

Course Information

Collegium V Honors Reading:

HONS 3199.H15 **Science and Moral Dilemma: The Genius and Tragedy of J. Robert Oppenheimer**

Term: Fall 2019

Professor Contact Information

Mihaela C. Stefan, 972-883-6581, Office: BE 2.522, E-mail: mihaela@utdallas.edu

Classroom: CB 1.106 (Wednesday 10 am to 10:15 am)

Course Pre-requisites, Co-requisites, and/or Other Restrictions

Honors department consent required.

Course Description

The **Manhattan Project** took place during World War II under the scientific guidance of Robert J. Oppenheimer and it produced the first nuclear weapons. In this course we will discuss the physics involved in developing atomic bombs and the scientists involved in the Manhattan Project. We will also discuss the tragic destiny of J. Robert Oppenheimer who was the Director of the Los Alamos Laboratory and responsible for the design and building two atomic bombs. A special discussion regarding the ethical considerations in science will be supported by historical facts.

Student Learning Objectives/Outcomes

- 1) Learn about the physics involved in the Manhattan project
 - 2) Learn about scientists who fled Germany due to the Nazi destructive regime
 - 2) Learn about the ethical problems in science
 - 3) Learn about the moral dilemma of scientists who are involved in sensitive research that can be used to take human lives
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Suggested Textbooks and Materials (the instructor will bring the listed materials in the class for discussion)

Brighter than A Thousand Suns, by Robert Jungk, 1958

Oppenheimer: Portrait of an Enigma, by Jeremy Bernstein, 2004

The General and the Genius (Groves and Oppenheimer-The Unlikely Partnership That Built the Atomic Bomb), by James Kunetka, 2015

American Prometheus-The Triumph and Tragedy of J. Robert Oppenheimer, by Kai Bird and Martin J. Sherwin, 2005

Dark Sun: The Making of the Hydrogen Bomb, by Richard Rhodes, 1995

J. Robert Oppenheimer: Shatterer of Worlds, by Peter Goodchild, 1985

109 East Palace: Robert Oppenheimer and the Secret City of Los Alamos, by Jennet Conant, 2005

Brotherhood of the Bomb: The Tangled Lives and Loyalties of Robert Oppenheimer, Ernest Lawrence and Edward Teller, by Gregg Herken, 2002

Suggested Course Materials (DVDs)

Copenhagen play (BBC); Actors: Daniel Craig, Stephen Rea

The Trials of J. Robert Oppenheimer; PBS Home Video

The Day after Trinity: J. Robert Oppenheimer & The Atomic Bomb, film by Jon Else

In the Matter of J. Robert Oppenheimer, by Heinar Kipphardt, 1964

Assignments & Academic Calendar (room CB 1. 106; Class time: Friday 10:00 – 10:50 am)

August 23	Introduction
August 30	Copenhagen (BBC play)
September 06	Copenhagen (BBC play)
September 13	Copenhagen (BBC play)
September 20	Discussion about the Copenhagen play
September 27	The Trials of J. Robert Oppenheimer (a film by David Grubin)
October 4	The Trials of J. Robert Oppenheimer (a film by David Grubin)
October 11	Ernest Lawrence and the Cyclotron
October 18	Discovery of Plutonium by Glenn Seaborg
October 25	Nuclear Fission and Uranium 235
November 01	Ethical Problems in Science
November 08	President Harry Truman's decision to use the atomic bombs
November 15	Atomic Energy Commission and Oppenheimer's Security Hearing
November 22	FALL BREAK
December 06	Reading Day

Grading Policy

The grade for this course will be based on attendance, informed participation, and one term paper. The grading scale for letters from percentages will be as follows: A+: 97-100%, A: 93-96%, A-: 90-92%, B+:87-89%, B: 83-86%, B-: 80-82%, C+: 77-79%, C:73-76%, C-: 70-72%, D: 60-69%.

Course & Instructor Policies

Attendance and Class Participation: 50% Attendance: If you are unable to attend the class, you are responsible for contacting me to let me know. You should try to email me in advance for an absence to be excused, or in the case of emergencies, as soon as is possible.

Participation: I expect students to contribute to the group discussions.

50% Term Paper: At the end of the term, you will write a two-page term paper which will be graded. Detailed assignment instructions will be distributed later in the semester.

Your term paper should be focused on a scientist or a major discovery in science. This could be in the form of a critical review in which you can make a case for a particular scientist or discovery.

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

“As a Comet, I pledge honesty, integrity, and service in all that I do.”

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.