

UNIVERSITY OF PITTSBURGH SCHOOL OF EDUCATION  
(On the occupied land of the Adena, Hopewell, Osage, Shawnee, and Monongahela People)

**Global Water, Activism, and STEM Pedagogies  
A Freedom Seminar**

EDUC 1067/3067  
Posvar Hall 5601  
Wednesdays, 1 pm-3:30 p.m.  
February 23, 2022 - April 6, 2022  
Spring 2022

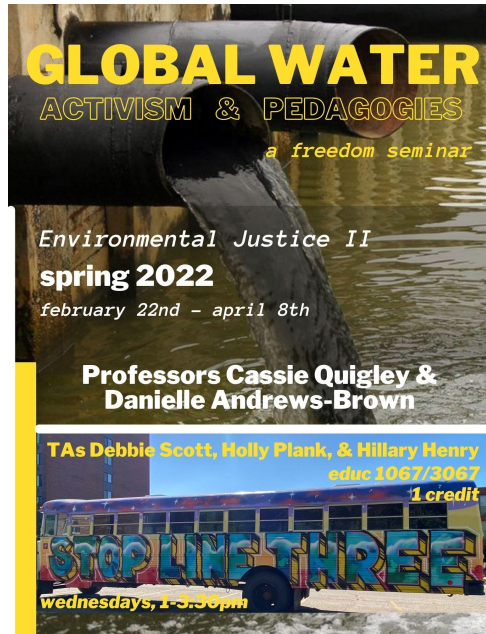
Lecturer, Cassie Quigley (she, her)  
Associate Chair, Department of  
Teaching, Learning & Leading  
Email: [cquigley@pitt.edu](mailto:cquigley@pitt.edu)

Lecturer, Danielle Andrews-Brown (she, her)  
Assistant Dean, Department of Geology and  
Environmental Science  
Email: [dma65@pitt.edu](mailto:dma65@pitt.edu)

TA, Holly Plank (she, her)  
Doctoral Student, Learning  
Sciences and Policy  
Email: [holly.plank@pitt.edu](mailto:holly.plank@pitt.edu)

TA, Hillary Henry (she, her)  
Doctoral Student, Learning  
Science and Policy  
Email: [Hillary.Henry@pitt.edu](mailto:Hillary.Henry@pitt.edu)

Quick Links		
Zoom Link (Please email us if you need the Zoom link due to illness)	<a href="#">Course Schedule</a>	<a href="#">Our Shared Resources</a>
<a href="#">EJ Reading Journal Folder</a>	Final Project	<a href="#">Google Drive Folder</a>
<a href="#">Seminar Information</a>	<a href="#">Canvas Page</a>	<a href="#">Celebration of Learning</a>
<a href="#">Freedom Seminar Guiding Framework</a>	<a href="#">Rights, Responsibilities, and Pitt Syllabus Statements</a>	<a href="#">Resources and Accommodations</a>



## Seminar Information

### **Seminar Focus:**

In this Freedom Seminar we will undertake an introductory consideration into environmental justice. We use the lens of global water activism and STEM pedagogies to study environmental justice. Through these lenses, we are engaged in understanding the ways that water connects, isolates, heals, impacts, and sustains us in different ways. We also will study how STEM pedagogies can be a site for activism and create liberatory futures.

### **Seminar Purpose:**

Collectively, to begin or continue to think about how studying the relationship between global water activism and STEM pedagogies, and environmental justice might help us build theorized practices and sites of liberatory action towards an environment that is safe and just for all.

### **Relational responsibilities:**

Our collective responsibilities are grounded in our interdependent relationships and are expressed through our active listening to one another, our honest and collective challenging of ideas, and an unwavering dedication to learning. We will undertake relational praxes of:

- Listening and hearing
- Studying deeply, preparing for one another, and contributing meaningfully
- Engaging generously:
  - generating possibilities
  - seeking out connection, deepening of understanding, and complexity over critique

### **Seminar Specifications:**

- 1 credit
- enrollment requirement: Junior/Senior, Grad
- synchronous online
- 6 class meetings (2.5 hours each)
- grading: H/S/U
- reading, listening, viewing materials will be provided



*Image from Sisters Inside (<https://sistersinside.com.au/>)*

### **Syllabus Color Key:**

**PINK:** You contribute to this weekly or as moved

**Black:** Certainties: anything confirmed, including date

**ORANGE:** Things we will read or do, but might be moved

**GREEN:** Uncertainties

## Freedom Seminar: Global Water Activism and STEM pedagogies

Class Date	Readings	Activity
2/23/2022  Activism through Storytelling	A Long Walk to Water ( <a href="#">book</a> or listen to book on <a href="#">youtube</a> )  <i>Rise: From One Island to Another</i> ( <a href="https://www.kathyjetnilkijin.com/">https://www.kathyjetnilkijin.com/</a> ) * <i>Maybe in class</i>	Where does water show up in your life? When thinking about water, how does race, class, gender, religion, technology, etc. shape relationships? (Activity from Framing Water Crisis slidedeck)

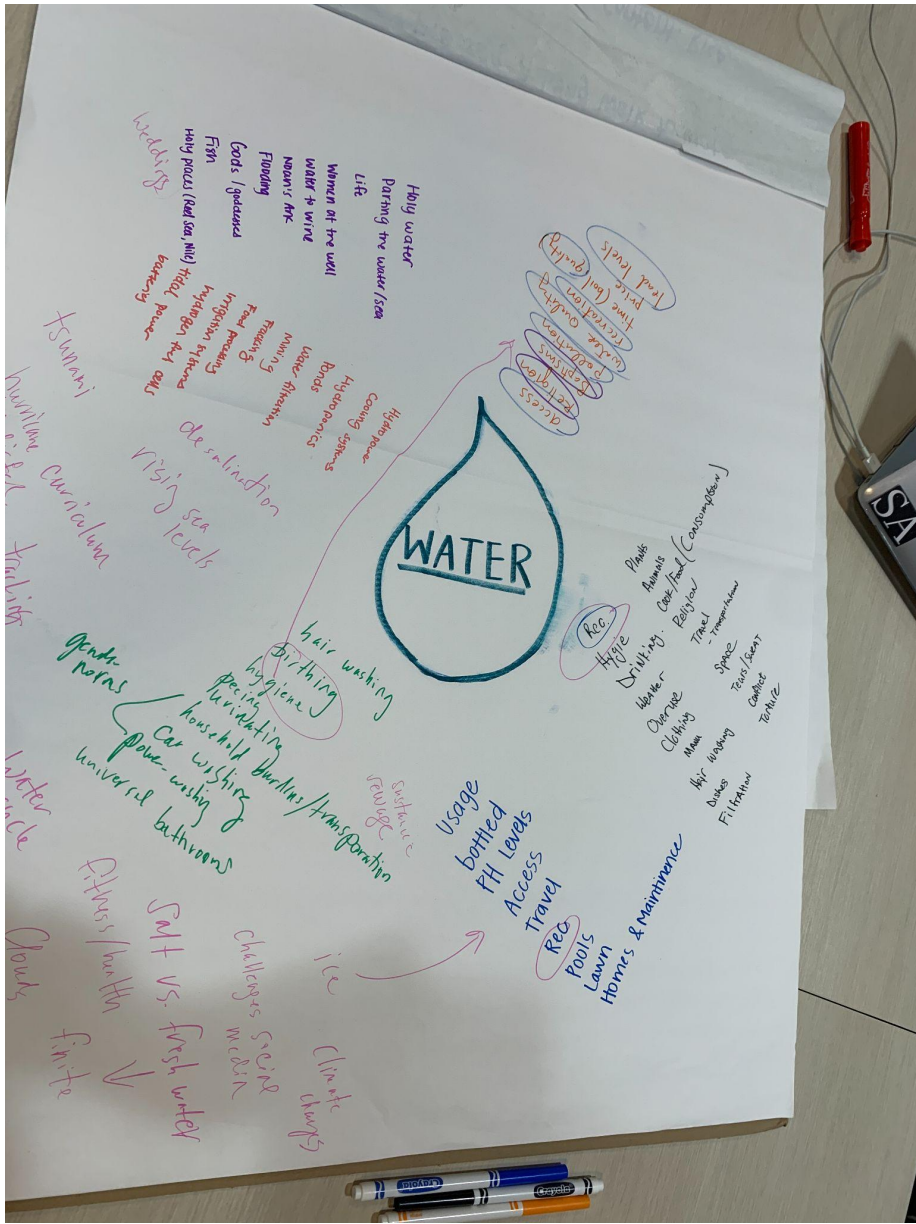


Xavier's graphic design

We should put pictures of the other ones here!

3/2/2022  Global Water Issues Case Studies	<a href="#">Public Source Pittsburgh Water Reading</a>  Read Introduction, Part 1, First Person (last one), and choose one more based on	
--	--	--

	your interests.	
--	-----------------	--

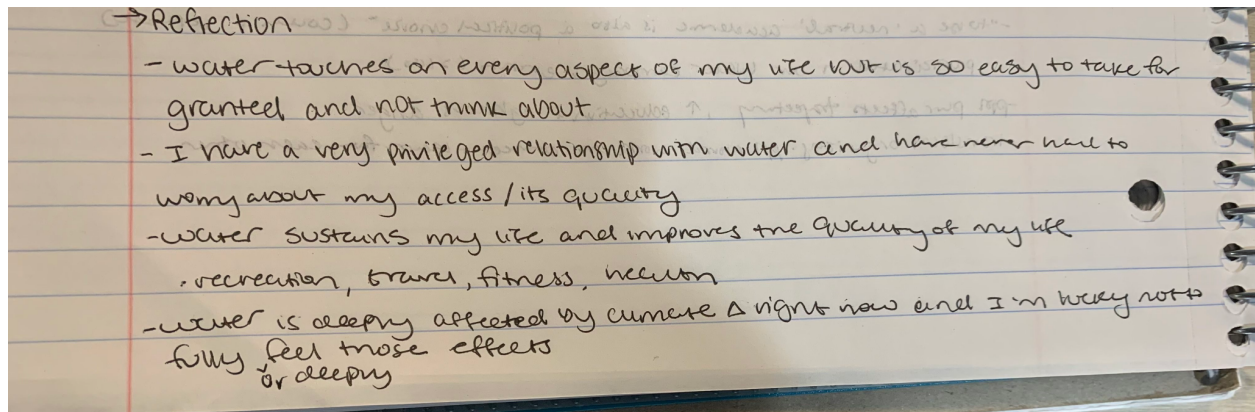


**Xavier-** The water activity showcased the interconnectedness of water in various aspects of our lives. Water privilege varies across different topics, communities, and socio-economic groups. If we all took the time to look at water in our own lives and then compare that to others we can develop a more holistic understanding of one another and also re-form our interactions and thoughts around water.

Erin - Corruption, privatization, inequitable access did not necessarily come up in the exercise. Rather, we pointed to access, lead levels, religion, race, gender broadly. I appreciated the crowd sourcing aspect of this activity. Generated a lot of ideas that would have been impossible to come up with on my own.

Christina- Water is endemic to life, from beginning to end, from surplus to deficit, from privilege to poverty, from celebration to sadness, from rain drops to tear drops: we are one earth, we are one humanity. Water is something that demands our reverence and awe. For children playing on the water's edge it is both joyful and dangerous. Our physical bodies require water to survive and will perish without it, regardless of socioeconomic class and ethnicity. In the context of the Christian religion, water in the form of the flood is a deluge that washes away the sins the earth, but in the form of the parting of the Red Sea, it is the means of escape, exodus and salvation.

Caroline-



Our best advice-

- ★ Eat the frog. (start with the task you don't want to do)
- ★ Maya Angelou quote
- ★ It's okay to say no.
- ★ Don't make mountains out of molehills
- ★ Embrace the things that both scare you and excite you. That's where the growth happens.
- ★ Bloom where you're planted
- ★ If you always do what you've always done, you will always get what you've always got.
- ★ Don't worry about the what ifs until the what ifs happen.
- ★ Serenity Prayer

3/16/2022  Global Water Crisis	Black Environmental Collective  <u>Read</u> -Our Work -Our Principles (Our Beliefs and Collective Equity Statement)  <u>Browse</u> - About Us	Guest Speaker- Oliver Morrison Alyssa Lyon - Black Environmental Collective 2-3pm  <a href="#">Introduce Final Project Example:</a>  <a href="#">Ideas for Teaching Global</a>
--------------------------------------	--	--

	- <a href="#"><u>Platform for an Equitable and Just Greater Pittsburgh</u></a>	<a href="#"><u>Water Crisis</u></a> <a href="#"><u>Teaching the Global Water Crisis</u></a>
--	--	--

3/23/2022  Global Water and Climate Change	National Geographic-Parched ( <a href="https://www.youtube.com/watch?v=A0yu7nP50rM">https://www.youtube.com/watch?v=A0yu7nP50rM</a> )  <a href="https://roarmag.org/essays/brazil-mab-water-sovereignty/">https://roarmag.org/essays/brazil-mab-water-sovereignty/</a>	Caitlin Schroering -Guest Speaker
--	---	-----------------------------------

From Caitlin-  
<https://www.fame2022.org/en/>

3/30/2022  STEM pedagogies	<b>TBD</b>  We provide one case study <a href="#"><u>Environmental Justice and the Flint Water Crisis</u></a>  AND  Read and bring a case study example Note: You can bring any case study on EJ and Water  Example Curriculum about the Flint Water Crisis  <a href="https://teachrock.org/lesson/the-science-and-civics-of-the-flint-water-crisis-elementary-mi">https://teachrock.org/lesson/the-science-and-civics-of-the-flint-water-crisis-elementary-mi</a>	Patty Himes- Guest Speaker
----------------------------------	--	----------------------------



	<a href="#">ddle-school-school-version/</a>	
--	---	--

4/6/2022 STEM pedagogies	Finish final project- Complete necessary readings for project	Final Project (Education Tool) presentations
-----------------------------	---	--

Other Resources

[Mekong River- Cambodia and Vietnam Water energy and sustainability](#)

[PDFs of Mekong River slide deck](#)

[Water Resource Management on the Tibetan Plateau with Comparative References to the California Water System](#)  
[with Dr. Roberta Soltz](#)

[PDF of Tibetan Plateau slide](#)

## **Final Project**

### Environmental Justice Celebration of Learning

In order to position ourselves as aspiring global water activists through a foundational understanding of STEM pedagogies, our final project will empower students to design K-12 curriculum connected to the themes of our freedom seminar. The goal of this final project is to begin to apply course concepts and theories in a practical setting. Students will work independently to design and demonstrate a lesson plan that will support K-12 student understanding of a concept from our Global Water, Activism, and STEM Pedagogies course. The project should be creative, theory-driven, and able to be implemented in a K-12 setting. Please refer to the example from our class and the required components of the lesson plan for content, length, and formatting expectations.

**Due Dates-**

**1pm April 6th**



Completed K-12 lesson plan

K-12 Activity demonstration (15-25 minutes) and materials

1pm April 8th

Modified lesson plan

Reflections

[Example lesson from our class](#)

[K-12 Lesson plan template](#)

[Rubric with point values](#)

Required components of the K-12 lesson plan include:

1. Topic and target audience (K-12 age/grade level, subject)
2. Time estimate (This is for the whole lesson, the activity time is between 15 and 25 minutes)
3. Learning Goal
  - a. Learning Goal- a learning goal is a goal for what students will accomplish during the lesson. They are often worded as, “Students will be able to...” Learning goals are typically shared with students in a creative way during the lesson’s hook.
    - i. Knowledge (At least 2 vocabulary words and definitions)
      1. What will students know by the end of the lesson?
        - a. Key vocabulary
        - b. Definitions
    - ii. Skills
      1. What will students be able to do by the end of the lesson?
      2. Use the sentence stem- Students will be able to...
    - iii. Mindsets (at least 2 Habits of Mind from the list)
      1. How will students need to approach the lesson in order to be successful?
      2. [Habits of Mind](#)
4. Career Pathways
  - a. Lesson plans should include at least two potential career pathways that can be connected to the content and or activity.
    - i. What makes this career relevant to the students’ experience?
    - ii. Potential careers should represent at least two different fields (ex: science, literacy, mathematics, medical, educational, the arts).

5. Cross discipline connections- if there was not a specific class in the school for Environmental Justice (hopefully one day!) where could this content fit and make sense for a K-12 teacher?
  - a. At least one content area should be listed. Any content area can be appropriate- from math, reading, writing, science, or social studies- to related arts (music, art, PE, making, etc.)
  - b. Standards are tools provided by states, districts, or the government for teachers to follow and align their teaching. Please use any K-12 standards you are familiar with/interested in exploring or chose from the ones listed below to validate the content area(s) of your choice:
    - i. [Common Core](#)
    - ii. [Next Generation Science Standards](#)
    - iii. [Pennsylvania Environment and Ecology Standards](#)
6. K-12 Lesson Format (This is what you will be demonstrating in our last class)
  - a. Hook
    - i. This is a place to creatively check in on students to engage them before starting the activity. You may ask about students' prior knowledge, engage them with unknown phenomena, share a career pathway connected to the activity, ground them in the *why* behind today's lesson, etc.
  - b. Activity description
    - i. What will the teacher be doing?
    - ii. What will the students be doing?
  - c. Materials for activity
    - i. Example- Include the slidedeck, text, handouts, chart paper, markers, any video or website links, etc.
  - d. Check for understanding
    - i. Consider, how do you know what your students learned? Use this time for students to make their thinking and reflections visible. This can look very different from activity to activity. A check for understanding often includes a class discussion, written response, brief presentation from students, etc.
7. AFTER THE DEMONSTRATION- Reflection
  - a. Now that you have demonstrated your activity for your classmates, go back into your lesson and make at least three adjustments. This might include adding something, taking something out, or reminders to your future self. Make these visible in a different color or by using comments in Google Docs.
  - b. What did students learn? Using your check for understanding, write at least one paragraph (5-8 sentences) describing what students learned during your activity. Were there any common misconceptions?

- c. What did you learn about STEM pedagogies in this process of designing and implementing part of a K-12 lesson about global water and activism? Write at least one paragraph (5-8 sentences) sharing your reflections.

## Freedom Seminar Guiding Framework

**One guiding framework for our Freedom Seminar is from Rachel Herzing, executive director, Center for Political Education**

(<https://politicaleducation.org/political-education-in-a-time-of-rebellion/>):

*“How we engage in political education is also important. Here are some ideas for engaging in political education during these trying times.”*

### **Reject Anti-Intellectualism**

- **Don’t fall for the myth that study is the enemy of action.** There’s nothing passive about political education. Study does not have to mean reading a dense book at home or in a library—although those are also good ways to do it. Study can be done through storytelling, observation, practice, engaging with art and culture, as well as through more “traditional” means. In the words of revolutionary Amílcar Cabral, “Learn from life, learn from our people, learn from books, learn from the experience of others. Never stop learning.”
- **Avoid false distinctions between thinkers and doers.** Don’t assume that theorists aren’t also out in the streets with you. Honor the long genealogies of movement theorists coming from prison cells, favelas, townships, projects, and fields that have shaped modern day struggles. Chances are good that an amazing idea you have or learned about liberation and self-determination came from a doer who was also a thinker that took up political education (including reading—or learning to read!) in conditions many of us can’t even imagine. And for academics or journalists who need to be reminded of this, we need your organizing labor in this period as much as your observation, documentation, and teaching about movements; there’s no better time to join an organizing effort than now.

### **Seek resources, adapt tools, create new materials.**

- Put effort into locating and using the **many, many good resources already out there** to learn more about the histories behind current conditions, to sharpen your own analysis, and to help you understand and develop strategies for action. Ask someone you trust if you don’t know where to start and be careful to assess the quality of the tools you seek out. Always take care to acknowledge who you learned things from, too, regardless of whether that’s your auntie, a movement leader, or some famous theorist.
- If you find something that is useful but not 100% perfect for your situation, **credit it, adapt it, and circulate it.** Don’t just reject a tool or resource because it doesn’t address every single aspect of what you’re dealing with. The process of adaptation is also an educational process. Also, don’t let the perfect be the enemy of the good. Every excellent tool had at least one mediocre draft. Don’t let a fear of social media blowback prevent

you from trying to create something that many people might find helpful. We need experiments, and to adapt them.

- Still can't find the right thing? Don't ask Mariame Kaba to make you another tool! Be accountable for your own learning and **develop something** on your own or with others and then test it out. Developing materials pushes us to think about what we really mean and figure out ways to communicate those ideas as clearly as we can.

### Never stop learning.

- The time when you think you've got it all figured out is probably the time you need to **push yourself to learn even more**. Instead of picking a fight on social media or denouncing other people's work, revisit areas of study or take up new ones.

---

### Responsibilities

- It is your responsibility to co-create a rigorous and productive learning environment in which you challenge one another's ideas in a scholarly manner, but never insult or disparage one another.
- It is your responsibility to engage the ideas, discussions, and materials provided in this class in ways that *enhance and strengthen your own interests*.
- It is our responsibility to engage with difficult readings and ideas as we undertake the study of repressive systems and oppressive institutions. Not all members of the class will respond to the readings in the same manner, and some readings will upset some students more than others. In light of this, there is no clear way to warn students in advance. Moreover, we as a community do not want to unintentionally engage in censorship (<http://signsjournal.org/currents-trigger-warnings/halberstam/> [https://www.salon.com/2014/05/20/no\\_trigger\\_warnings\\_in\\_my\\_class\\_why\\_you\\_won%E2%80%99t\\_find\\_them\\_on\\_my\\_syllabi/](https://www.salon.com/2014/05/20/no_trigger_warnings_in_my_class_why_you_won%E2%80%99t_find_them_on_my_syllabi/)). What we can do as a community is:
  - Recognize and affirm that affective responses to readings and discussions are part of a just intellectual project
  - Check in with one another in ways that honor our differences but affirm our membership in a community of conscience
  - Excuse ourselves when need be and without explanation in order to take necessary space
  - Listen carefully and attentively to one another's experiences and ideas, recognizing those as gifts to the community
  - Make culturally-specific requests as soon as/if you realize you need to

## Rematriation Statement

*We join one another today on the land and near the rivers originally in the care and protection of the Adena and Hopewell Nations, and the Monongahela Peoples, and shared over time by many Indigenous Nations- including the Delaware, Iroquois, and Shawnee Tribes- as a place of gathering and exchange. As a process of Rematriation, we acknowledge our connection to place and honor the land as a relative.*

---

- Pitt required syllabus statement: “Students in this course will be expected to comply with the [University of Pittsburgh’s Policy on Academic Integrity](#). Any student suspected of violating this obligation for any reason during the semester will be required to participate in the procedural process, initiated at the instructor level, as outlined in the University Guidelines on Academic Integrity. This may include, but is not limited to, the confiscation of the examination of any individual suspected of violating University Policy. Furthermore, no student may bring any unauthorized materials to an exam, including dictionaries and programmable calculators.”
    - “To learn more about Academic Integrity, visit the [Academic Integrity Guide](#) for an overview of the topic. For hands- on practice, complete the [Understanding and Avoiding Plagiarism tutorial](#).”
- 

## Resources and accommodations

- Pitt required syllabus statement: “If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and [Disability Resources and Services](#) (DRS), 140 William Pitt Union, (412) 648-7890, [drsrecep@pitt.edu](mailto:drsrecep@pitt.edu), (412) 228-5347 for P3 ASL users, as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course”.
- Please let us know if you need resources or accommodations to successfully complete this course. You may also seek campus-wide support, information, and/or services:
  - Disability Resources and Services:  
<https://www.diversity.pitt.edu/disability-access/disability-resources-and-services>
  - Accommodations:  
<https://www.diversity.pitt.edu/disability-access/disability-resources-and-services/accommodations>

- **NOTE:** We recognize that while institutional resources can be a useful and important support, interacting with the university can at times be experienced as an invasion of privacy or a source of distress. If you are uncomfortable interacting with the university, please feel free to communicate with us directly about what would be helpful to your learning and participating in the community of the course.
  - University of Pittsburgh Non-Discrimination Policy:  
<https://www.diversity.pitt.edu/civil-rights-title-ix-compliance/policies-procedures-and-practices/notice-non-discrimination>
  - Pregnant and Parenting Students' Rights and Resources:
    - <https://www.diversity.pitt.edu/diverse-populations/pregnant-and-parenting-students>
    - **NOTE:** The current Pitt language appears to reflect antiquated gender binary and heteronormative frameworks. It also focuses on harassment. Should you be adopting, fostering, or otherwise significantly shifting your dependent care demands, or should you be a student whose gender is not clearly covered by the policy and is pregnant, etc., and would like accommodations, please let us know as soon as possible so we can work together to establish a fair, respectful, and supportive plan.
  - Pitt guidelines on class attendance and observance of religious holidays:
    - “The observance of religious holidays (activities observed by a religious group of which a student is a member) and cultural practices are an important reflection of diversity. As your instructor, I am committed to providing equivalent educational opportunities to students of all belief systems. At the beginning of the semester, you should review the course requirements to identify foreseeable conflicts with assignments, exams, or other required attendance. If at all possible, please contact me (your course coordinator/s) within the first two weeks of the first class meeting to allow time for us to discuss and make fair and reasonable adjustments to the schedule and/or tasks.” *From Faculty Assembly, December 2020*
    - We interpret this language to apply to cultural and spiritual observances, feasts, dances, ceremonies, etc., not covered by colonial notions of religion and/or culture.
    - Please notify Dr. Quigley in advance of any anticipated absences related to the guidelines.
  - Pitt single-occupancy restroom map and information:  
<https://www.studentaffairs.pitt.edu/lgbtqia/single-occupancy-restrooms/>
-



## Rights and Resources\*

*For any of the below, if you believe your circumstances may affect your performance in the course, if you are comfortable please seek Dr. Quigley's support in securing resources.*

- Any student who is experiencing difficulty affording groceries or accessing sufficient and healthy food to eat every day, can
  - contact Pitt Pantry: [pantry@pitt.edu](mailto:pantry@pitt.edu)
  - Access the Pitt Pantry:  
<https://www.studentaffairs.pitt.edu/pittserves/the-pitt-pantry/what-to-expect/>
  - Access the Greater Pittsburgh Community Foodbank
    - <https://www.pittsburghfoodbank.org/get-help/drive-up/>
- a lack of a safe and stable place to live, can find
  - affordable housing assistance
    - **Action Housing:** 611 William Penn Place, Suite 800; Pittsburgh, PA 15219 Phone: 412-281-2102. Assists in locating affordable housing
    - **Allegheny County Housing Authority:** 625 Stanwix Street, 12th floor; Pittsburgh, PA 15222 Phone: 412-355-8940. Assists in locating affordable housing
  - shelter options
    - **Allegheny County Bureau of Hunger and Housing Services** Phone: 412-350-4354 This is an area homeless resource.
    - **East End Cooperative Ministry:** 6140 Station Street; Pittsburgh, PA 15206 Phone: 412-361-5549. Emergency shelter provides a refuge for the night, case management, breakfast and dinner as well as a shower and laundry services for men and women older than 18. Individuals can stay in the Emergency Shelter for up to 60 days.
- gender-based discrimination, sexual harassment, sexual misconduct, stalking, or intimate partner violence harassment, can
  - contact the Title IX office:  
<https://www.diversity.pitt.edu/civil-rights-title-ix/policies-procedures-and-practices/sexual-misconduct-and-title-ix>
- sexual violence, can
  - contact Pittsburgh Action Against Rape:
    - 24-hour crisis intervention, counseling, and advocacy for victims of sexual assault
    - Phone: 1-866-363-7273
    - Website: [Home - PAAR](#)
- racial violence, discrimination, harassment, etc., can

- contact

- <https://www.diversity.pitt.edu/civil-rights-title-ix-compliance/policies-procedures-and-practices/notice-non-discrimination>

*\*please help us by suggesting additional resources*

---

## **Pitt suggested syllabus statements**

### Equity, Diversity, and Inclusion

The University of Pittsburgh does not tolerate any form of discrimination, harassment, or retaliation based on disability, race, color, religion, national origin, ancestry, genetic information, marital status, familial status, sex, age, sexual orientation, veteran status or gender identity or other factors as stated in the University's Title IX policy. The University is committed to taking prompt action to end a hostile environment that interferes with the University's mission. For more information about policies, procedures, and practices, visit the [Civil Rights & Title IX Compliance web page](#).

I ask that everyone in the class strive to help ensure that other members of this class can learn in a supportive and respectful environment. If there are instances of the aforementioned issues, please contact the Title IX Coordinator, by calling 412-648-7860, or e-mailing [titleixcoordinator@pitt.edu](mailto:titleixcoordinator@pitt.edu). Reports can also be [filed online](#). You may also choose to report this to a faculty/staff member; they are required to communicate this to the University's Office of Diversity and Inclusion. If you wish to maintain complete confidentiality, you may also contact the University Counseling Center (412-648-7930).

### Gender Inclusive Language Statement

Language is gender-inclusive and non-sexist when we use words that affirm and respect how people describe, express, and experience their gender. Just as sexist language excludes women's experiences, non-gender-inclusive language excludes the experiences of individuals whose identities may not fit the gender binary, and/or who may not identify with the sex they were assigned at birth. Identities including trans, intersex, and genderqueer reflect personal descriptions, expressions, and experiences. Gender-inclusive/non-sexist language acknowledges people of any gender (for example, first year student versus freshman, chair versus chairman, humankind versus mankind, etc.). It also affirms non-binary gender identifications, and recognizes the difference between biological sex and gender expression. Students, faculty, and staff may share their preferred pronouns and names, and these gender identities and gender expressions should be honored.

---

Do NOT audio, video or otherwise record any part of class without the written consent of the professor.