

## HUMA 389-01: Atomic America Fall, 2020

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**Virtual Office Hours:** M, T, W, Th, & F from noon to 1pm (Mountain Time) via Zoom. Alternatively, you can send me a note via email to schedule an appointment by Zoom, Skype, phone, or whatever means are most accessible for you.

### Course Description

The “Atomic America” course was originally designed and delivered by the historian Ferenc Morton Szasz at the University of New Mexico. The historian of science Luis Campos has since inherited and revitalized the course, which examines “the complex historical, political, environmental, cultural, and moral dimensions of the atomic age” (Campos, Spring 2018). Similarly, the tradition of teaching the course at New Mexico Tech has taken an historical approach to nuclear technology by examining the “cultural, social, political, and economic dimensions of atomic energy” (NMT Course Catalogue, 2009-2011). This course adopts the regional tradition of historical and cultural approaches to understanding nuclear development in the United States and its moral, political, economic, and environmental implications, but we will also nuance the traditional curriculum in four ways:

1. Through an interdisciplinary approach, we will read across genres and disciplines of history, anthropology, geography, geology, ecology, and environmental health sciences.
2. At an institute of mining and technology, it makes sense to focus on mining technology, among other applied sciences and engineering involved in the entire cradle-to-grave lifetime of nuclear things.
3. The acquisition of raw materials and the extraction of uranium ore resources is scarcely mentioned in the historical record of the atomic age, and virtually absent in Atomic America courses. In this course, we will foreground this area of ignorance by focusing on geologic memoirs that have kept rigorous records on how uranium mining in the U.S. Southwest contributed to the Manhattan Project and subsequent radioactive nation building.
4. A final contribution of our work to the Atomic America tradition is a focus on abandoned uranium mine (AUM) lands, the ongoing environmental health legacies of uranium mining and milling, and the interdisciplinary environmental and biomedical sciences and engineering involved in monitoring and managing uranium mine waste and mill tailings.

The course is divided into two parts: **Part I is a literature review**, which is reading, writing, and communication intensive, and includes peer-to-peer, asynchronous collaborative group work and discussion. Annotations will be written for each assigned author, which will serve as points of discussion with your peers and will culminate in an annotated bibliography. **Part II is research intensive**, resulting in three collaborative case studies, through the compilation, curation, and archiving of data in critical and creative ways. Detailed instructions for this process will be

provided below and will be centered around students' academic and professional interests, and carried out through project-based and place-based research.

### **Mode of Instruction**

This course will be entirely online through asynchronous delivery—meaning there are no set times during the day that you are expected to be “in class” synchronously with your peers and instructor.

### **Pre-requisites/Co-requisites**

The only pre-requisite is junior standing or having passed the second course in the CLASS freshman writing sequence and a freshman history class.

### **Place in Curriculum**

This class satisfies the requirements of a Humanities course in the New Mexico General Education Curriculum and focuses on the following Essential Skills: Critical Thinking; Information and Digital Literacy; Personal and Social Responsibility

For more on the New Mexico Tech General Education Curriculum and how these essential skills are assessed, please visit the following website:

<https://www.nmt.edu/academicaffairs/assessment/gened.php>.

For more on the New Mexico General Education Requirements, please visit the following page in the NM Higher Education Department website: [https://hed.state.nm.us/resources-for-schools/public\\_schools/general-education](https://hed.state.nm.us/resources-for-schools/public_schools/general-education).

### **Course Learning Outcomes**

1. Advanced literacy in the regional tradition of historical and cultural studies of nuclear technologies and development in the United States, and the role of New Mexico in particular, as well as the complex moral, political, economic, and environmental implications
2. Identify the main arguments and perspectives of authors across genres and disciplines, in addition to analyzing different stakeholder perspectives, statements, and actions associated with nuclear issues
3. Rapidly identify clusters of key research questions and locate sites of information for answering these questions
4. Work collaboratively to rapidly produce case study research using diverse digital tools to support research and collaboration

### **Program Learning Outcomes**

<https://www.nmt.edu/academics/class/classoutcomes.php>

### **Course Requirements**

This course requires a substantial amount of reading and writing, as well as a commitment to strong virtual communication skills. Students are expected to read two articles or book chapters a week and will compile **annotations** for each assigned reading using the Annotation Template

below, which will form the basis for **an annotated bibliography** (3-4 pages) submitted through the Assignments tab on Canvas. All scheduled readings will be available on Canvas. Based on your annotations, you will also **post a single 200-word response** that captures your interpretations of the readings each week by **Wednesday** using the Discussion tab on Canvas. You will then *respectfully* respond to your peers' posts every **Friday**, which together will make up 40% of your grade. No late posts will be accepted as they will disrupt the timeliness of our asynchronous communications and my grading cycle. Additionally, students will **collaboratively design three case studies. The final product from each of the three case studies will be an individually authored three-page report**, double-spaced with one-inch margins, 12-pt Times New Roman font. Please format according to [\*Chicago Manual of Style\*](#). Submit reports through the Assignments function in Canvas, each worth 20% of your final grade. No late papers will be accepted, unless there are exceptional circumstances as stipulated by the college.

### Annotation Template

1. Copy and paste bibliographic citation in your notes for convenience and later incorporation in the annotated bibliography. For example:  
York, Richard and Eugene A. Rosa. 2003. Key Challenges to Ecological Modernization Theory: Institutional Efficacy, Case Study Evidence, Units of Analysis, and the Pace of Eco-Efficiency. *Organization and Environment* 16(3):273-288.
2. What is the main argument or thesis of the text?
3. What evidence is presented to support their argument? What do they treat as "data"?
4. What were the methods for collecting the data?
5. What concepts or key terms are introduced to make the argument?
6. Copy and paste three important quotes in your notes.

### Course Schedule

#### Part I: A Survey of the Literature on Atomic America

Annotations will form the basis for posts that will be submitted on Wednesday, as well as your responses to each other's posts, which will be submitted on Friday.

9/21: Atomic America

- Szasz, Ferenc. 1984. *The Day the Sun Rose Twice*. Introduction (3-6), Chapter 1 (7-26)

9/28: 'Radium Craze'

- Campos, Luis. 2015. *Radium and the Secret of Life*. Introduction (1-10) and Chapter 1 (11-55)

10/5: Geology and Technology of the 'Grants Uranium District'

- Chenoweth, William. 1985. Raw Materials Activities of the Manhattan Project in New Mexico
- McLemore, Virginia. 2010. The Grants Uranium District, New Mexico: Update on Source, Deposition, and Exploration

10/12: The Legacy of Uranium Mining

- Johnston, Barbara Rose. 2007. *Half-Lives and Half-Truths: Confronting the Radioactive Legacies of the Cold War*. Chapter 1 (1-18), Chapter 5 (97-115)

10/19: Wastelanding

- Voyles, Traci. 2015. *Wastelanding: Legacies of Uranium in Navajo Country*. Chapter 2 (55-86), Chapter 3 (87-115)

**\*Case Study 1: The Grants Uranium Mining District (DUE Friday 10/30)**

11/2: The Manhattan Project and Los Alamos National Labs (LANL)

- Masco, Joseph. 2006. *The Nuclear Borderlands: The Manhattan Project in Post-Cold War New Mexico*. Chapter 3 “Econationalisms” (99-159)

11/9: UNM METALS Superfund Research

- Lewis, J., Gonzalez, M., Burnette, C., Benally, M., Seanez, P., Shuey, C., Nez, H., Nez, C., Nez, S., 2015. Environmental exposures to metals in native communities and implications for child development: basis for the Navajo birth cohort study. *J. Soc. Work. Disabil. Rehabil.* 14, 245–269
- Blake, Johanna et al. 2015. Uranium mobility and accumulation along the Rio Paguete, Jackpile Mine in Laguna Pueblo, NM. *Environmental Science: Processes and Impacts*
- De Pree, Thomas. 2020. The politics of baselining in the Grants Uranium Mining District of Northwestern New Mexico. *Journal of Environmental Management*

**\*Annotated Bibliography (DUE Friday 11/13)**

**\*Case Study 2: Waste Isolation Pilot Plant (WIPP) & “Halt HOLTEC” (DUE Friday 11/20)**

**\*Case Study 3: White Sands & Chupadera Mesa (DUE Friday 12/4)**

**Part II: Collaborative Case Studies on Nuclear ‘Sacrifice Zones’**

For the second part of the course, you will collaborate with your peers by collecting and cross-analyzing data for three case studies. The original material for each case study will be combined in one collective Google Doc nested in the Collaborations tab in Canvas. Each student will contribute **at least three unique “artifacts” per case study** and contribute **at least 300 words in typed** response to any of the artifacts collected for the case study. The Google Doc will track our contributions. During this collaborative process, students will begin to write their **individual three-page double-spaced reports**, which will be submitted via the “Assignments” function in Canvas on the following dates: **Case Study 1 (DUE: 10/30); Case Study 2 (DUE: 11/20); Case Study 3 (DUE: 12/4)**. Notice that Case Study 1 is due during our reading cycle in Part I in order to balance the coursework for student manageability. I will post examples of other case studies for us to think about as we begin to design our collaborative case studies, in addition to instructions for the three-page report.

What count as “data” for our purposes are text, image, audio, video through media genres that range from news reports, to articles in scientific journals, to hyperlinks for websites, and online public fora. Think critically, creatively and ethically about what we can consider “data” or “artifacts” in online environments. In this part of the course, you will essentially train in the digital humanities as anthropologists and ethnographers of “virtual worlds” (Boellstorff et al. 2012) by rapidly compiling three qualitative case studies. In addition to the collaborating on a



Qualified individuals who require reasonable accommodations are invited to make their needs known to the Office for Disability Services (ODS) as soon as possible. To schedule an appointment, please call 835-6209, or email [disability@nmt.edu](mailto:disability@nmt.edu).

### **Counseling Services**

New Mexico Tech offers individual and couples counseling, safety assessments, crisis intervention and consultations through The Counseling Center. These confidential services are provided free of charge by licensed professionals. For more information, please call 835-6619, email [counseling@nmt.edu](mailto:counseling@nmt.edu) or complete an Intake Form on our website at <https://www.nmt.edu/cds/>. All services are provided via phone or Zoom during the Covid-19 pandemic.

### **Respect Statement**

New Mexico Tech supports freedom of expression within the parameters of a respectful learning environment. As stated in the New Mexico Tech Guide to Conduct and Citizenship: “New Mexico Tech’s primary purpose is education, which includes teaching, research, discussion, learning, and service. An atmosphere of free and open inquiry is essential to the pursuit of education. Tech seeks to protect academic freedom and build on individual responsibility to create and maintain an academic atmosphere that is a purposeful, just, open, disciplined, and caring community.”

### **Title IX Reporting**

Sexual misconduct, sexual violence and other forms of sexual misconduct and gender-based discrimination are contrary to the University’s mission and core values, violate university policies, and may also violate state and federal law (Title IX). Faculty members are considered “Responsible Employees” and are required to report incidents of these prohibited behaviors. Any such reports should be directed to Tech’s Title IX Coordinator (Dr. Peter Phaiah, 20D Brown Hall, 575-835-5187, [titleixcoordinator@nmt.edu](mailto:titleixcoordinator@nmt.edu) ). Please visit Tech’s Title IX Website ([www.nmt.edu/titleix](http://www.nmt.edu/titleix)) for additional information and resources.