



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Antiracist Technology

ECE 5570

Credit Hours:

4.00

Course Levels:

Undergraduate (1000-5000 level)

Graduate (5000-8000 level)

Course Components:

Lecture

Course Description:

Discrimination against racial and ethnic minorities is prevalent, systemic, and global. Racism and racial justice principles are outlined. Case studies on racist technologies, those that promote or sustain racism, are studied. Engineering design methodology is used to modify or create several new technologies that help the antiracist oppose racism.

Prerequisites and Co-requisites:

Prereq: Engr 1182, 1282, Grad standing in Engr, or permission of instructor.

Course Goals / Objectives:

- Familiarity with key forms of racism, personal, community, and global; from micro-aggressions to systemic/institutional racism.
 - Familiarity with current dominant antiracist/racist ideas and ideas from global challenges (health, education, economic, policy, political, environment).
 - Awareness of key ideas from systems of social justice (e.g., dignity, inequality, rights, structural/systemic), especially the relations between engineering and social justice.
 - Gain knowledge of current major strategies for antiracism (e.g., protest, boycott, education, policy change).
 - Understand engineering methodologies for development of antiracist technology, helping in a respectful way, the importance of community, needs and outcome assessment, and participatory technology development (co-creation).
 - Understand past technology failures and successes: Algorithmic bias, racial profiling in neighborhood web site functionality.
 - Case studies in innovation for antiracist technology for algorithmic bias, for reducing the incidence of racial profiling, community building/ action, fair policing/justice, structural injustices, transparency, illicit markets, and mental health.
 - Gain an ability to work on a {diverse and inclusive} team to develop an approach to antiracist technology.
-

Course Topics:

- Introduction
 - Racism
 - Systemic Racism
 - Racial Justice
 - Antiracist Approaches, Part 1
 - Antiracist Approaches, Part 2
 - Engineering Methodology for Antiracist Technology
 - Social Media and Racism/Antiracism
 - Internet Search Engines, Web Sites, and Racism
 - Algorithmic Bias
 - Policing Using Big Data and Algorithms
 - Antiracist Technologies for Systemic Racism, Part 1: Mental Health Disparities
 - Antiracist Technologies for Systemic Racism, Part 2: Poverty and Food Access
 - Antiracist Technologies for Systemic Racism, Part 3: Education, Infrastructure, and Environment
-

Designation:

Elective