Course Title:

A History of The Space Race Between The United States and The Soviet Union (1945-1972)

Course Description:

At the end of World War II and the advent of the Cold War, the United States and the Soviet Union realized the importance and potential of guided and ballistic missile systems in warfare. They also realized the importance of national accomplishments to establish prestige within the global community. It was recognized that concentrated programs in the development of rocket and missile technologies could impact both realizations.

German scientists such as Wernher von Braun, Willy Ley and Hermann Oberth had already begun to think about rocketry and space travel before World II forced a change of direction in their work. After the war they found the United States and the Soviet Union willing and eager to exploit their knowledge and experience from the war but also support their ideas and dreams of exploration.

This course will chronicle "The Space Race" between the United States and the Soviet Union and how development of rocket technology became focused on the use of artificial (man-made) earth satellites, the unmanned and manned exploration of space with the ultimate goal becoming a manned landing on the Moon. An entire generation is likely to remember where they were when Apollo 11 landed on the Moon, but how many truly realize what it took to get to that event?

Course Objectives:

- To provide a comprehensive overview of "The Space Race," including its origins, major milestones, and its role in the broader context of the Cold War;
- To analyze pivotal events such as the launch of Sputnik, the Apollo moon landing and their technological advancements and global impact;
- To compare and contrast the different approaches, technologies, and philosophies of the U.S. and Soviet space programs;
- To explore the impact of "The Space Race" on popular culture, public opinion, and the perception of science and technology both in the U.S. and the Soviet Union;
- To understand the scientific and technological innovations that were a product of "The Space Race" and how these advancements have impacted modern science and technology;
- To reflect on the legacy of "The Space Race" and its implications for current and future space exploration.

Class Outline (12 hours total):

Class 1: Dreams of Space Become Real

- From mythology to early science fiction to early motion pictures

- What is the appeal of space travel and exploration?
- Why do they always use rockets?
- Robert Goddard and other early rocketeers
- Early Russian interests/pioneers
- What attracted the Germans to the concept?
- The German program in WW2 – impact on the World War II

Class 2: The Birth of the Space Race

- The Cold War, US and USSR clamor for German scientists
- Was the Space Race about exploration or warfare?
- The Space Race as a Proxy for Military Missile Development (ICBMs) – dual purpose rocketry
- Key Figures and Organizations in the US and USSR Programs
- The Role of "The Military-Industrial Complex"

Class 3: Early Milestones and Achievements

- Space Accomplishments and National Pride
- The International Geophysical Year (7/1957 – 12/1958)
- The Launch and Impact of Sputnik 1 (October 1957)
- The US Struggles to get into the Space Race - (Explorer I to Vanguard 1)
- SCORE – President Eisenhower and the first broadcast from space (December 1958)
- The Creation of NASA (July 1958)
- "The Right Stuff" and Project Mercury (October 1958)
- Echo 1 – the first passive communications satellite (August 1960)
- JFK speaks to Congress about a moon mission (January 1961)
- Yuri Gagarin becomes the first man in space (April 1961)
- Alan Shepard becomes the first American in space
- The Gemini Program (1961)
- Telstar 1 – the first active communications satellite (July 1962)

Class 4: The Apollo Program and the Flight to the Moon

- The Birth of the Apollo Program (1961)
- Goals and Technological Challenges
- The Apollo 1 Tragedy (1967)
- Apollo 8's flight around the Moon
- The Apollo 11 Landing (July 1969)

Class 5: The Soviet Space Program and Contributions

- The Cosmonaut Program
- Successes and Failures

- Valentina Tereshkova – the first woman and first civilian in space (June 1963)
- The First Spacewalk (March 1965)
- Why did the Russians not make it to the Moon?
- The First Space Station – Salyut (April 1971)

Class 6: The Legacy of the Space Race

- Apollo missions beyond Apollo 11
- Who won the Space Race?
- What is the Legacy of the Space Race Socially and Technologically?
- The Birth of US-Russian collaboration rather than competition
- It has been 50 years since humans last walked on the Moon (December 1972 – Apollo 17) – why?
- Will there be another Space Race? Internationally? Governmental vs. Corporate?