



UNIVERSITAS PELITA HARAPAN

COURSE SYLLABUS

Faculty, Department	Faculty of Law
Catalog Number	Law 922 SPCL(1653)
Course Name / Credit	Space Law (2 units)
Academic Year / Term	2017/2018 – Short Semester
Day, Time	Tuesday, 9:15-10:55
Lecturer(s), contact Info.	Jessica Los Banos, jalb36@yahoo.com

DESCRIPTION

This course introduces the legal regime of outer space or the system of rules, institutions and procedures that regulate the use and conduct of activities in outer space. It aims to provide a general overview of international space law and its policy and practical aspects. The course is divided into three topics: (1) introduction to space law and boundaries of outer space, (2) legal regime of outer space and Indonesian space law, (3) issues in the exploration and uses of outer space and future of space law.

GENERAL INSTRUCTIONAL OBJECTIVES

Students should understand the basic concepts, principles and rules of international space law and apply them to issues and cases involving the use and exploration of outer space.

COMPETENCIES (Specific Instructional Objectives)

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| A1 | Understand the basic principles and tenets of exploration and use of outer space |
| A2 | Appreciate the environment of outer space, and evolving challenges and opportunities for humankind |
| A3 | Identify the subjects of space law and the scope of their rights and obligations |
| A4 | Analyze existing outer space law regime and recommend changes needed to accommodate global trends and technological developments |
| A5 | Apply concepts and principles to issues and disputes involving exploration and use of outer space |

PRE-REQUISITE

International Law, International Organizations

TOOLS Videos, Handouts, PPT slides, Whiteboard

INDIVIDUAL STUDY

1. Prepare for class by reading materials and completing assigned tasks.

2. Be present in class, think, and share ideas and opinions.
3. Submit assignments on time.
4. Show good faith, and respect for self, classmates and lecturer.

CLASS POLICIES

1. Arriving after 9:25 is equivalent to 1 late; 3 late arrivals = 1 unexcused absence; 2 unexcused absences = dropped from class. Students must come on time. Repeated late arrivals also lead to low KAT score.
2. Students are allowed only one (1) unexcused absence in case of (a) death of family member, (b) illness requiring hospitalization and (b) participation in competitions, subject to discretion of teacher and/or Kajur.
3. Due to time constraint, **FLIPPED CLASSROOM** is the primary learning approach for this term. Students must come to class prepared, having read assigned materials and completed assignments.
4. Students are expected to “be present” in class, meaning they must share their ideas and participate in class discussions.
5. Use of laptops and electronic devices inside the classroom is prohibited, unless otherwise indicated for certain purposes.
5. All take home work must be properly cited and referenced. Plagiarism is severely penalized. See student handbook for penalties.
6. Late work submission entails a 30% score reduction or assignment is deemed waived at discretion of lecturer.

TEXT BOOKS (MAIN)

None

ONLINE MATERIALS (REFERENCES)

*Space.com - <https://www.space.com/> *Space X - <http://www.spacex.com/> *Virgin Galactic - <https://www.virgingalactic.com/> *Blueorigin.com - <https://www.blueorigin.com/> *Bigelow Aerospace - <http://bigelowaerospace.com/>

UN Office for Outer Space Affairs (UNOOSA) / UN Committee on the Peaceful Uses of Outer Space (UNCUPOUS) - <http://www.unoosa.org/oosa/en/ourwork/copuos/index.html>
 International Telecommunications Union - <https://www.itu.int/en/about/Pages/default.aspx>; Space Services Department - <https://www.itu.int/ITU-R/go/space/en>

REFERENCES

- Diederiks-Verschoor and Kopal, An Introduction to Space Law, 2008 (DK)
 Von der Dunk and Tronchetti, Handbook of Space Law, 2015. (VT)
 X-----X
 Lyall and Larsen, Space Law, A Treatise, 2009 (LL)
 Isaac Asimov, How We Found Out About Outer Space
 Luca Codignola, Kai-Uwe Schrogl (eds.) with Agnieszka Lukaszczyk and Nicolas Peter, Humans in Outer Space –Interdisciplinary Odysseys, 2009
 Ruwantissa Aberaytne, Regulation of Commercial Space Transport, 2015
 Lotta Viikari, The Environmental Element in Space Law, 2008
 Joseph N. Pelton, New Solutions for the Space Debris Problem, 2015
 Fabio Tronchetti, The Exploitation of Natural Resources of the Moon and Other Celestial Bodies, 2009
 Ricky Lee, Law and Regulation of Commercial Mining of Minerals in Outer Space, 2012

GRADING SCHEMA

INDICATOR	PERCENTAGE	COMPETENCIES/COMPONENTS
UAS (30% - 60%)	35%	A1-A5
UTS (20% - 40%)	35%	A1-A5
KAT 1	30%	A1-A5, Class Participation, Quizzes, Assignments, Problem Set, Attendance

SESSION	(Knowledge, Skill, and Attitude)	TOPICS	ACTIVITIES / METHOD	ASSESSMENT	RESOURCES
	Part I	Legal Regime of Outer Space			
1-2 (15-22 May, 400 minutes)	A1-A5	Introduction to Space Law, the Environment of Outer Space, and Delimitation of Boundaries of Outer Space	Lecture/ Discussion/	Personal Insight	<ul style="list-style-type: none"> Chapters 1&2, VT Chapters 1&2, DV Gbrynowicz and Serrao (2004), An introduction to space law for decision makers, JSL 30, 227-233, http://www.spacelaw.olemiss.edu/jsl/pdfs/back-issues/jsl-30-2.pdf Goodman (2010), To the End of the Earth: A study of the boundary between earth and space, Journal of Space Law (JSL) 36, 87-114, http://www.spacelaw.olemiss.edu/jsl/pdfs/back-issues/jsl-36-1.pdf George Robinson (2004). No Space Colonies: Creating a Space Civilization and the Need for a Defining Constitution, http://www.spacelaw.olemiss.edu/jsl/pdfs/back-issues/jsl-30-1.pdf Dr. Gbenga, Air Law & Space Law: spatial delimitation between airspace & outer space, https://www.youtube.com/watch?v=QQbHvlj9isA
3 (5 June, 200 minutes)	A1-A6	Legal Regime of outer space and Indonesian Space Law	Lecture/ Discussion/	Personal Insight	<ul style="list-style-type: none"> Chapter 3, DK Chapter 3 and 5, VT Michele Bourelly (1998), The Institutional Framework of Activities in Outer Space, http://www.spacelaw.olemiss.edu/jsl/pdfs/back-issues/jsl-26-1.pdf Lachs (1981), Some reflections on the state of the law of outer space, JSL 9, 3-11, http://www.spacelaw.olemiss.edu/jsl/pdfs/back-issues/jsl-9.pdf V. S. Vereshchetin (1981), International Space Law and Domestic Law: Problems of Interrelations, http://www.spacelaw.olemiss.edu/jsl/pdfs/back-issues/jsl-9.pdf

SESSION	(Knowledge, Skill, and Attitude)	TOPICS	ACTIVITIES / METHOD	ASSESSMENT	RESOURCES
					<p>Outer space treaties: Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space Convention on International Liability for Damage Caused by Space Objects Convention on Registration of Objects Launched into Outer Space Agreement Governing the Activities of States on the Moon and Other Celestial Bodies</p> <p>Mardianis (2014), THE INDONESIAN SPACE ACT NO. 21/2013, NATIONAL INSTITUTE OF AERONAUTICS AND SPACE OF INDONESIA, Head of Aerospace Act Assessment Division, Fifty-third session of UNCOPUOS Legal Subcommittee, Vienna, 24 March-4 April 2014, www.oosa.unvienna.org/pdf/pres/lsc2014/tech-02E.pdf (ppt file)</p> <ul style="list-style-type: none"> The World in 2030 and 2040, https://www.youtube.com/watch?v=h0QjwqLtxLM
Part II					
Issues in exploration and uses of outer space					
4 (12 June, 200 minutes)	A1-A5	Space Missions, Launch Services, and Space Transportation	Lecture/ Discussion/	Personal Insight Group 1	<ul style="list-style-type: none"> Chapter 4, DV Chapter 7, Legal aspects of launch services and space transportation, VT Chapter 16, Financing space ventures, VT Chapter 17, Insurance in the context of space activities, VT Chris Bishop, It's Rocket Science, https://www.youtube.com/watch?v=HESOat2iPzU Primal Space, How does SpaceX transport the Falcon 9, https://www.youtube.com/watch?v=oUDes_wpGvg How do you launch satellite?, https://www.youtube.com/watch?v=IGoVy44C3cA Steve Matousek (NASA JPL) - Space Mission Formulation and System Engineering by Steve Matousek, https://www.youtube.com/watch?v=2b-EwA3WcGM Nagin Cox, What time is it on Mars?, https://www.colorado.edu/law/sites/default/files/Friedberg%2011713_0.pdf Mars Curiosity Rover Lands On Mars, https://www.youtube.com/watch?v=otNT_Ncnvlg Dr. Thomas Panozzo, The Business of Space Launch Services, https://www.youtube.com/watch?v=mwlcfuVHjfw A Space Company You Haven't Heard of Worth Billions, https://www.youtube.com/watch?v=b1q6rzqvU1I
5 (26 June, 200 minutes)		UTS - Take Home Exam, due on 29 June 2018 by email. File label: "Firstname-UTS-SpaceLaw.docx"			
6 (3 July, 200 minutes)	A1-A5	Satellite Communications, Remote Sensing and Other Uses		Personal Insight Group 2	<ul style="list-style-type: none"> Chapter 8, Legal aspects of satellite communications, VT Chapter 10, Legal aspects of satellite navigation, VT Julie N. Zoller, Satellite Regulations, Improving the International Satellite Regulatory Framework, https://www.itu.int/net/newsroom/wrc/2012/features/satellite_regulations.aspx

SESSION	(Knowledge, Skill, and Attitude)	TOPICS	ACTIVITIES / METHOD	ASSESSMENT	RESOURCES
					<ul style="list-style-type: none"> • ITU, Handout on Small Satellites, https://www.itu.int/en/ITU-R/space/Documents/Handout-on-Small-SatellitesE.pdf • Jean-Louis Magdelenat (1981), The Major Issues in the 'Agreed' Principles on Remote Sensing, http://www.spacelaw.olemiss.edu/jsl/pdfs/back-issues/jsl-9.pdf • David M. Leive (1981), Essential Features of INTEL SAT: Applications for the Future, http://www.spacelaw.olemiss.edu/jsl/pdfs/back-issues/jsl-9.pdf • Gary Brown & William Harris, How satellites work? - https://science.howstuffworks.com/satellite7.htm • Low Earth Orbit and Geostationary Satellites, https://www.youtube.com/watch?v=FmwxkJpr80 • Understanding Satellite Communication, https://www.youtube.com/watch?v=uSfK7cTIGsk • Danielle Wood, 6 space technologies we can use to improve life on Earth, https://www.youtube.com/watch?v=5RAJvzV9j-o • China Icons, The World's Largest Telescope, https://www.youtube.com/watch?v=7SRV3rnJL00 • Sarah Parcak, Archaeology from space, https://www.ted.com/playlists/498/what_s_really_floating_out_in
7 (10 July, 200 minutes)	A1-A5	Space Colonies, Travel, and Tourism	Lecture/ Discussion/	Personal Insight Group 3	<ul style="list-style-type: none"> • Chapter 11, Legal aspects of public manned spaceflight and space station operations, VT • Chapter 12, Legal aspects of private manned spaceflight, VT • Molly Macauley (2005), Flying in the Face of Uncertainty: Human Risk in Space Activities, https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=1275&context=cjil • NASA, Space Settlements: Spreading Life throughout the solar system, https://settlement.arc.nasa.gov/#who • Cristen Conger, Will humans be living in space in the next 50 years?, https://science.howstuffworks.com/living-in-space.htm • Mars Direct in a Nutshell, https://www.youtube.com/watch?v=NMZy2qxrF4g • Genesis program, http://bigelow aerospace.com/pages/genesis • Frans von der Dunk, How the law is key to making space tourism happen, https://www.youtube.com/watch?v=nhimQHsTo0s • Two Space Hotels Could Open as Early as 2021, https://futurism.com/space-hotels-open-2021/ • Virgin Galactic, Sub-orbital space tourism, https://www.space.com/40742-virgin-galactic-awesome-test-flight-video.html <ul style="list-style-type: none"> ◦ http://www.virgingalactic.com/spaceport/ ◦ http://www.virgingalactic.com/learn/ • Jessica Los Banos (2017), Commercial Human Space Flight: Adequacy of the International Liability Regime Governing Suborbital Space Tourists, Recent Developments in Space Law- Opportunities and Challenges, (Rao, Gopalakrishnan, and Abjiheet (eds), Springer: Singapore
8 (17 July, 200 minutes)	A1-A5	Space Resource Mining and Utilization	Lecture/ Discussion/	Personal Insight Group 4	<ul style="list-style-type: none"> • Chapter 14, Legal aspects of space resource utilization, VT • Carol Buxton (2004), Property in Outer Space: The Common Heritage of Mankind Principle vs. the First in Time, First in Right Rule of Property Law, https://scholar.smu.edu/cgi/viewcontent.cgi?article=1712&context=jalc

SESSION	(Knowledge, Skill, and Attitude)	TOPICS	ACTIVITIES / METHOD	ASSESSMENT	RESOURCES
					<ul style="list-style-type: none"> • Think Big, Michio Kaku predicts asteroid mining will happen sooner than you think, https://www.youtube.com/watch?v=rR_wu3KaTsc • Asteroid Mining, https://www.youtube.com/watch?v=erF17yO9VsE • James Orsulak, Manufacturing in space could save life on Earth, https://www.youtube.com/watch?v=2JfVzMvLEn8 • Deep Space Industries - Mining the Universe for the Future, https://www.youtube.com/watch?v=pIY_fmVFDhM • Mining asteroids in outer space - Planetary Resource's Chris Lewicki, https://www.youtube.com/watch?v=-So5ne2TXI8
9 (17 July, 200 minutes)		Space Debris, and Environmental Obligations in Outer Space		Personal Insight Group 5	<ul style="list-style-type: none"> • Chapter 5, DV • Lauren Bressack (2011), Addressing the Problem of Orbital Pollution: Defining a Standard of Care to Hold Polluters Accountable, (Access via your ebsco library account) • Jennifer Friedberg (2013), Bracing for the Impending Rocket Revolution: How to Regulate International Environmental Harm caused by Commercial Space Flight, https://www.colorado.edu/law/sites/default/files/Friedberg%2011713_0.pdf • 2009 Iridium-Cosmos Crash, https://swfound.org/media/6575/swf_iridium_cosmos_collision_fact_sheet_updated_2012.pdf • BBC, Time to Take out the Trash, https://www.youtube.com/watch?v=juQPE-v28es • The Countdown, 5 Strange Ways to Clean Up Our Space Junk, https://www.youtube.com/watch?v=j847hzLjrWQ • Natalie Panek, Let's clean up the space junk orbiting Earth, https://www.ted.com/playlists/498/what_s_really_floating_out_in • ESA, Space debris - a journey to Earth, https://www.youtube.com/watch?v=zT7typHkpVg
10 (24 July, 200 minutes)		Dispute Settlement, Future of Space Law, and Integration		None	<ul style="list-style-type: none"> • Chapter 7, DK • Chapter 6&7, DV • Stephen Gorove (1996), Growth of Space Law through the Cases, JSL 24(1), 1-22, http://www.spacelaw.olemiss.edu/jsl/pdfs/back-issues/jsl-24-1.pdf • Jessica Los Banos (2012), Chapter 15, EU Code of Conduct on Activities in Outer Space: Issues that Matter, Decoding the International Code of Conduct for Outer Space Activities (A. Lele ed), IDSA. • George Robinson (2006), Transcending to a Space Civilization: The next three steps towards defining a constitution, JSL 32, 147-175, http://www.spacelaw.olemiss.edu/jsl/pdfs/back-issues/jsl-32-1.pdf • Karl Heinz Bockstiegel (1993), Settlement of disputes regarding space activities, JSL 21(1), 1-11, http://www.spacelaw.olemiss.edu/jsl/pdfs/back-issues/jsl-21-1.pdf • Glenn Reynolds (2005), International Space Law in Transformation: Some observations, https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=1272&context=cjil
11 (31 July, 200 minutes)	A1-A5	UAS			