reading responses, STEM story, and team Intervention Plan (see Moodle for assignment descriptions). In addition, students should attend class sessions prepared to engage with their peers and the assigned readings for the week. All readings will be posted to Moodle; there is no textbook for the course.

Access and Wellness: Your experience in this class is important to us, and we are committed to creating an inclusive and accessible learning environment. If you have a temporary or permanent health condition that requires accommodations (this includes but is not limited to: mental health, attention-related, learning, vision, hearing, physical or health impacts), please contact Disability Services to make an appointment: disabilityservices@macalester.edu or 651-696-6974. Disability Services offers resources and coordinates accommodations for students with disabilities and/or temporary health conditions. If you have already established accommodations with the Disability Services office, please communicate your approved accommodations to us as soon as possible so that we can discuss your needs in this course. While every person is different, for most of us regular and adequate sleep, healthy meals, regular exercise, and connecting with others are all ways to foster wellness. If you find that you are having trouble maintaining your health and wellbeing, please don't hesitate to set up a time to talk with either or both of us, or with one of the many individuals or programs in the Hamre Center for Health and Wellness.