

SYLLABI

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HTS 8002A

SOCIAL AND CULTURAL ASPECTS OF TECHNOLOGY AND SCIENCE

This course introduces students to a range of issues at the forefront of current debate and research in the history and sociology of science, and its relationships to technology and society. The focus throughout is on the institutions, patronage and practices of science, thus on the social context in which scientists go about their business as researchers. It combines an analysis of diverse theoretical approaches with case studies covering various natural scientific fields, mostly physics and biomedicine. Its aim is to provide students with an understanding of the functioning of science in the United States over the past 50 years.

HTS 6002

PROSEMINAR IN THE HISTORY OF TECHNOLOGY

This course introduces students who are assumed to have no previous background in the discipline to a selection of basic texts that deal with the history of technology in America. The readings are all chosen with a view to locating technological developments in their social, cultural and historical contexts. The students are introduced to major issues associated with technological change (standardization, Fordism, and mass production, technology and business organization and management, technology and the labor force, technology and system building). While no particular theoretical framework is promoted, some of the key theoretical questions in the field are discussed (technological determinism, the social construction of technology, technological momentum). The student should emerge from this course, which is a compulsory component of the graduate program, with a broad appreciation for the importance of technology in the emergence of America as a major global power in the 20th C, and with some of the basic conceptual tools needed for further study in the area.

HTS 4823

HISTORY OF ROCKETRY

This course introduces students to the history of rocketry from the 1930s to the 1980s. Its main thematic topics are as follows:

1. Rocketry in Germany, 1930-1945. Werner Von Braun, Peenemünde and the design, development and production of the A4-V2 missile in Nazi Germany.

2. Rocketry in the US, 1945 – 1969. The career of Von Braun and his team in the United States, culminating in the development of the Saturn V rocket and the lunar landing. The Cold war context of the space race and the decision to go to the moon.
3. Rocketry in the Soviet Union, 1945-1957. The role of Korolev and Glushko in the development of the Soviet missile program, and the launch of Sputnik. The place of German rocket engineers in the Soviet program.
4. Rocketry in Western Europe, 1960 – 1985. The formation of ELDO (European Launcher Development Organization), and the failure of the Europa rocket programme. The emergence of ESA (the European Space Agency) and the development of Ariane. The competition between Ariane and the U.S. Space Shuttle.

HTS 2084

TECHNOLOGY AND SOCIETY

This course will introduce students to the factors that enter into taking irreversible decisions under conditions of risk in the domain of science and technology. The approach is based on two in-depth case studies of major decisions that have affected the course of history and cost human life, one civilian and one military. The aim is to alert students to the combination of technological with political, institutional and cultural traditions and values that are built into such decisions. The stress on non-technological factors will encourage them to think more broadly about how technology affects the course of world events, and to think more deeply about the kind of values that may inform the decisions they are likely to take in their professional lives.

Part I of the course deals with the fateful decision to launch the Space Shuttle *Challenger* in January 1986, and also discusses the later *Columbia* accident. The second case study concerns the decision to drop the atomic bombs on Hiroshima and Nagasaki and the subsequent development of the H-bomb. Finally, in response to popular demand, there will be a brief discussion of the risks involved in the contracting out of clinical trials, with special reference to the impact of the Bayh-Dole act on the patenting of biomedical research of interest to pharmaceutical companies.