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Course Syllabus

GEOL 1216/1216 Environmental Justice
Fall 2025

Instructor: Subject to change from student input

Class Meetings: [Friday, 10:00am-12:35am] WVC 214

Lab is scheduled 30 min. after class for hands-on time with the city and deep thinking for conversations and project work.

Instructor: Professor Patrick D Shirey, M.S., JD, Ph.D. (pds2@pitt.edu)

Drop-in Hours: 200 SRCE if office door is open or by appointment

Course Recognition: This course and syllabus developed from a group project of four students, Ostiba Edwards, Xavier Johnson, Hope Khalyn, and Debra Scott. The instructor has the honor and privilege to teach this course in the Environmental Studies Program for the Department of Geology and Environmental Science at the University of Pittsburgh.

Course Description:

What is Environmental Justice (EJ)? How does this change our approach to the environment and environmental issues? This interdisciplinary course will use the environmental justice framework to study the environmental and social consequences of human life. We will explore the historical racial, political, economic, and economic causes for disproportionate environmental burdens. The course is organized into seven topic modules. The first three will focus on the history of the environmental movement, EJ theory, and environmental justice in the United States. The last four will focus on environmental justice issues in the United States including housing, food security, air and water quality – and focus on SWPA and Pittsburgh communities as case studies. Learning from communities are impacted and the actions being taken to promote the wellbeing of communities. The seventh and final module will address the current state of the environmental movement and EJ initiatives.

Course Attributes: Diversity 4G

Prerequisites: None

Course Objectives:

By the end of this course, students will be able to:

1. Understand how race, income, class, gender, and other identities intersect with environmental issues.
2. Identify factors that contribute to disparate environmental burdens.
3. Analyze case studies using an environmental justice framework.
4. Evaluate the effectiveness of past and present governments, institutions, and communities approaches to addressing or ignoring EJ issues.

Course Expectations

Students are expected to come to class prepared to engage with the materials. All readings and assignments listed in the course schedule are required unless otherwise specified. Participation in discussions, fieldwork, and group projects is mandatory. Attendance will be a key component of this class and central to learning the materials. Our knowledge and experiences of the world are shaped by race, nationality, class, income, gender, sexual orientation, and more. These differences are likely to arise as we discuss this class' materials; therefore, students are expected to listen to and respect their peers' opinions, identities, and experiences.

Attendance I believe every student has the potential to engage with the materials. All readings and assignments listed in the course schedule are required unless otherwise specified. Participation in discussions, fieldwork, and group projects is mandatory. Attendance will be a key component of this class and central to learning the materials. Our knowledge and experiences of the world are shaped by race, nationality, class, income, gender, sexual orientation, and more. These differences are likely to arise as we discuss this class' materials; therefore, students are expected to listen to and respect their peers' opinions, identities, and experiences.

Attendance I believe every student has the potential to engage with the materials. I will give a class. Please make effort to attend class and participate in discussions. Attendance will be a key component of this class and central to learning the materials. If you miss class, please let me know. You will be responsible for completing material discussed on Canvas and all assignments to receive a final grade in the course. **Because attendance is critical for both individual and group projects, students missing more than two classes will be docked a grade scale step for each additional class that they miss.**

Required Tools:

The Buffalo Creek Disaster (Steve), ISBN: 9780307384490

All additional readings, videos, etc. will be available on Canvas or be available to students through the University of Pittsburgh Library System (LSA).

Assignments

Attendance & Participation 15%

- Point two discussion questions or comments on the class' Canvas Discussion Board no later than 2 hours before class. Questions will be used during in-class discussions.
- Contribute material to enhance learning by your classmates. Environmental Justice issues are in the news on a regular basis.

Assignments 40%

- 1-2 page double-spaced papers answering a prompt due at the end of each module
- In addition to the modules, attend an event/seminar with local organization working on environmental justice issues and complete a 1-page summary of what you did and learned, or complete a 1-page paper analyzing EJ issues in your neighborhood and what actions you and your neighbors can take to confront these issues.

Group Project 25%

- The class will work as a group to choose a topic they are interested in exploring in depth

Final Paper (Final/research) 20%

- Undergraduate students (GEOL 1216) 6-8 pages using EJ to analyze an environmental issue not discussed in depth during class. (Incorporating international EJ topics, or providing an analysis and proposed solution(s) to an EJ problem in a Pittsburgh community.)
- Graduate students (GEOL 2216) Show your paper as an opportunity for supplementary discussion/analysis or an EJ issue related to your area of research, or other appropriate paper topic

Grading Scale

A+ = 97-100

A = 93-96

A- = 90-92

B+ = 87-89

B = 83-86

B- = 80-82

C+ = 77-79

C = 73-76

C- = 70-72

D+ = 67-69

D = 63-66

D- = 60-62

F = 0-59

Academic Integrity Statement

Cheating/plagiarism will not be tolerated. Students suspected of violating the University of Pittsburgh Policy on Academic Integrity, from the February 1974 Senate Committee on Tenure and Academic Freedom, to the Senate Council will be required to appear before the University Disciplinary Committee. If the student is found to be responsible for the violation, the student will be reported. Students in violation will be expected to comply with the University of Pittsburgh's Policy on Academic Integrity. View the complete policy at https://www.policy.pitt.edu/sites/default/files/Policies%20Academic%20Policy_ACIP.pdf.

Some Use of Generative AI Permitted Under Explicit Assignment Circumstances or With Explicit Permission

During this class, we may use generative tools such as ChatGPT and Gemini. You will be informed on when, where, and how these tools are permitted to be used along with guidance for attribution. Unless expressed in the assignment instructions, generative AI should not be used by students in this class. Violating this use violate of the permission constitutes a violation of Pitt's Guidelines on Academic Integrity (GAI).

Generative artificial intelligence (GAI) is a powerful tool for tasks including brainstorming, gathering general information about a basic topic, rephrasing, coding, and formatting. Use prompts to make a person useful and high quality in a strategy will help you achieve that yet need to practice. However, AI works best for topics you are already familiar with – not ones you are learning. But Environmental Justice. Why? Because if you are already familiar with the topic, you will know when the tool is correct and when it is incorrect. **If you do not have foundational knowledge, it's very easy to be led to the wrong conclusion by AI. Critical thinking is a key component of this course, and we will be using critical thinking to analyze environmental issues related to pollution and water consumption. A module for this class will ask you to think critically about these consequences, especially in rural and urban communities of Pennsylvania and the Appalachian Region that have been disproportionately burdened by resource extraction and the energy industry in the past and at present.**

You should think of AI like a "useful tool" that can potentially help gather some information for you. However, you must verify that information is correct. Generative AI can be a useful tool for brainstorming, coding, and formatting. **Using generative AI without permission from AI without understanding and acknowledging this source, this will be considered a violation of the university academic integrity policy.**

So how should you use AI?

- Letter to the semester. I'm going to ask you to complete an assignment by engaging with a large language model on the topic of Environmental Justice and compare those results with what you've learned from reading.
- Don't trust what it spits out. You need to verify the result – by consulting a primary source that has been edited by a knowledgeable human or a knowledgeable human.
- Be specific when you use generative AI. That is, write a clear and specific prompt or prompt to indicate very specifically which pollution you used and how you used it. "Write me a paper about the problem I used Gemini to teach me about Cape May", and I edited my prompt and Gemini's response.
- Never use it to write for you. Again, you can use it to brainstorm, generate new ideas, gather general information on a topic for which you are familiar. **but you may not use it to write the words in your assignment or project**. These must be your work and your voice. Moreover, I can tell when student submitted work is not their own writing.

Why do I have these rules? These rules are set in place to ensure that you learn to your best interest. Strong writing, critical thinking, and analysis are key components of this course. Using AI without understanding the content or without proper attribution skills requires hard work on your part, and if you have to do that for you, you will simply not develop those skills. **It is the development of strong competencies in these areas that will set you apart from others and prepare you for a highly competitive workforce.**

Communication Policy

Each student is issued a University e-mail address (username@pitt.edu) upon admittance. This e-mail address may be used by the University for official communication with students. Students are expected to read emails sent to this account on a regular basis. Failure to read and act timely communications in a timely manner does not absolve the student from knowing and complying with the content of the communications. The University provides an e-mail forwarding service that allows students to forward their University e-mail to another e-mail address. Pitt's Office of Technology Solutions recommends that students who use this option pick an address to another address do so at their own risk. If email is lost as a result of forwarding, it does not absolve the student from responding to official communications sent to their University e-mail address.

University of Pittsburgh Diversity and Inclusion Statement

The University of Pittsburgh does not tolerate any form of discrimination, harassment, or retaliation based on disability, race, color, religion, ancestry, national origin, age, sex, sexual orientation, gender identity, gender expression, genetic information, 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, see https://www.diversity.pitt.edu/civil-rights-title-ix-compliance/policies-procedures-and-practices-2.

I ask that everyone in the class strive to help ensure that other members of the class can learn in a supportive and respectful environment. If there are instances of the aforementioned issues, please contact the Title IX Coordinator, by: 1901 Cathedral of Learning, 412-624-7367, titleix@pitt.edu, or Dean of Students, 412-624-7120, deanofstudents@pitt.edu. (412) 238-5347 for PTS-Bldg. Learn, as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.

Academic and Well-Being Services

There are many resources available to support your well-being while you are at Pitt. If you or anyone you know experiences overwhelming personal or academic stress, persistent difficult feelings and/or challenging life events, you are strongly encouraged to seek support. Your health and well-being are crucial to your success at the University of Pittsburgh. Pitt offers a wide array of assistance connecting to helpful resources. The University Counseling Center is also here for you. You can call (412) 648 7930 or any time to connect with a clinician. You can also visit the Counseling Center website.

You can reach the University Counseling Center at any time at 412-648-7930.

You can also contact Resolve Crisis Network at 888-796-8226. If the situation is life threatening, call the PA police at 412-624-2121.

If the situation is life threatening, call the Police:

- On campus: Pitt Police: 412-624-2121
- Off campus: 911.

Tentative Class Schedule –

Module 1: Introduction to the Course and Background Information (Week 1)

This module will introduce students to the course and explore their prior knowledge and understanding of what the "environment" means to them. Students will also begin to develop a foundation of knowledge and discuss its problematic inaugurations. What has this reason for the environmental movement in the past and in the present?

- Introduction to the course
  - Review of syllabus, establishing classroom/discussion norms and expectations, meeting students
  - Operating discussion: What do we imagine environmentalists to be like? What constitutes the "environment"?
  - Review of Canvas and other technologies
  - Discuss popular framing of the history of environmentalism/environmental figures and critique its history of racism, colonialism, etc. in environmental movement
  - Read: Dorceta E. Taylor, "Environmentalism's Racist History," The New Yorker / Video
    - Dorceta Taylor's Wild Supervision Problem ↗
    -
    - Environmental Justice: Peaks Dropped at Tokelahtchee ↗
    - Andrew Gillespie, "The Complicated History of the Kinzua Dam," The Allegheny Front ↗; Rachel Jones, "The experimental movement in every artist, Three Rivers Arts Festival," ↗ National Geographic
- Gender & Class
  - Readings: Video
    - A Bathroom Bill Released ↗
    -
    - Gender Changes in and Gender Neutral ↗
    -
    - Caroline Shaw
    - Environment and the decolonization of women, nature, and the future ↗
    -
    - Shannon Elizabeth Bell and Yvonne A. Braun, "Coal Identity and the Gendering of Environmental Justice Activism in Central Appalachia", Sage Publications: Angela Gaughan, "Class, Gender, and Coal Smoke: Gender Ideology and Environmental Injustice in Pittsburgh, 1868-1914" Environmental History
- Eco-feminism
  - Assignment: Research and discuss a social movement/organization related to the topics discussed this week. *What did they do? Decided their goals or principles related to environment? If you provide examples and if not explain ways in which their goals intersect with environmental issues.* Submit, double spaced, the amount of pages to make a whole argument, answering all questions.

Module 2: Developing an Environmental Justice Framework (Week 2-4)

Readings and assignment for this section will help we develop a theoretical and practical understanding of environmental justice issues in the United States. Students will learn about the history of the environmental movement and how it developed into the EMBJs to the present, comparing traditional environmental principles to EJ theory. Students will also learn about the historical and social drivers for development and changes of these theories.

- History of EJ movements: Using a modeling EJ framework below where relevant
  - Reading: Deborah J. Bennett's Environmentalism The Rise of Race, Class and Gender in Shaping Activism 1820-1920 (Chapter 1) Dorceta Taylor's Toward the Environmental Revolution and the Rise of the Environmental Justice Movement p. 1-10 (Chapter 1)
- Theory Part 1: Traditional EJ Framework
  - Reading: Dorceta Taylor, Toward the Environmental Leadership Summit, Principles of Environmental Justice; Bagdar Ali, "A Jurisprudential Framework for environmental justice based on shared but differentiated responsibilities" ↗
- Theory Part 2: Expanding the EJ Framework
  - Readings: David Pellow, "Toward a Critical Environmental Justice Studies: Black Lives Matter as an Environmental Justice Challenge", Allegheny Health Department, "Health Equity Brief: Environmental Factors in Allegheny County ↗"
  - Assignment: Pick a topic, or a piece of environmental injustice that we have discussed (I mean the EJ/Jus) Do you have any EJ critiques after reading them? Write a short double spaced

Module 4: Redlining, Gentrification and Development (Week 5-7)

This section will establish the built environment as a site of environmental concerns. We will learn about the mechanisms through which housing and development segregation practices and how to disparate impacts which will be discussed later in the course. This module should challenge students by asking: Where (which populations) or what are we developing? To what ends, and through what means?

- Redlining/Segregation
  - Reading: Richard Rothstein, "Commentary: Pittsburgh's America's segregation" ↗; Rachel Jones, "The Tragedy Housing Redlining, Segregation, and Gentrification in the United States," Women's Studies Quarterly
  - Gentrification
  - Reading(s) Connie Hong, "East Liberty Kids' What Doesn't Kill You Makes You Bleeder
- Development
  - Transportation
  - LC Berkeley, "Institutional Injustice and Transportation: A Citizen's Handbook"
  - Reading: Robert Bullard
  - Reading: Robert Bullard Taylor, "Linking Environmental and Criminal Injustice: The Missing In Prison Pipeline in Central Appalachia", Abolitionist Law Center, "No Escape: Exposure to Toxic Coal Waste at SCI Fayette"
  - Reading: Jessica Trisco, "Fracking Is Ruining Rural Pennsylvania" ↗
- Assignment Choose a Pittsburgh neighborhood facing gentrification (from the provided by instructor). Take a trip there with a classmate or classmates and discuss your experience. What did you notice? How does it relate to what you have learned in this module? Submit two pages double spaced for your discussion.

Module 5: Air and Water Quality (Week 8-11)

This module will discuss the ways in which poor air and water quality disproportionately harm underserved communities. We will first become familiarized with health impacts caused by poor air quality before discussing how this relates to housing, race, cities, and gender through a local case study. Guest speakers will discuss the impacts of air pollution in their communities. Students will then learn about the quality of water in Pittsburgh and the surrounding communities. Students will be required half of the module with debates about water rights to EJ using a case study of fracking and water quality in SWPA.

- Air Quality
  - Case study: Braddock, PA / Monongahela River Valley
    - Video ↗
    - Braddock Video and Environmental Racism ↗
    -
    - Last days Fabricated Braddock
    - PBS Video ↗
    -
    - https://www.bestplaces.net/ aqi/bullitt ↗
  - Readings: The Breathe Project, 10 Health Facts You Need to Know; Kristina Marusic, "Environmental Justice in Pittsburgh, Pennsylvania: Interview with Ms. Tarsha Ward" Sierra Club; Ashley Ahearn, "Pittsburgh Area Doctors Plan on Focusing on Environmental Justice Framework for Policy Change in Childhood Asthma & Exposures in Teenage Pregnancy" American Journal of Public Health, vol. 101 Suppl 1, Dec. 2011, pp. S238–S6.; Bell, Michelle L., and Keita Dominici, "Environmental Inequality in Exposure to Airborne Particulate Matter Components in the United States." Environmental Health Perspectives, vol. 125, no. 12, Dec. 2012, p. 124 99–1104.
  - Assignment: Choose a neighborhood in Allegheny County or Southwestern Pennsylvania in Pittsburgh, list and discuss where the place lacks information or discussion on environmental issues of air and underserved communities. Submit your discussion one-page double spaced.
  - Guest Speaker
  - Reading: UNICEF(?) The Global Water Quality Challenges and SDGs ↗
  - Case study: Safe Drinking Water in Pittsburgh & Fracking in Southwestern PA
    - Drinking Water Readings: Schaller, Laurel, et al. "Environmental Justice and Drinking Water Quality: Are There Socioeconomic Disparities in Nitrate Levels in U.S. Drinking Water?" Environmental Health A Global Access Science Source, vol. 17, no. 1, Dec. 2018, p. 1–9.; Ward, Mary H., et al. "Drinking Water Nitrate and Cancer Research Publications of the 1970s." Toxics, Toxics, Elements, and Nutrits in Safe Drinking Water Conference" Journal Science Quarterly, vol. 99, no. 2, June 2018, pp. 524–531.
    - Fracking Readings: "Where the Kids Started Getting Sick," The Atlantic; Jon Rees, "Look for trends in urban, rural Fracking Disparities"
    -
    - Marcellus Shale: Third Pennsylvania Gas Fracking Job Based Everything" NetRoy ↗
  - Assignment: What has prevented the government (whether that be federal, state, local, or regulatory agencies) from stopping a yard taking asphalt action? What can you do in the face of regulators failure? Submit your discussion double spaced, as much as you need to make your point whole and clear.

Module 6: Food Insecurity & Food Sovereignty (Week 11-12)

This module will establish food as an environmental justice issue. We will discuss the ways in which housing and related issues covered in Module 4 impacts access to healthy food and how this impacts certain populations disproportionately. This section will also discuss how this relates to environmental and environmental justice issues.

- Reading(s): Understanding Food Insecurity in the City of Pittsburgh ↗; All-Pa Resolution Podcast; Food Sovereignty: A Growing Movement in Pittsburgh ↗; Food Justice: Lessons Learned in Pittsburgh ↗; Food Sovereignty: Lessons from Traditional Foods Access and Food Security" Journal of Environmental Health and Health, vol. 2012, Dec. 2012, p. 1–9.
- Assignment: Explore the USDA Food Access Research Atlas ↗ to answer that matter to you. Look for trends in urban, rural Fracking Disparities. Do you see any patterns in Pittsburgh? Allegheny? What surprises you about that? What doesn't? Submit 2 pages double-spaced your thoughts.

Module 7: Environmental Justice Today (Last Week)

This module will examine the current state of the environmental movement and US environmental policy. Students will be expected to apply new knowledge and 5 Environmental Justice principles to determine whether EJ principles are being pursued and fulfilled and think about ways in which they can implement EJ theory in their day-to-day lives and careers.

- Readings: Sara Sethi, "The creation environmental movement, Sierra Club and Beyond" ↗; Sophie Yin, "How the largest environmental movement in history was born" ↗; Robin Wall Kimmerer, "Braiding Sweetgrass"
- Assignment: Choose a neighborhood in Allegheny County or Southwestern Pennsylvania in Pittsburgh, list and discuss where the place lacks information or discussion on environmental issues of air and underserved communities. Submit your discussion one-page double spaced.
- Assignment: Pick a topic, or a piece of environmental injustice that we have discussed (I mean the EJ/Jus) Do you have any EJ critiques after reading them? Write a short double spaced your thoughts.

Course Summary:

Date	Details	Due
Fri Sep 5, 2025	Discussion - Module 1 Readings and Video	due by 9pm
	Semester Group Project Discussion	due by 6pm
Fri Sep 12, 2025	Assignment 1 - Short writing	due by 11:59pm
	Question/Comments on Colonialism and Race Material	due by 11:59pm
Fri Sep 19, 2025	Question/Comments on Gender & Class Material	due by 11:59pm
	Assignment 2 - Social Movement or Organization	due by 11:59pm
Fri Oct 3, 2025	Assignment 3 - United Nations Sustainable Development Goals	due by 11:59pm
Fri Oct 10, 2025	Module 3 Discussion	due by 9pm
Fri Oct 24, 2025	Module 4 Discussion - Redlining, Gentrification, and Development	due by 9pm
	Module 4 - Air Quality Discussion	due by 9pm
	Assignment 4 Gentrification in Pittsburgh	due by 11:59pm
Fri Nov 7, 2025	Module 5 - Water Quality Discussion	due by 10am
Fri Nov 14, 2025	Assignment - Air or Water Quality	due by 11:59pm
Fri Nov 21, 2025	Module 6 - Food Justice Discussion	due by 9pm
	Food Access	due by 11:59pm
Fri Nov 28, 2025	Buffalo Creek Disaster	due by 11:59pm
Fri Dec 5, 2025	Module 7 - Environmental Justice Today	due by 11:59pm
Fri Dec 12, 2025	EJ-scape field guide	due by 11:59pm
Wed Dec 10, 2025	Group Project Assessment	due by 11:59pm