

**SUST 418\*/AMST 320/PCST 340/GEOG 499/NATV 450**  
**Nuclear New Mexico: Environmental & Social Impacts**

3 Credit Hours

Spring 2018

Monday 2-4:30pm

Woodward Lecture Hall 147

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**Office Hours:** Tuesday 1:30- 2:30pm or by appointment



Photo of the first atomic explosion at Trinity Site, New Mexico  
Courtesy of: <http://www.white-sands-new-mexico.com/military.htm>

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 justice 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.*

**ITV STUDENTS:**

We are excited to have you in the course and even though you are not physically in the classroom space, you are just as much a part of the class as the on-campus students and all of the same class participation expectations apply to you. Please make sure that the camera on your computer is pointed at you at all times so that we can see you. Your perspective and voice are important to the class, so please make sure the mic is turned on when you are speaking and muted when you are not speaking. Be alert, attentive, and respectful- ask questions when they come up and communicate when technological issues happen (and they will happen!).

**Midterm**

The Midterm will be a short “take-home” exam that can be accessed and completed through Learn. It will consist of term identification, multiple choice, short essay, and/or long essay questions about the material covered in class. All lectures, readings, guest speakers, and films are fair game for midterm material. We will review for the midterm on March 19<sup>th</sup> and it comes due on March 25<sup>th</sup>. More information will be provided in class.

### **Reading Responses:**

For each week's assigned readings, 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.

You can combine multiple readings into one response. 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 Monday morning by 10am. You will also be expected to write a short comment/response to a fellow student's reading journal each week by Friday at 10am. 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.

**Important Note:** It is my experience that reading about these topics can lead to "burnout" and/or a time of feeling emotionally overwhelmed. Knowing this, I will allow you to take one full week off of reading responses with no penalty. You are still expected to do the readings and come to class ready to discuss them. Keep this in mind throughout the semester and use it when you need it.

### **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) 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.

### **Field Trip Critical Reflections:**

**You are required to attend at least ONE of the two Saturday field trips (Los Alamos on March 24<sup>th</sup> and the Jackpile-Paguate Uranium Mine near Laguna on TBA)** in addition to the class trip to the NMNSH in Albuquerque and an in-class video of the Trinity Site. Note: if you want to attend the Trinity Site on your own you can on April 7<sup>th</sup>. 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 April 23<sup>rd</sup>.

### **Class Facilitation:**

Every student will get the chance to help facilitate our class discussion on one of the readings. Each 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. 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 Nuclear New Mexico 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 comes due on May 7<sup>th</sup>.

### **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 and also be useful to communities beyond our classroom. Possible 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.

You will turn in a proposal for your project on February 19<sup>th</sup> and rough draft on March 26<sup>th</sup>. You will present your final project on May 7<sup>th</sup> and turn in a short reflection paper about the work you did over the semester. With your permission, I will post your project on our class website: [www.nuclearnewmexico.com](http://www.nuclearnewmexico.com).

### **Attendance Policy and Late Work:**

Regular attendance is crucial to maintaining a committed and vibrant intellectual atmosphere. You are allowed ONE absence, and after one absence **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.

### **Trigger warning: sexual assault and related issues:**

According to UNM policy your instructor is a "mandatory reporter" required to report sexual assault, misconduct, and harassment they observe or learn of through communications with students. Students who bring such information to the attention of their instructor may become subject of an investigation by the Office of Equal Opportunity. Your option is to first contact a confidential reporting location such as LoboRESPECT Advocacy Center, WRC, or LGBTQ office to assess your options without creating automatic actions beyond your control. Nonetheless, your SUST instructor remains a resource and direct contact with UNM if you so desire.

**Academic Dishonesty:**

See [pathfinder.unm.edu/common/policies/academic-dishonesty.html](http://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.

<b>Week 1: Introductions, Origin Stories, and Nuclearism</b>
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Monday, Jan. 22<sup>nd</sup>:

**Topics:**

- 1. Introductions**
- 2. Go Over Syllabus, Class Structure, Reading Journals**
- 3. Hiroshima and Nagasaki: The decision to drop the bomb**

Reading:

- **OPTIONAL:** "Introduction and The Origins of Los Alamos" from *The Day the Sun Rose Twice* by Ferenc Szasz

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

<b>Week 2: Uranium and Indigenous Activism</b>
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Monday, January 29<sup>th</sup> :

**Topics:**

- 1. The Front End of the Nuclear Fuel Cycle**
- 2. Uranium Mining & Milling and Indigenous Communities**
- 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

- “Sacrificial Land” from *Wastelanding: Legacies of Uranium Mining in Navajo Country* by Traci Voyles
- OPTIONAL: “Native Americans and Uranium Mining as State-Corporate Crime” by Linda Robyn
- OPTIONAL: “In Search of Treasure” from *Wastelanding: Legacies of Uranium Mining in Navajo Country* by Traci Voyles
- OPTIONAL: Selections from *Hiroshima* by John Hersey

Due: Reading responses and student bios & pictures posted to learn under “Meet Our Class”

Guest Speaker: Leona Morgan from *Radiation Monitoring Project, Diné No Nukes, & Nuclear Issues Study Group*

### Week 3: Environmental Racism & Settler Colonialism

Monday, February 5<sup>th</sup>:

**Topics:**

- 1. New Mexico’s Colonial Past and Present**
- 2. Radioactive Colonialism: What is it?**
- 3. The Nuclear Uncanny**

Readings:

- “Native America: The Political Economy of Radioactive Colonialism” by Winona LaDuke and Ward Churchill
- Excerpts from *The Militarization of Indian Country* by Winona LaDuke.
- “The Enlightened Earth” Joseph Masco
- OPTIONAL: “Nuclear Natures: In the Shadows of the City on the Hill” from *Understories* by Jake Kosek

In-class: Watch *The Return of Navajo Boy*

Due: Reading Responses

### Week 4: Radiation and Health; Nuclear Accidents and Nuclear Winter

Monday, February 12<sup>th</sup>:

**Topics:**

- 1. Reference man**
- 2. Radiation 101: “No safe amount.”**
- 3. Nuclear Accidents, Nuclear Winter**

Readings:

- “Background Radiation” from *A Field Guide to Radiation*
- “Death Wears Bunny Slippers: Hanging Out with the Disgruntled Guys who Babysit Our Aging Nuclear Missiles.” By Josh Harkinson
- Selections from *The Doomsday Machine: Confessions of a Nuclear War Planner* by Daniel Ellsberg
- “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: “Radiation Basics” from *The Nukes Next Door*
- OPTIONAL: “Babysitting the Bomb” by Reid Cherlin
- OPTIONAL: Selections from *Broken Arrow*
- OPTIONAL: “The Problem: Nuclear Radiation and its Biological Effects” Rosalie Bertell

Due: Reading responses

<b>Week 5: Science as Violence? The Logic of Progress, Human Experimentation</b>
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Monday, February 19<sup>th</sup>:

**Topics:**

- 1. Science, Gender, and Violence**
- 2. Knowledge at What Cost?**
- 3. Human Experimentation**

Readings:

- “Science, Nature, and Gender” by Vandana Shiva
- “Science” from *Welcome to the Machine* by Derrick Jensen
- Selections from *The Plutonium Files* by Eileen Welsome
- OPTIONAL: Selections from *The Nazi Doctors* by Robert Jay Lifton

Due: Reading responses and **Project Proposals**

<b>Week 6: The Global Impacts of Nuclear Testing; Radionuclides in the Environment</b>
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Monday, February 26<sup>th</sup>:

**Topics:**

- 1. Nuclear Testing**
- 2. Radionuclides and Bioaccumulation**
- 3. RECA**
- 4. Tularosa Basin Downwinders**
- 5. NUKEMAP**

Reading:

- “So Long Mom, I’m Off to Drop the Bomb” by Alex Wellerstein
- “Uranium Mine Workers, Atomic Downwinders, and the Radiation Exposure Compensation Action (RECA): The Nuclear Legacy” by Susan Dawson and Gary Madsen
- Excerpts from *Unknowing, Unwilling, and Uncompensated*
- Selections from *Under the Cloud: The Decades of Nuclear Testing* by Richard Miller

- OPTIONAL: “From Hell to Breakfast” from *Savage Dreams* by Rebecca Solnit
  - OPTIONAL: Excerpt from *Downwind: A People’s History of the Nuclear West* by Sarah Alisabeth Fox
- Due: Reading responses

**Week 7: Operation Crossroads, Pacific Islanders, and Bikini Atoll**

Monday, March 5<sup>th</sup>:

**Topics:**

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

Reading:

- “Rape of the Land” from *Conquest* by Andrea Smith
- “‘more like us than mice’: Radiation Experiments with Indigenous Peoples” by Barbara Rose Johnston

In-class: watch *Nuclear Savage*

Due: Reading response

**Week 8: Spring Break: Ceremony**

**March 12-16<sup>th</sup>: NO CLASS, Read Ceremony**

**Week 9: Ceremony**

Monday, March 19<sup>th</sup>:

**Topics:**

1. Discuss *Ceremony*
2. Midterm Review

Due: Reading responses

**\*\*FIELD TRIP TO LOS ALAMOS SATURDAY, MARCH 24<sup>TH</sup>: TOXIC TOUR WITH JONI ARENDS AND DAVID HOLTKAMP\*\* (Readings: Edith Warner, and Jake Kosek)**

**\*\*Take-home midterm due on Learn by midnight on Sunday, March 25<sup>th</sup> \*\***

**Week 10: WIPP and Sandia’s Mixed Waste Landfill/Dump; Threats to Our Water, Air, and Soil**

Monday, March 26<sup>th</sup>:

**Topics:**

1. WIPP and Sandia’s Mixed Waste Landfill
2. Threats to Our Water, Air, and Soil
3. Nuclear Waste Storage in the Future

Reading:

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

- “This Place is Not a Place of Honor” Sandia National Laboratories Report
- “Nuclear Wasteland” from *The Tainted Desert* by Valerie Kuletz
- OPTIONAL: Excerpts from *The Nukes Next Door: Shedding Light on a Nuclear Neighbor...Sandia National Labs* by SLAP
- OPTIONAL: Excerpts from *Nuclear Wastelands*
- 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 and **Rough draft of final project**

<b>Week 11: Atomic Tourism; Feminist Perspectives on the Bomb</b>
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Wednesday, March 29<sup>th</sup>:

**Topics:**

- 1. Atomic Tourism and “Consuming” the Bomb**
- 2. Language as Power**
- 3. Feminism, Sexual Violence, and Nuclearism**

Readings:

- “Atomic Tourism” Hugh Gusterson
- “Sex and Death in the Rational World of Defense Intellectuals” by Carol Cohn
- “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 *Wastelanding: 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

<b>Week 12: Art, Activism, Resilience</b>
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Monday, April 2<sup>nd</sup>:

**Topics:**

- 1. Nuclear Guardianship: Rocky Flats**
- 2. Integration of the Whole**
- 3. Art as Activism: Judy Chicago, Patrick Nagatani, and others**
- 4. The Work that Reconnects: Trauma and Environmental Destruction**

Reading:

- “The Greening of the Self” by Joanna Macy
- “Imagining Earth” by Geneen Marie Haugen
- “Rocky Flats & Nuclear Guardianship”

- “The Billboard Campaign” by Joseph Masco
- Radiation Monitoring Project website

Due: Reading responses and informal project check-in

### Week 13: Field-Trip to NMNSH in Albuquerque

Monday, April 9<sup>th</sup>:

**Field trip to the National Museum of Nuclear Science and History (NMNSH) in Albuquerque**  
 ITV STUDENTS: No class. Watch the footage of the field trip when it is posted and visit [http://www.pcf.city.hiroshima.jp/frame/Virtual\\_e/tour\\_e/guide2\\_4.html](http://www.pcf.city.hiroshima.jp/frame/Virtual_e/tour_e/guide2_4.html) for a comparison to the Hiroshima Peace Museum.

ALL STUDENTS: 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 April 16<sup>th</sup> 10am.**

### Week 14: Nuclear Energy

Monday, April 16<sup>th</sup>:

**Topics:**

1. Fukushima Daiichi Meltdown
2. Chernobyl
3. Commercial Nuclear Reactors: An Overview of Health Risks & Environmental Concerns
4. The Connection Between Nuclear Power and Nuclear Weapons
5. Centralized Interim Storage: Proposed Dump Sites in New Mexico for the Nation’s High Level Waste

Reading:

- Excerpts from *Devil’s Tango: How I Learned the Fukushima Step by Step* by Cecile Pineda
- Excerpts from *Nuclear Roulette* by Gar Smith
- *Fukushima: 4 Years On*
- OPTIONAL: “Tragedy at Fukushima Daiichi” James Mahaffey from Atomic Accidents

Due: Reading responses

### Week 15: Feminist Militarism, Nuclear Orientalism, and Movements towards Dismantling Nuclearism

Monday, April 23<sup>rd</sup>:

**Topics:**

1. Nuclear Orientalism
2. Feminist Militarism
3. Connecting the Civil Rights & Anti-Nuclear Movements

Readings:

- “Feminist Militarism” by Hugh Gusterson

- Selections from *African Americans Against the Bomb: Nuclear Weapons, Colonialism, and the Black Freedom Movement* by Vincent Intondi
- “Nuclear Weapons and the Other in the Western Imagination” by Hugh Gusterson

Due: Reading Responses

<b>Week 16: Atomic Culture</b>
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Monday, April 30<sup>th</sup>:

**Topics:**

- 1. Climate Change, Apocalyptic Imagery, and Nuclearism**
- 2. Cultural Responses to the Bomb**
- 3. Sci-fi, Cold War Films and Beyond**

**Readings:**

- “Bad Weather: On Planetary Crisis” by Joseph Masco
- “Mutant Ecologies: Radioactive Life in Post-Cold War New Mexico” from *Nuclear Borderlands* by Joseph Masco
- “The Nuclear Mushroom Cloud as Cultural Image” by Peggy Rosenthal

Due: Reading responses and **Field Trip Reflection Papers**

In-class: Begin Final Presentations

<b>Week 17: Final Projects</b>
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Monday, May 7<sup>th</sup>:

**Present final projects and celebrate your hard work!**

5:30-7:30pm

Due: Community Hours and Final Papers