

**History of the Space Age.** History 387, Spring of 2026. This course surveys the history of the Space Age over the last century, including the development of rockets and ballistic missiles, the origins and challenges of space exploration, and the revolutionary applications of orbital technologies. We examine the history and legacies of the Cold War in space between the United States of America and its two major rivals: the Soviet Union and People's Republic of China. We study how their different cultural values, political institutions, and military imperatives have determined the character of the first human ventures into outer space. We also explore such topics as: the Nazi rocket program, the Sputnik event, astronauts and cosmonauts, the Moon missions, space disasters, the Strategic Defense Initiative ("Star Wars"), space stations, the Shuttle, "New Space" entrepreneurship and innovation, and the prospects of human environments and "enhancements" in space. The course fulfills Purdue University's core curriculum category in Science, Technology, and Society.

### Readings

Michael G. Smith, *The Spacefaring Earth: A History of the Space Age* (Routledge 2025). All other focused readings are listed on the schedule below and are posted at Brightspace. For example, we read Neufeld, Michael. "Wernher von Braun, the SS, and Concentration Camp Labor," *German Studies Review* 25/1 (February 2002): 57-78. And Johnson, Stephen. "Organizing the Manned Space Program," from *The Secret of Apollo: Systems Management in American and European Space Programs* (Johns Hopkins University Press 2002), 115-153. And also Edwards, Paul. "Thinking Globally," from *A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming* (MIT Press 2010), 1-25.

### Grading

The final grade is based on the average of 6 handwritten assignments: each of the 3 in-class essays, and each of the 3 in-class examinations. These assignments require materials and insights from the classroom experience. **Look, listen and remember.** Take good notes. Read the sources carefully and critically. Write with precision and power.

In Part I, students explore how invention happens, thanks to the forces of societies and cultures, and individuals and teams. Students will identify the different national contexts, scientific-technological designs, and political imperatives that informed the first human spaceflight ventures. Students will also evaluate early scientific and technological developments in astronautics, this to weigh costs and benefits for individuals, groups, and societies. To assess the evidence and interpretations, students will develop listening and writing skills through in-class writing assignments and interactions. Each class session will set a trend and offer rich aesthetic material for student consideration: in song and movie clips, art and poetry, and propaganda and advertising images. In Part II, students will build upon the evidence and skill sets they have achieved so far. Here we will focus on the competition between the USA and USSR for spaceflight achievements. Students will distinguish between the research and development advances in astronautics for both peace and war, for both creation and destruction. Students will define and weigh the human costs and moral implications of rockets as armed ballistic missiles and as exploratory space launchers. We will continue to look for patterns and deviations in spaceflight aesthetics. Be sure to apply all advice on your graded written work to improve your knowledge and skills, and your final grade. In Part III, students will negotiate the revolutionary applications of orbital technologies, interplanetary craft, and space-related computer technologies. They will appreciate how these applications have both benefited and threatened our lives on planet Earth; and also recognize patterns and deviations in these terms from across the semester. Students will appraise a variety of tools and strategies, including Russian and American and Chinese space stations, the Space Shuttle, New Space entrepreneurship and innovation, and the prospects of human environments and "enhancements" in outer space, including the ethical dimensions of cybernetics and transhumanism.