Course Name: Science and Politics
Course Number: PS 476
Term Offered: Winter
Credits: 4
Instructor name: Brent S. Steel
Instructor email: bsteel@oregonstate.edu
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Course Description

Catalog description: Relationship between science and the political system in political ideas and history, in bureaucratic politics of science policy, and in contemporary scientific disputes.

Course Overview

In recent years there has been an increasing emphasis among decision makers, interest groups, and citizens alike on the importance of more science-based public policy at local, regional, national, and international levels of governance. Many have normative expectations that this can improve the quality of complex public policy decisions. The assumption is that scientists can and should facilitate the resolution of public policy decisions by providing objective scientific information to policymakers and the public and by becoming more involved in policy arenas.

There are others, however, who suggest that science is used for less desirable policy purposes such as rationalizing and legitimizing decisions made by elites. This latter view has been supported by postmodern perspectives in the sociology of science, which argue that the authority of science and scientific "narratives" is socially constructed by scientists and users of scientific information and is not inherent to science *qua* science. This model posits the following: science and scientists are considered just one of many sources of authority concerning natural resource management issues; scientific information may itself be biased; and, other types of policy actors, information, and values are more important in arriving at sensible public choices.

This course examines the role of science and scientists in the political and policy process from multiple perspectives. A specific focus is placed on the prevalent role power plays in determining scientific and technological outcomes.

Communication

Please post all course-related questions in the General Discussion Forum so that the whole class may benefit from our conversation. Please email your instructor for matters of a personal nature. I will reply to course-related questions and email within 24 hours. I will strive to return your assignments and grades for course activities to you within five days of the due date.

Course Credits

This course combines approximately 120 hours of instruction, online activities, and assignments for 4 credits.

Technical Assistance

If you experience any errors or problems while in your online course, contact 24-7 Canvas Support via

chat, phone, or e-mail through the Help link within Canvas. If you experience computer difficulties, need help downloading a browser or plug-in, or need assistance logging into a course, contact the OSU Help Desk for assistance. You can call (541) 737-3474, email **osuhelpdesk@oregonstate.edu** or visit the **OSU Computer Helpdesk** online.

Learning Resources

First a warning, many of the readings in this course are quite disturbing because they document egregious, unethical, authoritarian, and horrifying abuses of science and technology. As we proceed through the readings, lets keep in mind how we can adopt policies and practices to guard against such abuses and conduct science in an ethical manner to the benefit of society at large (e.g., enforcement of Nuremberg Code and Human Subjects training and regulations).

Available electronically through the OSU Library, OSU Bookstore, or other provider:

1. John Krige, *American Hegemony and the Postwar Reconstruction of Science in Europe* (Cambridge: The MIT Press, 2006).

    This book focuses on how science was embedded in U.S. Foreign Policy in postwar Europe as an instrument of power.

2. Sheila Jasanoff, *Designs on Nature: Science and Democracy in Europe and the United States* (Princeton: Princeton University Press, 2007).

3. Allen Hornblum, *Acres of Skin: Human Experiments at Holmsburg Prison* (New York: Routledge, 1999).

    An overview of the use of prisoners flor medical research at Holmesburg Prison. Students may also be interested in reading Rebecca Skloot's *The Immortal Life of Henrietta Lacks*.

At OSU Bookstore or other provider:

4. David Wise, *Cassidy's Run: The Secret Spy War Over Nerve Gas* (New York: Random House, 2000).

    This a true story of a 23 year Cold War spy operation that the U.S. conducted against the Soviet Union concerning the development and delivery of technology for nerve gas.

Additional reading assignments can be found on Canvas.

Canvas

This course will be delivered via Canvas where you will interact with your classmates and with your instructor. Within the course Canvas site, you will access the learning materials, such as the syllabus, class discussions, assignments, projects, and quizzes. To preview how an online course works, visit the Ecampus Course Demo. For technical assistance, please visit Ecampus Technical Help.

Student Learning Outcomes

This course fulfills the Baccalaureate Core requirement for the *Science, Technology and Society* category. Students will be asked to think and write critically about the historical role of science and technology in society and how power structures impact that role**.**

The rationale for the Science, Technology and Society Bacc Core requirement is: "Given the immense impact that science and technology have had on all facets of modern civilization, a disciplined study of the interaction of science and technology with society is a necessary part of general education. Students

should understand the political and economic dimensions of scientific or technological change, the nature of the scientific enterprise and its relationship to technology, and the complexity of major revolutions in science and technology."

Students in Science, Technology, and Society courses shall:

1. Analyze relationships among science, technology, and society using critical perspectives or examples from historical, political, or economic disciplines.

2. Analyze the role of science and technology in shaping diverse fields of study over time.

3. Articulate in writing a critical perspective on issues involving science, technology, and society using evidence as support.

Evaluation of Student Performance

Weekly Canvas Discussion
Participation in **TEN** weekly Canvas discussion groups is required beginning Week 2. Discussion topics should relate to the week's assigned readings and other relevant observations. Each student must submit ONE original posting by Wednesday (11:00 pm). Then each student is responsible for ONE additional reply (minimum) to another student's posting by Sunday (11:00 pm). Discussions will ask students to think critically about the week's topic and the historical context of the issue concerning Science, Technology and Society. Each discussion topic is worth 15 points. *Note:* Discussion must be professional, polite and respectful. Also, overly ideological discourse should be avoided.
Policy Response Papers Each student is responsible for writing **FOUR** Policy Response papers. Each Policy Response (PR) paper should be a 5-6 page paper (single-spaced, 11 point, Times New Roman font, with normal borders) that distills the essential elements of the assigned readings, powerpoints, and additional web-based materials. For the purposes of this class, these essential elements are defined as: 1. **Introduction:** Each PR should have an introduction that provides an overview of the readings covered by the assigned syllabus topics, and a statement of how you will organize and approach the topics and questions. 2. **Analysis:** Each PR will have you think and write critically about the role of science and technology in society covered for the assigned syllabus topics. You should identify the key scientific institutions and policies that individuals and groups might encounter and how individuals and groups maybe impacted. 3. **The Role of Power:** Discuss how science and technology can reinforce power relationships or lead to political and social conflict (either domestically of international). What are the institutional and policy opportunities and barriers for effective citizen participation in scientific and technology issues? How can people be protected from the abuse of these processes? What can society do to ensure that citizens benefit from science and technological innovations and are not harmed? 4. **Brilliant Insights or Thoughts:** Category four is the only reason you should go over 5-6 pages. As to what you write here, well…. hard to say: it should be brilliant though! (And no more than one additional page). 5. **Be sure to cite appropriately and include a reference page (this page will not be counted against your page limit).** The PR papers are intended to accomplish two goals. The first goal is to meet the requirements of the Bacc Core Student Learning Outcomes for *Science, Technology and Society.* The second goal is to

help students distill the intricate and complex political and policy processes of science and technology state and local government in order to encourage lifelong democratic participation and "engaged citizenship," which is a vital and significant precondition of sustainable communities and states. PR papers are worth 100 points each.

Course Assignments, Points and Learning Outcomes

Assignment	Possible Points	Learning Outcomes
Weekly Canvas Discussion	150 (15 points each)	1,2,3
Policy Response Papers	400 (100 points each)	1,2,3
Total=	**535**	

Grading Scale

Course Letter Grade	Percent of points possible*
A	[95-100%]
A-	[90-94%]
B+	[87-89%]
B	[83-86%]
B-	[80-82%]
C+	[77-79%]
C	[73-76%]
C-	[70-72%]
D+	[67-69%]
D	[63-66%]
D-	[60-62%]
F	[0-59%]

Course Content

Week	Topics	Readings	Activities
1	INTRODUCTION	B.S. Steel, "Introduction," B.S. Steel (ed.) *Science and Politics: An A-to-Z Guide to Issues and Controversies* (Sage, 2015). Wolters & Steel, "Introduction," When Ideology Trumps Science (Praeger, 2018).	Online Introduction in Discussion Board. Online discussion topic. Review Syllabus and Canvas course website. First post due Wed., second and posts due

			by Sunday at 11:59 pm.
2	WHO OR WHAT DRIVES SCIENTIFIC & TECHNOLOGICAL DEVELOPMENTS?	John Krige, *American Hegemony and the Postwar Reconstruction of Science in Europe*, pp. 1-56. Bruce Bimber, "Three faces of Technological Determinism," in Merritt Roe Smith and Leo Marx, eds., *Does Technology Drive History: The Dilemma of Technological Determinism* (Cambridge: The MIT Press, 1994): 79-100. Hans J. Morgenthau, "Modern Science and Political Power," *Columbia Law Review* 64 (1964): 1386-1409. E. Press and J. Washburn, "The Kept University," *The Atlantic Monthly* (March 2000): 39-54. ***Supplementary reading:*** Vannevar Bush, *Science the Endless Frontier, A Report to the President*, July 1945. http://www.nsf.gov/od/lpa/nsf50/vbush1945.htm Daniel J. Kevles, "What's New about the Politics of Science?" *Social Research* 73:3 (Fall 2006): 761-778.	Online discussion topic. First post due Wed., second and posts due by Sunday at 11:59 pm.
3	SCIENCE & TECHNOLOGY AS A POLITICAL RESOURCE	John Krige, *American Hegemony and the Postwar Reconstruction of Science in Europe*, pp. 57-152. Aaron Friedberg, "Science, the Cold War, and the American State," *Diplomatic History* 20:1 (Winter 1996): 107-118. General Eisenhower, "Scientific and Technological Resources as Military Assets," (1946), reprinted in Seymour Melman, *Pentagon Capitalism: The Political Economy of War* (New York: McGraw Hill Book Company, 1970): 231-234. President Eisenhower's Farewell Address to the Nation, January 17, 1961. http://mcadams.posc.mu.edu/ike.htm	Online discussion topic. First post due Wed., second and posts due by Sunday at 11:59 pm. PR 1 due
4	SCIENCE & TECHNOLOGY IN WORLD POLITICS	John Krige, *American Hegemony and the Postwar Reconstruction of Science in Europe*, pp. 153-270. Vittorio Ancarani, "Globalizing the World: Science and Technology in International Relations," in Sheila Jasanoff, Gerald E. Markle, James C. Peterson, and Trevor Pinch, eds., *Handbook of Science and Technology Studies* (California: SAGE Publications,	Online discussion topic. First post due Wed., second and posts due

		1995): 652-670.	by Sunday at 11:59 pm.
5	SPIES, SECRECY & THE QUEST FOR TECHNOLOGICAL SUPERIORITY	David Wise, *Cassidy's Run*, pp. 1-110. Sissela Bok, "Secrecy and Openness in Science: Ethical Considerations," *Science, Technology, & Human Values* 7:38 (Winter 1982): 32-41. Lawrence Badash, "Science and McCarthyism," *Minerva*, 38 (2000): 53-80.	Online discussion topic. First post due Wed., second and posts due by Sunday at 11:59 pm.
6	SCIENCE, TECHNOLOGY & NATIONAL SECURITY	David Wise, *Cassidy's Run*, pp. 111-209. Walter Lafeber, "Presidential Address: Technology and U.S. Foreign Relations," *Diplomatic History* 24:1 (Winter 2000): 1-19. Theodore H. Moran, "The Globalization of America's Defense Industries: Managing the Threat of Foreign Dependence," *International Security*, vol. 15, no. 1 (Summer 1990): 57-99. ***Supplementary reading:*** Robert Paarlberg, "Knowledge as Power: Science, Military Dominance, and U.S. Security," *International Security* 29:1 (Summer 2004): 122-151.	Online discussion topic. First post due Wed., second and posts due by Sunday at 11:59 pm. PR 2 due
7	DEMOCRACY, PUBLIC ACCOUNTABILITY, & THE SCIENTIFIC PROCESS	Allen M. Hornblum, *Acres of Skin*, pp. 1-148 John Pierce and Nicholas Lovrich, "Democracy and Technology," in B.S. Steel (ed.) *Science and Politics: An A-to-Z Guide to Issues and Controversies* (Sage, 2015). ***Supplementary reading:*** Office of Technology Assessment Act of 1972 http://www.wws.princeton.edu/ota/ns20/act_f.html	Online discussion topic. First post due Wed., second and posts due by Sunday at 11:59 pm.
8	SCIENTIFIC EXPERTISE & THE CONSTRUCTION OF AUTHORITY	Allen M. Hornblum, *Acres of Skin*, pp. 149-244. Lee DuBridge, "Science Advice to the President: Important and Difficult," in William T. Golden, ed., *Science Advice to the President* (New York: Pergamon Press, 1980): 9-14. Susan Wright, "Legitimating Genetic Engineering," *Dissent* (Winter 2001): 62-69.	Online discussion topic. First post due Wed., second and posts due by Sunday at 11:59 pm.

		Dorothy Nelkin, "Science Controversies: The Dynamics of Public Disputes in the United States," in Sheila Jasanoff, Gerald E. Markle, James C. Peterson, and Trevor Pinch, eds., *Handbook of Science and Technology Studies* (California: SAGE Publications, 1995): 444-456.	PR 3 due
9	SCIENCE & TECHNOLOGY IN COMPARATIVE PERSPECTIVE	Sheila Jasanoff, *Designs on Nature*, pp. 1-145. Daniel J. Kevles, "Of mice & money: The story of the world's first animal patent," *Daedalus*, vol. 131, no. 2 (Spring 2002): 78-88.	Online discussion topic. First post due Wed., second and posts due by Sunday at 11:59 pm.
10	GLOBALIZATION: SCIENTIFIC COMPETITION OR COOPERATION?	Sheila Jasanoff, *Designs on Nature*, pp. 146-291. M. Norton Wise, "Thoughts on the Politicization of Science through Commercialization," *Social Research*, 73:4 (Winter 2006): 1253-1272. Supplementary reading: Sabing H. Lee, "Protecting the Private Inventor Under the Peacetime Provisions of the Invention Secrecy Act," *Berkeley Technology Law Review*, vol. 12, no. 2 (Fall 1997): http://btlj.boalt.org/data/articles/12-2_fall_1997_3-lee.pdf	Online discussion topic. First post due Wed., second and posts due by Sunday at 11:59 pm.
Finals Week			PR 4 due

Course Policies

>Discussion Participation
Students are expected to participate in all graded discussions. While there is great flexibility in online courses, this is not a self-paced course. You will need to participate in our discussions on at least two different days each week, with your first post due no later than Wednesday evening, and your second and third posts due by the end of each week.

>Incompletes
Incomplete (I) grades will be granted only in emergency cases (usually only for a death in the family, major illness or injury, or birth of your child), and if the student has turned in 80% of the points possible (in other words, usually everything but the final paper). If you are having any difficulty that might prevent you completing the coursework, please don't wait until the end of the term; let me know right away.

>Guidelines for a Productive and Effective Online Classroom

This course is offered through Oregon State University Extended Campus. For more information, contact:
Web: ecampus.oregonstate.edu   Email: ecampus@oregonstate.edu   Tel: 800-667-1465

Students are expected to conduct themselves in the course (e.g., on discussion boards, email) in compliance with the university's regulations regarding civility.

Civility is an essential ingredient for academic discourse. All communications for this course should be conducted constructively, civilly, and respectfully. Differences in beliefs, opinions, and approaches are to be expected. In all you say and do for this course, be professional. Please bring any communications you believe to be in violation of this class policy to the attention of your instructor.

Active interaction with peers and your instructor is essential to success in this online course, paying particular attention to the following:
- Unless indicated otherwise, please complete the readings and view other instructional materials for each week before participating in the discussion board.
- Read your posts carefully before submitting them.
- Be respectful of others and their opinions, valuing diversity in backgrounds, abilities, and experiences.
- Challenging the ideas held by others is an integral aspect of critical thinking and the academic process. Please word your responses carefully, and recognize that others are expected to challenge your ideas. A positive atmosphere of healthy debate is encouraged.

>Statement Regarding Students with Disabilities
Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at http://ds.oregonstate.edu. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

>Accessibility of Course Materials
All materials used in this course are accessible. If you require accommodations please contact Disability Access Services (DAS).

Additionally, Canvas, the learning management system through which this course is offered, provides a vendor statement certifying how the platform is accessible to students with disabilities.

>Expectations for Student Conduct in this Online Classroom
Students are expected to conduct themselves in the course (e.g., on discussion boards, email postings) in compliance with the university's regulations regarding civility. Student conduct is governed by the university's policies, as explained in the Student Conduct Code.

>Academic Integrity
Students are expected to comply with all regulations pertaining to academic honesty. For further information, visit Student Conduct and Community Standards, or contact the office of Student Conduct and Mediation at 541-737-3656.

OAR 576-015-0020 (2) Academic or Scholarly Dishonesty:
a) Academic or Scholarly Dishonesty is defined as an act of deception in which a Student seeks to claim credit for the work or effort of another person, or uses unauthorized materials or fabricated information in any academic work or research, either through the Student's own efforts or the efforts of another.

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b) It includes:
    i) CHEATING - use or attempted use of unauthorized materials, information or study aids, or an act of deceit by which a Student attempts to misrepresent mastery of academic effort or information. This includes but is not limited to unauthorized copying or collaboration on a test or assignment, using prohibited materials and texts, any misuse of an electronic device, or using any deceptive means to gain academic credit.
    ii) FABRICATION - falsification or invention of any information including but not limited to falsifying research, inventing or exaggerating data, or listing incorrect or fictitious references.
    iii) ASSISTING - helping another commit an act of academic dishonesty. This includes but is not limited to paying or bribing someone to acquire a test or assignment, changing someone's grades or academic records, taking a test/doing an assignment for someone else by any means, including misuse of an electronic device. It is a violation of Oregon state law to create and offer to sell part or all of an educational assignment to another person (ORS 165.114).
    iv) TAMPERING - altering or interfering with evaluation instruments or documents.
    v) PLAGIARISM - representing the words or ideas of another person or presenting someone else's words, ideas, artistry or data as one's own, or using one's own previously submitted work. Plagiarism includes but is not limited to copying another person's work (including unpublished material) without appropriate referencing, presenting someone else's opinions and theories as one's own, or working jointly on a project and then submitting it as one's own.
c) Academic Dishonesty cases are handled initially by the academic units, following the process outlined in the University's Academic Dishonesty Report Form, and will also be referred to SCCS for action under these rules.

>Turnitin Plagiarism Prevention
Submit your assignments to Turnitin, a plagiarism prevention service. Your assignment content will be checked for potential plagiarism against Internet sources, academic journal articles, and the papers of other OSU students, for common or borrowed content. Turnitin generates a report that highlights any potentially unoriginal text in your paper. The report may be submitted directly to your instructor or your instructor may elect to have you submit initial drafts through Turnitin and you will receive the report allowing you the opportunity to make adjustments and ensure that all source material has been properly cited. Papers you submit through Turnitin for this or any class will be added to the OSU Turnitin database and may be checked against other OSU paper submissions. You will retain all rights to your written work. For further information, visit Academic Integrity for Students: Turnitin – What is it?

>Tutoring
NetTutor is a leading provider of online tutoring and learner support services fully staffed by experienced, trained and monitored tutors. Students connect to live tutors from any computer that has Internet access. NetTutor provides a virtual whiteboard that allows tutors and students to work on problems in a real time environment. They also have an online writing lab where tutors critique and return essays within 24 to 48 hours. Access NetTutor from within your Canvas class by clicking on the NetTutor button in your course menu.

>OSU Student Evaluation of Teaching
Course evaluation results are extremely important and are used to help me improve this course and the learning experience of future students. Results from the 19 multiple choice questions are tabulated anonymously and go directly to instructors and department heads. Student comments on the open-ended questions are compiled and confidentially forwarded to each instructor, per OSU procedures. The online Student Evaluation of Teaching form will be available toward the end of each term, and you will be sent instructions via ONID by the Office of Academic Programs, Assessment, and Accreditation. You will log in

to "Student Online Services" to respond to the online questionnaire. The results on the form are anonymous and are not tabulated until after grades are posted.

Basic Needs
Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to contact the Human Services Resource Center (HSRC) for support (hsrc@oregonstate.edu, 541-737-3747). The HSRC has a food pantry, a textbook lending program and other resources to help. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to provide any resources that they may possess.

Getting Help
We all go through times in life when we need help. Learn about counseling and psychological resources for Ecampus students. If you are in immediate crisis, please contact the Crisis Text Line by texting OREGON to 741-741 or call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255). There are additional resources if you are located near campus: Access counseling through OSU Counseling and Psychological Services (CAPS), where you can get group counseling, individual therapy, or relational counseling. **Website: https://studentlife.oregonstate.edu/hsrc**