U.S. Space Policy

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Synopsis
This course is an examination of the origins, evolution, current status, and future prospects of U.S. space policies and programs. It will cover the U.S. government’s civilian, military, and national security space programs and the space activities of the U.S. private sector, and the interactions among these four sectors of U.S. space activity. This examination will be cast in the context of the space activities of other countries, and of international space cooperation and competition. The goal of the course is to give the student an exposure to the policy debates and decisions that have shaped U.S. efforts in space to date, and to the policy issues that must be addressed in order to determine the future goals, content, pace, and organization of U.S. space activities, both public and private.

Learning Outcomes
- Students will be able to demonstrate that they understand and can communicate the basic concepts of U.S space policy.
- Students will be able to discuss and assess how the U.S. scientific and technical space communities have adapted to changing national and international conditions.
- Students will acquire the background knowledge and understanding of current issues that will allow them to analyze and evaluate U.S. space policy debates against multiple national interests (e.g., military, economic, diplomatic).

Approach
This is very much a reading and lecture course. Each week during the term, students will be expected to come to the course meeting familiar with the substantial amount of assigned readings related to that week's topic. Lecture slides will be posted on Blackboard but the readings are important to understanding the slides. The written assignments for the course (and the primary basis for assigning a grade) will be three 4000-5000 word (~9-12 pages) papers, each addressing a particular question or issue. Each paper is worth 33% of the final course grade. The due dates for the papers are September 21, October 26, and December 7. The specific prompts for each paper are given below. Papers should be submitted electronically to space1@email.gwu.edu
Course Schedule

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<tr>
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<th>Topic</th>
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<td>August 24</td>
<td>Introduction: Why Go Into Space?</td>
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<td>August 31</td>
<td>Origins of U.S. Space Policies and Programs</td>
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<td>September 7</td>
<td>Apollo and Its Impacts</td>
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<td>September 14</td>
<td>What Do You Do Next When You’ve Been to the Moon?</td>
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<td>September 21</td>
<td>NASA – From <em>Challenger</em> to <em>Columbia</em></td>
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<td>September 28</td>
<td>Beyond LEO – the Vision for Space Exploration and Artemis</td>
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<td>October 5</td>
<td>The International Context of the U.S. Space Program</td>
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<td>October 12</td>
<td>No class: Fall Break</td>
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<td>October 19</td>
<td>The Evolution of Commercial Space Activities</td>
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<td>October 26</td>
<td>The Evolution of National Security Space Activities</td>
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<td>November 2</td>
<td>Making Space Secure and Sustainable</td>
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<td>November 9</td>
<td>The U.S. Congress and Space</td>
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<td>November 16</td>
<td>Making National Space Policy</td>
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<tr>
<td>November 23</td>
<td>No Class: Thanksgiving Holiday</td>
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<tr>
<td>November 30</td>
<td><em>Quo Vadis</em></td>
</tr>
<tr>
<td>December 7</td>
<td>A Conversation with the NASA Administrator (planned)</td>
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Readings
Course readings, including those from recommended texts below, are available on Blackboard or are on the Internet. The syllabus and lecture slides will be posted on Blackboard.


August 24  
**Introduction: Why Go Into Space?**


Vernon van Dyke, *Pride and Power: The Rationale of the Space Program* (1964), pp. 3-8, 175-80


**First Assignment (Due September 21)**

Prepare a 4,000-5,000 word essay (indicate sources for direct quotes) discussing past and current U.S. approaches to human space exploration and how the policies of other countries might differ. The essay should address questions such as: In a time of global economic turmoil and changing threats to international security, what are the purposes of human space exploration? What could or should be the purposes of human space exploration? How should the potential benefits of human space exploration be assessed related to the resources and risks involved?
August 31  Origins of U.S. Space Policies and Programs


NSC 5520, “U.S. Scientific Satellite Program”

S.P. Korolev, Memo to the USSR Council of Ministers, 5 January 1957


“Memorandum of Conference with the President, October 8, 1957, 8:30 a.m.,” and “Memorandum for the President, Earth Satellite,” 9 October 1957


Homer Newell, *Beyond the Atmosphere: Early Years of Space Science* (1980), Chaps. 3-5, 7-8

National Aeronautics and Space Act of 1958

September 7  Apollo and Its Impacts

**Guest Speaker: John Logsdon, Professor Emeritus**

John M. Logsdon, *The Decision to Go to the Moon: Project Apollo and the National Interest* (1970), Chaps. 2-4, 6

McDougall, pp. 299-324. 361-362, 373-388, 403-407


Transcript of Presidential Meeting, November 21, 1962 (excerpts) 
http://whitehousetapes.net/exhibits/space/clips/1962_1121_apollo/


Roger Launius, “Perceptions of Apollo: Myth, Nostalgia or All of the Above?” *Space Policy*, May 2005


September 14 What Do You Do Next When You Have Been to the Moon?


Memorandum for the President from Caspar W. Weinberger, “Future of NASA,” August 12, 1971


Howard McCurdy, “The Decision to Build the Space Station,” *Space Policy*, November 1988


Alex Roland, “Barnstorming in Space: The Rise and Fall of the Romantic Era of


**September 21** NASA – From *Challenger* to *Columbia*


Scott Pace, “U.S. Space Transportation Policy,” *Space Policy*, November 1988

*Report of the Advisory Committee on the Future of the U.S. Space Program*, December 1990


*Report of the Columbia Accident Investigation Board*, Chap. 5, 7 and 8, August 2003


**Second Assignment (Due October 26)**

For over 60 years, the United States has pursued a space policy vis-à-vis the rest of the world that has mixed competitive and cooperative elements across civil, commercial, and national security sectors. While the United States has competed for prestige, commercial returns, and security advantages, it has also cooperated for scientific and foreign policy payoff. For U.S. policy makers, what balance between cooperative and competitive approaches ought to be sought
and how should that balance be managed? The 2020 National Space Policy calls for international cooperation “on mutually beneficial space activities that broaden and extend the benefits of space for all humanity; further the exploration and use of space for peaceful purposes; protect the interests of the United States, its allies, and partners; advance United States interests and values; and enhance access to space-derived information and services.” What strategies are likely to be the most effective in achieving these objectives? What are the relative risks and potential benefits to the United States?

September 28  Beyond LEO – the Vision for Space Exploration and Artemis


NASA, The Vision for Space Exploration, February 2004


John Marburger, “Keynote Address to 46th Robert H. Goddard Memorial Symposium,” Greenbelt, MD, March 6, 2008


Vice President Mike Pence, “Remarks at the Fifth Meeting of the National Space Council,” Huntsville, AL, March 26, 2019

Ken Bowersox, Artemis Architecture & HEOMD Status, Aeronautics and Space Engineering Board, Washington, D.C., June 9, 2020

NASA, NASA’s Lunar Exploration Program Overview, September 2020

October 5  The International Context of the U.S. Space Program

Guest Speaker: Aaron Bateman, Assistant Professor
“International Space Cooperation,” Memorandum for the President from the Secretary of State, March 14, 1969


United Nations, “Review of international mechanisms for cooperation in the peaceful exploration and use of outer space: information received from Member States,” Committee on the Peaceful Uses of Outer Space, Legal Subcommittee, A/AC.105/C.2/2013/CRP.17, 8 April 2013

European Space Policy Institute, “European Space Strategy in a Global Context,” ESPI Public Report 75, Vienna, November 2020


Andrew Aldrin, “Russian Space Policy,” presentation to the International Space University, June 8, 2010


India, “India Space Policy,” New Delhi, April 2023

Japan, “Outline of the Basic Plan on Space Policy,” Presentation by the National Space Policy Secretariat, Cabinet Office, Tokyo, June 30, 2020

Japan, “Space Security Initiative,” Strategic Headquarters for Space Policy, Tokyo, June 13, 2023


**October 19**

**The Evolution of Commercial Space Activities**


Bhavya Lal, Emily Sylak-Glassman, and Nayanee Gupta, “Global Trends in Civil and Commercial Space,” Science and Technology Policy Institute, Institute for Defense Analysis, 28 October 2015


Bryce Space and Technology, “Start-Up Space,” 6 April 2022

**October 26**

**The Evolution of National Security Space Activities**

*AU-18 Space Primer*, Air University Press, Maxwell AFB, AL, 2023

Bruce Berkowitz, *The NRO at 50 - A Brief History, 2nd Ed.*, National Reconnaissance Office, Chantilly, VA, July 2018

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Dana Johnson, Scott Pace, C. Bryan Gabbard, Space: Emerging Options for National Power (1998), Santa Monica: RAND MR-517, Chap. 2


Scott Pace, “Deterrence and Geopolitics in Space,” Space Policy, July 2023


November 2 Making Space Secure and Sustainable

Guest Speaker: Sean Wilson, National Space Council


Jessica West and Lauren Vyse, “Arms Control in Outer Space,” Ploughshares Report, March 2022


Third Assignment (Due December 7)

In a February 2, 2023 commentary in China Military Online, the English language outlet for the People’s Liberation Army, the PLA stated that “Since taking office as head of NASA, Bill Nelson has repeatedly accused China of peaceful space exploration activities, falsely claiming that China’s space program is a military program and groundlessly accusing China's aerospace industry of stealing technology and ideas from other countries. Arguments like this are not uncommon in American political and military sectors. The U.S. has spared no effort to distort the facts and label other countries as ‘space competitors’ and ‘space threats’, aiming to create excuses to seek space superiority. This reflects the hegemonic thinking and Cold War thinking of the U.S.” Is this criticism valid in whole or parts? Why might the PLA say this? How should the United States respond to this narrative? Who are the most important messages and audiences for a U.S. response?

November 9   The U.S. Congress and Space

Guest Speakers: Jared Stout, Meeks, Butera & Israel PLLC

Joan Hoff, “The Presidency, Congress, and the Deceleration of the U.S. Space Program in the 1970s” in Launius and McCurdy

“Epilogue: Beyond NASA Exceptionalism” in Launius and McCurdy

H.R. 3237, “National and Commercial Space Programs,” referred to the House Committee on the Judiciary, July 16, 2009

Marcia Smith, “What’s A Markup? Answers to That and Other Mysteries of the Legislative Process,” September 2019

Marcia Smith, “Legislative Checklist 118th Congress,” July 29, 2022


U.S. Space Foundation, “Congressional Leadership Changes and Implications for the Space Industry,” Colorado Springs, CO., October 2022

November 16 Making National Space Policy


The White House, “U.S. National Space Policy,” October 6, 2006

The White House “National Space Policy of the United States of America,” June 28, 2010


Donald J. Trump, “Encouraging International Support for the Recovery and Use of Space Resources,” Executive Order 13914, April 6, 2020

The White House, “National Space Policy of the United States of America,” December 9, 2020


November 23 Thanksgiving Holiday – No Class
November 30  Quo Vadis


Scott Pace, “Challenges to U.S. Space Sustainability,” *Space Policy*, June 2009

James Vedda, Chapter 7 in *Choice, Not Fate: Shaping a Sustainable Future in the Space Age* (2009)


Elon Musk, “Making Life Multiplanetary,” abridged transcript of presentation to the 68th International Astronautical Congress, Adelaide, Australia, 28 September, 2017


December 7  A Conversation with NASA Deputy Administrator Pam Melroy (planned) and John Logsdon, Professor Emeritus (invited)


Senate Commerce Committee, Transcript of Nomination Hearing for NASA Administrator Nominee Sen. Bill Nelson, April 21, 2021


Other Course Information

Prerequisites

Academic: None.

Technological: It is necessary to possess baseline technology skills in order to participate fully in the course. Please consult the GW Online website for further information about recommended configurations and support. If you have questions or problems with technology for this course, please consult the Technology Help link in the left navigation menu in our course in Blackboard.

Methods of Instruction

Lectures: Each class session will have a Power Point presentation on a particular topic, as listed in the syllabus. The instructor will make these presentations available to the students ahead of class. Occasional guest lectures will be scheduled (to be confirmed), and you should be prepared to engage the speakers.

Readings: The syllabus includes specific readings for the specific topic of the lecture. They are a combination of articles, book chapter extracts, official space policy documentation, and other written materials as needed for the course. Additional (optional) reading will also be available.

Writing assignments: Three 9-12 page (~4000-5000 words) papers, each addressing a particular question or issue, are assigned for this class. Each paper is worth 33.3% of the final course grade. Specific topics are described subsequently in this syllabus. Papers should show thoughtful analysis and a structured approach to answering the questions. You should proofread your work, and correct spelling errors before submitting the paper to the instructor. Common grammatical errors and usage, such as “United States’ prestige” rather than “U.S. prestige”, should be avoided. Also try to avoid passive sentence structure, such as “National prestige was a major factor for the U.S. Administration’s space policy” rather than “The U.S. Administration specifically included factors such as national prestige in its space policy.”
Journals, Blogs, and Other Public Media: You should make an effort to keep up on current space activities by reading news media and blogs such as Space News [https://spacenews.com/], Space Policy Online [https://spacepolicyonline.com/], and The Space Review [https://www.thespacereview.com/]

Credit Hour Policy and Grading
As a three-credit course, over 15 weeks of the semester you are expected to spend about 110 minutes in live instruction and about 360 minutes of independent work per week. There will not be a final exam; rather, the three writing assignments will count towards the final grade. While class participation is not scored, you should be prepared to engage, particularly when the class has guest speakers. Late work will receive point deductions based on the number of days the item is late. The amount of the deduction is at the instructor’s discretion.

Assignments are graded on a 20 point scale. The percent grading scale below determines the final letter grade:

<table>
<thead>
<tr>
<th>Excellent</th>
<th>Good</th>
<th>Needs Improvement</th>
<th>Low Pass</th>
<th>Fail</th>
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</thead>
<tbody>
<tr>
<td>A 96%-100%</td>
<td>B+ 87%-89%</td>
<td>B- 80%-83%</td>
<td>C 74%-76%</td>
<td>F Under 70%</td>
</tr>
<tr>
<td>A- 90%-95%</td>
<td>B 84%-86%</td>
<td>C+ 77%-79%</td>
<td>C- 70%-73%</td>
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Incomplete Grades
At the option of the instructor, an Incomplete may be given for a course if a student, for reasons beyond the student’s control, is unable to complete the work of the course, and if the instructor is informed of, and approves, such reasons before the date when grades must be reported. An Incomplete can only be granted if the student’s prior performance and class attendance in the course have been satisfactory. Any failure to complete the work of a course that is not satisfactorily explained to the instructor before the date when grades must be turned in will be graded F, Fail. If acceptable reasons are later presented to the instructor, the instructor may initiate a grade change to the symbol I, Incomplete. The work must be completed within the designated time period agreed upon by the instructor, student, and school, but no more than one calendar year from the end of the semester in which the course was taken. To record the exact expectations, conditions, and deadlines of the Incomplete please use the Elliott School’s Incomplete Grade Contract at [http://go.gwu.edu/incompletcontractgraduate](http://go.gwu.edu/incompletcontractgraduate)

The completed and signed contract is to be submitted to the Academic Affairs and Student Services Office. All students who receive an Incomplete must maintain active student status during the subsequent semester(s) in which the work of the course is being completed. If not registered in other classes during this period, the student must register for continuous enrollment status. For more information please review the relevant sections of the University Bulletin: [http://bulletin.gwu.edu/university-regulations/#Incompletes](http://bulletin.gwu.edu/university-regulations/#Incompletes)
Instructor Response Time
I will respond to emails within one day (e.g., 24 hours on weekdays and on the next business day over weekends and holidays). I will return assignments within two weeks.

University Policy on Religious Holidays:
1. Students should notify faculty during the first week of the semester of their intention to be absent from class on their day(s) of religious observance.
2. Faculty should extend to these students the courtesy of absence without penalty on such occasions, including permission to make up examinations.
3. Faculty who intend to observe a religious holiday should arrange at the beginning of the semester to reschedule missed classes or to make other provisions for their course-related activities.

Academic Integrity
Academic dishonesty is defined as cheating of any kind, including misrepresenting one's own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of information. For the remainder of the code, see: http://www.gwu.edu/~ntegrity/code.html

Support for Students Outside the Classroom
DISABILITY SUPPORT SERVICES (DSS). Any student who may need an accommodation based on the potential impact of a disability should contact the Disability Support Services office at 202-994-8250 in the University Student Center, Suite 242, to establish eligibility and to coordinate reasonable accommodations. For additional information please refer to: https://disabilitysupport.gwu.edu/

UNIVERSITY COUNSELING CENTER (UCC) 202-994-5300
The University Counseling Center (UCC) offers 24/7 assistance and referral to address students' personal, social, career, and study skills problems. https://healthcenter.gwu.edu/counseling-and-psychological-services

Security
In the case of an emergency, if at all possible, the class should shelter in place. If the building that the class is in is affected, follow the evacuation procedures for the building. After evacuation, seek shelter at a predetermined rendezvous location.