**Haifa University**

**Israel National Defense College**

**Security and Politics of Space**

**February-April 2020**

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**What will we learn in the course?**

The course will discuss policy, security and economic issues relating to the relationship between global politics and technology through exploring the strategic status of space as both an area and a technological field. Matters to be discussed include the changing nature of power in the international arena; the fight for dominance; the changes in the nature of war; strategies and mechanisms for influencing the flow of knowledge and technology, and more. All of these in historical and contemporary view of the interconnected fight in the Cold War, today and in the future.

**Class conduct and reading list**

The lesson will be conducted in the form of a discussion of the various issues. Therefore, it is recommended to review the reading list and to select one reading item before each lesson as background material for reference. The lessons will not focus on the details as these are intended to enrich the discussion as well as to provide a starting point for a reading list for the final paper.

**Writing assignment or what needs to be done in order to finish the course?**

Submission of a short paper on a topic chosen by the student:

Topic Examples:

1. Evaluating the motives for developing or failing to develop space capabilities in any country based on its characteristics and recommending policies for the future.
2. Analyzing the international and national implications of new technological realities and formulating a policy recommendation for a specific country.
3. Strategies for addressing threats in the space area from the point of view of the private market or of countries.
4. Assessing the influence of private actors on the design of the rules of the game in space management.

Guidelines: Up to 7 pages; font: David 12; spacing: 1.5; margins: 2.5 each side (not including bibliography).

**Recommended Background Material**

* **Exploring the Unknown**

A 7 part series that offers edited files of original archive documents with commentary by experts. Free access to digital copies may be found here:

<http://history.nasa.gov/series95.html>

* Toward a Theory of Spacepower- Selected Essays ,

<http://www.dtic.mil/dtic/tr/fulltext/u2/a546585.pdf>

**First Meeting, February 26th, 2020 – Part A – Global Politics and “space Engineering without any Space Engineers”**

* Roger D. Launius, Erik M. Conway, Andrew K. Johnston, Zse Chien Wang, Matthew H. Hersch, Deganit Paikowsky, David J. Whalen, Eric Toldi,Kerrie Dougherty, Peter L. Hays, Jennifer Levasseur, Ralph L. McNutt, Jr., and Brent Sherwood, (May 2012), “Spaceflight: The Development of Science Surveillance, and Commerce in Space”, *Proceedings of the IEEE*, Vol. 100, pp. 1785-1818.
* Moltz, C., (2008), *The Politics of Space Security*, (Stanford: Stanford University Press), pp. 11-68.

**Part B- Beginning of the Cold War and of the Race to Space – From an Intelligence-Security Force Build-up Strategy to Projecting Power through a Public Civic Program**

* Paikowsky, D., The Power of the Space Club, (Cambridge: Cambridge University Press, 2017), Chapter 3, pp. 48-73
* Shelton, W. (1971). “The United States and the Soviet Union: Fourteen Years in Space”. *Russian Review*, Vol. 30, No. 4. PP. 322-334;
* Gaddis, J.L. *The Long Peace, Inquiries into the history of the Cold War*, (Oxford:

Oxford University Press, 1987) pp. 195- 214

**Second Meeting, March 4th, 2020 – The Struggle for Superiority and the Creation of a Space Club – Projecting Power and Strategies for Managing the Flow of Knowledge and Technology in the Struggle for Power and Leading**

* Paikowsky, D., The Power of the Space Club, (Cambridge: Cambridge University Press, 2017), Chapter 4, pp. 74-91
* Logsdon, J., (1996), "The Development of International Space Cooperation", in: Logsdon, J., Day, D. and Launius, R.D., (eds.), *Exploring the Unknown – Selected Documents in the History of The U.S. Civilian Space Program Volume II: External Relationships*, (Washington DC: The NASA History Series, NASA History Office), pp.1-15. http://history.nasa.gov/SP-4407/vol2/v2intro.pdf
* Oberg, J., (1981), *Red Star in Orbit*, (New-York: Random House).
* Krige, J. (2007), “NASA as an Instrument of U.S. Foreign Policy”, in: Dick, S. J. and Launius, R.D., (eds.), *Societal Impact of Spaceflight*, (Washington DC: NASA History Division), pp. 207-218. Available at: <http://history.nasa.gov/sp4801-part1.pdf>
* Launius, R., (2009), “United States Space Cooperation and Competition: Historical Reflections”, Astropolitics, Vol. 7, pp. 89-100

**Third Meeting, March 11th, 2020 (Purim) – The Race to Space from the Point of View of Second Order Superpowers and Small States- Space Programs in Additional Countries or why Join the Club?**

**Possible Case Studies: France/Britain, Israel/India.**

* Paikowsky, D., The Power of the Space Club, (Cambridge: Cambridge University Press, 2017), Chapter 5 (France/Britain), Chapter 7, (India/Israel), pp. 92-115, 145-177.
* More about Israel’s Space Program:

Ben Israel, I., and Paikowsky, D., "The Iron Wall Logic of Israel's Space Programme",

*Survival*, Vol. 59, No. 4, August-September 2017, pp. 151-166.

**Fourth Meeting, March 18th, 2020 (Purim) – Warfare in the Fourth and Fifth Dimensions**

**1st Half: Warfare in the Fourth Dimension – Space Technology and its Influence on the Changing Nature of Warfare – RMA and the Case of Space**

* Mowthorpe, M. (September 2002), "The Soviet/Russian Approach to Military Space". In: *The Journal of Slavic Military Studies*. Vol. 15, No. 3, pp. 25-48.
* Max Boot, “The New American Way of War,” *Foreign Affairs*, 82 no. 4 (July/August 2003): 41-58.

**2nd Half: Warfare in the Fifth Dimension – The Cyber Threat on Systems in Space**

* Paikowsky, D. and Baram, G., "Space Wars: Why our space systems need an upgrade?", *Foreign Affairs*, (January 7, 2015), [On-line Snapshot on cyber and space] Available at: <http://www.foreignaffairs.com/articles/142690/deganit-paikowsky-and-gil-baram/space-wars>
* Falco, G., "Job One for Space Force: Space Asset Cybersecurity", Cyber Security Project, Belfer Center Paper, July 2018, Available at: <https://www.belfercenter.org/sites/default/files/files/publication/CSP%20Falco%20Space%20Asset%20-%20FINAL.pdf>

**Fifth Meeting, (An Alternative Date to March 25th, 2020, will be provided) – Space Economy – Old vs. New – The Awakening of the Space Market after the War and Strengthening of the Private Sector – Future of the Space Club – And the Path to a Space Economy**

* Paikowsky, D., "What is New Space?", The changing ecosystem of global space activity", *New Space Journal*, Vol. 5, Issue, 2, June 2017, pp. 84-88.
* Paikowsky, D., The Power of the Space Club, (Cambridge: Cambridge University Press, 2017), Chapter 8, pp. 178-209.
* Paikowsky D., and Tzezana, R., "The Politics of Space Mining – an account of a simulation game" Acta Astronautica, Vol. 142, January 2018, pp. 10-17.
* Musk, E., "Making Humans a Multi-Planetary Species", New Space, Vol. 5, No. 2, 2017, pp. 46-61.

**Sixth Meeting, April 1st – Dealing with Threats on Space Assets: Deliberate and Undeliberate Threats, Typology for Space Weapons, Political Mechanisms for Dealing with the Threats**

* *Space Security* 2019 Executive Summary (Waterloo: University of Waterloo Press, 2019). Available at:

<http://spacesecurityindex.org/wp-content/uploads/2019/10/SSI2019ExecutiveSummaryCompressed.pdf>

* Wright, D., Grego, L. and Gronlund, L. (2005), *The Physics of Space Security- A reference manual*, (Cambridge: American Academy of Arts and Science)
* Robinson, J., “Transparency and Confidence-Building Measures for Space Security”, *Space Policy*, Vol. 27, Issue 1, February 2011, Pages 27-37.