

LIS 500

CODE and POWER

School of Library and Information Studies
University of Wisconsin-Madison
Spring 2020

Instructor: Dorothea Salo (please call me “Dorothea”)
Office hours: TR noon-1 or by appointment
Class time and place: 4260 Helen C. White Hall
Special course attributes: Ethnic Studies, Digital Studies I and P, Tier T

salo@wisc.edu, 4261 Helen C. White Hall
Course URL: <https://canvas.wisc.edu/courses/192587>
Course modality: Face-to-face



To the extent possible under law, the person who associated CCo with this work (Dorothea Salo) has waived all copyright and related or neighboring rights to this work. This work is published from: United States.

Course description

In this course, students analyze and critique economic, social and cultural structural mechanisms related to racial and gender disparities in the computing industries, gaining practical and theoretical understanding of the means by which people of color and white women negotiate conditions of exclusion or marginalization within computing. The course guides students in understanding their own attitudes and beliefs about themselves, others and computing, and empowers them to recognize and counter common and damaging attitudes and beliefs. As part of learning about the computing industries and exploring their self-identity in relation to computing, students design, develop, and discuss interactive websites that employ web scripting.

Course Objectives

- Analyze and critique portrayals of race and gender with respect to computing
- Recognize and reduce the expression of conscious and unconscious biases
- Contribute to actively anti-bias classrooms, workplaces, professional events, and social spaces
- Have an actionable mental model of Web technology stacks
- Use relevant computing vocabulary and concepts to communicate with computing professionals
- Write simple PHP-based web pages for accessing and acting on user-supplied information from web forms

For iSchool master’s students, this course is designed to measure the following iSchool program-level learning outcomes: 1, 5, and 7. For undergraduates using this course to fulfill Ethnic Studies requirements, the learning-outcomes table is at the end of this syllabus. For Digital Studies students, this course fulfills the I and P requirements; see learning-outcomes table at the end of this syllabus.

Course Policies

I aim to make this course as accessible as possible to all students. Students seeking accommodations in lecture, test-taking, or other assignments must provide me with a McBurney Center VISA within the first two weeks of class. For more information on obtaining a McBurney Center VISA, see <http://mcburney.wisc.edu/students/howto.php>.

Preferred name/pronouns: It is sometimes the case that a student’s legal name or gender assigned at birth are reported to me on official documents in a form not in keeping with that student’s preferred name or gender expression. Please let me know, as you are comfortable, about your preferences. My pronouns are she/her/hers. UW-Madison also permits students to indicate a preferred name: https://registrar.wisc.edu/preferred_name.htm

To maintain an effective learning environment in the classroom, I insist that:

- All cell phones should be off or on silent mode.
- Disagreement, which is expected and welcome, should be respectful.
- All students should follow the Recurse Center’s four Social Rules: <https://www.recurse.com/manual#sub-sec-social-rules> (I am “faculty” for Rule 4 reporting purposes).

Textbook

We will be relying fairly heavily on *PHP 7 Solutions* by David Powers (4th edition, Apress 2019) and *Programming in HTML and PHP* (1st edition, Springer 2017) by David R. Brooks. The library currently offers both as ebooks, but if you prefer print or like to highlight/annotate, buying print copies is recommended. Be sure to get the correct edition. I may also assign materials from other PHP books.

There is no POWER textbook; all readings are listed in the course schedule later in this syllabus. On print reserve for POWER:

- Margolis et al. *Stuck in the shallow end: Education, race, and computing*. (MIT Press 2008; also available as a library ebook)

Course software

You will need the following software on your personal computer/laptop; please download and install it by the second week of class. It is available in the iSchool computer lab also, but other campus computer labs do *not* have MAMP installed.

- A text editor, also known as a “programmer’s editor”
- MAMP <https://www.mamp.info/en/> (available for Mac and Windows)

Contacting me

READ THE SYLLABUS before asking a question, please; the syllabus may answer it! For private or confidential questions, please send email or come to my office to discuss. Otherwise, please:

- Look for an answer in the syllabus before bringing up your question in class.
- Bring up a question in class or on Canvas before contacting me individually; chances are someone else has the same question, or can answer yours.
- Use documentation and a search engine to try to solve technical problems before asking classmates or me for help.
- Do your best to assist others with questions; this class is *not a competition*.

I am not available weekends; otherwise, I do my level best to answer forum questions and email within two business days.

Should you see dead links (it does happen, usually with no notice), weird due dates, or other syllabus problems, please post them to the “Syllabus problems” forum on Canvas as soon as you see them.

Known schedule disruptions

Expect me to be slower to respond than usual during the following dates:

- April 20-21: DPLAfest 2017

Assignments

Grading scale

All final grades will be based on this scale:

A: 93.5-100, AB: 89.5-93.4, B: 83.5-89.4, BC: 79.5-83.4, C: 73.5-79.4, D: 64-73.4, F: anything below 64.

	Final-grade %	Due date (for my reference)
Power I: Role model	10%	Tuesday of Week 8
Power II: Structural analysis	15%	Tuesday of Week 14
Code I: Geeking out	10%	Thursday of Week 5
Code II: Let’s all geek out!	15%	Thursday of Week 10
Power prewriting	12%	(by class time Tuesday weeks 2-14)
Code journal	15%	(various)
Team Code and Power assignment: A friendly hackathon		Final day of class
Website functionality	5%	
Friendliness of event design	10%	
Pitch quality	5%	
Individual contribution	3%	

Late major assignments will be penalized one final-grade point per day or fraction of a day late.

Due date table

Week	Class dates	Due this week (besides Power pre-writing, due Tuesdays weeks 2-14)
Week 1	1/21, 1/23	
Week 2	1/28, 1/30	
Week 3	2/4, 2/6	Team Compact, choice of Power II story 2/4 Choice of research articles to summarize (GRADUATES ONLY) 2/4
Week 4	2/11, 2/13	
Week 5	2/18, 2/20	Code I 2/20
Week 6	2/25, 2/27	CODE journal 1 2/27
Week 7	3/3, 3/5	
Week 8	3/10, 3/12	Power I 3/10
Week 9	3/24, 3/26	CODE journal 2 3/26
Week 10	3/31, 4/2	Code II 4/2
Week 11	4/7, 4/9	
Week 12	4/14, 4/16	
Week 13	4/21, 4/23	CODE journal 3 4/23
Week 14	4/28, 4/30	Power II 4/28, Team Code and Power deliverables 4/30

Power I: Analyzing erasure

Choose (**UNDERGRADUATES**: one person/group; **GRADUATES**: two people/groups) whose story is in my “erasure” tag for this class on Pinboard: <https://pinboard.in/u:dsalo/t:500/t:erasure> (If you have another story in mind, ask me; it’s probably fine.) In a 2-4 page report, answer the following questions:

- Does this person have a Wikipedia entry? If so, when was it created, and (check its Talk and History pages) has it been (un)deleted? If not, check deletionpedia.org to see if an article about them was created but deleted; if it was, explain the deletion rationale given, and describe any back-and-forth that happened over the deletion. (N.b. by all means check non-English Wikipedias when that makes sense!)
- Who is directly responsible for erasing this person? From what context(s)? Why? How? If you can tell (it won’t always be possible), what rationalizations did the erasers use to justify erasing this person? (**ARCHIVES-TRACK GRADUATE STUDENTS**: I expect you to look for this person’s existence—or silence—in archives.) Look for organizations as well as individuals here.
- What power structures and configurations helped the erasers get away with their erasure?
- Who is indirectly responsible for erasing this person? That is, who could or should have noticed that this person was not receiving credit for their work? Who could have intervened to keep this person in the record?
- How has this person’s story been reclaimed/retold/unerased? What remains to be done?
- **GRADUATES**: Compare and contrast the two stories you chose. What does this suggest about how information professionals should contest erasure?

Power II: Structural power analysis

No later than Tuesday of Week 3, choose one of the first-person career stories available from the Techies Project <http://www.techiesproject.com/> or People of Color in Tech <http://peopleofcolorintech.com/> to study. (Clear stories from elsewhere with me first, please.) Word to the wise: the richer and more complex the story, the better.

UNDERGRADUATES: Write a three- to five-page paper (not including references) analyzing the person’s experience with respect to at least TWO and no more than THREE of the following structural factors: educational opportunities and/or experiences, role models, cultural perceptions of coders/computing, financial constraints, work/life balance, work culture,

stereotype threat, impostor syndrome, intersectionality. Excellent papers will quote and cite ideas and arguments from assigned readings to demonstrate understanding and application.

GRADUATES: Write a ten-page paper (not including references) analyzing the person's experience with respect to as many of the following structural factors as applicable, and any others you notice: educational opportunities and/or experiences, role models, cultural perceptions of coders/computing, financial constraints, work/life balance, work culture, stereotype threat, impostor syndrome, intersectionality, erasure. Excellent papers will quote and cite ideas and arguments from assigned readings *and other research* to demonstrate understanding and application.

Code I: Geeking out

Practically everybody geeks out about something: a creator (broadly construed: authors, artists, crafters, musicians, filmmakers, etc), a piece of art, a sport or athlete, a craft, an organization, a belief, a hobby, whatever! Make a hand-coded, valid HTML5 website about someone or something you geek out about, aimed specifically at people who don't know much about your geekery and don't themselves geek out about it. Include at minimum an "About" page, a "Get Started" page, a "Learn More" page, a "Jargon" page, and a "Participate" page (the pages do not need to carry these exact titles).

Code II: Let's all geek out!

Find out what other people geek out about! Build a web page with a form that asks questions about users' own geekery, asks them to upload a picture illustrating their geekery, and then uses PHP to build a new page (Mad-Libs style) attractively contextualizing and displaying the submitted information.

Team Code and Power assignment: A friendly tech event

Your team is responsible for running an upcoming one-time community technology-training or technology-building event: a workshop or "hackathon." Would-be event funders will assess the project on (among its other outcomes) the degree to which it attracts diverse audiences. (Each team may choose its event's theme and goals. I keep examples of hackathons and similar events on Pinboard <https://pinboard.in/u:dsalo/t:hackathons> that you can use as inspiration for your own.) Build the event's website, which should at minimum include:

- location/travel information
- schedule
- local amenities
- event rules/policies
- a PHP-based registration form (n.b. information from the form can be emailed or stored as a flat file; it may also go in a database if a group member has the requisite MySQL knowledge, but this is NOT REQUIRED)
- a PHP-based "contact us" form (same as above)

You may use/modify a Creative-Commons-licensed theme from CSS Zen Garden or elsewhere to style your site (abide by the license terms, of course); you may also use/modify a CSS framework-based theme of your choice if you prefer.

Your event and its website should follow best practices in presenting and assuring a safe, welcoming, and inviting environment to everyone interested in participating, regardless of their level of computing knowledge and individual markers of personal identity. (Do not forget about accessibility, please!) Exception: you need not welcome individuals whose behavior makes the event less safe and welcoming for others.

Team Compact

Draft a Team Compact no later than the Tuesday of Week 3. Use <http://www.leadingvirtually.com/virtual-team-tools-team-compact/> and the associated matrix <http://www.leadingvirtually.com/wp-content/uploads/2008/07/rulesofengagementmatrix.pdf> to guide your work.

Event pitch

Write a letter, *no longer than two single-spaced pages* (this will be hard!), pitching your event to potential funders and volunteers whose support (in money, time, and publicity) you need. What will your hackathon accomplish and for whom? How will it reach those goals? Who will attend it, how will they hear about it, and why will they want to come? Why should anyone fund or volunteer for it?

GRADUATES: Project Report

In addition to the website and the presentation, each team's graduate students will turn in a collaboratively-edited project report, no more than three pages long (bullet lists encouraged), addressing:

- Techniques used to attract and retain diverse audiences: Explain which aspects of the event are aimed at attracting and retaining diverse audiences, and why they will help. The best reports will draw on and cite ideas, strategies or research findings from the readings, in addition to using examples found in case studies, first-person accounts, and best-practice documents.
- Level of effort: Keep an account of which team members did which work on the project. A project to which not every member contributes code-related work (pair programming, testing, tweaking, and bug-fixing absolutely count!) will lose points across the board. Individuals who either do not contribute sufficient work or whose behavior denies teammates opportunities to contribute will also lose points.

Code journal

Keep a personal code journal with a minimum of one entry every five weeks. Each entry should be a reflective assessment of your strengths and weaknesses as a computing student and as a human being trying to foster inclusive environments, and how they are changing over time; it should minimally contain:

- An explanation of your personal understanding of the weekly materials covered. Give specific examples of your experiences that will illustrate your point. What have you learned so far?
- Upon reflection, what do you believe are your strengths and weaknesses as a coder and a code learner? (This is not meant to be a question purely about coding mechanics. Attitudes, beliefs, habits, and practices are all fair game.) As an ally/accomplice?
- Given the strengths and weaknesses you identified, what specific actions do you plan to take to be a better coder? A better ally/accomplice?
- **GRADUATES:** In your professional practice, how can you use what you have learned so far? How can you make these skills and concepts learnable for others?

Special note for students who come in with significant coding savvy: Please reflect also on how you are helping others learn, and how you can do that better in future.

Power pre-writing

UNDERGRADUATES: Each week (Week 1 excepted) lists questions about the readings and important concepts present in them. You are responsible for answering all questions briefly (1-5 sentences/bullet points per question) as well as defining each concept listed. Post your response to the weekly pre-writing discussion in Canvas; you will be able to see others' responses after you post your own, and you are encouraged to read them. These are worth one final-grade point apiece except Week 2, which is a practice round.

GRADUATES: No later than Week 3 you will choose four research articles assigned over the semester (these are designated in the syllabus with asterisks; n.b. review articles have not been asterisked and are not eligible for this assignment), and for each one, write a summary answering the following questions:

- What is the research question? (N.b. the motivating question is usually not the research question! Also, some papers have more than one research question.)
- Identify what data the author(s) collected, how they were collected, and (where appropriate) how the population of interest was sampled. Based on this, what are the limitations of the data and the results derived from it (according to the authors, adding your own analysis as well)?
- What did the research find? Was it a strong (as appropriate: statistically significant, striking, large effect size) finding?
- How generalizable/transferable would you say the results are?
- What biases may have influenced the development of the study or the interpretation of the results?

Each summary is worth 3% of your final grade each. Post each summary to the pre-writing discussion in Canvas for the week the article is assigned (you may do this as early as you like; if you choose articles from an already-past week, you have until class time Tuesday of Week 4 to turn in your summary).

Course schedule

Tuesday classes are about POWER; Thursdays about CODE. All POWER assignments are due Tuesdays at start of class; all CODE assignments are due Thursdays at start of class. Each Tuesday class, despite its POWER emphasis, will contain an opportunity at class start to clear up questions on CODE assignments.

Please complete all readings by the class meeting under which they are listed (except, of course, for Week 1). After the first few weeks of class, CODE readings for the next module will be assigned during CODE class sessions. (I want CODE to move at a comfortable pace, and to leave room for you to decide directions we go in.)

Week 1: Is code power? For whom?

POWER concepts: Diversity, equality, equity, inclusion. Intersectionality. Tokenism. Privilege. Ally/accomplice. Differential impacts in big data, surveillance capitalism, AI.

CODE learning objectives: Basic HTML. Web technology stack. Client-side/server-side code.

Optional field trip: DR. MAE JEMISON, Varsity Hall, Union South, 1/21 6:30! Meet for snacks at the Sett, 5:15.

POWER readings

“Social Justice 101 Term Sheet.” https://www.internationalcenter.umich.edu/sites/default/files/event-handout/Social_Justice_101_Term_Sheet.pdf (For reference.)

Groeger. “Discrimination by design.” <https://www.propublica.org/article/discrimination-by-design>

Joy. “#FFFFFF diversity.” <https://medium.com/this-is-hard/ffffff-diversity-1bd2b3421e8a>

Shelley. “Being trans in the tech industry.” <http://the-toast.net/2014/02/07/trans-tech-industry/>

Penadés. “Why I won’t talk about being a woman in tech (and neither should you).” <https://soledadpenades.com/2016/07/20/why-i-wont-talk-about-being-a-woman-in-tech-and-neither-should-you/>

McClain. “Black. Woman. Nerd. You gotta say the whole thing.” <https://blacknerdproblems.com/black-woman-nerd-you-gotta-say-the-whole-thing/>

Henry. “Unlocking the invisible elevator: accessibility at tech conferences.” *Model View Culture*. <https://modelviewculture.com/pieces/unlocking-the-invisible-elevator-accessibility-at-tech-conferences>

Richards. “Technology has a culture problem, not a man problem.” <https://web.archive.org/web/20160404030238/http://butyoureagirl.com/2014/04/09/adria-richards-on-women-in-it-industry/>

GRADUATES

*Yarger (Kvasny). “Let the sisters speak: understanding information technology from the standpoint of the ‘other.’” <https://faculty.ist.psu.edu/lyarger/DataBase-Kvasny-Forthcoming.pdf>

*Wajzman. “Feminist theories of technology.” <http://dx.doi.org/10.1093/cje/ben057>

Dean. “The shock of the familiar: three timelines about gender and technology in the library.” *Digital Humanities Quarterly*. <http://www.digitalhumanities.org/dhq/vol/9/2/000201/000201.html>

CODE readings

Carver. “Things I wish someone had told me when I was learning how to code.” <https://medium.com/@cecilycarver/things-i-wish-someone-had-told-me-when-i-was-learning-how-to-code-565fc9dcb329>

“Client Side vs. Server Side.” <http://www.codeconquest.com/website/client-side-vs-server-side/>

Work through HTML Dog “Beginner HTML tutorial” <http://www.htmldog.com/guides/html/beginner/> OR Brooks, “Introducing HTML.”

Week 2: Who is a coder? Who isn’t?

POWER concepts: Stereotypes. Stereotype threat. Implicit/unconscious bias. Priming, associations, assumptions. Bias interrupter.

POWER questions: Who has biases? Are all biases obvious? How are biases acquired? How can non-obvious, non-overt biases show themselves, and what harm do they do? What are some ways to reduce the negative impact of non-obvious, non-overt biases?

CODE learning objectives: More HTML.

POWER readings

Osta and Vasquez. “Don’t talk about implicit bias without talking about structural racism.” <https://medium.com/national-equity-project/implicit-bias-structural-racism-6c52cf0f4a92> (Content alert: hate crimes)

*Trauth et al. “The Influence of Gender-Ethnic Intersectionality on Gender Stereotypes about IT Skills and Knowledge.” *The Data Base for Advances in Information Systems*, preprint available at <https://faculty.ist.psu.edu/lyarger/DB-TrauthCainJoshiKvasnyBooth.pdf>

*Cheryan et al. “Ambient belonging: how stereotypical cues impact gender representation in computer science.” <https://depts.washington.edu/sibl/Publications/Cheryan,%20Plaut,%20Davies,%20%26%20Steele%20%282009%29.pdf>

*Warren et al. “African American and class-based identities on the world wide web.” *Communication Research* 37:5 pp. 674-702. <https://faculty.ist.psu.edu/lyarger/CR-WarrenJungHechtKvasnyHenderson.pdf>

Williams. “Hacking tech’s diversity problem.” *Harvard Business Review*. <https://hbr.org/2014/10/hacking-techs-diversity-problem>

Eschenbach et al. "Proven practices that can reduce stereotype threat in engineering education: a literature review." <http://ieeexplore.ieee.org/xpls/icp.jsp?arnumber=7044011>

Michelle G. "Picture yourself as a stereotypical male." <http://mitadmissions.org/blogs/entry/picture-yourself-as-a-stereotypical-male>

CODE readings

Work through HTML Dog "Intermediate HTML Tutorial," the following sections only: "Span and Div," "Meta Tags," "Sectioning" <http://www.htmldog.com/guides/html/intermediate/>

Work through HTML Dog "Advanced HTML Tutorial," the following sections only: "Accessible Forms," "HTML5 Forms Pt 1: Input Types," "HTML5 Forms Pt 2: Attributes and Data Lists" <http://www.htmldog.com/guides/html/advanced/>

Week 3: History of race and gender perceptions in computing

POWER concepts: Erasure. Representation.

POWER questions: How (and how badly) are marginalized people underrepresented in mass media, especially mass media aimed at the "geeky" or "nerdy"? How does this turn marginalized people away from technology careers? Who erases marginalized people from the history of technology, and why?

CODE learning objectives: CSS. Responsive design. CSS frameworks.

POWER readings

"In a homecoming video meant to unite campus, almost everyone was white." <https://www.nytimes.com/2020/01/01/us/university-of-wisconsin-race-video.html> (I mean, it's the elephant in the room, isn't it?)

Hempel. "A woman's history of Silicon Valley." <https://backchannel.com/a-womens-history-of-silicon-valley-fee9279d88a>

*Rauch, Miller, and Kaplan. "Gender differences in movie superheroes' roles, appearance, and violence." <http://adanewmedia.org/2016/10/issue10-miller-rauch-kaplan/>

*Anderson and Daniels. "Film dialogue from 2000 screenplays, broken down by gender and age." <http://polygraph.cool/films/>

Oliver. "I will no longer defend my choice to write about black women." <http://www.cosmopolitan.com/entertainment/movies/a53909/tracy-oliver-essay/>

Mustelin. "Women in programming: erasure and visibility." <https://recompilermag.com/issues/issue-4/women-in-programming-erasure-and-visibility/>

Nakamura. "Indigenous circuits: Navajo women and the racialization of early electronic manufacture." <https://lnakamura.files.wordpress.com/2011/01/indigenous-circuits-nakamura-aq.pdf>

Truong. "Slack sent four black female engineers to accept an award and make a statement about diversity." <http://qz.com/613748/slack-sent-four-black-female-engineers-to-accept-an-award-and-make-a-statement-on-diversity/> (Given your other readings this week... how might you rewrite this headline?)

*Wagner et al. "Women through the glass ceiling: gender asymmetries in Wikipedia." <https://doi.org/10.1140/epjds/s13688-016-0066-4>

GRADUATES:

*Hoyle et al. "Unsupervised discovery of gendered language through latent-variable modeling." https://copenlu.github.io/publication/2019_acl_hoyle/

CODE readings

Work through HTML Dog "Beginner CSS tutorial" <http://www.htmldog.com/guides/css/beginner/>

Knight, "Responsive web design: what it is and how to use it" <http://www.smashingmagazine.com/2011/01/guidelines-for-responsive-web-design/> (Don't get lost in the how-to-do-it weeds! Just understand the problems being solved.)

Dominguez, "Intro to CSS Frameworks." <http://nicoledominguez.com/intro-to-css-frameworks/#/>

Week 4: Self-concept and computing

POWER concepts: Impostor syndrome. Technical privilege (per Philip Guo).

POWER questions: What are common BELIEFS and BEHAVIORS associated with impostor syndrome? How do people come to believe these things of themselves? How can these beliefs hinder a career in technology?

CODE learning objectives: Pair programming. Code review. HTML forms.

POWER readings

Guo. "Silent technical privilege." <http://pgbovine.net/tech-privilege.htm>

Pagano. "It's dangerous to go alone! Battling the invisible monsters in tech." <http://juliepagano.com/blog/2013/11/02/it-s-dangerous-to-go-alone-battling-the-invisible-monsters-in-tech/>

- *Hicks. “Impostor syndrome strikes men just as hard as women... and other findings from thousands of technical interviews.” <http://blog.interviewing.io/impostor-syndrome-strikes-men-just-as-hard-as-women-and-other-findings-from-thousands-of-technical-interviews/>
- Hancock. “How the rhetoric of imposter syndrome is used to gaslight women in tech.” *Model View Culture*. <https://modelviewculture.com/pieces/how-the-rhetoric-of-imposter-syndrome-is-used-to-gaslight-women-in-tech>
- Liu. “Overcoming impostor syndrome” <https://medium.com/@aliciatweet/overcoming-impostor-syndrome-bdae04e46ec5> and “You don’t have impostor syndrome -- and neither do I any more.” <https://medium.com/@aliciatweet/you-don-t-have-impostor-syndrome-126e4c4bdcc>
- Shaw. “Contempt culture.” <http://blog.aurynn.com/contempt-culture>
- Deckelmann. “What I mean when I talk about collaboration with teachers.” <http://www.chesnok.com/daily/2013/07/25/what-i-mean-when-i-talk-about-collaboration-with-teachers-part-i/>

GRADUATES

- *Gill and Orgad. “Confidence culture and the remaking of feminism.” <https://openaccess.city.ac.uk/id/eprint/18611/>
- O’Brien. “Professional confidence and ‘imposter syndrome.’” <https://ellyob.wordpress.com/2015/06/29/professional-confidence/>

CODE readings

- Williams and Kessler. “All I need to know about pair programming I learned in kindergarten.” <http://anh.cs.luc.edu/170/Kindergarten.pdf>
- Andres-Beck. “Confidence through feedback, or why impostor syndrome is the wrong metaphor.” <http://blog.bethcodes.com/confidence-through-feedback>

Week 5: “Meritocracy.” Formal and informal organizational structures.

POWER concepts: Meritocracy. [Gender, race] essentialism. Affinity bias.

POWER questions: According to Jo Freeman, how do supposedly “structureless” groups end up with less-than-optimal leadership structures? How can this be prevented? Based on all reading to date (plus your existing knowledge), where might one encounter “structureless” groups in technology? What is “the paradox of meritocracy?” How is technology not a meritocracy? How does the belief that success in technology is meritocratic harm marginalized people? What essentialist arguments are made about white women and people of color in technology, and do they hold up?

CODE learning objectives: Basic PHP syntax. Troubleshooting PHP. PHP variables and data types.

POWER readings

- Freeman. “The tyranny of structurelessness.” <http://www.jofreeman.com/joreen/tyranny.htm>
- Ehmke. “The dehumanizing myth of the meritocracy.” *Model View Culture*. <https://modelviewculture.com/pieces/the-dehumanizing-myth-of-the-meritocracy>
- Cooper. “The false promise of meritocracy.” <https://www.theatlantic.com/business/archive/2015/12/meritocracy/418074/>
- Flowers. “Accountability, equity, and flat teams in tech.” <https://thebias.com/2019/06/19/accountability-equity-and-flat-teams-in-tech/>
- *Monson. “Race-based fantasy realm: essentialism in the World of Warcraft.” <http://mattvetter.net/digitalrhetorics/wp-content/uploads/sites/5/2014/01/Games-and-Culture-2012-Monson-48-71.pdf>
- Cobb. “‘Why women don’t code’ — can it withstand the scrutiny of logic?” <https://medium.com/@cobbc12/why-women-dont-code-can-it-withstand-the-scrutiny-of-logic-70ee8d88a9ed>
- *Tadmor et al. “Not just for stereotyping anymore: racial essentialism reduces domain-general creativity.” https://english.tau.ac.il/sites/nihul_en.tau.ac.il/files/media_server/Recanati/management/publications/tadmor/not_just.pdf
- Turnbull. “The affinity bias conundrum.” <http://www.diversityjournal.com/13763-affinity-bias-conundrum-illusion-inclusion-part-iii/>

GRADUATES

- Shirazi. “Reproducing the academy: libraries and the question of service in the digital humanities.” <https://roxanneshirazi.com/2014/07/15/reproducing-the-academy-librarians-and-the-question-of-service-in-the-digital-humanities/>
- *Castilla and Benard. “The paradox of meritocracy in organizations.” *Administrative Science Quarterly* 55:4. <http://dx.doi.org/10.2189/asqu.2010.55.4.543>
- *Castilla. “Gender, race, and meritocracy in organizational careers.” *Academy of Management Proceedings* 2005. <http://dx.doi.org/10.5465/AMBPP.2005.18778668>

CODE readings

- Kromann “PHP Basics” but stop at “PHP’s Superglobal Variables.” (Ignore the sections on printf() and sprintf().)

Week 6: Digital divides and differential access to coding

POWER concepts: Digital divides. "Digital natives." Agency (you may have to look this word up).

POWER questions: Which US demographics tend not to have easy access to computers and Internet, and why not? How do digital divides prevent people in marginalized people from learning to code? What would be needed to lower these barriers? Do "digital natives" exist? If so, who is and isn't one; if not, who is and isn't believed to be one? How does the widespread belief in "digital natives" damage efforts to include more marginalized people in technology careers?

CODE learning objectives: PHP and HTML forms. PHP strings. Escaping quotes in PHP strings. The echo command.

POWER readings

Tapia, "Afterword." *Stuck in the Shallow End* pp. 141-144.

*Yarger (Kvasny) et al. "Power relations in IT education and work: the intersectionality of gender, race and class," *Journal of Information, Communication and Ethics in Society* 7:2/3 pp. 96-118. <https://faculty.ist.psu.edu/lyarger/JICES-PowerRelations.pdf>

Andrews. "Digital skills: looking past 'digital native' assumptions, toward curricular reform" <http://gandre.ws/blog/blog/2013/08/26/digital-skills-looking-past-digital-native-toward-curricular-reform/> and "Digital skills: the adults are also not all right." <http://gandre.ws/blog/blog/2013/08/27/digital-skills-the-adults-are-also-not-all-right/>

Lace-Evans. "Obstacles to 'coding while black.'" <http://www.bbc.com/news/blogs-trending-35938633> (Please click through to read the Storify also.)

Horrigan. "Analysis: digital divide isn't just a rural problem." <https://www.dailyyonder.com/analysis-digital-divide-isnt-just-a-rural-problem/2019/08/14/>

Newsom. "The FCC and Ajit Pai are leaving Native American reservations behind." <https://onezero.medium.com/native-american-reservations-still-struggle-to-get-basic-internet-connections-ce6ba5445ccb>

*Rideout and Katz. "Opportunities for all? Technology and learning in lower-income families." http://digitalequityforlearning.org/wp-content/uploads/2015/12/jgcc_opportunityforall.pdf
(**UNDERGRADUATES:** Introduction and key findings only.)

Godar. "Wired/unwired: Madison's digital divide is an issue of both access and skills." *Cap Times*. http://host.madison.com/ct/news/local/writers/bryna-godar/wired-unwired-madison-s-digital-divide-is-an-issue-of/article_c3f4209c-3e1f-5784-9e5d-e2acf47f85a1.html

O'Neill. "Tech's high barrier to entry for the underprivileged." <https://medium.com/backchannel/techs-high-barrier-to-entry-for-the-underprivileged-da254356547d#.bazan8jm5>

GRADUATES

*Yarger (Kvasny). "Cultural (re)production of digital inequality in a US community technology initiative." *Information, Communication and Society* 9:2 pp 160-181. <https://faculty.ist.psu.edu/lyarger/iCS-Kvasny-Forthcoming.pdf>

Ericson. "Slides on A[dvanced] P[lacement] C[omputer] S[cience] A and C[omputer] S[cience] P[rinciples] data." <https://cs4all.home.blog/2020/01/13/slides-on-ap-csa-and-csp-data/> (Sorry, this is hot off the press and the full report isn't published, so it can't be used for the research-article summary assignment. Yet.)

CODE readings

Powers ch. 3 "Using Variables to Represent Changing Values," "Using Arrays to Store Multiple Values," "PHP's Built-In Superglobal Arrays," "Understanding When to Use Quotes" "Displaying PHP Output" "Adding to an existing string"

Week 7: Race and gender in coding education. Should "everyone" learn to code?

POWER concepts: Preparatory privilege. "Computational thinking" and/or "digital literacy" (especially as distinct from "coding" or "programming")

POWER questions: What educational experiences turn marginalized people away from technology careers, and why? How does unconscious/implicit bias in educators and counselors contribute? What efforts are underway to increase coding education? Which are working and which not? What do you think: should everyone learn to code? What should everyone learn about computer science and coding? Are "bootcamps" the answer?

POWER readings

*Lindemann, Britton, and Zundl. "'I don't know why they make it so hard here': institutional factors and undergraduate STEM participation." <http://genderandset.open.ac.uk/index.php/genderandset/article/view/435>

*Google. "Searching for computer science: access and barriers in U.S. K-12 education." https://services.google.com/fh/files/misc/searching-for-computer-science_report.pdf (**UNDERGRADUATES:** Executive summary only.)

*Google and Gallup. "Diversity gaps in computer science: exploring the underrepresentation of girls, Blacks, and Hispanics." <https://services.google.com/fh/files/misc/diversity-gaps-in-computer-science-report.pdf>
(**UNDERGRADUATES:** Executive summary only.)

“Claimed spaces: ‘preparatory privilege’ and high school computer science.” *Stuck in the Shallow End* ch. 4 pp. 71-95.
Robertson. “They were promised coding jobs in Appalachia. Now they say it was a fraud.” <https://www.nytimes.com/2019/05/12/us/mined-minds-west-virginia-coding.html>
Florsheim. “Is community college the key to closing tech’s gender gap?” <http://www.marieclaire.com/career-advice/news/a15923/community-college-tech-gender-gap/>
Raja. “We can code it!” <https://medium.com/mother-jones/we-can-code-it-e5f64d8b3075>
Farmer Kris. “Steps teachers can take to keep girls and minorities in computer science education.” <https://ww2.kqed.org/mindshift/2016/11/17/steps-teachers-can-take-to-keep-girls-and-minorities-in-computer-science-education/>

GRADUATES

*Lagesen. “A cyberfeminist utopia?: Perceptions of gender and computer science among Malaysian women computer science students and faculty.” *Science Technology Human Values* 33:1 pp. 5-27. <http://dx.doi.org/10.1177/0162243907306192>
*Moss-Racusin et al. “Science faculty’s subtle gender biases favor male students.” *PNAS* 109:41. <http://dx.doi.org/10.1073/pnas.1211286109>
*Seron et al. “Persistence is cultural: Professional socialization and the reproduction of sex segregation.” <https://dspace.mit.edu/handle/1721.1/104002>

Week 8: Race and gender in social/professional liminal spaces: conferences and socializing

POWER concepts: Code of conduct. “Missing stairs.” Entitlement. Tokenism. Microaggression.

POWER questions: How do professional conferences turn out to be hostile or even dangerous to marginalized people? What does this mean for who organizes and speaks at conferences? How does that impact the careers of marginalized people? Beyond a code of conduct, what is necessary to make these spaces inclusive and welcoming to everyone?

POWER readings

“Missing stair.” http://geekfeminism.wikia.com/wiki/Missing_stair
Hocutt. “When ‘I didn’t mean to’ makes it worse.” *Model View Culture*. <https://modelviewculture.com/pieces/when-i-didn-t-mean-to-makes-it-worse>
Honeywell. “What you can do.” <http://hypatia.ca/2014/08/05/what-you-can-do/>
Wodtke. “Tweaking the moral UI.” *A List Apart*. <http://alistapart.com/article/tweaking-the-moral-ui>
Ahmed. “Where are you really from: microaggressions and making tech meetups safe.” <https://modelviewculture.com/pieces/where-are-you-really-from-microaggressions-and-making-tech-meetups-safe>
Zhou, Clemmer, and Kuper. “A code of conduct is not enough.” *Model View Culture*. <https://modelviewculture.com/pieces/a-code-of-conduct-is-not-enough>
Mandavilli. “Female scientists turn to data to fight lack of representation on panels.” <http://www.nytimes.com/2016/09/06/science/gender-bias-scientific-conferences.html>
Evans. “Anonymous talk review is amazing.” <http://jvns.ca/blog/2014/05/28/anonymous-talk-submission-equals-amazing/>
Segran. “What do women want at hackathons? NASA has a list.” <https://www.fastcompany.com/3059036/most-creative-people/what-do-women-want-at-hackathons-nasa-has-a-list>
“The less obvious conference checklist.” <https://github.com/erikr/lessobviouschecklist> (Skim, but keep this in mind for your Team Code and Power work.)

GRADUATES

*Isbell, Young, and Harcourt. “Stag parties linger: continued gender bias in a female-rich scientific discipline.” <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0049682>
Carpenter. “Five ‘don’ts’ for introducing a female speaker (and why this matters.)” <http://duckofminerva.com/2016/05/five-donts-for-introducing-a-female-speaker-and-why-this-matters.html>

Week 9: Race and gender in IT hiring and promotion

POWER concepts: leaky pipeline, homophily

POWER questions: What difficulties (unrelated to their skills and abilities) do marginalized people face in applying for jobs and getting hired? How do unconscious biases feed these difficulties? What other explanations besides a “leaky pipeline” account for low representation of marginalized populations in STEM careers?

POWER readings

Katie. “A tale of two women in science.” <https://www.youtube.com/watch?v=z8FfeA0F6Y0>
Williams et al. “Double jeopardy? Bias against women of color in science.” <http://www.uchastings.edu/news/articles/2015/01/double-jeopardy-report.pdf> (**UNDERGRADUATES:** executive summary and pp. 49-52 only.)
Concepcion. “On recruiting, inclusiveness, and crafting better job descriptions.” <https://www.safaribooksonline.com/blog/2015/06/08/on-recruiting-inclusiveness-and-crafting-better-job-descriptions/>

Jusino. “Black women in tech debunk the ‘pipeline’ excuse for lack of diversity in tech industry.” <http://www.themarysue.com/black-women-in-tech-debunk-pipeline-excuse/>

Dickey. “The other pipeline: the tech industry in an era of mass incarceration.” <https://techcrunch.com/2016/07/31/the-other-pipeline/>

Blewer. “I found my way back to tech with the help of people who understood why I’d left.” <https://www.bustle.com/articles/78360-i-found-my-way-back-to-tech-with-the-help-of-people-who-understood-why-id>

GRADUATES

*Sassler et al. “The missing women in STEM? Accounting for gender differences in entrance into STEM occupations.” <http://ejournal.narotama.ac.id/files/Accounting%20for%20Gender%20Differences%20in%20Entrance%20into%20STEM%20Occupations.pdf>

*Milkman, Akinola, and Chugh. “What happens before? A field experiment exploring how pay and representation differentially shape bias on the pathway into organizations.” *Journal of Applied Psychology*; preprint at <http://ssrn.com/abstract=2063742>

Week 10: Race and gender in IT workplaces

POWER concepts: Glass ceiling, glass elevator, glass cliff, double bind. Emotional labor.

POWER questions: How does unconscious bias create gendered and racialized expectations regarding workplace behavior/demeanor? What does this mean for leaders from marginalized populations? How is competition gendered, and how might that affect workplace behavior? What characteristics of IT workplaces drive marginalized people out? How can workplaces alter these characteristics?

CODE learning objectives: None for this week.

POWER readings

Abreu. “Care, automation, and design.” <https://medium.com/@ameliaabreu/care-automation-and-advertising-9d9122d50437>

“Being Black in corporate America: an intersectional exploration.” https://www.talentinnovation.org/_private/assets/BeingBlack-KeyFindings-CTI.pdf

Heddleston. “Social norms and gendered expectations.” <https://kateheddleston.com/blog/social-norms-and-gendered-expectations>

Snyder. “How to get ahead as a woman in tech: interrupt men.” *Slate*. http://www.slate.com/blogs/lexicon_valley/2014/07/23/study_men_interrupt_women_more_in_tech_workplaces_but_high_ranking_women.html

Eilperin. “White House women want to be where it happens.” <https://www.washingtonpost.com/news/powerpost/wp/2016/09/13/white-house-women-are-now-in-the-room-where-it-happens/>

*Niederle and Vesterlund. “Do women shy away from competition? do men compete too much?” *The Quarterly Journal of Economics*, 122:3 pp. 1067–1101, working paper version at <http://www.nber.org/papers/w11474>

Bacon. “Women in tech and empathy work.” <http://www.laurenbacon.com/women-tech-empathy-work/>

Adair. “Stop devaluing black women’s labor.” <http://kronda.com/stop-devaluing-black-womens-labor/>

Alexander. “The tech industry wants to use women’s voices—they just won’t listen to them.” <https://www.theguardian.com/technology/2016/mar/28/tay-bot-microsoft-ai-women-siri-her-ex-machina> (POWER question: Why do you think I included this reading this week?)

Snyder, “The abrasiveness trap: high-achieving men and women are described differently in reviews.” *Fortune*. <http://fortune.com/2014/08/26/performance-review-gender-bias/>

Joy. “The other side of diversity.” <https://medium.com/this-is-hard/the-other-side-of-diversity-1bb3de2f053e>

Hempel. “How Meetup ditched its boy club.” <https://backchannel.com/how-meetup-ditched-its-boys-club-4a3a3084e72f>

Miller and Katz. “The path from exclusive club to inclusive organization: a developmental process.” <https://articles.extension.org/sites/default/files/The%20Path%20from%20Exclusive%20Club.pdf>

Week 11: Race and gender in “volunteer” IT

POWER concepts: Open-source software. Free software. “Do-ocracy.”

POWER questions: How can “volunteer” IT experiences such as developing open-source software or editing Wikipedia translate into career opportunities? How does this disadvantage some marginalized people? How does the “meritocracy” concept operate in many open-source software communities? What community characteristics drive marginalized people out of “volunteer” IT, and how can this be mitigated?

CODE learning objectives: PHP includes, PHP templates. Dropdowns in forms.

POWER readings

- Nafus. “Patches don’t have gender’: What is not open in open source software” *New Media and Society* 14:4 pp. 669-683.
<http://dx.doi.org/10.1177/1461444811422887>
- Harihareswara. “Inessential weirdnesses in open source software.” <https://www.harihareswara.net/sumana/2016/05/21/0>
- Dunbar-Hester and Coleman. “Engendering Change? Gender Advocacy in Open Source” <http://culturedigitally.org/2012/06/engendering-change-gender-advocacy-in-open-source/>
- *Nafus, Leach, and Krieger. FLOSSPOLs Deliverable D 16 Gender: Integrated Report of Findings (2006). http://www.flosspols.org/deliverables/D16HTML/FLOSSPOLs-D16-Gender_Integrated_Report_of_Findings.pdf
- Raval. “The encyclopedia must fail! Notes on queering Wikipedia.” *Ada: New Media and Culture*. <http://adanewmedia.org/2014/07/issue5-raval/>
- Dryden. “The ethics of unpaid labor and the OSS community.” <http://www.ashedryden.com/blog/the-ethics-of-unpaid-labor-and-the-oss-community>
- Harper. “The developer formerly known as FreeBSDgirl.” <http://blog.randi.io/2015/12/31/the-developer-formerly-known-as-freebsdgirl/>
- Shaikh. “Why women are flourishing in R community but lagging in Python.” <https://reshamas.github.io/why-women-are-flourishing-in-r-community-but-lagging-in-python/>

Week 12: Race and gender in IT entrepreneurship

POWER questions: What does it take to start a business? What additional barriers stand between marginalized people and entrepreneurship?

CODE learning objectives: Uploading files. Writing to files on the server.

POWER readings

- O’Brien. “Only 88 tech startups are run by black women.” <http://money.cnn.com/2016/02/17/technology/black-women-tech-startups-project-diane/>
- Marwick. “Silicon Valley isn’t a meritocracy, and it’s dangerous to hero-worship entrepreneurs.” *Wired*. <http://www.wired.com/2013/11/silicon-valley-isnt-a-meritocracy-and-the-cult-of-the-entrepreneur-holds-people-back/>
- Liz. “Vibrators, marijuana, and venture capitalists.” <https://medium.com/lioness-health/vibrators-marijuana-and-venture-capitalists-8a87b8779cd4#.483klp6lm>
- Lacy. “Does a VC’s unconscious hesitation to fund women start at home?” <https://pando.com/2016/02/11/does-vcs-unconscious-reticence-fund-women-start-home/706dc23f60a62867d6b6c68ee811eaddfb67a348/>
- Nadav. “VCs—don’t compare me to your wife, just don’t.” <https://byrs1f.co/vcs-don-t-compare-me-to-your-wife-just-don-t-9dc2c8c1ac93>
- “How this young, female, and Latina investor broke into a middle-aged, male, and white industry.” <http://hunterwalk.com/2015/03/20/how-this-young-female-and-latina-investor-broke-into-a-middle-aged-male-and-white-industry/>
- Idrees. “How startups can create a culture of inclusiveness.” <http://www.theglobeandmail.com/report-on-business/small-business/startups/how-startups-can-create-a-culture-of-inclusiveness/article27865146/>

Week 13: Race and gender in social-media and other online settings

POWER questions: How does marginalization in online contexts play out in the online and offline lives of marginalized people? What can social media and online games do to reduce abuse?

CODE learning objectives: Sending email via PHP.

POWER readings

- Koul. “There’s no such thing as digital-only torment.” <https://www.buzzfeed.com/scaachikoul/theres-no-such-thing-as-virtual-torment> (content alert: quoted online abuse, sexual assault)
- Sullivan. “Don’t feed the trolls.” <http://www.youtube.com/watch?v=u1NS1ES1Fds>
- Cross. “Opinion: prejudice as a game mechanic.” http://www.gamasutra.com/view/news/264894/Opinion_Prejudice_as_a_game_mechanic.php
- *Ford et al. “Paradise unplugged: identifying barriers for female participation on Stack Overflow.” <https://github.com/alt-code/Research/blob/master/pubs/FSE2016.pdf>
- Daniels. “Race and racism in Internet Studies: a review and critique.” *New Media & Society*. <http://dx.doi.org/10.1177/1461444812462849>
- *Doleac and Stein. “The visible hand: race and online market outcomes.” http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1615149
- Losse. “The male gazed: surveillance, power, and gender.” *Model View Culture*. <https://modelviewculture.com/pieces/the-male-gazed>

*Purohit et al. "Gender-based violence in 140 characters or fewer: a #BigData case study of Twitter." <http://journals.uic.edu/ojs/index.php/fm/article/view/6148> (content alert: quoted online abuse)

Croeser. "Thinking beyond 'free speech' in responding to online harassment." <http://adanewmedia.org/2016/10/issue10-croeser/>

Hill. "How Nextdoor reduced racist posts by 75%." <http://fusion.net/story/340171/how-nextdoor-reduced-racial-profiling/>

UNDERGRADUATES:

Datta. "Discrimination and opacity in behavioral tracking." <http://possibility.cylab.cmu.edu/adfisher/>

GRADUATES:

*Datta, Tschantz, and Datta. "Automated experiments on ad privacy settings: a tale of opacity, choice, and discrimination." *Proceedings on Privacy Enhancing Technologies*. 2015:1, pp 92-112 <http://dx.doi.org/10.1515/popets-2015-0007>

*Vasilescu, Capiluppi and Serebrenik. "Gender, representation and online participation: A quantitative study." *Interacting with Computers*, vol. 26, no. 5, pp. 488-511, 2014. <http://dx.doi.org/10.1093/iwc/iwt047>

Week 14: Building more diverse IT cultures: ally/accomplice work

POWER concepts: Ally/accomplice. Bystander effect. Bystander intervention.

POWER questions: List any ally behaviors or "ally smells" you don't understand (it's fine! nobody's perfect! and this class is absolutely a "101 space"). What will you personally do differently from now on to increase inclusivity in technology?

CODE learning objectives: None for this week

POWER readings

Take Pagano's "Bad Ally Quiz" <http://juliepagano.com/blog/2014/02/26/bad-ally-quiz/> before you continue with the readings. (Keep your score to yourself; this is not a contest. Everyone starts somewhere, and my own score is not zero.)

Pagano. "So you want to be an ally." <http://juliepagano.com/blog/2014/05/10/so-you-want-to-be-an-ally/>

Rockquemore. "Allies and microaggressions." <https://www.insidehighered.com/advice/2016/04/13/how-be-ally-someone-experiencing-microaggressions-essay>

Roberts. "'We are all responsible': how #MeToo rejects the bystander effect." <https://longreads.com/2019/02/22/we-are-all-responsible-how-metoo-rejects-the-bystander-effect/>

Michailidou and Economides. "Gender and diversity in collaborative virtual teams," *Computer Supported Collaborative Learning: Best practices and principles for instructors*, pp. 199-224. <http://conta.uom.gr/conta/publications/PDF/Gender%20and%20Diversity%20in%20Collaborative%20Virtual%20Teams.pdf>

Newitz. "Why didn't they talk to you privately? On call-out culture and power differentials." <https://thebias.com/2016/02/09/why-didnt-they-talk-to-you-privately-on-call-out-culture-and-power-differentials/>

Pagano. "On fighting for marginalized people in tech." <http://juliepagano.com/blog/2014/06/08/on-fighting-for-marginalized-people-in-tech/>

Corbyn. "Smashing the Silicon Valley patriarchy: anti-Lean In strategy puts onus on men." <https://www.theguardian.com/technology/2016/nov/02/silicon-valley-sexism-diversity-valerie-aurora-frame-shift>

Gibbs and Malpass. "Being an effective ally to women and non-binary people." <https://codeascraft.com/2016/10/19/being-an-effective-ally-to-women-and-non-binary-people/>

GRADUATES:

*Cialdini et al. "Managing social norms for persuasive impact." *Social Influence* 1:1 pp. 3-15. http://www.fs.fed.us/psw/publications/winter/psw_2006_winter001.cialdini.pdf

iSchool learning outcomes

iSchool Goals	640 Objectives	640 Measurable Outcomes
1. Students demonstrate understanding of societal, legal, policy, or ethical information issues.	Analyze and critique portrayals of race and gender with respect to computing Recognize and reduce the expression of conscious and unconscious biases Contribute to actively anti-bias classrooms, workplaces, professional events, and social spaces	All POWER assignments test this outcome.

iSchool Goals	640 Objectives	640 Measurable Outcomes
4. Students demonstrate competency with information technologies important to the information professions.	Have an actionable mental model of Web technology stacks Use relevant computing vocabulary and concepts to communicate with computing professionals Write simple PHP-based web pages for accessing and acting on user-supplied information from web forms	All CODE assignments test this outcome.
7. Students demonstrate understanding of issues surrounding marginalized communities and information.	Analyze and critique portrayals of race and gender with respect to computing Recognize and reduce the expression of conscious and unconscious biases Contribute to actively anti-bias classrooms, workplaces, professional events, and social spaces	All POWER assignments test this outcome.

Ethnic Studies learning outcomes

Learning Outcome	Course Material that Addresses LO
Awareness of History's Impact on the Present: how certain histories have been valued and devalued, and how these differences have promulgated disparities in contemporary American society.	Readings and discussion: primarily Weeks 3 and 7, also Weeks 8-13
Ability to Recognize and Question Assumptions: healthy skepticism towards knowledge claims, whether in the form of media, political, or popular representations, primarily as these relate to race and ethnicity	Assignment: Power 2 Readings and discussion: primarily Weeks 1-2, but all Power Pre-Writing assignments involve this
A Consciousness of Self and Other: opportunity to think about identity issues, including their own identity, as well as the connections they might have to people "outside" their focused social circle.	Assignments: Power 1, Power Pre-Writing Readings and discussion: primarily Weeks 7 and 14
Effective Participation in a Multicultural Society: relevant to students' "lives outside the classroom", and pursuing the objectives above should not only lead to student behavioral change, but to action in the real world	Assignments: A Friendly Event, Power Pre-Writing

Digital Studies Learning Outcomes:

For Digital Studies students, this course fulfills the I and P requirements, and is designed to develop masteries related to the following program learning objectives:

Digital Studies Program Learning Objective	Course Material that Addresses LO
To understand key theories and concepts related to digital studies and the historical context surrounding the creation of digital technologies	Power 2 paper, Power Pre-Writing
To gain familiarity with methods, concepts and tools needed to research and evaluate information related to digital studies	Power Pre-Writing, Power 2 paper
To think critically about how digital technologies work and their impact on society	Power 1, Power 2 paper, Power Pre-Writing, Code 1, Code 2
To be able to create strategic communication content and self-expression using digital tools	A Friendly Event
To understand the professional and ethical principles related to the field of digital studies	Power Pre-Writing, A Friendly Event