Course Syllabus for a Proposed Course

Antiracist Technology

Dept. Electrical and Computer Engineering
The Ohio State University

Facilitator: Prof Kevin Passino: email, mobile: 614-312-2472, web site

Course Web Site: Societal Grand Challenge Community: Technology for Social Justice (which shows the broader context for the course), and “Racism / Courses.”

Offering: Course number: ECE 5846, 4 credit hours, letter grade, scheduled MTuThF, classroom or 100% distance (to be prepared for COVID-19 constraints that may necessitate switching to virtual during a semester), 14-week, not repeatable. Offerings:

- First offering, Sp21, as a technical elective for engineering majors, one that would have to be approved by each Department in the CoE (assume GE option proposed below will not be approved by Sp21).
- Second offering, Sp22, as a technical elective for engineering majors or a GE option (if approved).
- Annually, thereafter.

Rationale:

- Technology has been defined as “anything that extends human capability;” this course examines the use of principles of racism to inform Science, Technology, Engineering, and Mathematics (STEM) approaches for creating new technologies to extend the capabilities of antiracists, to help promote racial justice. It seeks a balance between coverage of racism and social justice, with STEM topics and engineering methodology for technology design. The entire course is wrapped around, and supports, research and the creative design process of technological innovation via engineering methodology.

- There are many limits to what STEM can achieve. There are clear cases (e.g., changing hearts) where technology cannot solve important problems. The focus here is on feasible, practical, and effective solutions based on modifying/using existing technologies, or creating new ones.
Interdisciplinary Approach

Using terminology from different fields:

1. *Arts and Sciences, Social Work (and more): Racism and Social Justice:* Understanding individuals (bio-psycho-social), community/society, their challenges/struggles, history, and all forms of racism and discrimination; understanding cultural and inclusive ideals and goals of social justice; and formulating antiracist strategies to overcome racism.

2. *Engineering Design Methodology for Antiracist Technology:* Applied to an antiracist technology: (1) Understanding the challenges; (2) human needs/capabilities assessment and customers/users (people, community, society); (3) design constraints from a very broad context (from cost—social—environment and everything in between); (4) design goals including low failure rates, reliability, robustness, performance, efficiency, cost, usability, etc.; (5) co-creation, teamwork, participatory design methodology (respect the user, who is the only one who knows where “their shoe pinches,” and often have great technology design ideas); and (6) outcomes assessment/re-design (including social impact, user experience, evidence-based methods like RCTs, etc.).

3. *Cross-Fertilization is Necessary:* There is no way to develop good antiracist technology without learning about the people, groups, and their challenges in this space. An engineer says “what do the people want?,” “can I get to know the people as change will not happen except on the back of a relationship,” “you have to talk to domain experts” and/or the “customer is #1 so if you want to get sales they must be satisfied.” They need to take off their blinders and understand socio-environmental context, the limitations of their approaches and how they can result in lack of diversity and inclusion (e.g., algorithmic bias).

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**TA and Grader Needed**

- **Teaching Assistant:** Any time this course is run, now or the future, it needs one full-time Teaching Assistant. I strongly prefer to be offered to help pick the TA and it may be useful to use one of my own students doing research on this topic. The TA would be responsible for helping improve the course materials (at least for the first few times the course is offered). The TA would also be responsible for being knowledgable in the field of Antiracist Technology, coming to class and engaging in discussion, be present for project team meetings on Fridays, and helping to grade the two design project reviews, midterm project, and final project (written and oral).

- **Grader:** Also, a graduate or undergraduate at ECE-typical hourly rates, whatever is needed to grade the six homeworks.
Prerequisites and Co-Facilitators

- **Kirwan Institute for the Study of Race and Ethnicity:** Complete the online training: “Implicit Bias Module Series.” This is 45 min. to 1.5 hrs depending on whether activities are completed. Part of the first homework assignment, and includes viewing, a summary, critique, and reflection. Facilitator will accept properly-justified exemptions to this component of the homework.

- **Suggested Pre- or Co-requisites:** College of Social Work, “SWK 3201 Social and Economic Justice” (undergraduate, no prerequisites, 3 cr). Seeking help now on identifying an additional suggested course (e.g., one on an introduction to racism from AAAS).

- **Prerequisite Approach:** Similar to the approach for ENGR 5050 Humanitarian Engineering (annually, Spring): ENGR 1182 or 1282 or graduate engineering standing or permission of instructor. This has worked out well, as all student ranks are well-equipped to perform well, even on the STEM components (and I have had freshmen, and students from science, and those have, in fact been some of the best performers). This approach invites the entire student body in the College of Engineering, yet in the seven offerings of 5050 since 2014, the maximum enrollment was 68 for one class and the minimum enrollment was 29 (first offering). Analogous enrollment results are expected for this course.

- **Guest Facilitators:** Several colleagues from around the University will be invited to be Guest Facilitators for class sessions on specific topics in racism and social justice. They would be asked to, if possible, not lecture for the full class, but instead provide on-line materials (papers, videos, or lecture), then lead a discussion on a topic, that perhaps centers of the on-line material, discussion questions, or a video—whatever they feel is best. See the Course Topics and Schedule.

- **Co-Teaching:** Co-teaching this course would not only be challenging, but I am not prepared to do so. I do feel that this option should be considered for a later offering, as collaborations and relationships between faculty develop further in this space. I do think it could enrich the learning experience for the students, yet some such enrichment will be achieved with Guest Facilitators.

General Education Program Structure

It is proposed to count this course for 4 credits in the thematic pathway “Citizenship for a Diverse and Just World.”
1. Educated Global Citizenship: Under GE Program Goals: GOAL 3: EDUCATED GLOBAL CITIZENSHIP: Successful students will be interculturally competent global citizens who can engage with significant aspects of the human condition in local, state, national, and global settings [responses for this proposed course are given below in brackets]:

- 3.1 Describe, analyze, and discuss the institutions, the cultural traditions of both the U.S. and other nations, and issues of global interdependence. [The “significant aspect of the human condition” covered in this class is racism, a world-wide phenomenon, with unique features in each locality, but common characteristics. Racism will be described and analyzed primarily through the lens of engineering: (i) Via an in-depth analysis of well-known existing “racist technology” (e.g., facial recognition algorithms that use machine learning, that can make significant errors in mis-recognition of black or brown people), which, due to the internet, almost always extends past a single locality (e.g. where it was invented), and this class will consider “diffusion of technology” and thereby global interdependence; and (ii) Via engineering design (inventing or adjusting) of antiracist technologies, which can be ones that do not have inherent racist aspects (e.g., algorithmic bias), or ones that actively seek to alleviate racial injustice (e.g., racial profiling by some web sites). Decisions about antiracist technology “product release” that consider, for example, the probability of bugs/errors and their social impact will be discussed, including the global implications.]

- 3.2 Examine and value various expressions and implications of diversity, equity, and inclusion, both within and beyond U.S. society. [In order to adhere to the principles of racial justice in innovating new technology, it is essential for the students to understand equality, diversity, and inclusion—from a local to a global level. These ideas must be “embedded in the technology” that the students create in their project teams. Moreover, these three ideas, along with topics like “intersectionality,” will be modeled and analyzed using conventional engineering methods (e.g., Matlab/Simulink), ones that all engineering students learn, starting in freshman year, and that facilitate their learning of complex topics (i.e., as it will “meet the students where they are at”). Indeed, the approach of using Matlab as “a way of knowing” fits well here as many facial recognition and machine learning algorithms are first developed in Matlab (e.g., via their Image Processing Toolbox or Machine Learning and Statistics Toolbox). The Matlab “sandbox” will provide the students a way to make tangible modifications to software technology in their
teams, changes that can result in algorithmic bias/non-bias. This will provide them with explicit examples of the role of the three above ideas in their antiracist technology, and enrich the research required to do good design.]

• 3.3 Describe, analyze, and critique the roles and impacts of human activity on both human society and the natural world. [Technology extends human capability. Engineers design (invent or adjust) technology that has significant social and environmental impact (e.g., consider the smart phone). Here, the challenge to the students is to design technology that has good social impact, specifically to help alleviate some of the problems with racism. The remaining items in 3.3 are discussed above.]

• 3.4 Practice the knowledge, skills, attitudes and qualities of an interculturally competent global citizen who can act appropriately and competently in a range of contexts and across human differences. [Almost all of engineering is directed towards “practice” in one way or another. Engineers generally like to “tinker,” not just with hardware, but also with software, and in general, for creative design and innovation. Design always involves iterations and tweaking as technology is never perfect. These elements will be discussed in the context of class team projects (learning how to practice creatively) so that students clearly see how these ideas arise, and know how to deal with them (e.g., how to get the error-rate on a facial recognition algorithm as low as possible, how this will always cost more money, and how there are necessarily residual errors—very low error rates may not imply algorithmic bias, so long as error rates are the same across the entire population.)]

2. High Impact Practice: The HIP subcommittee says that high impact practice includes “research or creative practice.” Essentially, the 1-credit “Design Laboratory” component of this class (meeting weekly on Fridays) will involve research on topics of racial injustices, and creative collaboration on technology designs aimed at extending the capabilities of the antiracist. Student teams will design and implement such technologies, and throughout the process there will be involvement of faculty and TAs, two Design Reviews, a Midterm Project report, and a Final Report and presentation. This approach can be used during COVID-19 via virtual design teams, with the restriction that teams cannot work on hardware development, only software.
Broad Consultation

• Students, including research assistants for course topic development (below, Kamila Thompson, Jessica Griffin, Grant Brooks, and Alex Morales).

• Faculty for course formation.

1. Simone C. Drake, Dept. Chair, Dept. of African American and African Studies
2. Jacquelyn Meshelemiah, College of Social Work and Associate Vice Provost and Director of Leadership Initiatives for Women of Color
3. La’Tonia Stiner-Jones, Assistant Dean of Graduate Programs and Assistant Professor of Practice, Department of Biomedical Engineering
4. René Olate, Professor in the College of Social Work
5. Jorge Finke, Professor at Universidad Pontificia Javeriana, Cali, Colombia
6. Hugo Gonzalez Villasanti, Post-doctoral researcher, Crane Center for Early Childhood Research and Policy, College of Education and Human Ecology
7. Isabel C. Fernandez-Puentes, Lecturer in Dept. Electrical and Computer Engineering
8. Steve Bibyk, Assoc. Professor, Dept. Electrical and Computer Engineering
9. Kamila Thompson, student, Dept. Electrical and Computer Engineering and NSBE President (National Society of Black Engineers)
10. Alexander Morales, student, Dept. Electrical and Computer Engineering and SHPE President (Society of Hispanic Professional Engineers)
11. Jessica Griffin, student, Dept. Industrial and Systems Engineering, Engineering Council, Chair of Committee on Mental Health
12. Grant Brooks, student, Dept. Computer Science and Engineering, President of Lambda Psi (minority engineering honorary)
13. David Horn, Professor in Dept. Comparative Studies and Associate Executive Dean for Undergraduate Education, ASC
15. Joel Johnson, Professor, Dept. Electrical and Computer Engineering
16. Lee Potter, Professor, Dept. Electrical and Computer Engineering
17. Lisa Fiorentini, Clinical Professor, Dept. Electrical and Computer Engineering

19. Winnie Sampson, Undergraduate education and services, College of Engineering

20. Lisa Barclay, Diversity, Outreach, and Inclusion, College of Engineering

21. Lisa Abrams, Professor, Engineering Education Department

22. Nathan Harris, graduate student, Engineering Education Department

23. Tasleem J. Padamsee, Professor, Division of Health Services Management & Policy, College of Public Health
Technology for Cooperative Learning in the Face of COVID-19

• Cooperative In-Person/Remote Learning: To promote an inclusive class culture, at the suggestion of ODEE:

  1. With the help of ODEE (David Hooker), the current best approach is to use “Zoom in the classroom” to allow everyone to control the video/screen and have a microphone (everyone in the classroom has “voice,” if they want it, and there will be a shared iPad for anyone who does not have a device). Standard Zoom microphone muting, screen sharing, “raising hands,” polling (like with clickers), chatbox, host-facilitator management, etc. features will be used.

  2. If at any point, COVID-19 presents constraints, course development work and progress stays intact, and we will be able to go “hybrid” (e.g., live-streaming to quarantined individuals), or fully remote with no technology changes (synchronous, or asynchronous via recording).

• Course Web Site: Societal Grand Challenge Community: Technology for Social Justice, and “Racism / Courses.” Course materials, such as homework assignments, project assignments, Power Point lectures, videos/movies, documents, etc. to be posted at the course web site for use outside of the classroom. Mediasite will be used for course session Zoom recordings to secure permanence of links/materials.

Class Project: Antiracist Technology Team Design Project Overview

1. Book: In support of the class and project, and other research needed for the project below, read, summarize, and critique either:

   (a) Ibram X. Kendi, “How to be an Antiracist,” One World/Random House, NY, 2019; or


   (c) An alternative book racism/antiracism may be used if a good rationale for it is provided, and the facilitator approves.

   (d) A more advanced student who has studied racism in some detail will be allowed to substitute reading on the above subjects with a book focused on an antiracist technology for a particular domain (e.g., topics like those studied in class below).

2. Task: Model, analyze, and design for a key feature of antiracism using a STEM approach (e.g., develop an antiracist technology for a subject developed in class, or produce a mathematical model and computational analysis of the dynamics of diversity and inclusion on teams charged to solve a task, or intersectionality and with interactions with people, space, and over time) on a team (see below).
3. **Team Formation and Diversity:** Students are assigned to teams by the facilitator (evaluating use of CATME software for team formation), and instructor picks the team size. There will be a mix of majors and student rank (e.g., undergraduate and graduate students). Diversity and inclusion is required, but is partly left to team choice, by having the team select one additional person from outside the class who helps enhance diversity (e.g., from some other major or a consultant from outside the university). This person must be approved by the facilitator.

4. **Team Meetings and Tasks:** Teams are required to meet on Fridays during class time. For the first part of the semester these meetings should be dedicated to team members getting to know each other, racism challenges, and the STEM interests across the group. In the second part of the semester, team meetings should be dedicated to brainstorming on what technology the group will work on, then the remaining weeks of the semester on team design tasks, including reporting (all discussed below).

5. **Milestones:** There will be “Design Review #1” (at week 3), Midterm Project report (7 weeks), “Design Review #2” (at week 10), and the Final Project report (week 14), with feedback given to the teams at each stage. See below for more details.

Projects may be simultaneously submitted to the

“Antiracist Technology Design Challenge”

where there is judging and awards (first runs in Au20, but will also run in Au21).

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**Learning Outcomes**

1. Familiarity with key forms of racism, personal, community, and global; from micro-aggressions to systemic/institutional racism.

2. Familiarity with current dominant antiracist/racist ideas and ideas from global challenges (health, education, economic, policy, political, environment).

3. Awareness of key ideas from systems of social justice (e.g., dignity, inequality, rights, structural/systemic), especially the relations between engineering and social justice.

4. Gain knowledge of current major strategies for antiracism (e.g., protest, boycott, education, policy change).

5. 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).
6. Understand past technology failures and successes: Algorithmic bias, racial profiling in neighborhood web site functionality.

7. Understand case studies in innovation for antiracist technology for removing algorithmic bias, for reducing the incidence of racial profiling, community building and community action, technology for policing/justice, fighting structural injustices, transparency and corruption, illicit markets, and mental health.

8. Gain an ability to work on a diverse and inclusive team to develop an approach to antiracist technology.

Assignments and Grading

1. Homework (30%): Six assignments (individual).

2. Project:
   (a) Project Design Review #1 (15%) (team)
   (b) Midterm Project (20%): (i) Analysis of first half of Kendi (individual); and (ii) Initial antiracism technology design report (team)
   (c) Project Design Review #2 (15%) (team)
   (d) Final Project (20%): (i) Complete analysis of Kendi (individual); and (ii) Final report and presentation on antiracist technology (team)

Relations to Existing Courses

- **Freshman Seminar:** In Au20 Passino is teaching a 1 crhr Freshman Seminar “Antiracist Technology” (syllabus here) (the same title as the proposed course). This course is a condensed version of the proposed course, with STEM removed, and other topics in abbreviated form relative to the proposed course.

- **Humanitarian Engineering:** Elements of the above pedagogical approach are broadly based on, or analogous to, the following courses Passino has taught:

  ENGR 5050 Humanitarian Engineering (offered the last seven years), ECE 5050 Computational Humanitarianism, and ARTSCI Antipoverty Technology (freshman seminar)

In particular, consider the prerequisites, basic rationale, interdisciplinary emphasis—connecting with the Social Sciences, teams/projects, on-line inverted classroom, and undergrad/graduate approach. Each of these
courses is based on the textbook. Above, course content and topical emphasis is very different compared to the courses in the humanitarian engineering space; hence, there is no overlap with the above courses and this proposed course, aside from one class session in the final week where the relevance of poverty and homelessness is discussed.
Course Topics and Schedule:

Part 1: From Racism to Racial Justice

- Week 1: Introduction
  - Introductions, course logistics, video #1 (vetted, Black/female case) showing a case of personal impact of racism. Discussion, can technology address any of these issues? (Also, on the first day, the facilitator assigns students to a team for their antiracist technology design, adhering to diversity principles in team formation to the greatest extent possible).
  - Video #2 (also vetted, Hispanic/male case) showing a case of personal impact of racism. Discussion, can technology address any of these issues?
  - Discussion: “How important is it for your antiracist technology design team to get to know each other, and form relationships?” “Why?” “What will enhance the effectiveness of your team?”
  - Project team meeting: Getting to know each other—you choose how. Why is it important for every person to respect every other person on the team? Can you agree on how your team will communicate effectively and regularly, and especially so that everyone will respond in a timely fashion with constructive input. Can your team decide what should happen if someone will not respond for a week or more?

- Week 2: Racism
  - Guest Facilitator: Overview of topic in equality, diversity, inclusion, and/or intersectionality. Discussion.
  - Discussion: “Does respect, equity, diversity, and inclusion have a role in your team’s success?” “Exactly how for each case—can you relate each to both individual and group success with concrete examples?”
  - Project team meeting: Reflecting on your team meeting last week, why it is important to respect each other and build relationships? Discuss as a team the questions from the previous class. What do you have to add?

- Week 3: Systemic Racism
  - Guest Facilitator: Systemic racism, a topic from public health, justice system, education, economics, politics, or environment. Discussion.
– TED talk (23:26): Bryan Stevenson, “We need to talk about an injustice”. Discussion on the justice system, death penalty, and mass incarceration. Video on worker rights.

– Discussion: “From your personal experiences, can you name a technology you have used that you consider to be racist, even if only partly so?” “What was the functionality that was particularly problematic for you?” “Did you do anything about it (complain or boycott)?” “Can you name a technology that you have heard is racist?” “Does the technology support systemic racism?”

– Project team meeting: Discuss as a team the questions from the previous class. What do you have to add?

• Week 4: Racial Justice

– Dignity, respect, equality, solidarity. UN Universal Declaration on Human Rights (UDHR). Discussion.

– Connections between engineering, technology, and social justice. Structural and systemic issues. Discussion.


– Project team meeting: “Based on your own experiences with technology, can you suggest a candidate antiracist technology?” “What need does that address?” “How do you know that it addresses a real need for a range of people?” “What is the envisioned functionality?” “How will you define and measure success if you create this technology?” Begin researching relevant background in racism and related technologies, if any, that have been designed to solve similar problems.

Part 2: Antiracist Approaches

• Week 5: Antiracist Approaches, Part 1

– TED interview (51:06): Ibram X. Kendi, “The difference between “not-racist” and antiracist”.

– Discussion on Kendi interview from last class. Antiracist approaches: Demonstration, protest, boycott. Discussion: Effectiveness? Case Studies: Rev. Dr. Martin Luther King, Rosa Parks

– Case Study: Chicano Movement (El Movimiento, including the case of women), demonstrations/walk-outs for immigrant rights and equality.

– Project team meeting: For each question you addressed in your team meeting last week, and the research there, can you now choose an antiracist technology whose implementation is feasible for your Class Team Project? Be prepared to discuss your choices and rationale, and to defend your proposal of feasibility within time and team expertise constraints. Start the creative design process.
• Week 6: Antiracist Approaches, Part 2
  – Case Studies: Civil Rights Movement, components.
  – Case Study: Cesar Chavez and Dolores Huerta, National Farm Workers Association.
  – Project team meeting: Continuing with your team meeting of last week, reconsider the central challenges, and the choice you have made for innovating an antiracist technology. Reconsider team expertise, time constraints, availability of software/materials, etc. Use the standard scoring method from the field of “product design” to quantitatively evaluate your team’s antiracist technology options. Refine your creative design process, and scale back your technology if needed.

Part 3: Engineers and Antiracists

• Week 7: Engineering Methodology for Antiracist Technology
  – Define technology, technology cannot solve all problems. Equity, diversity, and inclusion as a key ingredient of any design. If you do not understand the problem you cannot develop a good solution–respect your information sources/domain experts, get help in co-creation. Discussion: What should engineers do if they are employed by a company that asks them to create a technology they feel is racist? How are the basic ideas in engineering ethics applicable here?
  – Participatory technology development methodology, outcome assessment, field work. Discussion.
  – Project team meeting: Begin technology development with a realistic plan for construction of your technology, equitable team member task distribution, and schedule for how it all comes together. Construct a Gantt chart, starting with the final completion deadline, and fully integrating tasks from the team members. Revise your technology design as needed to meet constraints and hit deadlines (Design Reviews, Midterm, and Final).

• Week 8: Social Media and Racism/Antiracism
  – Case study: Twitter. In-class demo. Case study: Facebook. In-class demo.
  – The intersectional internet (race, sex, class, and culture). Discussion.
Discussion: Can you name other social media where there is unregulated racism and “flame-throwing”? Should racism and hate speech be stopped/banned in social media? Any flame-throwing? If so, would this have to be done with human monitors, or could it be automated with technology? Can the intersectional internet be fixed?

Project team meeting: Refine your team’s work from last week, and begin constructing a prototype.

• Week 9: Internet Search Engines, Web Sites, and Racism

  – How a search engine works. How search engines can reinforce racism.
  – Web site design and racial profiling. Case study: Neighborhood racial profiling, and antiracist fix. In-class demo.
  – Discussion: Should racial bias, or other forms of bias, be eliminated from search engines? If so, would this have to be done with human monitors, or could it be automated with technology in the form of better search algorithms? Do you know of search engines or web sites that promote racial bias?
  – Project team meeting: Continue construction of your prototype, start coordinating tasks and pieces of the technology.

• Week 10: Algorithmic Bias

  – TED talk (14:09): Jennifer L. Eberhardt, How racial bias works and how to disrupt it. TED talk (8:36): Joy Buolamwini, How I’m fighting bias in algorithms. Discussion: Translation of designer/coder bias into algorithms, role of cost, time, and market constraints. Ethical algorithms and social awareness.
  – Algorithmic/engineered inequity, bias, and discrimination. From machine learning to data analytics.
  – Case study in facial recognition. When can machine learning fail, and how? How can it be fixed? In-class demo.
  – Project team meeting: Finish construction of your prototype, begin debugging and refining your team’s design so it will meet your specifications.

• Week 11: Policing Using Big Data and Algorithms

  – Big data policing, surveillance, targeting, prediction, and investigation. Role of technology at each step. The case of the Mexican-US border. Discussion, critique.
  – Discussion: Should technology be removed from policing altogether? If not, how can technology in policing be fixed? Discuss the article “Justice in the age of big data,” by Cathy O’Neil. Past failures, bias, concentrated error rates, and privacy. Will error rate reduction
succeed? How can you create approaches that are “robust” to errors in software, human errors, and lack of coordination system-wide? Can we tolerate errors while changes are being made, and we are waiting for “software updates”?

- Guest Facilitator: Human trafficking (or other illicit markets), including the role of racism and poverty. Discussion: Brainstorm on the potential for designing helpful technology.

- Project team meeting: Continue debugging and refining your design so it will meet your specifications.

• Week 12: Antiracist Technologies for Systemic Racism, Part 1: Mental Health Disparities

  
  - Overview of common mental health challenges, health disparities, and prevalence per race and socio-economic status (NIMH and WHO statistics). Black/Latinx mental health, including the role of racism. Discussion.
  
  - Guest Facilitator: Technology for mental health, the system, and research. Discussion on technology for helping to create equity in the mental health care system, including challenges of finding providers, gaining access, navigating the system, data-sharing (e.g., between the patient, supports, therapist, and psychiatrist), and privacy. Technology for facilitating local and culturally-appropriate community action, including distributed software for (i) coordinating community resources and action; and (ii) community development that includes income, health, and education. Discuss issues of fairness, corruption, and co-design with the local community.

  - Project team meeting: Continue your antiracist technology design.

• Week 13: Antiracist Technologies for Systemic Racism, Part 2: Poverty and Food Access

  - Poverty, homelessness, race, mental health. Discussion.
  
  - Development approaches, “appropriate technology” approaches as antipoverty technology. Discussion.
  
  - Case Study: Food access, nutrition, cost, and systemic challenges, technology. Discussion.

  - Project team meeting: Continue your antiracist technology design.

• Week 14: Antiracist Technologies for Systemic Racism, Part 3: Education, Infrastructure, and Environment
– Case study: Education as a socio-economic reproduction system, transformative vs. utilitarian approaches, and STEM education access. STEM technology design for education. Discussion.

– Case study: Infrastructure construction, highway route choice, and neighborhoods. Discussion.

– Case study: Climate and environment, pollution location choices. Discussion.

– Project team meeting: Prepare final report and presentation.
Additional Syllabus Statements

Academic Misconduct

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct http://studentlife.osu.edu/csc/.

Disability Services

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Mental Health

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student’s ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life’s Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614-292-5766. CCS is located on the 4th Floor of the Youkin Success Center and 10th Floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at 614-292-5766 and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1-800-273-TALK or at suicidepreventionlifeline.org.

Student Conduct
Students are expected to abide by the provisions in the Code of Student Conduct. The University’s Code of Student Conduct and Sexual Harassment Policy are available on the OSU Web page.

**Sexual Misconduct/Relationship Violence**

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at http://titleix.osu.edu or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at titleix@osu.edu.

**Diversity**

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.