International Law of Outer Space

Responsible Faculty Instructor:
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Designation : Assistant Professor

Credits: 4
Credits Type:
Cross-registration: No
Pre-requisites: Public International Law

COURSE DESCRIPTION (COURSE VISION):

Space is truly the final frontier. What does human activities in this final frontier look like? What law governs human activities in this frontier? Why do we need law to govern outer space affairs? Are we going to repeat mistakes that we made on earth or are we going to learn from history? Is the applicable international space law adequate to address space privatization, commercialization and technology development? These are some of the questions that we will discuss in this course.

This course aims to provide a broad overview of the gamut of space law and is an attempt to provide a basic understanding of concepts of law applicable to outer space, their nuances, their similarity and dissimilarity to general international law.

TEACHING METHODOLOGY:

This course aims to establish a robust foundational understanding of India's space law framework while situating it within a broader international and comparative context. The course draws extensively on both primary sources—such as policy documents, legislations, treaties, UN General Assembly resolutions and case laws—and secondary materials, including books, journal articles, and book chapters. The course introduces the students to a variety of documents, to ensure that students grasp not only the content of the law but also its historical evolution, and contemporary challenges. While this is primarily a law course, scientific and technical contexts are addressed selectively, only where they bear directly on regulatory frameworks or legal interpretation.

The course employs multiple pedagogical approaches, combining traditional and interactive teaching methods to ensure both foundational understanding and critical engagement. The objective is to foster analytical thinking, legal reasoning, and policy critique in a rapidly evolving and complex area of law. The pedagogies that will be adopted includes lectures, seminar style discussions and individual research papers promoting original thought and critical analysis.

KEYWORDS

International space law sources; Space for common benefit and interest of all; space resource extraction; lunar exploration and use; non-appropriation of outer space; freedom of exploration and use of outer space; general international law and outer space; military uses of outer space; weaponization of outer space; commercialization of outer psace; space environmental law; space traffic management; international responsibility in space law; liability for damage by space object; jurisdiction and control over space object; legal status of spacecraft; legal status of astronauts; legal status of private human spaceflights; Outer Space Treaty; Registration Convention; Rescue and Return Agreement; Liability Convention; Moon Agreement

INTENDED LEARNING OUTCOMES:

- Analyse and critically evaluate fundamental issues and concerns in the field of international space law
- Analytically and critically describe and explain important legal concepts, doctrines associated with international space law especially the topics to be covered in the syllabus.
- Recognize the connection between general international law and international space law
- Critically reflect upon the contemporary problems and future directions of space law

READING LIST (upto 10 select readings):

There is no prescribed textbook for the course, and one is expected to rely on the suggested readings above.

However, students may rely on:

- Francis Lyall and Paul B. Larsen, *Space Law : A Treatise*. 3rd Edition. Abingdon, Oxon [UK]: Routledge, Taylor & Francis Group, 2024
- Stephan Hobe, “Space Law” (Beck-Hart-Nomos, 2019)

1. WEEKLY READING PLAN (WEEKLY OUTLINE):

A weekly plan is provided below:

MODULES	WEEK(S)
MODULE 1: INTRODUCTION (a) Understanding nuances of outer space as a domain; (b) Current and future potential use and applications of outer space (c) Importance of space law education (d) Kinds of space actors; (e) Recent rise of commercial space activities; (f) Importance of space economy; (g) History and evolution of international law of outer space (h) COPUOUS and its evolution (i) International Politics and Space-Law-Making Process Readings • Stephan Hobe, "Space Law" (Beck-Hart-Nomos, 2019) Chapter 1 (Some astrophysical and mechanical facts), pages 1-16. • Stephan Hobe, "Space Law" (Beck-Hart-Nomos, 2019) Chapter 2 (Concrete Applications), pages 17-28. • Francis Lyall and Paul B. Larsen, *Space Law : A Treatise*. 3rd Edition. Abingdon, Oxon [UK]: Routledge, Taylor & Francis Group, 2024 at 1-25 (Chapter 1 – Introduction – Actors, history and fora).	1
MODULE 2 - Sources of International Space Law (a) Treaty laws (b) Customary laws (c) Soft laws interacting with customary international law	2

(d) Space law and Instant Customary Law (e) Applicability of International Law to Outer Space <u>Readings</u> • Steven Freeland and Yun Zhao, "Rules of the "Space Road:" How Soft Law Principles Interact with Customary International Law for the Regulation of Space Activities", Journal of Space Law 44 J. Space L. (2020), pages 405 to 432 • Cepelka, Cestmir, Gilmour, Jamie H.C, The Application of General International Law in Outer Space, 36 J. Air L. & Com. 30 (1970) <u>Important UN Resolutions and treaties</u> • UNGA Res. 1348 (XIII), Question of the peaceful uses of outer space, 13 December 1958 • UNGA Res. 1472 (XIV), International co-operation in the peaceful uses of outer space, 12 December 1959 • UNGA Res. 1721 (XVI), International co-operation in the peaceful uses of outer space, 20 December 1961 • UNGA Res. 1962 (XVIII), Declaration of Legal Principles Governing the Activities of States in the Exploration and Uses of Outer Space, 13 December 1963 • UN Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries 1996 • Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies 1967 • Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space 1968 • Convention on International Liability for Damage Caused by Space Objects 1972 • Convention on Registration of Objects Launched into Outer Space 1975 • Agreement Governing the Activities of States on the Moon and Other Celestial Bodies 1979	

MODULE 3 - Outer Space Treaty and common benefit principle (a) Outer space for the benefit and in the interest of all countries (b) Global Public Interest and space law (c) Developing countries and space law Readings • Ram Jakhu, Upasana Dasgupta & Ujwala Iyengar, "Exploration and Use of Outer Space for the Benefit and in the Interests of All countries" in Marcia Alvarenga dos Santos et al (eds), Memórias e coleções - uma coletânea em homenagem ao Prof. José Monserrat Filho (Arraes, 2023) (24 pages) • Francis Lyall and Paul B. Larsen, *Space Law : A Treatise*. 3rd Edition. Abingdon, Oxon [UK]: Routledge, Taylor & Francis Group, 2024 at 49-74 (Chapter 3 – The Outer Space Treaty, 1967)	3
MODULE 4 - Non-appropriation of outer space and space resource extraction Readings • Steven Freeland, "Common heritage, not common law: How international law will regulate proposals to exploit space resources" (2017) 35 QIL: Questions of International Law 19 • Carl Q Christol, "The 1979 Moon Agreement: Where is it today?", (1999) 27 Journal of Space Law • Court rejects 'Lunar Embassy's' moon rights, China Econ. Rev. (Mar. 19, 2007), https://chinaeconomicreview.com/court-rejects-lunar-embassys-moon-rights/. • 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 National laws and other efforts on governance of space resource extraction • USA, Space Resource Exploration and Utilization Act of 2015	4

• USA, Executive Order on Encouraging International Support for the Recovery and Use of Space Resources 2020 • Artemis Accords: Principles for Cooperation in the Civil Exploration and Use of the Moon, Mars, Comets, and Asteroids for Peaceful Purposes, Oct. 13, 2020, available at https://www.nasa.gov/specials/artemis-accords/index.html • Luxembourg, "Law of July 20th 2017 on the exploration and use of space resources" (English Translation) • UAE, Federal Law No. (12) of 2019 on the Regulation of the Space Sector. • Japan, Act on the Promotion of Business Activities for the Exploration and Development of Space Resources (Tentative translation), 23 December 2021 • India, Norms, Guidelines and Procedures for Implementation of Indian Space Policy-2023 in respect of Authorization of Space Activities (NGP), May 2024 • Brazilian Federal Government enacted Law No. 14,946/2024, 1 August 2024 • "Building blocks for the development of an international framework on space resource activities", Working paper submitted by Luxembourg and the Netherlands, UN Doc A/AC.105/C.2/L.315 (2020) • "Effective and Adaptive Governance for a Lunar Ecosystem Lunar Governance Report", Paper submitted by the Space Generation Advisory Council, A/AC.105/C.2/2021/CRP.13 (2021) • Outer Space Institute, Vancouver Recommendations on Space Mining (2020)	
MODULE 5 - Artemis Accords and ILRS Multilateralism and Unilateralism in outer space <u>Readings</u> • Athar ud din, "The Artemis Accords: The End of Multilateralism in the Management of Outer Space?" (2022) Astropolitics • Upasana Dasgupta, "New instruments on lunar exploration and use: Implications for India" in B.R Guruprasad, Rajaram Nagappa, Amit Mukherjee, Upasana Dasgupta and V. Siddhartha, Moon	5

Missions: The Way Ahead, National Institute of Advanced Studies (NIAS) report 2023 (NIAS/CSS/ISSSP/U/RR/10/2023).	
MODULE 6 - Definition and delimitation of outer space (a) Understanding differences between law governing outer space and aviation law; (b) Delimitation of Boundary of Outer Space (c) Functionalist approach vs Spatialist approach <u>Readings</u> • "Historical summary on the consideration of the question on the definition and delimitation of outer space- Report of the Secretariat", UN Doc A/AC.105/769 (2002) • Paul Stephen Dempsey and Maria Manoli, "Suborbital Flights and the delimitation of Air space vis-à-vis Outer Space: Functionalism, Spatialism and State Sovereignty", (2017) 42 Annals of Air and Space Law 197	6
MODULE 7 - Commercial space activities and rise of the private sector • Settlement of International Space Disputes • Rise of private sector in space industry • Types of space contracts • General Common clauses in space contracts • NewSpace <u>Readings</u> • Francis Lyall and Paul B. Larsen, *Space Law : A Treatise*. 3rd Edition. Abingdon, Oxon [UK]: Routledge, Taylor & Francis Group, 2024, Chapter 14 (pages 389-426)	7

• Alda Armando Cocca, "The Settlement of Disputes in International Space Law", (1979) 22 IISL Proceedings 107 • Adriana Marais, "Mission off-world" in in Lesley Jane Smith, Ingo Baumann, Susan-Gale Wintermuth, eds, Routledge Handbook of Commercial Space Law (Routledge, 2023), Chapter 33.	
MODULE 8 - International responsibility under space law (a) Authorisation and continuous supervision (b) Appropriate State (c) National licensing of space activities <u>Readings</u> • Bin Cheng, "Article VI of the 1967 Space Treaty Revisited: 'International Responsibility', 'National Activities' and 'The Appropriate State'", (1998) 26:1 Journal of Space Law 7 • Frans G von der Dunk, "Liability versus Responsibility in Space Law: Misconception or Misconstruction" (1992) Space, Cyber and Telecommunications Law Program Faculty Publications 21. • Sylvia Ospina, "International Responsibility and State Liability in an Age of Globalization and Privatization" (2002) 27 Annals Air and Space L 479. <u>Important UN Resolutions and ILC documents</u> • 68/74. Recommendations on national legislation relevant to the peaceful exploration and use of outer space (2013) • Articles on Responsibility of States for International Wrongful Acts (ARSIWA) with commentaries	10
MODULE 9 - International Liability under space law (a) Absolute liability vs fault based liability (b) Launching State (c) Space Insurance	9

(d) Liability Convention Readings • Carl Q. Christol, "International Liability for Damage Caused by Space Objects" (1980)74:2 Am J Int'l L 346 • Paul Stephen Dempsey, "Liability for Damage caused by space objects under international and national law" (IAC 2011) • Karl-Heinz Bockstiegel, "The Term "Launching State" in International Space Law", (1994) 37 IISL Proceedings 80 • Ram Jakhu, "Iridium-Cosmos Collision and its implications for Space Operations" in Kai-Uwe Schrogl et al (eds), *Yearbook on Space Policy* (Springer , 2010) 254 Important UN Resolution • General Assembly Resolution: "Application of the concept of the "launching State"", 2004	
MODULE 10 - Status of space objects (a) Ownership, jurisdiction and control over space objects (b) Registration of space objects (c) Registration Convention (d) Jurisdiction in outer space over private individuals (e) Criminal jurisdiction in outer space Readings • Mark J Sundahl, "Legal Status of Spacecraft" in Ram S Jakhu and Paul Stephen Dempsey, *Routledge handbook of space law,* (Abingdon, Oxon; New York: Routledge, 2017) 42 • P. J. Blount, "Jurisdiction in Outer Space: Challenges of Private Individuals in Space" (2007) 33:2 J Space L 299. • Frans G von der Dunk, "The Registration Convention: Background and Historical Context", (2003). Space, Cyber, and Telecommunications Law Program Faculty Publications 32	10

• Jessica Vomiero, "What happens when you commit a crime in outer space?", 31 August 2019, Global News	
MODULE 11 - Law governing human spaceflights (a) Astronauts as envoys of humankind (b) Rescue and Return Agreement Readings • Frans G von der Dunk and Gerardine Goh, "Article V" in Stephen Hobe et al, *Cologne Commentary,* Vol 1 (2017) at 351 • International Space Station Intergovernmental Agreement 1998 (ISS IGA) • Francis Lyall, "Who is an astronaut? The inadequacy of current international law", (2010) 66 Acta Astronautica 1613	11
MODULE 12 - Due regard to corresponding interests of all States (a) Space environmental law (b) ASAT test and Article IX of Outer space treaty Readings • Sergio Marchisio, "Article IX" in Stephen Hobe et al, *Cologne Commentary,* Vol 1 (2017) at 551 • Michael C Mineiro, "FY-IC and USA-193 ASAT intercepts: An assessment of legal obligations under Article IX of the Outer Space Treaty" (2008) 34 Journal of Space Law 321 • Aaron C Boley and Michael Byers, "Satellite mega-constellations create risks in Low Earth Orbit, the atmosphere and on Earth", (2021) 11 Scientific Reports (Art No 10642) • Stephan Hobe & Jan Helge Mey, "UN Space Debris Mitigation Guidelines" (2009) 58:3 ZLW 388 Important soft laws • IADC Space Debris Mitigation Guidelines • COPUOS Space Debris Mitigation Guidelines • ITU – Environmental Protection of the GSO, 2003	12

• Long Term Sustainability of Outer Space Guidelines 2019 • 47/68. Principles Relevant to the Use of Nuclear Power Sources In Outer Space (NPS Principles) • Safety Framework for NPS Applications in Outer Space • European Space Agency's The Zero Debris Charter	
MODULE 13 - Military uses of outer space and Weaponisation of outer space <u>Readings</u> • Upasana Dasgupta**,** "Application of International Space Law to Military Activities in Space", in T.H. Anand Rao and Niti Jha, *Beyond the Blue Yonder - A Curated Anthropology of Writings on Space* (Centre for Air Power Studies and KW Publishers Private Limited, New Delhi). • Setsuko Aoki, "Law and military uses of outer space" in Ram Jakhu and Paul Stephen Dempsey, *Routledge Handbook of space law,* (Abingdon, Oxon; New York: Routledge, 2017) 197 • Jessica West, "The Open-Ended Working Group on Reducing Space Threats: Recap of the fourth and final session, August 2023" (January 2024), online: < <u>https://cdn.prod.website-files.com/63e066081ef50cb16a3f4157/659d7d3f0629657a2e5b3f4e_OEWG2023FinalRecap.pdf</u>>	13
REVISION WEEK	Week 14