

Equity Frameworks in Engineering (3 cr)

This course invites students to identify and strengthen their understanding of the role that technical proficiency plays in our society and the responsibilities to society that come embedded within the practice of technical professions. Through readings, group discussions and personal reflection, this course develops capacity for broadening understanding of professional ethics in engineering as well as for centering the profession in the context of its capacity to create, perpetuate, and constructively address disparities in resource access in the U.S.

Class Structure

- 2 x 75 min. meetings/week
- In person or on-line/remote
- weekly time commitment outside of class: ~ 6 hrs

Class Meeting Format

- Lecture | framing (T)
- Framing | Reading selection | Discussion (Th)

Weekly In-Class Group Coordinated Discussion (rotating)

- Selected article - assigned group to create question framework for in-class discussion
- Article distributed with questions (T) | discussion coordination (Th) (1 hr + 1 hr rotating)

Discussion Group (via Brightspace)

- Biweekly video (1+ hr) (6 videos for the semester)
- Discussion post + response to at least 2 other posts + responses to your OP (1+ hr)

Reading | Final Written Project

- DIY Detroit: Making Do in a City Without Services (Kimberley Kinder) (1+ hr)
semester reading project + final written project

Reflection Journal

- Weekly (1+ hr) | Collected and reviewed 3x during the semester

General Weekly Class Topics

Wk(s) Topics

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|-------|---|
| 1 | Introduction Course Structure |
| 2 | Technological Centering and the Myth of Equal Access |
| 3-4 | Socio-Technical Understanding Frameworks and Omissions |
| 5-6 | 20th Century History - The Cycle and Marginalization of Communities |
| 7 | RootShock and Serial Forced Displacement |
| 8 | Social Determinants of Health |
| 9 | Break Week |
| 10-11 | Engineering Narrative Challenges - Solving without Understanding |
| 12-13 | Recontextualizing Engineering: The False Gospel of Reasonableness |
| 14 | Design, Remediation and Questioning: Who is The Work For? |
| 15 | Finals Week no exam; final written project due |

Grading:

Brightspace Discussion Group Participation - 20%

Weekly in-class Discussion Participation - 20%

In-class Discussion Group Coordination | Leadership (rotating) - 10%

DIY Detroit Final Project - 20%

Reflection Journal - 20%

Attendance | Engagement | Timeliness & Consistency with Journal Assignments - 10%