

Great Works Symposium on The Atomic Bomb

Instructors:

Ian Abrams
Office: 200 Nesbitt
Office hours:

Scott Gabriel Knowles
Office: MacAlister 5015
Office hours: MWF 1:00-2:00 p.m.

Joseph Martin
Office: 270 Alumni Engineering Labs
Office hours:

David Munns
Office: Dept. of History & Politics
Office hours:

Charles Morscheck, Director, Great Works Symposium
Office: 109B Academic

Tim Siftar, Librarian

WITs:

Section 001 (Abrams): Joanne Griffonetti, and Jesse Rucco

Section 002 (Martin): Michael Filoromo, and Sara Critchfield

Section 003 (Munns): Kelleney Oum, and Melissa Youd

Section 004 (Knowles): Katrina Limbaugh, and Regina Fiedler

Classrooms: Lectures will be held in Nesbitt 125 unless otherwise announced. The lectures are open, free of charge, to any interested persons. We hope that attendance by members of the Drexel community and the public will enhance the learning experience of the students. Discussion sections will usually meet on Thursdays in the small classrooms assigned below. We may meet for lectures on a few of the Thursdays. Please refer to the course schedule below.

Section 001, Professor Abrams, Commonwealth 308 (Thursdays only)
Section 002, Professor Martin, Commonwealth 309 (Thursdays only)
Section 003, Professor Munns, Commonwealth 310(Thursdays only)
Section 004, Professor Knowles, CAT 75 (Thursdays only)

Course Overview:

The “great work” examined by this course is the atomic bomb dropped on Hiroshima on August 6, 1945 and the one dropped on Nagasaki on August 9, 1945. They were the result of the Manhattan Project and research and experimentation at Los Alamos and elsewhere. They required the international collaboration of many of the best mathematicians, scientists and engineers in the world and the application of a large fraction of the industrial and economic resources of the United States. It was a critically important race between the United States and Germany to see who could produce the bomb first. The course is concerned with the science and technology that produced the bomb and also the political, economic, military, social and ethical consequences of its development. It is also concerned with the impact of the bomb upon literature and film.

The following are examples of the kinds of topics and issues to be covered by the course:

Atomic energy
Chemistry and the bomb
The Cold War
The culture of nuclear secrecy and paranoia
The economics of nuclear armament
Ethics and the bomb
Films about the bomb
Germany and the bomb
The hydrogen bomb
Literature about the bomb
Los Alamos
The Manhattan Project
North Korea and the bomb
The nuclear arms race
Nuclear physics
Nuclear pollution
Propaganda about the bomb

Required Texts:

“The Atomic Archive” (CD-ROM)
John Hershey, Hiroshima, New York, Vintage Books, 1989
Course Reader of articles and excerpts

Objectives:

1. We will examine the atomic bomb, and the related topics and issues listed above, from a variety of disciplinary perspectives, including those of chemistry, engineering, film criticism, history, literature, medicine, philosophy, physics and sociology. The student is challenged to pull together all of these diverse topics and disciplinary points of view in order to construct his or her own view of nuclear weapons and nuclear energy.
2. The student should be able to identify and describe the important persons, events, technological developments and ideas related to the atomic bomb.
3. The student should be able to place the important persons, events and ideas related to the atomic bomb in their approximately correct relationships in historical time.
4. The students will effectively access and utilize a variety of information resources, including the readings, the Internet, films and other library resources to gain information about the atomic bomb and related topics.
5. The students will discuss and write about the economic, historical, literary, military, political, scientific, social, philosophical, ethical and cinematic dimensions of the atomic bomb and related topics with reference to historical facts and authoritative sources.
6. We aim to develop in the students the following cognitive skills: reading, writing, research, listening, discussion, and critical thinking.
7. While focusing on aspects of interdisciplinary and internet research, the course will develop in the students an appreciation of knowledge as something that is not monolithic in terms of particular academic disciplines, but multifaceted, interconnected and accessible through a variety of academic approaches.
8. UNIV 241 will provide an alternative to content-based, textbook learning, in which the material to be learned is fixed, predetermined, and mastered by the professor.
9. In our attempt to answer the question, "What makes the atomic bomb a Great Work?" we intend to create a learning community in which students and teachers learn together, sharing common readings, lectures, films, discussions, field trips and other learning experiences.

Recommended Films: Several films and videos related to the atomic bomb will be screened, at times to be announced. These will also be available at the Reserve Desk, first floor of Hagerty Library. These films include:

"Black Rain"

"The Day After"

“The Day after Trinity”
“Dr. Strangelove”
“Special Bulletin”
“Fail-safe”
“No Place to Hide”
Plus propaganda shorts

Recommended texts: A shelf of recommended readings is in the Reserve Section of the library.

Field trip: A field trip to the Limerick nuclear power plant is being planned.

Course Schedule:

(Tuesday lectures are in room Nesbitt 125; all classes are 3:30-4:50):

1. Tuesday, April 1 (Nesbitt 125) Introduction, screening of “No Place to Hide”

Thursday, April 3 (small classrooms) Discussion, syllabus, first paper assigned

2. Tuesday, April 8 Martin Altschuler, University of Pennsylvania, “The Physics of the Bomb”

Thursday, April 10 Sections 001 and 002 go to the Library, room L13, for an Internet Research Workshop; Sections 003 and 004 meet in small classrooms

3. Tuesday, April 15 Scott Knowles, Department of History and Politics, “Turning the Nation into a Factory: the Manhattan Project and the Geography of a Crash Program”

Thursday, April 17 Discussion (small classrooms)

4. Tuesday, April 22 Eric Brose, Department of History and Politics, TBA

Thursday, April 24 Discussion

5. Tuesday, April 29 Two Philosophers Debate the Bomb, Mary Mulhern, Department of Civil, Architectural and Environmental Engineering, and Mark Manion, Department of English and Philosophy; First paper due; Second paper assigned.

Thursday, May 1 Library research workshops:

Section 001 go to Room L13 in the Library.
Section 002 go to Room D105 in Korman.

Section 003 go to Room L34 in the Library.
Section 004 go to Room L19 in the Library

Hand out take-home mid-term exam students

6. Tuesday, May 6 Mara Miller, Department of Visual Studies, “Nuclear Trauma in Japan”; students return mid-term exam

Thursday, May 8 Discussion

7. Tuesday, May 13 Abioseh Porter, Department of English and Philosophy, “Black Rain”

Thursday, May 15 Discussion

8. Tuesday, May 20 David Munns, Department of History and Politics, TBA

Thursday, May 22 Discussion

9. Tuesday, May 27 Joseph Martin, Department of Civil, Architectural and Environmental Engineering, “Uranium and the Environment, Then and Now; Second paper due

Thursday, May 29 Discussion

10. Tuesday, June 3 Panel Discussion, “The Manhattan Project and an Atomic Bomb Test: Men Who Were There”

Thursday, June 5 Discussion

Course requirements:

1. Attendance and professional conduct are mandatory! Good attendance and your participation in class activities and discussions are essential to the quality of the course. You are expected to maintain standards of hard work, cooperation and reliability similar to those expected in industry. Please communicate with your section instructor about any absences. If you are absent from more than two class meetings without a reasonable excuse, you will lose a letter grade for each unexcused absence after the first two. This applies to both the lectures and the discussion sections.
2. Because class participation is deemed to be as important as other assignments, you will be expected to involve yourself meaningfully in class discussions in order to show familiarity with works and ideas covered in the course.

3. Each student will select and commit to a special topic which will serve as the focus for his or her research for the course. The student will select and study readings, web sites, films, and newspaper articles related to this topic. The student will consult with a reference librarian to get assistance in locating these materials. The student will be expected to demonstrate knowledge of this topic in class discussions, and to write about this topic as the subject of the second writing assignment and on one of the questions on the mid-term exam. The section instructor may require other documentation of work on this topic. Topics will be selected from the following list. Only one student in each section may work on any particular topic.

The Chemistry of the Bomb
The Cold War
The Cuban Missile Crisis
The Economic impact of the Bomb
Ethics and the Bomb
Germany and the Bomb
The hydrogen bomb
Literature about the Bomb
Los Alamos
The Manhattan Project
North Korea and nuclear armament
The nuclear arms race
Nuclear engineering
Nuclear holocaust films
Nuclear physics
Nuclear pollution
Oak Ridge
Propaganda about the Bomb
The Red Scare
Robert Oppenheimer
The Rosenbergs
Tactical nuclear weapons
Or another topic approved by your section instructor.

4. You will be required to write one short essay (4-5 pages, typed, double-spaced, 12-point type) and one longer essay (8-10 pages, typed, double-spaced, 12-point type) on your special topic. The Writing Intensive Tutors (WITs) named on the first page have been assigned to work with you in the preparation of your papers.

5. The first writing assignment will be based upon your reading of Hiroshima. You will be expected to ground your statements in particular parts of the text, making appropriate use of quotations, paraphrasing and proper citation.

6. The second writing assignment will be based upon your special topic. It should demonstrate thorough research and good understanding of your topic. Your paper should include (in addition to the required 8-10 pages) a bibliography of the sources of

information which you have used. This bibliography should include at least two authoritative books and two scholarly articles directly related to your topic. You will be required to consult with a reference librarian in the Hagerty library regarding this paper. This paper will serve in place of a final exam, and its grade will carry twice the weight of the first paper.

7. It is expected that any writing you submit will be your own, or that you will appropriately cite any sources of words and ideas not your own. Cases of plagiarism will be dealt with according to University regulations. If you have any questions about this, please ask your instructor.

8. You will be expected to attend at least three of the activities related to the course which are scheduled outside of class time, including viewing at least two films. It is strongly recommended that one of your three activities be the field trip. Your section instructor will ask you to document or demonstrate your attendance at these activities.

9. The writing assignments are designed to provide learning experiences. The process is more important than the end product. Your writing should demonstrate thorough reading of the assignments, effective research in other sources, a good understanding of material presented in the lectures, clear thinking, and correct interrelating of the various components of the course.

10. Please submit assignments by the stipulated deadlines. If you must be late with an assignment, communicate with your instructor about the reasons for your delay.

11. There will be a take-home mid-term exam at the end of the fifth week. The exam will consist of essay questions. You will be allowed to choose a certain number of questions from a list of questions. There will be no final exam. The second paper will serve in place of a final exam.

12. We will try as much as possible to go according to the announced schedule. However, if there is any need for a change, we will make sure that the class is advised of the change in advance. It will be your responsibility to take note of any announced changes that are made in the syllabus.

13. To encourage your engagement with the course and its discussions, there will be an electronic “chat room” for each section. You will be expected to keep current with the conversations posted on this site and to contribute at least one comment per week to the electronic discussion. Your section instructor will give you further details about this.

Grading system:

Class participation 20%

Essay #1 20%

Mid-term exam 20%

Essay #2 40%

Total 100%