SIO 114/ETHN 136 The Science and Critical Analysis of Environmental Justice
Tuesdays/Thursdays 11:00am-12:20pm
VAUGHAN HALL 100

INSTRUCTION

SIO/Ethnic Studies Collective:

<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
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<tbody>
<tr>
<td>Osinachi Ajoku</td>
<td><a href="mailto:oajoku@ucsd.edu">oajoku@ucsd.edu</a></td>
</tr>
<tr>
<td>Manuel Belmonte</td>
<td><a href="mailto:mbelmont@ucsd.edu">mbelmont@ucsd.edu</a></td>
</tr>
<tr>
<td>Marlene Brito Millan</td>
<td><a href="mailto:mbritomillan@gmail.com">mbritomillan@gmail.com</a></td>
</tr>
<tr>
<td>Leslie Quintanilla</td>
<td><a href="mailto:ljquinta@gmail.com">ljquinta@gmail.com</a></td>
</tr>
<tr>
<td>Amrah Salomon J.</td>
<td><a href="mailto:ansalomo@ucsd.edu">ansalomo@ucsd.edu</a></td>
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Instructor: Brad Werner bwerner@ucsd.edu
Contact brad for course administrative, web site and grading related questions.

OFFICE HOURS

- **Tuesdays** 12:30-2:00pm SIO Library (outdoor) Cafe (next to the old SIO Library, now called the 'Eckhart Building.'), weather permitting. Otherwise in room 438 Nierenberg Hall (SIO: large building east of the pedestrian bridge)
- **Wednesdays** 3:00-4:30pm Groundwork Books (old stdnt ctr between food co-op+radio station)
- **Thursdays** 2:00-3:00pm 438 Nierenberg Hall (SIO: large building east of the pedestrian bridge)

OVERVIEW

This course is designed to bring together students from both STEM and Social Sciences and Humanities backgrounds to consider the multiple ways that humans and society interact with the environment. Many technological advances come at a great cost, some of which negatively affect the environment and its inhabitants, mainly in low-income, people of color, and Indigenous communities. This course will introduce students to historical debates and theoretical frameworks through which the relationship between humanity and the environment is studied. The course will also introduce students to research methodologies for working in collaboration with communities negatively impacted by human induced changes in the environment. We will consider the origins and rationals for these negative changes, particularly as they intersect with problems of colonialism and capitalist accumulation, and their attendant effects on power, inequality, exploitation, race, gender, class, citizenship, and nation. The course will prepare students to critique and develop scientific models, research designs, and measurements that are consistent with environmental justice. These ideas will be explored through a series of case studies and across different geographic regions and scales.

Who should take this course?

This course is aimed at students in the sciences and engineering who want to learn techniques in critical analysis for investigating how society, science and engineering impact the environment; and for students in the humanities and social sciences who want to learn about the scientific basis for describing the human impacts of changes to the environment. All students will learn practical skills for using science and critical analysis for empowering communities to advocate for environmental justice.
What will students learn in this course?

- the basic and applied environmental science required to understand the biases inherent in society's interaction with the environment and to craft effective strategies for intervention.
- methods for critically analyzing the origin, development and potential for change in society's interaction with the environment
- the ideologies that influence society's interaction with the environment, including decolonization; environmental justice; conservation; environmental management; and free market environmentalism
- an outline of the history of land and resource-based environmental injustices.
- the ethics of environmental research and exploitation of natural resources.
- the disconnect between the time horizon and biases of research funding and priorities and an equitable relationship to the environment.
- a comparison of indigenous traditional knowledge and western scientific knowledge about the environment.
- a reflective critique of “aid” (charity and philanthropy and the construct of “the developing world”) and alternative forms of collaboration that redistribute resources and support self-determination.
- the role of activism and struggle in defining environmental justice.
- community engagement: practical techniques for research design and support to empower communities seeking environmental justice

EVALUATION

1) 25% A weekly essay/blog post addressing one or two questions that integrate the topics covered in lecture and the reading plus a one paragraph summary of each class: 2.5%x 10.(Due Sundays at NOON)
2) 25% Midterm project: Choose a current or historical problem in environmental justice, discuss the scientific basis for the problem, critically analyze it using Ethnic Studies frameworks, and describe the role that you as a UCSD student or future graduate might play in acting in solidarity with the struggle. 5-8 Page Paper.(Due date TBD)
3) 40% Final Community Engagement Group Project.
4) 10% Attendance and class participation.

IMPORTANT INFORMATION

Discussion Guidelines: Please see attached hand out or <u>Participant Responsibilities</u> on the course web site for classroom policies regarding discussions.

Ground Rules: The number one ground rule which we will all follow is to engage in respectful and considerate debate and discussion in the classroom. Abusive and harsh language will not be tolerated. These ground rules are reflected in the UCSD Principles of Community, which we are all expected to follow (see http://wwwvcba.ucsd.edu/principles.htm)

Accommodations: If you need any accommodations for disability, illness, or other reason please see the instructor so we can create an accommodation plan for your success. Also, if you prefer a different name or gender pronoun than what is listed on your records, please let us know.

English-language Learning Needs: Some students will need to utilize office hours in order to get extra background and direction on the material. ELL students are highly encouraged to consult the resources at the OASIS center (858-534-3760). It is your responsibility to seek and utilize these resources as the need arises.
ADA Accommodation: If you have a disability or condition that compromises your ability to complete the requirements of this course, please inform us as soon as possible of your needs. We will make all reasonable efforts to accommodate you.

Cheating and Plagiarism: Cheating and/or plagiarism are not tolerated behaviors at UCSD. If you are caught cheating on an exam or quiz or plagiarizing someone else’s assignment, it will result in a failing grade and your infraction will be referred to your college for disciplinary action. If there is any suspicion that your assignments have been plagiarized, the case will be forwarded to the dean of your college for further investigation and appropriate disciplinary action.

WEEKLY THEMES AND READINGS

Assigned Reading

- All reading selections are available for download from the course web site or through links on the course web site [http://complex-systems.ucsd.edu/sio114ethn136](http://complex-systems.ucsd.edu/sio114ethn136).
- Read, listen to or watch these materials prior to class and come prepared to summarize/synthesize, ask questions, answer questions and apply the concepts.

Week 1: A Survey of Environmental Injustices and Struggles

Tuesday March 29: Introduction

For Thursday March 31:


Week 2: Indigenous Struggles for Land: Diné Struggles

For Tuesday, April 5:


For Thursday, April 7:

- Making a Stand at Desert Rock (Video).
Week 3: Food Security and Land Grabbing in Africa

For Tuesday, April 12:

For Thursday, April 14:

Week 4: Seeds & Soil: GMO, Pesticides and Food Sovereignty in India/World

For Tuesday, April 19:
- BA Federici (1998) Transgenic Bt crops and resistance: Broadscale use of pest-killing plants to be true test, California Agriculture, 52(6), 14-20.

For Thursday, April 21:
- I Illich (1968) To hell with good intentions, Service Learning Reader: Reflections and Perspectives on Service, 1-8.

Week 5: Intersectionality and Resource Depletion: Fisheries and Deforestation

For Tuesday, April 26:

For Thursday, April 28:
- AL Smith (2011) Conquest – Sexual Violence and American Indian Genocide, Presentation at the CMC Media and Democracy Lectures, Grand Rapids, Michigan. (Also available on video)

Week 6: Marine Appropriation and Contamination: Pacific Islands Struggles

For Tuesday, May 3:

For Thursday, May 5:
• P Christie (2015) Addressing why marine reserves fail: turning marine conservation on its head (Video)

Week 7: Environmental Racism: Toxic Air in Riverside

For Tuesday, May 10:

For Thursday, May 12:
• R Morello-Frosch et al. (2001) Environmental Justice and Southern California's "Riskscape": The Distribution of Air Toxics Exposures and Health Risks Among Diverse Communities, Urban Affairs Review, 36(4), 551-578.

Week 8: Mining, Tar Sands, and Fracking

For Tuesday, May 17:
• Canadian Society of Unconventional Resources (2016) Understanding Tight Oil.
• D Biello (2012) Pay Dirt: How to Turn Tar Sands into Oil [Slide Show], Scientific American.
• D Bailey (2016) Tar Sands Crude Oil: Health Effects of a Dirty and Destructive Fuel, NDRC.

For Thursday, May 19:
Week 9: Global Warming: Disconnect Between Source and Impact

For Tuesday, May 24:

For Thursday, May 26:
- SubMedia (2011) Oil Gateway (tar sands) (Video).

Week 10: Course Summary and Project Video Reports

- No assigned reading