

SUST 418*/AMST 320/PCST 340/GEOG 499
Nuclear New Mexico: Environmental & Social Impacts

3 Credit Hours

Fall 2017

Wednesday 3:30-4:45 pm

Mitchell Hall 104

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Office Hours: Monday 10:45- 12:00pm or by appointment

As the birthplace of the bomb and also as a main-player in the current nuclear weapons industry, New Mexico is a rich source of study for all things “nuclear.” In this course, we will explore multiple aspects of nuclearism in the Southwest, including environmental justice issues, environmental racism, radioactive colonialism, atomic tourism, and the global implications of “the bomb.” How does the ubiquitous presence of nuclearism in the Southwest impede our ability to live sustainably? What social justice concerns must we confront and what communities most bear the brunt of those concerns? We will take an interdisciplinary and critical approach to answering these questions and more throughout this course.

Course Objectives:

- To gain a thorough understanding of the historical, environmental, and socio-cultural impacts of “the bomb” on our local communities.
- To be able to identify social equity issues regarding race, class, and gender related to nuclearism.
- To strengthen critical thinking skills through intensive writing, reading, and discussion.
- To sharpen students’ ability to ask critical questions and contextualize conversations about sustainability and environmental justice within current activism and scholarship.

Required Texts:

- Leslie Marmon Silko. *Ceremony* Penguin Books, 1986.
- Various articles available on our class UNM Learn website (<https://learn.unm.edu/>).

Grading Scheme:

Undergraduate Students:

Class Participation:	15%
Midterm:	10%
Reading Responses:	20%
Community Hours:	10%
Field Trip Critical Reflection/Class Facilitation:	15%
Final Project:	30%

Graduate Students:

Class Participation:	15%
Reading Responses:	20%
Class Facilitation:	15%

Community Hours:	10%
Field Trip Critical Reflection:	10%
Conference paper:	30%

Class Participation:

This class relies on the intellectual commitment and active participation of all students. In order for the course to be effective, you **MUST** have the reading assignments completed and ready for in-depth discussion for each meeting. Active listening and mutual respect are requirements for this course. Our course covers topics that you may not agree with or may elicit intense and emotional reactions from you. While some readings may challenge you or make you feel uncomfortable, take this as sign that you are learning and pushing the boundaries of what you take for granted. I ask that you keep an open mind and challenge yourself while being respectful of the authors we read, your fellow classmates, and me. Hate speech, constant interruptions, and disrespect will not be tolerated.

Please turn off and put away all cell phones during class. Refrain from facebook, email, and anything other than a word doc for note-taking as it is distracting to all around you.

Reading Responses:

For EACH assigned reading, you will be expected to write one paragraph (4 sentences minimum) that explains *in your own words*:

- 1.) the author’s main arguments
- 2.) the author’s intended audience
- 3.) their sources
- 4.) Lastly, you will write one question the reading brought up for you and one comment you have about the reading.

The bulk of your response should be a summary of the author’s main arguments; please reserve your opinion about the piece for the comment and question section of the response. You will submit them on Learn and I will grade them on a complete/not-complete grading scale. They are due each week on the day of class (Tuesday or Thursday) morning by noon. You will also be expected to write a short comment/response to a fellow student’s reading journal each week by Friday at noon. Let’s create a vibrant community on the web. I will give half credit for late journals. **No hardcopies will be accepted.** It is very important that you stay on top of your Reading Journals because you may be called on in class to help facilitate our discussion of a reading with your comment or question. If you write a reading journal for the readings labeled OPTIONAL, you will receive an extra credit point counted towards your overall reading response grade.

Class Facilitation:

Every student will get the chance to help facilitate our class discussion on one of the readings. Each undergraduate student will be required to pair up with one or two other students to help lead class discussion of an assigned reading. You will be required to provide a brief summary of the reading’s main points, audience, and sources and at least 4 discussion questions for the class, typed out and due to the instructor on the day of the facilitation (one per group.) You will NOT be required to submit a reading response for the reading that you facilitate.

Graduate students will also be required to facilitate discussion AND present on a topic related to our course themes. You will provide a brief powerpoint (or other visual) and presentation with a background on your chosen topic and facilitate a discussion of the topic that includes our related

class readings. The presentation should deepen our understanding of a topic or issue related to nuclearism.

Graduate Students:

Graduate students in SUST 418 are expected to complete all assignments that undergraduates students are required to complete (with the exception of the Midterm Exam), and are expected to present on one topic related to course themes and facilitate discussion on this topic. Graduate students are expected to complete at least one reading response from the “optional” readings. Graduate students are required to write short conference-style papers at the end of the course instead of the final projects. The paper’s length and topic will be decided after a consultation with the instructor. The paper is due on December 14th.

Field Trip Critical Reflections:

You are required to attend at least TWO of the three Saturday field trips (Trinity Site on October 7th, Los Alamos on October 28th, and the Jackpile-Paguate Uranium Mine near Laguna on TBA) in addition to the class trip to the NMNSH in Albuquerque. After attending these field trips, you will write a critical reflection in which you compare the sites you visited, and tie in your original observations with our course material. Your paper should be 3-5 pages double-space and type-written with a bibliography. The reflection must follow the specific guidelines that will be provided in class and cite at least 3 sources from our class readings and 2 outside scholarly sources. This paper is due November 21st.

Community Hours:

A central facet of the Sustainability Studies Program is bridging the gap between theory and action/activism. In this course, you are required to log 10 “Community Hours” in which you connect the topics of this course with events, organizations, and activism within our wider community. I will share many opportunities via email and in class such as public lectures, events, and volunteer opportunities that will count towards these hours. You need to keep a log of your hours (how many hours at each event), get a signature if possible or provide a brochure, and write a one-paragraph reflection on the hours and how they complimented your learning in our course. Be sure to email me ahead of time if you are unsure if an event will count towards these hours. The log is due December 7th.

Final Projects:

Students will have the opportunity to create original projects that align with our course topics. You will have the option to pair with one or two other students in your project, or to work alone. Ideally, your projects will respond creatively to the social justice issues brought up by our discussions, speakers, and reading material. Past projects include: creating a website with information about the health impacts of radiation; putting together a “Toxic Tour” of an area of our local community, organizing a panel discussion with local activists on nuclear issues...the sky is the limit. Go with your passions and as well as your gifts. Check out past projects at our class website: www.nuclearnewmexico.com

You will turn in a proposal for your project on September 21st, an outline on October 10th, and a rough draft on November 16th. You will present your final project on Dec. 14th and turn in a short reflection paper about the work you did over the semester (if your project is a paper, you will not be required to write a reflection).

Attendance Policy and Late Work:

Regular attendance is crucial to maintaining a committed and vibrant intellectual atmosphere. You are allowed TWO absences, and after two absences **your overall participation grade will be**

lowered by 5 points for each additional absence. Documented medical and family emergencies are not included. (Note: Stellar participation in class has the potential to raise a borderline grade. Attendance problems or lack of engagement can lower your grade.) Unless you have made prior arrangements with me, late papers will be graded after a 10% reduction **for each day past the due date.** This does not apply to documented medical or family emergencies. Late reading responses will receive half credit.

Academic Dishonesty:

See pathfinder.unm.edu/common/policies/academic-dishonesty.html for the official policy. Let me know if you have any questions. Always cite your sources (whether you quote directly or paraphrase) to clearly to avoid problems with plagiarism. We will discuss plagiarism in detail at the beginning of the course so as to avoid any confusion.

Accommodation:

Accessibility Services (Mesa Vista Hall 2021, 277-3506) provides academic support to students who have disabilities. If you think you need alternative accessible formats for undertaking and completing coursework, you should contact this service right away to assure your needs are met in a timely manner. If you need local assistance in contacting Accessibility Services, see the Bachelor and Graduate Programs office.

Class Schedule:

***Note*:** I don't plan on it, but I reserve the right to change our schedule if I deem necessary. I will always give as much advance notice as I can and communicate the changes both in class and via email.

Week 1: Introductions, Origin Stories, and Nuclearism
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Tuesday, Aug. 22nd:

Topics:

- 1. Introductions**
- 2. Go Over Syllabus, Class Structure, Reading Journals, Class Facilitation Sign-Up**
- 3. Hiroshima and Nagasaki: Origin Stories**

Watch the beginning of *Oliver Stone's Untold History of the United States: The Bomb*

Thursday, Aug. 24th:

Topics:

- 1. Post- Cold War New Mexico**
- 2. The Manhattan Project**
- 3. An Interdisciplinary Introduction to Nuclearism: the Four Characteristics**

Readings:

- "Nuclearism" by Robert Jay Lifton
 - "Nuclear Legacies: Arrogance, Secrecy, Ignorance, Lies, Silence, Suffering, Action" by Laura Nader and Hugh Gusterson
 - OPTIONAL: "Introduction and The Origins of Los Alamos" from *The Day the Sun Rose Twice* by Ferenc Szasz
- Due: Reading responses

- OPTIONAL: Selections from *Hiroshima* by John Hersey
- Guest speaker: former Texas Legislator Lon Burnam
Due: Reading journals

<p>Week 2: Uranium, Indigenous Activism, & the Health Impacts of Radiation</p>

Tuesday, Aug. 29th:

Topics:

1. Reference Man
2. Radiation 101: “No Safe Amount”

Readings:

- “Radiation Basics” from *The Nukes Next Door*
- “Background Radiation” from *A Field Guide to Radiation*
- “The Problem: Nuclear Radiation and its Biological Effects” Rosalie Bertell
- OPTIONAL: “Bad to the Bone: Analysis of the Federal Maximum Contaminant Levels for Plutonium-239 and Other Alpha-Emitting Transuranic Radionuclides in Drinking Water” by Arjun Makhijani

Due: Reading Responses

Thursday, Aug. 31st:

Topics:

1. Uranium and Indigenous Activism
2. The “Front End” of the Nuclear Fuel Cycle

Readings:

- “Uranium Mining and Milling: Navajo Experiences in the American Southwest” by Johnston, Dawson, and Madsen

Guest Speaker: Leona Morgan from *Diné No Nukes & The Radiation Monitoring Project*

Due: Reading responses

<p>Week 3: Environmental Racism and Settler Colonialism</p>
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Tuesday, Sept. 5th:

Topics:

1. Environmental Racism

In class film: *The Return of Navajo Boy*

Thursday, Sept. 7th:

Topics:

1. Settler Colonialism and Radioactive Colonialism
2. New Mexico’s Colonial Past and Present

Readings:

- “Sacrificial Land” from *Wastelanding: Legacies of Uranium Mining in Navajo Country* by Traci Voyles

- Excerpts from *The Militarization of Indian Country* by Winona LaDuke
- OPTIONAL: “Native America: The Political Economy of Radioactive Colonialism” by Ward Churchill and Winona LaDuke

Due: Reading responses

Week 4: Science as Violence? The Logic of Progress, Human Experimentation
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Tuesday, Sept. 12th:

Topics:

1. Science, Gender, and Violence

Readings:

- “Science, Nature, and Gender” by Vandana Shiva
- “Science” from *Welcome to the Machine* by Derrick Jensen
- OPTIONAL: “Macho Science” from *The Gendered Atom* by Theodore Roszak

Due: Reading responses

Thursday, Sept. 14th:

Topics:

1. Human Experimentation

2. Knowledge at What Cost?

Readings:

- Selections from *The Plutonium Files* by Eileen Welsome
- Selections from *The Nazi Doctors* by Robert Jay Lifton

In-class debate: Science-defenders vs. Science-questioners

Due: Reading responses

Week 5: Global Nuclear Testing, Nuclear Accidents, Nuclear Winter
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Tuesday, Sept. 19th:

Topics:

1. Nuclear Winter

2. Nuclear Accidents/Close-Calls

Readings:

- “The Nuclear Winter” by Carl Sagan
- Selections from “The Limits of Safety” by Scott Sagan
- “Trump and the Nuclear Codes: How to Launch a Nuclear Weapon” Union of Concerned Scientists
- OPTIONAL: “Babysitting the Bomb” by Reid Cherlin
- OPTIONAL: Selections from *Broken Arrow*

Due: Reading responses

Thursday, Sept. 21st:

Topics:

1. Nuclear Testing/ "Rehearshals"
2. Radionuclides and Bioaccumulation
3. NUKEMAP

Readings:

- "Uranium Mine Workers, Atomic Downwinders, and the Radiation Exposure Compensation Act (RECA): The Nuclear Legacy by Susan Dawson and Gary Madsen
- "So Long Mom, I'm Off to Drop the Bomb" by Alex Wellerstein
- Selections from *Under the Cloud: The Decades of Nuclear Testing* by Richard Miller
- OPTIONAL: "From Hell to Breakfast" from *Savage Dreams* by Rebecca Solnit

Due: Reading responses, **Project Proposals**

Week 6: Operation Crossroads, Bikini Atoll, and Nuclear Waste

Tuesday, Sept. 26th:

Topics:

1. Nuclear Testing in the Pacific Islands
2. U.S. Colonialism

Reading:

- "'more like us than mice': Radiation Experiments with Indigenous Peoples" by Barbara Rose Johnston

Watch *Nuclear Savage*

Due: Reading responses

Thursday, Sept. 28th:

Topics:

1. Nuclear Waste: An Overview of the Problem
2. Waste Classification

Reading:

- "Nuclear Wasteland" from *The Tainted Desert* by Valerie Kuletz
- OPTIONAL: Excerpts from *Nuclear Wastelands*

Due: Reading responses

Week 7: The Mixed Waste Landfill & Trinity: Ongoing Struggles for Clean Air and Water

Tuesday, Oct. 3rd:

Topics:

1. The Mixed Waste Landfill: Albuquerque's Dangerous Dump
2. Isleta Pueblo and Water Rights

Reading:

- “Toxic Waste: Everything Has to Go Somewhere” from *The Orphaned Land* by V.B. Price

Due: Reading responses

Thursday, Oct. 5th:

Topics:

1. Tularosa Basin Downwinders
2. Radiation Exposure Compensation Act

Reading:

- Excerpts from *Unknowing, Unwilling, and Uncompensated*

Due: Reading Responses

****FIELD TRIP TO THE TRINITY SITE: SATURDAY, OCTOBER 7, 2017****

(Readings: Alex Wellerstein, and Michihiko Hachiya)

Week 8: Nuclear Waste and The Waste Isolation Pilot Plant (WIPP)

Tuesday, Oct. 10th:

Topics:

1. WIPP
2. Nuclear Waste Storage in the Future

Reading:

- “This Place is Not a Place of Honor” Sandia National Laboratories Report

Guest Speaker: Don Hancock, *Southwest Research and Information Center*

Due: Reading responses, **Project/Paper Outline**

Thursday, Oct. 12th:

FALL BREAK: No Class

Week 9: Midterm

Tuesday, Oct. 17th:

In-class Midterm Review

Thursday, Oct. 19th:

Midterm Exam

****SATURDAY, OCT. 22ND: LOS ALAMOS FIELD TRIP WITH JONI ARENDS, TEWA WOMEN**

UNITED AND DAVID HOLTkamp**

(Readings: Edith Warner, and Jake Kosek)

Week 10: Feminist Perspectives on the Bomb

Tuesday, Oct. 24th:

Topics:

1. Gendering the Bomb
2. Language as Power

Readings:

- “Sex and Death in the Rational World of Defense Intellectuals” by Carol Cohn

Due: Reading responses

Thursday, Oct. 26th:

Topics:

- 1. Feminism and Nuclearism**
- 2. Sexual Violence and Nuclearism**

Readings:

- “Explosive Issues: Sex, Women, and the Bomb” from *Homeward Bound* by Elaine Tyler May
- “Hot Spots: Justice, Power, and Gender in the Radioactive Present” from *Wastelands: Legacies of Uranium Mining in Navajo Country* by Traci Voyles
- OPTIONAL: “From Secrets of Life to Secrets of Death” by Evelyn Fox Keller

Due: Reading responses

Week 11: Atomic Tourism

Tuesday, Oct. 31st:

Topics:

- 1. Atomic Tourism and “Consuming” the Bomb**
- 2. Atomic Souvenirs: Power, Representation, and Kitsch**

Readings:

- “Atomic Tourism” Hugh Gusterson

Due: Reading responses

Thursday, Nov. 2nd:

In-class field trip to the National Museum of Nuclear Science and History (NMNSH) in Albuquerque

Visit http://www.pcf.city.hiroshima.jp/frame/Virtual_e/tour_e/guide2_4.html for a comparison to the Hiroshima Peace Museum and write a brief (3-5 paragraph) response to the field trip comparing these two sites and relating them to our class themes. Due on Learn November 7th.

Week 12: Nuclear Fear, the “Nuclear Uncanny,” and Cultural Responses to the Bomb

Tuesday, Nov. 7th:

Topics:

- 1. Nuclear Fear and the “Nuclear Uncanny”**

Reading:

- “The Enlightened Earth” Joseph Masco

Due: Reading responses

Thursday, Nov. 9th:

Topics:

- 1. Cultural Responses to the Bomb**
- 2. Sci-fi, Cold War Films and Beyond**

Reading:

- “Mutant Ecologies: Radioactive Life in Post-Cold War New Mexico”, Joseph Masco
- “The Nuclear Mushroom Cloud as Cultural Image” by Peggy Rosenthal

Due: Reading responses

Week 13: Nuclear Energy: Fukushima, Chernobyl, Church Rock

Tuesday, Nov. 14th:

Topics:

- 1. Fukushima Daiichi Meltdown**
- 2. The Connection Between Nuclear Power and Nuclear Weapons**

Reading:

- Excerpts from *Devil’s Tango: How I Learned the Fukushima Step by Step* by Cecile Pineda
- TBA

Due: Reading responses

Thursday, Nov. 16th:

Topics:

- 1. Chernobyl**
- 2. Informal Project Check-ins**

Reading: TBA

Due: Reading responses and Rough Drafts of Final Project

Week 14: Resistance, Resilience, and Activism
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Tuesday, Nov. 21st:

Topics:

- 1. The Work that Reconnects: Trauma and Environmental Destruction**
- 2. Finding Support and Inspiration: The Great Turning**

Reading:

- “The Greening of the Self” by Joanna Macy
- “The Great Turning” by Joanna Macy

Due: Reading Responses and Critical Field Trip Reflection

Thursday, Nov. 23rd:

No Class: Un-Thanksgiving Break (read *Ceremony*)

Week 15: Pulling it All Together, *Ceremony* Pt. 1

Tuesday, Nov. 28th:

Topics:

- 1. Integration of the Whole**
- 2. Nuclear Guardianship: Rocky Flats**
- 3. Art as Activism: Judy Chicago, Patrick Nagatani, and others**

Reading:

- “Rocky Flats & Nuclear Guardianship”
- “The Billboard Campaign” by Joseph Masco
- Radiation Monitoring Project website

Due: Reading responses

Thursday, Nov. 30th:

Topics:

- 1. Leslie Marmon Silko’s *Ceremony***

Reading:

- *Ceremony* p.1-78

Due: Reading responses

Week 16: *Ceremony* Pt. 2 and Final Projects

Tuesday, Dec. 5th:

Topics:

- 1. Leslie Marmon Silko’s *Ceremony* continued**

Reading:

- *Ceremony* p.78- end

Due: Reading responses

Thursday, Dec. 7th:

Topics:

- 1. Final Prep and Practice for Presentations**
- 2. Wrapping Up Loose Ends**

Due: Community Hours Log Sheet

Week 17: Finals Presentations, Final Projects: Nuclear Symposium

Thursday, Dec. 14th (3:00-5pm): Location TBA