

STSC 1120-920: Science, Technology, & War

Summer 2023, Session II

MWF, 12:00-2:30pm ET, Online

Instructor: Sam Schirvar (schirvar@sas.upenn.edu) Office Hours: TBD

Syllabus version: February 22, 2023



Course description

War seems to be a constant in human experience—but it looks very different today than it did five centuries ago. Among the major powers of the world, policymakers, strategists, military leaders, and the public have come to see science and technology as central to the conduct of warfare. How did this change occur and what have been its consequences? To answer this question, this course interrogates the evolving relationship between socially sanctioned violence and technical expertise, amidst the rise of nation states, global empires, and industrial capitalism. We'll explore technologies such as flintlock rifles, nuclear bombs, missiles, and computers; and technical experts such as physicists, engineers, biologists, doctors, and anthropologists. The course follows imperial entanglements across North America, Europe, East Asia, West and Southern Africa, and the Middle East. Through reading, writing, and discussing historical scholarship on military science and technology, students will develop their own critical perspectives on current issues and debates. No prior knowledge is required for this course.

Readings

There is one required book for the course, which can be obtained through [BorrowDirect](#), [E-ZBorrow](#) or [Interlibrary Loan](#); is available for purchase at online retailers; and will be placed on course reserve at Van Pelt Library:

Lindee, M. Susan. *Rational Fog: Science and Technology in Modern War*. Cambridge, Massachusetts: Harvard University Press, 2020.

All other readings will be available as PDFs via the course's Canvas website.

Each class session requires reading about 40 pages or viewing a film. It is suggested that you watch the lecture first and *then* do the reading. In most cases, the lectures provide the “big picture” on that class's topic while the readings provide a more detailed narrative.

Assignments and grading

Discussion questions (15%)

At least 24 hours before our class meeting, I will post a recording of the lecture for that day on Canvas. You will be expected to post a question in response to the lecture and/or the readings on Canvas by 11:00am on *each* class day. This post consists of a one-sentence question *and* one or two sentences that contextualize the question. You are allowed miss two discussion posts. After that, missing posts will affect your grade.

Discussion participation (25%)

You are expected to come to class having viewed the lecture and read the assigned reading(s) for that day. Receiving full discussion participation points requires coming to class, offering your interpretation of the lecture or readings, and engaging with your classmates. Because you will have already watched the lecture, the class sessions will not run for the scheduled 2.5 hours of class time. They will generally run for about an hour and a half, although I will stick around for the rest of the time period to offer additional office hours. You are allowed miss one class period for any reason. After that, missing class will affect your participation grade.

Short Reflections (2 × 5%) Due: July 11 and August 9

Short reflections are brief essays in which students reflect on the lecture and reading material from the past couple of sessions and connect it to their own lives.

Papers (2 × 25%) Due: July 21 and August 4

Papers are essays in which students use historical methods to analyze course readings, lecture material, and primary sources.

Course website

The course Canvas site can be found at [TBD]. Make sure that you have access to the site as soon as possible. You will need it throughout the semester to access readings, to submit assignments, to view grades and feedback, and to receive important announcements. You may want to check your Canvas settings to ensure that you are receiving notifications by email. Because technical problems sometimes occur, always double-check to be sure that your submitted assignments have been correctly uploaded.

Extension and Late Assignments Policy

You are granted three “flex days” to use throughout the semester, no questions asked. Each flex day allows you to extend any deadline by 24 hours, and multiple flex days can be applied to one assignment. After you use your flex days, a grade point will be subtracted for each day late (For example, an “A” paper that was 48 hours late would become a “B+”).

Academic integrity and non-discrimination policy

Although we all come to the course with different preparation, aims, and institutional positions, we are here to learn and discover together, and each of us is responsible for doing our part to create a respectful and productive classroom environment. Everyone involved with the course will be expected to abide by Penn’s [Code of Academic Integrity](#). Because plagiarism and other violations of academic integrity undermine the learning process for the individual as well as for the broader academic community, they will result in a failing grade and possible disciplinary action.

No form of harassment or discrimination on the basis of religion, race, ethnicity, class, gender, sexual orientation, age, disability, etc., by either the instructional staff or the students, will be tolerated. If you believe these policies are being violated or insufficiently enforced, please inform the instructor, your academic advisor, the [College Office](#), and/or one of the other appropriate University of Pennsylvania offices (some of which are listed [here](#)).

Special Accommodations

All appropriate efforts will be made to accommodate disability status, religious obligations, childcare and other family responsibilities, and other special needs. If you anticipate needing special accommodations or having conflicts with the course requirements for these or other reasons, please inform the instructor as soon as possible, ideally within the first two weeks of the course. Requests for disability accommodations will require documentation through [Student Disability Services](#). In case of injury, illness, or family emergency that interferes with your ability to complete assignments or attend lectures, please contact the instructor as soon as possible to make alternate arrangements.

Date	Lecture	Readings*
Part I: Foundations		
July 5	Introduction	—
July 7	Using Guns	Lindee Ch. 1
July 10	Building Guns	Lindee Ch. 2
July 11	<i>Short Reflection I due at 11:59pm ET</i>	
Part II: Age of Empires (1800s-1910s)		
July 12	Technologies of Violence	Selections from Karuka, <i>Railroad Colonialism</i>
July 14	Sciences of Empire	Cirillo, “Fever and Reform: The Typhoid Epidemic in the Spanish-American War”
July 17	Machine Guns Across Continents	Edgerton, <i>Shock of the Old</i> , Ch. 6
July 19	The Great War	Lindee Ch. 3 Ashworth, “The Sociology of Trench Warfare”
Part III: World War II and the Cold War (1940s-1980s)		
July 21	<i>Paper I due at 11:59pm ET</i>	
July 21	“The Bomb”	<i>Dr. Strangelove</i> (1964)
July 24	Rockets and Missiles	Lindee Ch. 8
July 26	The Military Industrial Complex	Selections from Alex Roland, <i>Delta of Power</i>
July 28	Computers	Selections from Lécuyer, <i>Making Silicon Valley</i>
July 31	Cold War Psychology	Lindee Ch. 7
August 2	Debates Around Defense	Lindee Ch. 9
Part IV: Modern Warfare (1990s-Present)		
August 4	Modern Warfare	<i>The Fog of War</i> (2003)
August 4	<i>Paper II due at 11:59pm ET</i>	
August 7	Counterinsurgency at Home and Abroad	Selections from Schrader, <i>Badges without Borders</i>
August 9	The National Security State	Selections from Weiss, <i>America Inc.?</i>
August 9	<i>Short Reflection II due at 11:59pm ET</i>	

*This list of readings is preliminary and subject to change before the beginning of Summer 2023.