

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:

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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 Participant Responsibilities 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>
- 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:

- MJ Hanson and DJ McNamee (1990) Efficient Reading of Papers in Science and Technology.
- Amrah Salomon J. (2016) Amrah's Reading/Note-taking Tips for Ethnic Studies Papers
- Space and Environment: Keywords for American Cultural Studies, ed. Bruce Burgett and Glenn Hendler, New York University Press: Race, Environment, Science.
- M Omi and H Winant (2015) Racial Formation in the United States, Third Edition, Routledge, Chapter 4, 105-106, 109-112.
- Project Underground (2014) Gold, Greed and Genocide (Video: 20 minutes)

Week 2: Indigenous Struggles for Land: Diné Struggles

For Tuesday, April 5:

- W Churchill (1996) Genocide in Arizona? The "Navajo-Hopi Land Dispute" in Perspective, in W Churchill, From a Native Son: Selected Essays on Indigenism, 1985-1995, South End Press, 107-144.
- R Dunbar-Ortiz (2014) An Indigenous Peoples History of the United States, Beacon Press, 32-55.
- T Grabel/NDRC (2006) Drawdown: An Update on Groundwater Mining on Black Mesa, 16p.

For Thursday, April 7:

- V Deloria (2003) God is Red: A Native View of Religion, Chapter 4: Thinking in Time and Space.
- K Benally (2014) Accomplices, Not Allies, Indigenous Action Media.
- Making a Stand at Desert Rock (Video).

Week 3: Food Security and Land Grabbing in Africa

For Tuesday, April 12:

- P Konings (2011) The Politics of Neoliberal Reforms in Africa State and Civil Society in Cameroon, Langaa & African Studies Centre, Chapter 1, 1-13.
- W Anseeuw and M Taylor (2014) Factors Shaping the Global Land Rush, in A Reid Ross, The Global Land Grab, PM Press, 129-156.
- ED Lazarus (2014) Land grabbing as a driver of environmental change, Area, 46.1, 74–82, doi: 10.1111/area.12072.

For Thursday, April 14:

- M Cristina Rullia, A Savioria, and P D'Odoricob (2013) Global land and water grabbing, PNAS, 110, 892-897.
- C Todhunter (2016) Spearheading the Neo-liberal Plunder of African Agriculture, Counterpunch.

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.
- EJ Rosi-Marshall, JL Tank, TV Royer, MR Whiles, M Evans-White, C Chambers, NA Griffiths, J Pokelsek and ML Stephen (2007) Toxins in transgenic crop byproducts may affect headwater stream ecosystems, PNAS, 104(41), 16204-16208.

For Thursday, April 21:

- R Dunford (2015) Human Rights and collective emancipation: The politics of food sovereignty, Review of International Studies, 41, 239-261.
- I Illich (1968) To hell with good intentions, Service Learning Reader: Reflections and Perspectives on Service, 1-8.
- E Alvarado, M Benjamin, and Institute for Food and Development Policy (Oakland, Calif.) (1989) Don't be afraid, gringo: A Honduran woman speaks from the heart: the story of Elvia Alvarado, Harper & Row. Chapters. 8-10, 13, 14.

Week 5: Intersectionality and Resource Depletion: Fisheries and Deforestation

For Tuesday, April 26:

- C Pedersen, T Feodoroff, R Reuter, J Franco, N Buxton, MC Barbesgaard, et al. (2014) The Global Ocean Grab: A Primer, Transnational Institute, Masifundise, Afrika Kontakt and World Forum of Fisher Peoples.
- M Chapin (2004) A Challenge to Conservationists, World Watch 17(6), 17-31.
- World Watch Readers (2005) Responses to Chapin (2004), World Watch.

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:

- E Hau'ofa (2000) The Ocean in Us, in A Hooper, ed, Culture and Sustainable Development in the Pacific, Asia Pacific Press (ANU), 392-410.

- S Perera (2013) Oceanic Corpo-graphies, Refugee Bodies and the Making and Unmaking of Waters, *Feminist Review*, 103, 58-79.

For Thursday, May 5:

- JN Kittinger, LT Teneva, H Koike, KA Stamoulis, DS Kittinger, KLL Oleson et al. (2015) From Reef to Table: Social and Ecological Factors Affecting Coral Reef Fisheries, Artisanal Seafood Supply Chains, and Seafood Security. *PLoS ONE* 10:8, e0123856. doi:10.1371/journal.pone.0123856
- X Basurto, E Blanco, M Nenadovic, B Vollan (2016) Integrating simultaneous prosocial and antisocial behavior into theories of collective action, *Science Advances*, 2(3), e1501220, DOI: 10:1125/sciadv.1501220.
- 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:

- W Churchill (1999) A Breach of Trust: The Radioactive Colonization of Native North America, *American Indian Culture and Research Journal*, 23(4), 23-69.
- S Razack (2002) Race, Space, and the Law: Unmapping a White Settler Society, Introduction: When Place Becomes Race, 1-20.
- G Lipsitz (2007) The Racialization of Space and the Spatialization of Race: Theorizing the Hidden Architecture of Landscape, *Landscape Journal*, 26(1), 10-23.

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.
- L Pulido, Sidawi and RO Vos (1996) An Archaeology of Environmental Racism in Los Angeles, *Urban Geography*, 17(5), 419-439.

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*.
- EN Kellya, DW. Schindler, PV Hodsonb, JW Shortc, R Radmanovicha and CC. Nielsena (2010) Oil sands development contributes elements toxic at low concentrations to the Athabasca River and its tributaries, *PNAS*, 107(37), 16178–16183.
- D Schindler (2010) Tar sands need solid science, *Nature*, 468, 499–501, doi:10.1038/468499a
- D Bailey (2016) Tar Sands Crude Oil: Health Effects of a Dirty and Destructive Fuel, NDRC.

For Thursday, May 19:

- A Smith (2005) Conquest: Sexual Violence and American Indian Genocide, South End Press, Chapter 3: Rape of the Land, 55-78.
- D Buckley (2014) Sexual Assault in the Bakken Shale Man Camps, *Earth First! Newswire*, May 26.
- F Waln, I Jasper, N Means and M "Witko" Cliff (2014) Rebel Music: Native America (discusses Keystone-Exxon Pipeline resistance and violence against Native Women).
- A Goodman and K Mossett (2015) We are Sacrifice Zones: Native Leader Says Toxic North Dakota Fracking Fuels Violence Against Women, *Democracy Now*, December 11.

Week 9: Global Warming: Disconnect Between Source and Impact

For Tuesday, May 24:

- IPCC (2014) Climate Change 2014 Synthesis Report Summary for Policymakers Chapter, 32p.
- R Baird (2008) The Impact of Climate Change on Minorities and Indigenous Peoples, Minority Rights Group International, 11p.
- J London, A Karner, J Sze, D Rowan, G Gambirazzio and D Niemeier (2013) Racing climate change: Collaboration and conflict in California's global climate change policy arena, Global Environmental Change, 23, 791–799.

For Thursday, May 26:

- B Powless (2012) An Indigenous Movement to Confront Climate Change, Globalizations, 9:3, 411-424, DOI: 10.1080/14747731.2012.680736.
- S Wilson (2009) Research is Ceremony: Indigenous Research Methods, Fernwood: The Elements of an Indigenous Research Paradigm, 69-70.
- L Sahagun (2014) Native Americans challenge construction of Mojave Desert solar plant, Los Angeles Times, December 14.
- SubMedia (2011) Oil Gateway (tar sands) (Video).

Week 10: Course Summary and Project Video Reports

- No assigned reading