

**SPACE POLICY INSTITUTE  
ELLIOTT SCHOOL OF INTERNATIONAL AFFAIRS  
GEORGE WASHINGTON UNIVERSITY**

IAFF 6158.10  
Spring 2016

Thursday, 5:10 - 7:00 pm  
1957 E St., Suite 403

**Issues in U.S. Space Policy: Tools and Scenarios**

Professor Scott Pace  
Office: Suite 403, 1957 E Street NW  
Telephone: (202) 994-5278  
E-mail: [space1@gwu.edu](mailto:space1@gwu.edu)

Synopsis

This course will address international space policy issues facing the United States and place them in context with broader technological advances and the changing strategic environment. The course will address current bureaucratic and regulatory issues facing U.S. space programs with regard to dual-use technologies, including export controls, spectrum management, and licensing of commercial remote sensing systems. Conflicts over dual-use technologies, such as space launch, remote sensing, satellite navigation, and communications, will be examined for their implications for a range of national interests. The course will also address strategic choices facing other nations in space activities, including dependence on U.S., European, and Russian space capabilities, developing indigenous space programs, and use of commercial space capabilities.

Active participation in decision-making scenarios is an important by of the class. This will include a simulation of the NASA mission management team just prior to the loss of the Space Shuttle *Columbia* in 2003. The class will conclude with a group exercise involving the interaction of diplomatic, intelligence, military, and economic interests in a hypothetical space conflict. Students will take on the role of national decision-makers in responding to unfolding events involving the conflicting space interests of the United States, China, Russia, the European Union, Japan, and other space powers in a scenario set in the late 2020s. It will be played during three class sessions and involve intra- and inter-team communications outside of class.

Learning Outcomes

- Students will be able to identify and understand the interaction of technical and regulatory factors applicable to dual-use space technologies.
- Students will be able to understand and evaluate the elementary impacts of organizational, budgetary, and cost uncertainties on the acquisition and operation of space systems.
- Students will be able to work collaboratively with others by participating in problem-solving and decision-making situations characterized by imperfect information.

Office Hours: By appointment

Grading: The class is a participatory seminar, with primary emphasis on reading assignments, class participation, and writing assignments – including problem sets that illustrate key technical concepts. Each week during the term, students will be expected to come to the course meeting familiar with the assigned readings related to that week's topic and able to participate in discussions. Grades will be based on exercise participation (15%), completion of problem sets (30%), a student team-based tutorial on a space function assigned by the instructor (15%) and a 12 to 15-page (5,000-6,000 words) research paper on a topic of the student's choosing, subject to approval of the instructor (40%). Papers should be submitted electronically to [space1@gwu.edu](mailto:space1@gwu.edu) no later than five days after the end of the course.

Guidelines for tutorials presentation: The tutorial is an opportunity to explain a particular space function in slightly more depth and educate others in the class on its technical, operational, and policy significance. Specific functions will be assigned to student teams by the instructor and will include positioning/navigation/timing (PNT), space communications, remote sensing, weather (Earth and space), surveillance and warning, and space launch. Total presentation time cannot exceed 20 minutes (e.g., less than 10 charts) and students may form teams of their own choosing. The presentation will be graded for accuracy, clarity, objectivity, and completeness.

Student preparation for the scenario exercise: Teams will prepare decision memos for use in the scenario, and presentation to the class during each day of the exercise. Students may also prepare background information papers to support their memos.

### Readings

Almost all course readings are available from the Internet or will be available on Blackboard. The instructor will also provide this material to interested students on a compact disk. There are no plans to make a course reading pack. The Multimedia Case will be available on a CD that can be borrowed or purchased separately.