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University of Wisconsin-Madison
History of Science 350: *(Special Topics)*
Science and Technology in the Global Cold War Fall 2020
https://canvas.wisc.edu/courses/208295

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Office Hours: Thurs. 4-6PM

Course Description:

The nearly half-century conflict between the United States and the Soviet Union fundamentally shaped the practices, priorities, and social organization of scientific research and technological development. Electronics, physics, paleontology, economics, and many other sciences were transformed by Cold War priorities and politics. This course, taught in a seminar format, examines the Cold War as it played out in science and technological competition, while emphasizing the global dimensions of the conflict.

Course Meetings:

First meeting: Thursday, September 3, 1:00PM ONLINE

Meetings:	**Tuesday:**	Online, BBCollaborate	**1:00 PM-2:15 PM**
	***Thursday:**	*In-person Biochem 1120	**1:00 PM-2:15 PM**
		or	
		*Online, BBCollaborate	

**** Thursday Course Meetings***

In an effort to minimize exposure during the Covid-19 Crisis, especially during the early weeks of the semester, and to take advantage of digital materials and video content, we will alternate Thursday meetings between online on BBCollaborate and in person. If you have concerns, including but not limited to access to technology, please be in touch with me.

In-person meetings are listed on the syllabus—the first is Thursday September 17.

Required Texts:

- Audra Wolfe *Competing with the Soviets: Science, Technology, and the State in Cold War America* (Johns Hopkins University Press (Any version, including e-book, is fine)

Learning Outcomes

Students, upon successful completion of the course, will be able to:

- Identify key events in the Cold War, as well as many scientific and technological developments from 1945-1989
- Recognize social, economic, and political factors influencing the organization and priorities of science, and the development and application of technology
- Situate scientific competition and technological change in a global perspective
- Identify ideological and cultural effects of scientific research and technological enterprise
- Analyze historical secondary sources for argument, evidence, and place them in dialogue

Course Details

Prerequisites: None
Breadth: Humanities
Level: Intermediate
L&S Credit: Counts as Liberal Arts and Science Credit in L&S
Credits: 3
Modality: Blended: alternating online and in-person seminars

Credit Hour Details

This class meets for **two, 75-minute class periods each week** over the fall semester and carries the expectation that students will work on course learning activities (reading, preparing for discussions, working on presentation and writing assignments, watching films / film clips at home, studying for examinations) **for about 3 hours out of the classroom for every class period (i.e. about 6 hours per week).** The syllabus includes more information about meeting times and expectations for student work.

Accommodations

The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform faculty [me] of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. I will work either directly with you or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA.

Policy on Electronic Devices

Laptops and other note-taking devices are welcome during class meetings. Technology offers many benefits to our notetaking, studying, and research practices, but can also easily produce distractions. We should all remain attentive and respectful to one another during class time.

Institutional statement on diversity:

Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals.

The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world." https://diversity.wisc.edu/

Policy on late work:

Late work shall be penalized one letter grade per day. For example, an "A" assignment will score an A- if it is one day late, and a B+ if two days late. No assignment will be accepted more than one week late, except for *extraordinary* circumstances.

Extension Policy:

Please be in touch with Professor Kennedy if you expect to be delayed in submission of your work, as soon as possible.

Academic Integrity and Plagiarism:

By virtue of enrollment, each student agrees to uphold the high academic standards of the University of Wisconsin-Madison; academic misconduct is behavior that negatively impacts the integrity of the institution. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these previously listed acts are examples of misconduct which may result in disciplinary action. Examples of disciplinary action include, but is not limited to, failure on the assignment/course, written reprimand, disciplinary probation, suspension, or expulsion.

Face Coverings:

Individuals are expected to wear a face covering while inside any university building, including during our in-person class meetings. Face coverings must be worn correctly (i.e., covering both your mouth and nose) in the building if you are attending class in person. If any student is unable to wear a face-covering, an accommodation may be provided due to disability, medical condition, or other legitimate reason.

Students with disabilities or medical conditions who are unable to wear a face covering should contact the McBurney Disability Resource Center or their Access Consultant if they are already affiliated. Students requesting an accommodation unrelated to disability or medical condition, should contact the Dean of Students Office.

Students who choose not to wear a face covering may not attend in-person classes, unless they are approved for an accommodation or exemption. All other students not wearing a face covering will be asked to put one on or leave the classroom. Students who refuse to wear face coverings appropriately or adhere to other stated requirements will be reported to the Office of Student Conduct and Community Standards and will not be allowed to return to the classroom until they agree to comply with the face covering policy. An instructor may cancel or suspend a course in-person meeting if a person is in the classroom without an approved face covering in position over their nose and mouth and refuses to immediately comply.

Quarantine or Isolation Due to COVID-19

Students should continually monitor themselves for COVID-19 symptoms and get tested for the virus if they have symptoms or have been in close contact with someone with COVID-19. Students should reach out to instructors as soon as possible if they become ill or need to isolate or quarantine, in order to make alternate plans for how to proceed with the course. Students are strongly encouraged to communicate with their instructor concerning their illness and the anticipated extent of their absence from the course (either in-person or remote). The instructor will work with the student to provide alternative ways to complete the course work.

Course Requirements

Grade Components:
Attendance (10%)
Discussion Contributions (20%)
Mini-exam: Take-home Mid-term Exam (15%)
Assignment 1: Presentation (15%)
Assignment 2: Review Essay (25%)
Presentation Response (5%)
Wrap-up Quiz (10%)

Attendance (10%)

You get automatic full credit on your attendance score if you attend all class meetings**.** You get three "freebies" (unexcused, unexplained absences); but after that, you'll **lose 1%** on your attendance grade for each meeting that you either do not attend. Additionally, if something comes up (a doctor's visit, family situation, technical issue, illness) you should be in touch with Professor Kennedy to request an excused absence, but please try to do so in advance to arrange alternative work, where relevant.

Discussion Contributions (25%)

You are graded on your contributions to class meetings and discussions, not simply in terms of the amount you speak, but also on your productive engagement with your classmates' ideas. In our first meetings, we will discuss in greater detail expectations for participation, ideas for how to build upon each other's comments, standards of behavior and respect in our classroom community, and the way you will be evaluated. (also see the rubric below).

Discussion Participation Rubric

Excellent (90-100)	Good (80-90)	Competent (70-80)	Inadequate (60-70)	Fail (0-60)
-Mastery over readings and previous discussion -Explores questions rigorously -Comes to class with interpretations and questions -Engages others respectfully	-Knows readings well -Consistent preparation and involvement -Offers analysis of texts in class	-Basic grasp of reading -Mostly offers facts or surface-level interpretations -Contributes when called upon but not actively engaged	-Insufficient command of reading -Attempts to contribute facts or interpretations when called but unable to offer substance	-Uninvolved -Unexcused -Disruptive

Mid-Term Take-home Exam (15%)

The mid-term exam is a set of short to medium-form essays that are open-book, and which you will have about a week to work on. You will have a choice of multiple questions to answer. You are welcome to discuss the questions, your strategies for answering them, and sources, with peers, but **all writing must be your own**.

Assignment 1: Presentation (15%)

In Week 3, you will receive a list of articles and scholarly chapters and choose one to present on during class on November 12. You should use images, or video clips, or presentation slides to organize an approximately five-minute presentation, that brings your peers up to speed on the material you read. You will receive further instructions, but your tasks in the presentation will be to provide an introduction of the historical material presented, the argument of the author, and describe one source the author used and how.

Presentation Response (5%)

In a brief response (of about 200-300 words), you will summarize a presentation done by a peer (you will be assigned) and give feedback about what you found effective in their presentation style. This response will be incorporated into the feedback presenters receive from Prof. Kennedy.

Assignment 2: Review Essay (20%)

The Second assignment is an essay of approximately 1500-2500 words that ***reviews*** two works that thematize, address, analogize, make reference to or help us understand, science and technology in the cold war. These can be movies, tv shows, documentaries, books, including novels or graphic novels, or scholarly works (i.e. scholarly books).

Further details will be given when the assignment is provided on October 15, but you can begin to consider works to include now.

Your review will introduce the works, their format, and then compare and contrast them, giving some judgment as to their historical value (e.g. what they shed light on/ help us to understand, or, alternatively, what they confuse about the past). The works should be related—but their specific connection is up to you to determine and articulate explicitly and convincingly: e.g bringing together two books on mutually assured destruction; two movies about the space race; a sci-fi book that you read as an analogy for the Cold War and a movie about arms control. You must include some historical material from the course (e.g. from Wolfe, or other course readings)—but no additional historical research is expected.

Resources for the Review Essay

In addition to the samples and guidelines I will provide on the assignment instructions, I encourage you to take early advantage of University resources for developing a draft of your essay, especially the History Department History Lab. They are offering ***remote appointments:*** https://history.wisc.edu/undergraduate-program/the-history-lab/. I also recommend the University Writing Center: https://writing.wisc.edu/individual/ for developing your skills.

Wrap-up / Feedback Quiz (10%)

In lieu of a final exam, there will be an open-book, 45-minute quiz that asks you to reflect on what you will take away from the course and gather your feedback in a series of short questions.

Schedule of Classes, Readings and Assignments

Week 1:	Introduction

Class 1 (9/3) [online] What was the Cold War and how did it shape science?

Prep for class: ***None***

Week 2:	Approaching the Cold War (1940-1945)

Class 2 (9/8) [online] Methodologies and Frameworks

Prep for class: ***Read:***

- Audra Wolfe *Competing with The Soviets* Introduction (8 pgs.)
- (on canvas) Naomi Oreskes "Science and the Origins of the Cold War" (10 pgs.)

Class 3 (9/10) [online] The Mobilization of Science and Engineering in World War II

Prep for class: ***Read:***

- (on canvas) Daniel Kevles *The Physicists: The History of A Scientific Community in America* Chapters 19-21 (61 pgs.)

Week 3:	The Atomic Monopoly (1945-1949)

Class 4 (9/15) [online] The decision to use the bomb

Prep for class: ***Read:***

- Wolfe, Audra *Competing with The Soviets* Chapter 1: The Atomic Age (14 pgs.)
- Campbell Craig and Sergey Radchenko *The Atomic Bomb and the Origins of the Cold War* Chapter 3: Truman, The Bomb, and the End of World War II (28 pgs.)
- (Link on canvas) Alex Wellerstein,: The decision to use the Bomb: A Consensus View? http://blog.nuclearsecrecy.com/2013/03/08/the-decision-to-use-the-bomb-a-consensus-view/

Class 5 (9/17) [in-person]* Atomic Diplomacy, Atomic Colonialism

******Assignment 1* Provided*****

Prep for class: ***Read:***

- (on canvas) Campbell Craig and Sergey Radchenko *The Atomic Bomb and the Origins of the Cold War* Chapter 5: The Baruch Plan and the Onset of the American Cold War (23 pgs.)
- (link on canvas) Timothy Jorgensen, "Bikini islanders still deal with fallout of US nuclear tests…" https://theconversation.com/bikini-islanders-still-deal-with-fallout-of-us-nuclear-tests-more-than-70-years-later-58567

Week 4: From Joe-1 to Joe McCarthy (1945-1955)

Class 6 (9/22) [online] The Soviet Bomb

Prep for class: ***Read:***

- (on canvas) Michael Gordin *Red Cloud At Dawn: Truman, Stalin and the End of the Atomic Monopoly* Chapter 4: "First Lightning" (45 pgs.)

Class 7 (9/24) [online] Secrecy and Suspicion

Prep for class: ***Read:***

- (on canvas) Jessica Wang *American Science in an Age of Anxiety: Scientists, Anticommunism, and the Cold War* Chapter 1 "Competing Political Visions for Postwar Science" (37 pgs.) and Chapter 2 "Fear, Suspicion and the Surveillance State" (44 pgs.)

Decide on topic for Assignment 1 (Presentation)

Week 5: Scientific Polities, Scientific Ideologies (1945-1957)

Class 8 (9/29) [online] Governing Science and Scientists

Prep for class: ***Read:***

- Audra Wolfe *Competing with the Soviets* Chapter 3 "Big Science" (15 pgs.)
- (link on canvas) Vannevar Bush *Science the Endless Frontier*

Class 9 (10/1) [in-person]* "Free Science" and "Marxist Science"

Prep for class: ***Read:***

- (on canvas) Audra Wolfe, *Freedom's Laboratory* Chapter 1: "Western Science vs. Marxist Science" (18 pgs.)

Listen:

- (link on canvas) Podcast, BBC In Our Time Podcast "Lysenkoism"

Week 6:	The Military-Industrial-Academic Complex (1950-1968)

Class 10 (10/6) [online] Business, Universities, and the Military

Prep for class: ***Read:***

- Audra Wolfe *Competing with the Soviets* Chapter 2 "The Military Industrial Complex" (16 pgs.)
- (link on canvas) Matthew Levin *Cold War University: Madison and the New Left in the Sixties* Chapter 1: "Cold War University: Higher Education after World War II" (27 pgs.)

*****Take-Home Midterm Provided*****

Class 11 (10/8) [online] Scientific Workers and Economic Development

Prep for class: ***Read:***

- (on canvas) Monique Laney *German Rocketeers in the Heart of Dixie: Making Sense of the Nazi Past in the Civil Rights Era* Chapter 2: Huntsville Becomes the 'Rocket City' (27 pgs.)
- (link on canvas) David Kaiser "Cold War Requisitions, Scientific Manpower, and the Production of American Physicists after World War II." *Historical Studies in the Physical and Biological Sciences* 33, no. 1 (September 2002): 131–59. (<25 pgs., lots of footnotes)

Week 7:	The Space Race Part 1 (1957-1962)

Class 12 (10/13) [online] 1957: Space and Earth

Prep for class: ***Read:***

- (link on canvas) Spencer Weart *The Discovery of Global Warming* Chapter 2: "Discovering a Possibility" pgs. 19-37 (18 pgs.)
- (link on canvas) Richard Stites "Fantasy and Revolution: Alexander Bogdanov and the Origins of Bolshevik Science Fiction" (Introduction to Bogdanov, *Red Star* 1908) (17 pgs.) https://muse-jhu-edu.ezproxy.library.wisc.edu/chapter/1007383

Class 13 (10/15) [in-person] Scientific Revolutions: The American Response to Sputnik

Prep for class: ***Read:***

- (on canvas) George Reisch "When Structure met Sputnik: On the Cold War Origins of the Structure of Scientific Revolutions" in Oreskes and Krige eds. *Science and Technology in the Global Cold War* (17 pgs.)

Assignment 2 provided*

****Take-home mid-term due on Canvas by Friday 11:59PM****

Week 8: The Space Race Part 2 (1962-1969)

Class 14 (10/20) [online] Soviet Space Visions

Prep for class: ***Read:***

- (on canvas) Roshanna P. Sylvester "She Orbits over the Sex Barrier: Soviet Girls and the Tereshkova Moment" in Andrews and Siddiqi eds. *Into The Cosmos: Space Exploration and Soviet Culture* (17pgs.)

Listen:

- (link on canvas) Podcast: Art19 The Planetary Society "A Political History of Apollo" Episode 2 The Soviet Moonshot With Asif Siddiqi (1hr33minutes) https://art19.com/shows/a-political-history-of-apollo/episodes/d20593c9-8f35-4ad3-a367-a6116be4e0c0

Class 15 (10/22) [online] Apollo in Social and Technical Context

Prep for class: ***Read:***

- (on Canvas) Jack Robertson "Space is Not Black" *The Nation* June 30, 1969
- Audra Wolfe *Competing with the Soviets* Chapter 6: Race to the Moon (15 pgs.)

Week 9: The Brain and the Bomb (1950-1987)

Meet with Professor Kennedy to discuss assignment 2 During Office Hours or Arrange Time

Class 16 (10/27) [online] The Psychology of the Enemy

Prep for class: ***Read:***

- (link on canvas) Ellen Herman, *The Romance of American Psychology: Political Culture in the Age of Experts* Chapter 5: "The Career of Cold War Psychology" (28 pgs.)
- (Link on canvas) Monica Kim, "Empire's Babel: US Military Interrogation Rooms of the Korean War" *History of the Present* Vol. 3, No. 1 (Spring 2013), pp. 1-28 (<28 pages)

Time TBA: ***Virtual "Screening" and real-time discussion***

- "Missile," 1988 (Dir. Wiseman, 1h 55m)

Class 17 (10/29) [in-person] Cold War Rationality

Prep for class: ***Read:***

- (on canvas) Paul Erickson, *The World the Game Theorists Made* Chapter five "The Brain and the Bomb" (40 pgs.)
- (link on canvas) Carol Cohn, "Sex and Death in the Rational World of Defense Intellectuals" *Signs* 1987 (31pgs.) http://ezproxy.library.wisc.edu/login?url=https://www-jstor-org.ezproxy.library.wisc.edu/stable/3174209

Week 10: The Computer (1950-1980)

Class 18 (11/3) [online] American Networks: Electronics and the ARPAnet

Prep for class: ***Read:***

- (on canvas) Paul Edwards, *The Closed World: Computers and the Politics of Discourse in Cold War America* Chapter two "Why Build Computers" and Chapter three "SAGE)" (66 pgs.)
- (link on canvas) Interview with Paul Baran *Wired* 2001.

Class 19 (11/5) [online] Socialist Networks

Prep for class: ***Read:***

- Benjamin Peters, "The Soviet InterNyet" *Aeon,* 17 October, 2016 https://aeon.co/essays/how-the-soviets-invented-the-internet-and-why-it-didn-t-work
- Eden Medina, "Cybernetic Revolutionaries" http://www.cabinetmagazine.org/issues/46/medina.php.

Week 11: Vietnam (1963-1973)

Class 20 (11/10) [online] Igloo White and Agent Orange

Prep for class: ***Watch:***

- "The Fog of War: Eleven Lessons from the Life of Robert McNamara" (Dir. Errol Morris 2003 1hr 47min)

Class 21 (11/12) [in-person] ***Student Presentations***

Prep for Class: ***Finish Presentations***

Week 12: Vietnam (cont.) and Economic Development (1960-1989)

Class 22 (11/17) [online] Radical Science and Citizen Science
(with virtual visit to U. Archives)

Prep for Class: ***Read:***

- (link on canvas) Schmalzer, Chard, and Botelho, Introduction to *Science for the People*
- (link on canvas) *Science for the People* Documents on "Militarism" introduced by Chard

Class 23 (11/19) [online*] (tbc) De-colonization and Cold War Conflicts for Hearts and Minds

Prep for Class: ***Read:***

- Audra Wolfe *Competing with the Soviets,* Chapter 4: Hearts and Minds and Markets (18 pgs.)
- Sonja Schmid "Nuclear Colonization?: Soviet Technopolitics in the Second World" in Hecht ed. *Entangled Geographies* (21 pgs.)

Read:

- Watch "Pandora's Box: Part 5: Black Power" (Dir Adam Curtis, 1992.) https://www.youtube.com/watch?v=UidPGHvBc4Y

Week 13: China and the Atomic Club (1960-1980) Thanksgiving week

Class 24 (11/24) [online] Scientific Development in China; the Atomic Club

Prep for Class: ***Read:***

- (link on canvas) Sigrid Schmalzer "Self-Reliant Science: The Impact of the Cold War on Science in Socialist China" in Oreskes and Kriege eds. *Science and Technology in the Global Cold War* (23 pgs.)
- (link on canvas) Zuoyue Wang "The Cold War and the Reshaping of Transnational Science in China" in Oreskes and Kriege eds. *Science and Technology in the Global Cold War*

No Meeting Thursday 11/26 – Thanksgiving

[switch to all-remote instruction]

Week 14: Legacies: Environment

Class 25 (12/1) [online] Landscapes

Prep for Class: ***Read:***

- (link on canvas) Ruth Oldenziel "Islands: The United States as a Networked Empire" in Hecht ed. *Entangled Geographies*. (20 pgs.)
- (link on canvas) Traci Brynne Voyles: *Wastelanding: Legacies of Uranium Mining in Navajo Country*, 2016 Chapter 2: "Prospecting for Magic Ore in America's New Frontier" (30 pgs.)

TBA Screening of "Containment" (1h 20m; Dir. Moss and Galison, 2015)

Class 26 (12/3) [online] Radiation

Prep for class: ***None***

Week 15: Legacies: Politics of Doubt

Class 27 (12/8) [online] Chernobyl

Prep for class: ***Read:***

- Svetlana Alexievich *Voices from Chernobyl* **Selections TBA**

Class 27 (12/10) [online] Doubt

Prep for class: ***Read:***

- [on canvas] Naomi Oreskes *Merchants of Doubt* Chapter 2 " Strategic Defense, Phony Facts and the Creation of the George C. Marshall Institute"
  (cont.)

Watch:

- [link on canvas] Merchants of Doubt (dir. Robert Kenner 2014 1hr 33m)

*****Assignment 2: Review Essays Due Friday 12/11 at 11:59PM*****

Final wrap-up quiz due Tuesday 12/15