Nuclear Weapons – History and Future Prospects

8.S271
Introduction

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Subject Organization

• 8.S271 - 6-Unit Subject
• Prerequisites – 8.01, 18.01
• Meets weekly on Mondays in 26-414 (the Kolker Room)
  • Time – 1:00 – 2:30 pm
  • First class - January 31, 2022
  • Last class - May 9, 2022
  • For Presidents Day week – class meets on Tuesday (Feb. 22)
  • No class during Patriot’s Day week (April 18)
• Reading lists– some suggested, some required
• Letter grades – (A-F)
• Grades based on
  • Class attendance
  • Class participation
  • Short exercises in class
  • Writing assignments
Class Leaders

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Syllabus

Class 1 - Prelude to the Manhattan Project -- HYNES
Class 2 - The Manhattan Project -- HYNES
Class 3 - Nuclear Testing -- HYNES
Class 4 - Weapon Effects -- BELE
Class 5 - Nuclear Weapons and the Cold war -- WALSH
Class 6 - Arms Control and Disarmament, 1945-1989 -- WALSH
Class 7 – Safeguards-Domestic and International – LANZA, CHICHESTER
Class 8 - Nuclear Forensics -- DANAGOULIAN
Class 9 - The Multilayer Defense -- BARLETTA
Class 10 - Case Studies in Proliferation -- WALSH
Class 11 - The Black Market and its Manipulation -- HYNES
Class 12 – Current Status of Nuclear Weapons -- REDWINE
Class 13 - The Future of Nuclear Weapons -- WALSH
Reading List - Suggested

The American Atom: A Documentary History of Nuclear Policies from the Discovery of Fission to the Present
Philip L. Cantelon (Editor) Richard G. Hewlett (Editor), Robert C. Williams (Editor)

The Fly in the Cathedral: How a Group of Cambridge Scientists Won the International Race to Split the Atom
Brian Cathcart (Author)

The Making of the Atomic Bomb
Richard Rhodes (Author)

Dark Sun: The Making of the Hydrogen Bomb  FICHE
Richard Rhodes (Author)

The Manhattan Project: The Birth of the Atomic Bomb in the Words of Its Creators, Eyewitnesses, and Historians
Cynthia C. Kelly (Editor),

The Manhattan Project: A Documentary Introduction to the Atomic Age
Michael B. Stoff (Author), Jonathan F. Fanton (Author), R. Hal Williams (Editor)

Racing for the Bomb: General Leslie R. Groves, the Manhattan Project's Indispensable Man
Robert S. Norris (Author)

The Los Alamos Primer: The First Lectures on How To Build an Atomic Bomb
Robert Serber (Author)

Lise Meitner: A Life in Physics (California Studies in the History of Science)
Ruth Lewin Sime (Author)

Atoms in the Family: My Life with Enrico Fermi –
Laura Fermi (Author)

The Curve of Binding Energy: A Journey Into the Awesome and Alarming World of Theodore B. Taylor
John McPhee (Author)