

FYSE 131: The Nuclear Option: The Politics of Nuclear Energy in the US

College of Charleston

Spring 2015

Time TR 9:25–10:40 a.m.

Place Lightsey Conference Center B09

Instructor Professor Matthew Nowlin

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Office Hours Wednesdays 1–3 p.m. 114 Wentworth, Office 102

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Course Description

Energy is required to power the American economy and provide the lifestyles to which Americans have become accustomed. However, the production and use of energy, from all sources, entails risks to human health and the environment. In this course we will examine how risk related to the production of energy is understood by the public and policymakers. Specifically, this course will examine the risks and benefits associated with nuclear energy. *We will center the course on the question of whether the use of nuclear energy should be decreased or expanded in the United States.*

In seeking to address this question, the course will focus on the history and policy development of civilian nuclear energy, public opinion about nuclear energy, and the problem of nuclear waste. In addition, this course will focus on the risks associated with nuclear energy, and compare those risks to the risks associated with other forms of energy production.

This course will be structured as a seminar, meaning that classes will be discussion based rather than lecture based. This requires you to come to class prepared by having done the assigned readings prior to class. In addition, you should be prepared to participate in class by asking questions and making informed comments that add to the class discussion. *Cell phones must be put away during class and the use of laptops for note-taking is STRONGLY DISCOURAGED.*

Course Goals and Learning Objectives

This course counts as your First Year Experience requirement, therefore you will meet specific learning objectives required by the FYE as well as those specific to the course.

- **FYE Learning Objective 1: Campus Resources:**

- Identify and use the appropriate academic resources and student support services at College of Charleston. These would include the Addleston library, information technology, the Center for Student Learning, the Career Center, and other appropriate academic resources, student support services, and cultural resources.
- **FYE Learning Objective 2: Information Literacy:**
 - Use appropriate tools and search strategies for identifying particular types of information specific to the discipline
 - Evaluate the relevance, quality, and appropriateness of different sources of information
 - Recognize and classify the information contained within a bibliographic citation
 - Access and use information ethically and legally
- **FYE Learning Objective 3: Integrative Learning:**
 - Use appropriate critical thinking skills and problem-solving techniques in appropriate disciplinary contexts
 - Make connections across disciplines and/or relevant experiences

The specific goals for this course are to:

- Develop an understanding of risk from a technical and subjective standpoint.
- Develop an understanding of the policymaking process in the United States.
- Develop research skills including the acquiring and presenting of credible academic information.
- Obtain a basic understanding of nuclear energy *policy* in the US.
- Obtain a basic understanding of nuclear energy *politics* in the US.

Required Books

The following two books are required and additional readings will be posted on OAKS.

- Duffy, Robert J. 1997. *Nuclear Politics in America: A History and Theory of Government Regulation*. Lawrence, KS: University of Kansas Press.
- Ferguson, Charles D. 2011. *Nuclear Energy: What Everyone Needs to Know*. Oxford: Oxford University Press.

Course Requirements and Grading

Performance in this course will be evaluated on the basis of ten short assignments, a research paper, a mid-term exam, a final exam, and participation in the course and the first-year seminar.

Points will be distributed as follows:

- Short Assignments: (10 @20 pts each) 200 points
- Research Paper: 200 points
- Mid-Term Exam: 100 points
- Final Exam: 100 points
- Participation: 100 points
- *Total: 700 points*

Short Assignments: There will be ten short assignments due throughout the semester. These assignments will be based on the readings, films, and other class activities. *They are due at the beginning of class on the due date.* Specific assignments and due dates will be announced in class and available on OAKS. **No late assignments will be accepted.**

Research paper: The research paper will be 8 to 10 pages, double-spaced, Times New Roman 12pt font, and 1" margins. Portions of the paper will be due throughout the semester. More detail about the paper and due dates will be provided in class and on OAKS. Full and appropriate citations are expected, with any citation style (e.g., MLA, APA, Chicago) you prefer. Consider making use of the [Writing Lab](#) available on campus. **No late papers will be accepted.**

Mid-term: The mid-term exam will be given on **Thursday February 26th**. All material from the readings, lectures, media articles, and in-class discussions are fair game for the mid-term exam.

Final exam: The final exam will be given on **Thursday April 30th** from **8:00 to 11:00am**. The final will be comprehensive.

Participation: The participation portion of your grade is based on in-class participation, participation (attendance) in on-campus lectures/events, class attendance, and attendance in the First-Year Seminar.

- **In-class participation (30%):** This is a discussion based course and to make it work you need to have read assigned material and be prepared to participate in course discussions. Note that the professor has final say over what does or does not count as adequate participation.
- **Campus participation (30%):** For the campus participation portion you must attend three lectures/events outside of class and to submit a one page response to EACH event/lecture. The lec-

tures/events are **subject to instructor approval** and will be announced in class. Students may also suggest on-campus events that they feel would be appropriate, but prior approval must be obtained.

- **Attendance (30%):** Attendance will be taken for each class. You are allowed two absences without any penalty. For your third absence you will lose 50 points, for your fourth you will lose 100 points (150 pts.), and for your fifth you will lose 200 points (350 pts.). *If you miss more than five classes you will automatically receive a grade of WA.* Attendance is also required at the First Year Seminar and you will lose points for missing the seminar more than twice.
- **Above and Beyond (10%):** This includes but is not limited to consistent thoughtful questions and comments; mentioning facts or current events relative to class discussion; and overall making the class discussions more thought-provoking and informative.

Grades

There are **700** possible points for this course. Grades will be allocated based on your earned points and calculated as a percentage of **700**.

- A: 94 to 100%
- A-: 90 to 93%
- B+: 87 to 89%
- B: 83 to 86%
- B-: 80 to 82%
- C+: 77 to 79%
- C: 73 to 76%
- C-: 70 to 72%
- D+: 67 to 69%
- D: 63 to 67%
- D-: 60 to 62%
- F: 59% and below

Course Outline and Schedule

I. Nuclear Energy and Risk

JAN 13TH–15TH: INTRODUCTION AND COURSE OVERVIEW

JAN 20TH–22TH: THE NUCLEAR DEBATE

- FILM: [Pandora's Promise](#)
- FILM: [The Atomic States of America](#)

- *Assignment 1: One page reaction paper for each film, due Jan 27th*

NOTE: These films run about 10 mins longer than the scheduled class time.

JAN 27TH–29TH: DEFINING AND UNDERSTANDING RISK

- **Read the following by Jan 29th:**
 - Kaplan, Stanley, and B. John Garrick. 1981. “On The Quantitative Definition of Risk.” *Risk Analysis* 1(1): 11–27. on [OAKS](#)
 - Sunstein, Cass R. 2002. “Thinking About Risks.” **Chapter 2** in *Risk and Reason: Safety, Law, and the Environment*. Cambridge: Cambridge University Press. on [OAKS](#)
- *Assignment 2: Three discussion questions over the readings, due Jan 29th*

FEB 3RD–5TH: GOVERNING RISK

- **Read the following by Feb 3rd**
 - Sunstein, Cass R. 2002. “Probability Neglect: Emotions, Worst Cases, and Law.” *The Yale Law Journal* 112(1): 61–107. on [OAKS](#)
- **Read the following by Feb 5th**
 - Kahan, Dan M., Paul Slovic, Donald Braman, and John Gastil. 2006. “Fear of Democracy: A Cultural Evaluation of Sunstein on Risk.” *Harvard Law Review* 119(4): 1071–1109. on [OAKS](#)
- *Assignment 3: Summarize the arguments by Sunstein and the arguments of Kahan et al. In your view, how should risks be governed and why? Due Feb 10th.*

FEB 10TH–12TH: THE PRODUCTION OF NUCLEAR ENERGY

- **Read by Feb 10th:**
 - *Nuclear Energy*: Chapter 2, pgs 53–83
- **Read by Feb 12th:**
 - *Nuclear Energy*: Chapter 1, pgs 3–51
 - *Guest Speaker Feb 12th*: [Gardner Marshall](#)
- *Assignment 4: TBD*

FEB 17TH–19TH: NUCLEAR SAFETY I

- **Read by Feb 17th:**
 - *Nuclear Energy*: Chapter 4, pgs 103–135

- **Read by Feb 19th:**
 - *Nuclear Energy*: Chapter 5, pgs 137–171
- *Assignment 5*: TBD

FEB 24TH–26TH: NUCLEAR SAFETY II

- FILM **FRONTLINE**: *Nuclear Aftershocks*

FEB 26TH: MID-TERM EXAM

MARCH 2ND–6TH: SPRING BREAK

II. Managing Risk: The Politics and Policy of Nuclear Energy

MARCH 10TH–12TH: MAKING PUBLIC POLICY

- **Read by March 10th:**
 - Rosenbaum, Walter A. 2015. “Managing Energy: A Policy Primer”, **Chapter 2** in *American Energy: The Politics of 21st Century Policy* pgs. 34–59. on **OAKS**
- **Read by March 12th:**
 - *Nuclear Politics*: Chapter 1, pgs 1–19
- *Assignment 6*: TBD

MARCH 17TH–19TH: NUCLEAR POLICY HISTORY

- **Read by March 17th**
 - *Nuclear Politics*: Chapter 2, pgs 20–48
- **Read by March 19th**
 - *Nuclear Politics*: Chapter 3, pgs 49–80
- *Assignment 7*: TBD

MARCH 24TH–26TH: NUCLEAR POLICY AND INSTITUTIONS

- **Read by March 24th**
 - *Nuclear Politics*: Chapter 5, pgs 103–122
- **Read by March 26th**
 - *Nuclear Politics*: Chapter 6, pgs 123–15
- *Assignment 8*: TBD

MARCH 31ST–APRIL 2ND: NUCLEAR POLITICS

- **Read by March 31st**
 - *Nuclear Politics*: Chapter 7, pgs 151–180

APRIL 2ND: NO CLASS

APRIL 7TH–9TH: NUCLEAR ENERGY AND PUBLIC OPINION

- **Read by April 7th:**
 - Rothman, Stanley, and S. Robert Lichter. 1987. “Elite Ideology and Risk Perception in Nuclear Energy Policy.” *The American Political Science Review* 81(2): 383–404. on [OAKS](#)
- **Read by April 9th:**
 - Ansolabehere, Stephen, and David M. Konisky. 2009. “Public Attitudes Toward Construction of New Power Plants.” *Public Opinion Quarterly* 73(3): 566–77. on [OAKS](#)
- *Assignment 9*: TBD

APRIL 14TH–16TH: NUCLEAR WASTE

- **American Nuclear Society: International High-Level Radioactive Waste Management Conference.** Charleston Marriott, April 12th–15th.
- **Read:**
 - *Nuclear Energy*: Chapter 7, pgs 189–201
- *Assignment 10*: TBD

APRIL 21ST–23RD: IN-CLASS DEBATES

FINAL EXAM: APRIL 30TH, 8:00–11:00AM

Center for Student Learning

I encourage you to utilize the Center for Student Learning’s (CSL) academic support services for assistance in study strategies and course content. They offer tutoring, Supplemental Instruction, study skills appointments, and workshops. Students of all abilities have become more successful using these programs throughout their academic career and the services are available to you at no additional cost. For more information regarding these services please visit the [CSL website](#) or call (843)953-5635.

Disability Services

The College will make reasonable accommodations for persons with documented disabilities. Students should apply at the Center for Disability Services / SNAP, located on the first floor of the Lightsey Center, Suite 104. Students approved for accommodations are responsible for notifying me as soon as possible and for contacting me one week before accommodation is needed.

College of Charleston Honor Code and Academic Integrity

Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when identified, are investigated. Each incident will be examined to determine the degree of deception involved. Incidents where the instructor determines the student's actions are related more to a misunderstanding will be handled by the instructor. A written intervention designed to help prevent the student from repeating the error will be given to the student. The intervention, submitted by form and signed both by the instructor and the student, will be forwarded to the Dean of Students and placed in the student's file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on the student's transcript for two years after which the student may petition for the X to be expunged. The F is permanent. The student may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board.

Students should be aware that unauthorized collaboration—working together without permission—is a form of cheating. Unless the instructor specifies that students can work together on an assignment, quiz and/or test, no collaboration during the completion of the assignment is permitted. Other forms of cheating include possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer), copying from others' exams, fabricating data, and giving unauthorized assistance. Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the instructor.

Students can find the complete Honor Code and all related processes in the [Student Handbook](#).