Being Human in STEM
SCI 3900, Spring 2020 Syllabus

Course History
In fall 2015, racial tensions erupted across a number of college campuses, large and small. These controversies attested that race -- especially its capacity to predict socio-political inequality -- still matters. During the weeks of protest that followed these initial altercations, students of color voiced their concerns about discrimination\(^1\). While none of these students directly protested the STEM community’s lack of inclusiveness, the perception that STEM faculty tend to ignore the dynamics of racial discrimination in their classrooms nevertheless intensified.

In response to these events, Amherst College was the first campus to offer a “Being Human in STEM” course that aimed to start a dialogue among STEM faculty and students with the purpose of identifying the specific concerns within the STEM environment on campus, and developing interventions to help ameliorate these problems\(^2\). Yale University and Brown University followed Amherst College’s example and implemented a similar course the following year.

The Being Human in STEM (HSTEM) is now a network of colleges that encourages other campuses to join this initiative (http://www.beinghumaninstem.com/start-your-own-hstem-course.html). The course will be offered for the first time at the University of Utah during the spring of 2020 by Claudia De Grandi, Professor of Educational Practices, and a team of Faculty in STEM.

Course mission: start a dialogue among STEM faculty and students with the purpose of identifying issues with the STEM environment on campus, and developing interventions to help ameliorate these problems.

Course Description
This course combines academic inquiry and community engagement to investigate the theme of diversity and climate within STEM. Students will examine how diverse personal backgrounds shape the STEM experience at the University of Utah and nationally. The course is divided roughly into two parts. In part I, we will ground our understanding through critical reading of primary scholarly research as well as popular literature. Example topics include implicit bias, identity threat and the importance of diversity. Through in-class group discussion, group projects and writing assignments, we will analyze how different identities such as race, socioeconomic status, gender, sexual orientation, national origin, etcetera, shape the experience of students in STEM.

In part II, we will design and execute interventions with direct relevance to University of Utah students, faculty and staff. These interventions will be designed in groups and implemented during the second part of the semester. These interventions can take different forms, some examples (from past implementation of the course at other universities) are: 1) design and implement surveys to assess

\(^1\) Events that took place at the University of Missouri, Yale University, and Amherst College form key examples of racial misconduct and protest. For more on these events, see “Racial Tension and Protests,” 2015; Hartocollis & Bidgood, 2015; and Dean, 2015.

\(^2\) To learn more about the Amherst initiative see: http://www.beinghumaninstem.com/
some aspects of the STEM climate on campus (see STEM Climate survey developed through student–faculty collaboration, Teaching in Higher Education, DOI: /doi.org/10.1080/13562517.2019.1636219), 2) organize a student-led workshop for STEM faculty to inform them of campus relevant statistics, and best teaching practices from a student perspective; 3) establishing support groups and visibility for specific groups on campus (e.g. first-generation and low income students in STEM on campus), 4) design and implement short diversity and inclusion discussion with faculty and students in a STEM course; 5) create online resources, peer-to-peer mentoring and informative sessions for incoming students interested in STEM. Students may develop something similar to the above, or something completely new. It will be up to them to identify the major needs, via research and data collection, and maximize the impact of their intervention.

This course relies heavily on in-class group discussion as well as group projects. Students will be asked to engage in group discussion at every class meeting. Students will establish norms for group discussion at the beginning of the semester and learn to adhere to these norms to participate in productive and open discussions, where they will be listening to everyone’s opinion and participate constructively.

Course work includes weekly readings, reflective/opinion writing, in-class discussion, project development and, as appropriate, execution and quantitative assessment of new or adapted interventions. At the end of the semester, the course will end with an end-semester Symposium open to the University of Utah community of faculty, staff and students, where the students in the class will present their intervention projects’ results, and other course findings.

**Inclusivity**

This class strives to be an inclusive community, learning from the many perspectives that come from having differing backgrounds and beliefs. As a community, we aim to be respectful to all. We reject all forms of prejudice and discrimination, including but not limited to those based on age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, and veteran status. Faculty and students are expected to commit to creating an environment that facilitates inquiry and self-expression, while also demonstrating diligence in understanding how others’ viewpoints may be different from their own.

**Instructors**

Claudia De Grandi (Physics)  
Kelly MacArthur (Mathematics)  
Jon Rainier (Chemistry)  
Holly Sebahar (Chemistry)  
Anil Seth (Physics)

**Class Meeting Time:**

Tuesday and Thursday 2-3:55pm, CSC 25

Tuesday: mostly devoted to Class Discussions of Readings.

Thursday: structured-time for group project and peer-to-peer feedback.
Prerequisites:
None. The course is aimed at students across STEM fields and pre-medical students. Students who don't have major status but are interested in the course, may be approved upon instructor's consent.

Course goals:
● investigate the theme of diversity and climate within STEM
● create a community of students and faculty in STEM who discuss critically these themes
● design, develop and implement interventions to improve the STEM climate at the U of U
● present the projects’ results, and course findings in an end-semester symposium open to the U of U community of faculty, staff and students.

Required Text: Ibram X. Kendi, How to be an antiracist (2019) (a few copies are available at the Marriot Library).

Additional required readings will be available on Canvas each week.

Overview of course assignments:
Individual assignments:
● Weekly written reflections on assigned reading and commenting on each others’ reflections.
● Scientific Autobiography.
● Written OpEd or Scientific/Another Identity Autobiography

Group assignments:
● “Other Voices” project: individual/pairs of students select readings and lead a group discussion
● Design, execution of intervention projects and write up of findings.
● Written and oral presentation of project proposals.
● Public presentation of projects at end-semester Symposium during Final Exam period: Friday April 24th 1-3pm

Expected Student Workload
3 credits = average of 9 hours of work per week
● 4 hours a week in class (Tue-Thu)
● 5 hours outside of class divided roughly among:
  o Outside reading per week: 2-3 hours
  o Outside writing per week: 1-2 hours
  o Outside work on Projects: 1-2 hours
● Note: outside of class work will vary, some weeks there will be more readings and less writing, some weeks there will be more work on projects.
Final grade calculation:
Weekly Readings, Summaries and Canvas discussion: 30%
Class participation and Attendance 15%
Writing Assignments: Autobiography/OpEd: 15%
“Other Voices” project: 10%
Group Course Project (including proposal, design, implementation, oral presentation, write up and dissemination): 30%

Final Examination (Symposium): Friday April 24th 1-3pm

Tentative List of Topics
Importance of Diversity in STEM
Experience of students in STEM
Implicit Bias
Stereotype Threat and Imposter Syndrome
White privilege
Antiracism
STEM and queerness
STEM and disability
Intersectionality and other identities
Civic engagement

Sample of Reading Assignments

### Class Participation and Attendance

Attendance and in-class participation in discussions and activities is crucial to the success of this course. Participation includes actively listening, reading all required readings, and thoughtfully contributing to the weekly discussion, activities, and group work. Much of what we do in this class requires us to reflect on the implications of the material we read and discuss. Thus, your presence is important. You will be excused up to two absences, missing more than two classes will consistently affect your final grade. Please email your instructors ahead of time if you will not be able to attend a particular class session.

### Policies and Resources:

1. **Student Names and Personal Pronouns Statement** Class rosters are provided to the instructor with the student’s legal name as well as “Preferred first name” (if previously entered by you in the Student Profile section of your CIS account). While CIS refers to this as merely a preference, we will honor you by referring to you with the name and pronoun that feels best for you in class, on lab reports, group assignments, etc. Please advise your instructor and TA of any name or pronoun changes (and update CIS) so we can help create a learning environment in which you, your name, and your pronoun will be respected. If you need assistance getting your preferred name on your uID card, please visit the LGBT Resource Center ([lgbt.utah.edu](http://lgbt.utah.edu)) Room 409 in the Olpin Union Building, or email bpeacock@sa.utah.edu to schedule a time to drop by. The LGBT Resource Center hours are: M, W-F 8am-5pm, and 8am-6pm on Tuesdays.

2. **The Americans with Disabilities Act.** The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, (801) 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.

3. **Learners of English as an Additional/Second Language** If you are an English language learner, please be aware of several resources on campus that will support you with your language and writing development. These resources include: the Writing Center ([writingcenter.utah.edu](http://writingcenter.utah.edu)); the Writing Program ([writing.utah.edu](http://writing.utah.edu)); and the English Language Institute ([eli.utah.edu](http://eli.utah.edu)). Please let us know if there is any additional support you would like to discuss for this class.

4. **Veterans Center** If you are a student veteran, the University of Utah has a Veterans Support Center ([veteranscenter.utah.edu](http://veteranscenter.utah.edu)) located in Room 161 in the Olpin Union Building. Please visit their website for more information about what support they offer, a list of ongoing events and links to outside resources. Please also let us know if you need any additional support in this class for any reason.
5. **Wellness Statement** Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student’s ability to succeed and thrive at the University of Utah. For helpful resources, contact the Center for Student Wellness (wellness.utah.edu/); 801-581-7776.

6. **University Counseling Center** The University Counseling Center (UCC) (counselingcenter.utah.edu/) provides developmental, preventive, and therapeutic services and programs that promote the intellectual, emotional, cultural, and social development of University of Utah students. They advocate a philosophy of acceptance, compassion, and support for those they serve, as well as for each other. They aspire to respect cultural, individual and role differences as they continually work toward creating a safe and affirming climate for individuals of all ages, cultures, ethnicities, genders, gender identities, languages, mental and physical abilities, national origins, races, religions, sexual orientations, sizes and socioeconomic statuses.

7. **Office of the Dean of Students** The Office of the Dean of Students (deanofstudents.utah.edu/) is dedicated to being a resource to students through support, advocacy, involvement, and accountability. It serves as a support for students facing challenges to their success as students, and assist with the interpretation of University policy and regulations. Please consider reaching out to the Office of Dean of Students for any questions, issues and concerns. 200 South Centeral Campus Dr., Suite 270. Monday-Friday 8 am-5 pm.

8. **Addressing Sexual Misconduct.** Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran’s status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

9. **University Safety Statement.** The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. Lauren’s Promise – We will listen and believe you if you are being threatened. If you are in immediate danger call 911. Utah Domestic Violence Coalition is another good resource 800-897-5465. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.

10. **Undocumented Student Support.** Immigration is a complex phenomenon with broad impact—those who are directly affected by it, as well as those who are indirectly affected by their relationships with family members, friends, and loved ones. If your immigration status presents obstacles to engaging in specific activities or fulfilling specific course criteria, confidential arrangements may be requested from the Dream Center. Arrangements with the Dream Center will not jeopardize your student status, your financial aid, or any other part of your
residence. The Dream Center offers a wide range of resources to support undocumented students (with and without DACA) as well as students from mixed-status families. To learn more, please contact the Dream Center at 801.213.3697 or visit dream.utah.edu.

We reserve the right to change the policies stated in this syllabus at some point in the semester. If we do make a change, we will announce it in class and post a Canvas Announcement about it.