

Leaky Pipes: Environmental Injustice and School Infrastructure

Syllabus Outline

3 credit hours

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Academic Bulletin Description

This interdisciplinary course delves into the complex relationship between educational institutions and environmental injustice. Through critical analysis, historical exploration, and case studies, students will gain an in-depth understanding of how schools, as societal institutions, can inadvertently contribute to environmental disparities that disproportionately affect marginalized communities.

Full Course Description

This interdisciplinary course delves into the complex relationship between educational institutions and environmental injustice. Through critical analysis, historical exploration, and case studies, students will gain an in-depth understanding of how schools, as societal institutions, can inadvertently contribute to environmental disparities that disproportionately affect marginalized communities. The course examines how factors such as school location, socioeconomic disparities, access to quality education, and exposure to environmental hazards intersect to perpetuate environmental injustices. Students will also explore the potential for education to be a catalyst for change and empowerment, fostering sustainable solutions to address these challenges.

Prerequisites

No prerequisites are required for this course, but an interest in environmental justice, education design, and social justice is recommended.

Learning Outcomes

After successful completion of this course, you will be able to:

1. Define and identify manifestations of environmental injustice within educational contexts.
2. Analyze historical and structural factors that contribute to environmental disparities in schools.

3. Evaluate the impact of school location and funding on environmental resources and hazards.
4. Examine the relationship between socioeconomic factors and access to quality education in relation to environmental injustice.
5. Critically assess the role of curriculum, pedagogy, and community engagement in addressing environmental equity.
6. Apply interdisciplinary approaches to propose strategies for promoting environmental justice in educational institutions.

Course Materials

Required Books (some PDF scans can be made available)

Bullard, R. D. (2018). *Dumping in Dixie: Race, class, and environmental quality* (3rd ed.). Routledge.

Bullard, R. D., Johnson, G. S., & Torres, A. O. (2011). *Environmental health and racial equity in the United States: Building environmentally just, sustainable, and livable communities*.

Fraser, J. W. (2014). *The school in the United States: A documentary history*.

Kozol, J. (2012). *Savage inequalities: Children in America's schools*. Crown.

Rothstein, R. (2017). *The color of law: A forgotten history of how our government segregated America*. Liveright Publishing.

Scammell, M. K., & Levenstein, C. (2016). *The toxic schoolhouse*. Routledge.

Washington, H. A. (2019). *A terrible thing to waste: Environmental racism and its assault on the American mind*. Little, Brown Spark.

Required Articles (available in most library database)

Berman, J. D., McCormack, M. C., Koehler, K. A., Connolly, F., Clemons-Erby, D., Davis, M. F., Gummerson, C., Leaf, P. J., Jones, T. D., & Curriero, F. C. (2018). School environmental conditions and links to academic performance and absenteeism in urban, mid-Atlantic public schools. *International Journal of Hygiene and Environmental Health*, 221, 800-808. <https://doi.org/10.1016/j.ijheh.2018.04.015>

Bhargava, A. (2017). *The interdependence of housing and school segregation*. Harvard Joint Center for Housing Studies. https://www.jchs.harvard.edu/sites/default/files/a_shared_future_interdependence_of_housing_and_school_segregation.pdf

The Biden-Harris action plan for building better school infrastructure. (2022). The White House. <https://www.whitehouse.gov/briefing-room/statements-releases/2022/04/04/fact-sheet-the-biden-harris-action-plan-for-building-better-school-infrastructure/>

Gilliland, F. D., Berhane, K., Rappaport, E. B., Thomas, D. C., Avol, E., Gauderman, W. J., London, S. J., Margolis, H. G., McConnell, R., Islam, K. T., & Peters, J. M. (2001). The effects of ambient air pollution on school absenteeism due to respiratory illnesses. *Epidemiology*, 12(1), 43-54. <https://doi.org/10.1097/00001648-200101000-00009>

Johnston, J. E., Juarez, Z., Navarro, S., Hernandez, A., & Gutschow, W. (2019). Youth engaged participatory air monitoring: A ‘Day in the life’ in urban environmental justice communities. *International Journal of Environmental Research and Public Health*, 17(1), 93. <https://doi.org/10.3390/ijerph17010093>

Morgan, I., & Amerikaner, A. (2018). *Funding gaps: An analysis of school funding equity across the U.S. and within each state.* The Education Trust. <https://s3-us-east-2.amazonaws.com/edtrustmain/wp-content/uploads/2014/09/20180601/Funding-Gaps-2018-Report-UPDATED.pdf>

United States. Congress. House. Committee on Education and Labor. (2009). *21st century green high-performing public-school facilities act: Report together with minority views (to accompany H.R. 2187) (including cost estimate of the congressional budget office).*

Zocher, J. L. (2015). *How does youth participatory eco-justice action research (YPEAR) affect the development of environmental literacy in urban high school students?* (3718614) [Doctoral dissertation]. ProQuest Dissertations and Theses Global.

Required Listening (SoundCloud)

Berkshire, J., & Schneider, J. (2022, August). Episode #133 What should schools do about climate change? *Have you Heard?* [Audio podcast episode]. https://soundcloud.com/haveyouheardpodcast/climate-change?utm_source=clipboard&utm_medium=text&utm_campaign=social_sharing

Course Requirements

1. **Attendance and Participation:** Regular attendance and active participation in class discussions, group activities, and lectures are essential for engaging with course materials, exchanging ideas, and enriching the learning experience.
2. **Readings and Assignments:** Students will be expected to complete assigned readings from textbooks, academic articles, and other relevant sources before each class. Regular written reflections and short assignments may be given to assess comprehension and critical thinking.

3. **Midterm Research Paper:** Each student will submit an 8–10-page literature review analyzing real world cases of environmental injustices in educational institutions. Students can access case studies from local news articles, NGO reports, and academic papers to make their analysis. All submissions should be in Times New Roman or Arial, 12pt font using APA 7th edition format.
4. **Final Exam Paper:** Each student will submit an 8–10-page research paper and policy recommendation that delves into a specific aspect of environmental injustice (housing/zoning, water pollutions, air pollution, lack of green spaces, etc.) and it's health implications in school. Students will conclude their assignment with suggested policy recommendations. Each submission should be in Times New Roman or Arial, 12pt font using APA 7th edition format.
5. **Discussion Board Posts:** Each student will contribute to a weekly discussion board prompt. Students are required to participate as well as contribute insight to two peers.
6. **Guest Speakers and Field Visits:** Guest speakers from academia, advocacy organizations, and community leaders may be invited to share their expertise and experiences related to environmental injustice and school design. Field visits to affected communities or relevant organizations may also be arranged to deepen students' understanding.
7. **Final Reflection and Evaluation:** Towards the end of the course, students will be asked to submit a reflective statement on their learning journey throughout the semester and evaluate their growth in understanding the course material.

Course Format

The course will consist of lectures, class discussions, guest speakers, case study analysis, and online discussion posts. Students will be encouraged to engage critically with academic literature and apply theoretical knowledge to real-world contexts.

This course can be adapted for in-person and online learning depending on college/university requirements.

Course Communication and Feedback

I will be communicating with you regarding your grades and assignments. If you need to get in touch with me, the best method is via email. Generally, I will reply to emails within 24 hours and will provide feedback on assignments within 72 hours. You may also post questions pertaining to the course on the Discussion board. These questions will be answered within 24 hours.

Statement can be adapted based on college/university standards.

Technology Requirements

1. **Computer or laptop:** Students should have access to a personal computer or laptop for completing assignments, participating in online discussions, and accessing course materials.
2. **Internet connection:** Students will need the internet to access course materials, participate in online discussions, and submit assignments.
3. **Software/Application:** Access to Microsoft Office, Google Drive, Canvas/Blackboard/Moodle.

Statement can be adapted based on college/university standards.

Technical Support

TBD based on college/university's technical support services.

Course Assignments

Discussion Board Posts

Special topics will be posted weekly on the course platform. You will read posted materials and engage in the discussion boards set up. It is suggested that you utilize the readings and information to inform your discussion.

Discussion board posts are a significant part of this course. Students are required to post responses to instructor posted questions by Friday 11:59pm and post comments to two peers by Sunday at 11:59pm.

Midterm Research Paper

Each student will submit an 8–10-page literature review analyzing real world cases of environmental injustices in educational institutions. Students can access case studies from local news articles, NGO reports, and academic papers to make their analysis. All submissions should be in Times New Roman or Arial, 12pt font using APA 7th edition format.

Final Exam Paper

Each student will submit an 8–10-page research paper and policy recommendation that delves into a specific aspect of environmental injustice (housing/zoning, water pollutions, air pollution, lack of green spaces, etc.) and it's health implications in school. Students will conclude their assignment with suggested policy recommendations. Each submission should be in Times New Roman or Arial, 12pt font using APA 7th edition format.

Evaluation and Grading Scale

All grades will be posted on course platform. You are strongly encouraged to check your scores regularly. All final letter grades will be assigned based on percentages. Assignment weights TBD by college/university scale.

Grading Scale

TBD by college/university standards

Course Policies and Procedures

TBD based on college/university standards.

Attendance Policy

TBD based on college/university standards.

Academic Integrity

TBD based on college/university standards.

Course Schedule and Required Readings

Week 1: Introduction to Environmental Injustice and Education

Learning Objective: Define environmental injustice and recognize its manifestations in educational settings.

- Reading:
 - Chapter 1 of “Environmental Health and Racial Equity in the United States: Building Environmentally Just, Sustainable, and Livable Communities” by Robert D. Bullard
 - Berman article (see required articles section in course materials)

Week 2: Historical Perspectives on Education and Inequality

Learning Objective: Understand historical roots of educational inequality and its impact on environmental justice.

- Reading:
 - Chapter 3 of "Savage Inequalities: Children in America's Schools" by Jonathan Kozol
 - Fraser, “The School in the United States: A Documentary History” pp. 1-8, 65-73, and 373-378

Week 3: Environmental Racism and School Location

Learning Objective: Analyze how school location contributes to environmental disparities.

- Reading:
 - Chapter 2 “Waste-Facility Siting Disparities” in "Dumping in Dixie: Race, Class, and Environmental Quality" by Robert D. Bullard

- The Effects of Ambient Air Pollution on School Absenteeism Due to Respiratory Illnesses by Frank D. Gilliland

Week 4: Socioeconomic Factors and Access to Quality Education

Learning Objective: Examine how socioeconomic factors impact access to quality education and its relation to environmental injustice.

- Reading:
 - Chapters 2 and 3 in “The Color of Law” by Richard Rothstein
 - "The interdependence of housing and school segregation” by A. Bhargava

Week 5: Health Disparities and Environmental Hazards in Schools

Learning Objective: Evaluate the connection between health disparities and exposure to environmental hazards in schools.

- Reading:
 - Chapters 2-4 of "The Toxic Schoolhouse” by Madeleine Kangsen
 - Submit into the discussion board your potential midterm topic and receive/give peer feedback and suggestions.

Week 6: Educational Funding and Environmental Resources

Learning Objective: Investigate how disparities in educational funding impact environmental resources in schools.

- Reading:
 - “Funding Gaps 2018: An analysis of school funding equity across the U.S and within each state.” By Ivy Morgan
 - “21st Century Green High-Performing Public-School Facilities Act”

Week 7: MIDTERM RESEARCH PAPER DUE

Week 8: Environmental Education and Empowerment

Learning Objective: Explore the role of environmental education in addressing environmental injustice.

- Reading:
 - “Youth engaged participatory air monitoring: A Day in the life in urban environmental justice communities” by Jill Johnson
 - Guest Speaker: TBD

Week 9: Community Engagement and Environmental Justice

Learning Objective: Examine the importance of community involvement in addressing environmental injustice in schools.

- Reading:
 - Chapters 8-10 of “Toxic Schoolhouse” by Madeleine Kangsen

Week 10: Policy and Advocacy for Environmental Equity

Learning Objective: Evaluate policy approaches and advocacy strategies to promote environmental equity in education.

- Reading:

- Chapters 11-13 of “Toxic Schoolhouse” by Madeleine Kangsen
- “The Biden-Harris Action Plan for Building Better School Infrastructure”

Week 11: Curriculum and Teaching for Environmental Justice

Learning Objective: Explore ways to incorporate environmental justice concepts into educational curricula and teaching methods.

- Reading:
 - “How does youth participatory eco-justice action research affect the development of environmental literacy in urban high school students?” by Joella Zocher.
 - Podcast: Have You Heard? Ep. #133 “What should schools do about climate change?” https://soundcloud.com/haveyouheardpodcast/climate-change?utm_source=clipboard&utm_medium=text&utm_campaign=social_sharing

Week 12: Future Directions and Activism

Learning Objective: Reflect on the course and discuss avenues for future activism and research in addressing environmental injustice in schools.

- Reading:
 - Chapter 7 of “A Terrible Thing to Waste: Environmental Racism and Its Assault on the American Mind” by Harriett A. Washington

Week 13: FINAL EXAM PAPER DUE