

# Master Course Description for EE-397 (ABET sheet)

## Sex and Gender in Engineering

**Credits:** 3 (Lecture)

Designed to meet UW ECE professional issues requirement and University of Washington Diversity designation criteria

## UW Course Catalog Description

Explores professional issues faced by women, sexual minorities (LGB), and gender minorities (TQ+), in the engineering workplace.

Coordinator: Denise Wilson, Professor, Electrical and Computer Engineering

Faculty available and willing to teach this course: Sam Burden, Denise Wilson

Course Goals:

This course provides an overview of the issues that women, sexual minorities (LGB), and gender minorities (TQ+) face in the engineering workplace including but not limited to lack of belonging, marginalization, and sexual harassment. The impact of normative and numerical male dominance, hypermasculine work culture, personality characteristics of engineers, gender identity threat, and the nature of engineering work is examined alongside potential solutions to the disadvantage that these under-represented groups face in engineering. The goal of the course is to raise awareness regarding engineering work culture among students of all genders and sexual orientations (including members of majority and over-represented groups) in order to support engineering students in being more prepared to contribute to and build an equitable workplace in their future careers.

Learning Objectives:

At the end of this course, students will be able to:

1. Compare and contrast gender harassment, sexual harassment, and heterosexist harassment.
2. Define and describe normative and numerical male dominance.
3. Identify and articulate neurological and personality differences between the typical engineer and the general population.
4. Define belonging (and lack thereof), relatedness needs, gender identity threat, and other terms that affect women, sexual minorities, and gender minorities in the engineering workplace.

5. Analyze statistical data regarding sexual harassment and heterosexist harassment to identify groups of individuals in engineering who face particular challenges with regard to harassment.
6. Evaluate qualitative data regarding barriers and challenges faced by women or sexual and gender minorities and paint/describe a picture of what these barriers are likely to look like in the engineering student's chosen career path.
7. Identify and explore solutions in the workplace that can be used by entry level or young engineers to reduce harassment and marginalization and contribute to a more inclusive workplace.
8. Productively discuss professional issues associated with inclusivity and diversity in the engineering workplace and barriers faced by women or sexual and gender minorities with classmates.
9. Write a critical analysis (based on one or more recent peer-reviewed research articles from the organizational psychology/workplace literature) and present the results of those analyses on a chosen topic associated with professional issues in engineering faced by women or sexual and gender minorities.

Textbook/Reading:

1. Sex, Gender, and Engineering (VanAntwerp and Wilson, Cambridge Scholars Publishing)
2. Peer Reviewed Research Articles and National Reports
3. Cantor N., Mack K. M., McDermott P., and Taylor O. L. (2014). If not now, when? The promise of STEM intersectionality in the twenty-first century. *Peer Review*, 16, 29-31.
4. Collins P. H., Bilge S. (2016). *Intersectionality*. Cambridge, UK: John Wiley.

Prerequisites:

Junior, Senior, or Graduate Level Standing or Instructor Permission

Topics:

- Introduction to Diversity, Equity, and Inclusion in the Engineering Workplace - 1 week
- Normative and Numerical male dominance in the Engineering Workplace - 1 week
- Personality and Neurological Traits of Engineers - 1 week
- Sexual and Heterosexist Harassment in the Engineering Workplace - 3 weeks
- Chilly and Hostile Climate in the Engineering Workplace - 1 week
- Belonging and Marginalization in the Engineering Workplace - 1 week
- Solutions to building a more Inclusive and Equitable Engineering Workplace - 2 weeks

### Course Structure:

The class meets for two 80 minute sessions or three 50 minute sessions per week. Weekly assignments and in-class discussions emphasize deeper understanding of the reading assignments and main concepts of the week. With some variation, half of the weekly session time will consist of lecture and in-class discussion regarding the topics of the week; the second half of the weekly session time will consist of a mini-lecture, introduction to guest speaker or panel, and follow up Q&A/discussion. Guest speakers or panels will enable students to interact with engineers, particularly women or sexual and gender minorities, who are or have recently been active in the engineering workforce. A research paper and corresponding presentation allow the student to take a deeper dive into an issue relevant to the class that is of interest to the student.

### Computer and Laboratory Resources:

All activities can be completed with a personal computer or similar computing device. No laboratory resources are required.

### Grading:

#### Discussion Board/Forum: 33%

One discussion board per week for at least eight of ten weeks of the course will be offered to students. Students have the option of (a) engaging in verbal discussion during class with their peers (with facilitation by the instructor); (b) attending a virtual, online session in the evening to engage in verbal discussion with their peers (with facilitation by the instructor); or (c) participating in written exchanges online with peers. The third option will be least desirable as verbal exchange is pedagogically most beneficial to genuine discourse among students. The topics of discussion each week will reflect on the lived experiences of women, gender, or sexual minorities in the engineering workplace as well as bystanders to inappropriate behavior in these settings and will take into account research data regarding the prevalence and impacts of these lived experiences. In their original posts (and responses to the posts of others) on discussion boards, students will be expected to respond to prompts and include elements of their verbal exchanges with other students as well as of the week's readings.

#### Assignments: 33%

Homework assignments will include a combination of reflection/opinion on issues associated with the topic of the week, sharing of personal experience with such issues (to the extent that the student feels comfortable sharing), and synthesis/analysis of the weekly readings for the course. Homework assignments will be offered weekly for at least eight weeks of the course. Some but not all homework assignments will include milestones associated with the term paper to allow the instructor to provide formative feedback on the paper throughout the quarter.

#### Term Paper/Presentation: 34%

### Diversity and Inclusion:

I consider this classroom to be a place where you will be treated with respect, and I welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability – and other visible and nonvisible differences. All members of this class are expected to contribute to a respectful, welcoming and inclusive environment for every other member of the class. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the quarter so that I may make appropriate changes to my records.

#### Disability and Access:

Your experience in this class is important to me. It is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law. If you have arranged accommodations through Disability Resources for Students (DRS), please communicate those accommodations to me at your earliest convenience so we can discuss your needs and appropriate arrangements in this course.

If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (conditions include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), contact DRS directly to set up an Access Plan. DRS offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions. Reasonable accommodations are established through an interactive process between you, your instructor(s) and DRS. It is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law. Contact DRS at [disability.uw.edu](http://disability.uw.edu).

#### Religious Accommodation:

Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW's policy, including more information about how to request an accommodation, is available at [Religious Accommodations Policy](http://www.washington.edu/registrar/staffandfaculty/religious-accommodations-policy/)

(<https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/>). Accommodations must be requested within the first two weeks of this course using the [Religious Accommodations Request form](http://www.washington.edu/registrar/students/religious-accommodations-request/)

(<https://registrar.washington.edu/students/religious-accommodations-request/>).

#### Safety:

Call SafeCampus at 206-685-7233 anytime – no matter where you work or study – to anonymously discuss safety and well-being concerns for yourself or others. SafeCampus's team of caring professionals will provide individualized support,

while discussing short- and long-term solutions and connecting you with additional resources when requested.

#### Academic Misconduct:

The University takes academic integrity very seriously. Behaving with integrity is part of our responsibility to our shared learning community. If you're uncertain about if something is academic misconduct, ask me. Acts of academic misconduct may include but are not limited to:

- Cheating (working collaboratively on quizzes/exams and discussion submissions, sharing answers and previewing quizzes/exams)
- Plagiarism (representing the work of others as your own without giving appropriate credit to the original author(s))
- Unauthorized collaboration (working with each other on assignments) Engineering is a profession demanding a high level of personal honesty, integrity and responsibility. Therefore, it is essential that engineering students, in fulfillment of their academic requirements and in preparation to enter the engineering profession, shall adhere to the University of Washington's Student Code of Conduct

(<https://www.washington.edu/cssc/for-students/student-code-of-conduct/>).

Concerns about behaviors prohibited by the Student Conduct Code will be referred for investigation and adjudication by the College of Engineering Dean's Office and the University's Office of

#### Community Standards and Student conduct

See CoE website (<https://www.engr.washington.edu/current/policies/academic-integritymisconduct>) for more detailed explanation of the academic misconduct adjudication process. Any student found to have committed academic misconduct will receive a 0-grade on impacted academic work (e.g., assignments, project, or exams).

#### Inclement Weather:

Please check if the campus may be closed due to weather. Information on suspension of operations will be made public and available through the media. You can learn of campus operations status by signing up with an alert system that will contact you via email or text message if classes are canceled or delayed (<https://www.washington.edu/safety/alert/>). Alternatively, campus status during inclement weather is available via local radio and television news.

#### ABET Student Outcome Coverage:

This course addresses the following outcomes:

H = high relevance, M = medium relevance, L = low relevance to course.

- (3) An ability to communicate effectively with a range of audiences (H) Students practice discussing contemporary issues associated with diversity, equity, and inclusion in the engineering workplace and communicate a deeper analysis of a chosen issue in both verbal and written form.

- (4) an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts (H). Students gain a deeper understanding of what diversity, equity, and inclusion in the engineering workplace look like and the challenges to achieving an inclusive and harassment-free workplace that engineering presently faces. Students learn specific solutions and contributions that they can make to greater equity and inclusion regardless of status or position within an organization.
- (5) An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives (M). Students work in teams on a regular basis in class by completing structured discussion activities.

Prepared By: Denise Wilson

Last Revised: 4/9/2022