O.P. JINDAL GLOBAL
Institution of Eminence Deemed to be
UNIVERSITY
A Private University Promoting Public Service

Jindal School of International Affairs
India's First Global Policy School

MA(DLB)0751
Markets, Models and Militaries: AI and Emerging Technologies
Fall 2026

Contents

Course Information

- Course Duration: 15 weeks
- Course Type: Cross-Elective
- Credit Hours: 4 (3 hrs. lecture + 1 hr. discussion per week; total 60 hours)
- Meetings: TBD
- Prerequisites: None
- Course Level: BA and MA
- Semester: Fall 2026

Instructor Information:

Instructor: Dr Pooja Arora

Biography:

Pooja Arora is Assistant Professor at the Jindal School of International Affairs, O.P. Jindal Global University, where she teaches Foreign Policy Analysis, Politics of Money in the World Economy, and her signature elective on emerging technologies, Markets, Models, and Militaries. Her research sits at the intersection of international political economy and security, with a particular focus on AI governance, autonomous weapons, algorithmic warfare, and science diplomacy.

She holds a PhD in Diplomacy and Disarmament from Jawaharlal Nehru University, where she earned the department's highest CGPA, and an MSc in International Political Economy from the London School of Economics. She has previously consulted for the Digital Transformations Lab at the German Institute for Global and Area Studies and taught Indian foreign policy and trade strategy at the University of Melbourne and the Indian School of Public Policy.

She is co-editor of a forthcoming special issue of Global Governance (Brill) on AI and global governance, co-author of AI, Global Security and World Order (Routledge, with Alistair Edgar), and a case-study author for Harvard Business Impact. She founded and hosts the Rational Pulse podcast. She also co-founded the Pax Indica newsletter on technology and geopolitics. She serves as Program Chair of the Theory Section at the International Studies Association and Executive Secretary of the Indian Association of International Studies.

She is also an award-winning game designer: her trio of games on Indian parliamentary politics, post-independence counterfactual history, and international trade won the Government of India's national Toycathon in 2021.

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Office Hours: TBD

Homepage: https://jgu.edu.in/jsia/faculty/pooja-arora; https://thepaxindica.substack.com/

Course Description:

Learn to connect the dots between markets, models, and militaries—and gain the hybrid expertise today's employers value most.

This elective explores how a cluster of fast-moving technologies—artificial intelligence, neurotechnology, biotechnology, space systems, and advanced energy—are rewiring markets and militaries alike. The common thread is how new models, both mathematical and organizational, reshape decision-making and innovation, while creating fresh dilemmas in ethics, politics, and strategy. **All lectures will include a scenario analysis exercise (example given in the description of week 1) and A.I. Red Teaming will be taught as a practical skill.** The assignment will be a take-home assignment.

Students get hands-on with the working parts: how machine-learning models train and stumble, how brain–computer interfaces tap into cognition, how synthetic biology rewrites life's code, how satellites form the planet's new nervous system, and how energy grids adapt to be cleaner and more resilient. Alongside the technical core, we track the economic incentives and security stakes that drive adoption.

Why does this matter beyond the classroom? Because the job market is shifting underfoot. Employers from finance to health care to defence are scrambling for people who can bridge technical literacy with strategic judgment. Analysts who understand both neural implants and privacy law, or both solar microgrids and supply-chain risk, are rare—and valuable. Demand is rising for professionals who can speak fluently across engineering, policy, and ethics, and who can map how a breakthrough in one sector cascades into others.

The course blends lectures, discussions, simulations, and projects. By term's end, students will not only recognize the opportunities and risks posed by emerging technologies but also frame them in ways that are legible to employers, investors, and policymakers. They will be prepared to enter a labour market that increasingly rewards hybrid expertise—the ability to connect the dots between markets, models, and militaries.

Learning Outcomes:

- Grasp the historical evolution of AI and other emerging technologies and their disruptive effects on markets and defence strategies.
- Analyse economic and security implications across AI, neurotech, biotech, space and energy sectors.
- Explain how machine-learning models, neurodevices, synthetic-biology platforms, space systems and nuclear/renewable technologies work and appreciate their limitations.
- Evaluate ethical, legal and governance frameworks for these technologies, focusing on military applications and dual-use dilemmas.
- Assess how militaries adopt AI, neurotech, biotech, space assets and energy innovations to gain tactical and strategic advantages.
- Develop scenario-planning and policy recommendations balancing innovation, economic opportunity and security risks across multiple domains.

Course Outline:

- Introduction: Markets, Models and Militaries
- Fundamentals of Artificial Intelligence: History and Technical Foundations
- AI in Markets: Economic Impacts and Business Models
- AI and Militaries: Autonomy, Robotics and Information Warfare
- AI Governance, Ethics and Global Cooperation
- Quantum Technology: Fundamentals, Security, and Markets
- Neurotechnology: Militaries, Security and Governance
- Biotechnology & Synthetic Biology: Foundations, Markets and National Security
- Maritime Technology: Fundamentals and National Security
- Space Technologies: Commercial Markets and Innovation
- Space Security: Counterspace Threats and International Governance
- Energy Technologies: Nuclear Power, Renewables and Resilience
- Nuclear Weapons and Deterrence

Course Keywords:

Cluster	Keywords / Phrases
Core Technologies	Artificial Intelligence (AI), Machine Learning (ML), Large Language Models (LLMs), Generative AI, Robotics & Autonomy, Neurotechnology, Brain–Computer Interfaces (BCIs), Biotechnology, Synthetic Biology, mRNA & DNA Platforms, Space Technology, Satellites & Constellations, Counterspace Threats, Nuclear Power, Small Modular Reactors (SMRs), Renewables, Energy Transition, Long-Duration Energy Storage
Markets & Economics	Disruptive Innovation, General Purpose Technologies (GPTs), Venture Capital, Investment Trends, Economic Growth, Productivity, Market Concentration, Dual-Use Technologies, Global Supply Chains, Commercialization, Innovation Ecosystems
Military & Security	National Security, Autonomy in Warfare, Cybersecurity, Information Warfare, Deepfakes & Disinformation, Defence Procurement, Deterrence, Escalation Risks, Strategic Stability, Arms Control, Confidence-Building, Military Innovation Races, Scenario Planning, Wargaming
Governance & Ethics	AI Governance, EU AI Act, OECD AI Principles, UNIDIR Recommendations, Ethical Frameworks, Responsible Innovation, Regulation, Standards, Privacy, Data Bias, Technology Leakage, Global Cooperation

Job Market & Careers	Hybrid Expertise, Policy Analysis, Strategic Foresight, Technology Policy, Innovation Strategy, defence & Security Consulting, Global Technology Governance, Tech Diplomacy, Responsible Innovation Careers

Scheme of Evaluation and Grading

Evaluation Breakup:

Internal- 70%

External

- **Final Exam** – 30%

Letter Grade	Percentage of Marks	Grade Points	Comments
O	80 and above	8	Outstanding: Exceptional knowledge of the subject matter, thorough understanding of issues; ability to synthesize ideas, rules and principles and extraordinary critical and analytical ability.
A+	75 – 79	7.5	Excellent: Sound knowledge of the subject matter, thorough understanding of issues; ability to synthesize ideas, rules and principles and critical and analytical ability.
A	70 – 74	7	Very Good: Sound knowledge of the subject matter, excellent organizational capacity, ability to synthesize ideas, rules and principles, critically analyse existing material and originality in thinking and presentation.
A-	65 – 69	6	Good: Good understanding of the subject matter, ability to identify issues and provide balanced solutions to problems and good critical and analytical skills.
B+	60 – 64	5	Fair: Average understanding of the subject matter, limited ability to identify issues and provide solutions to problems and reasonable critical and analytical skills.
B	55 – 59	4	Acceptable: Adequate knowledge of the subject matter to go to the next level of the study and reasonable critical and analytical skills.
B-	50 – 54	3	Marginal: Limited knowledge of the subject matter and irrelevant use of materials, and poor critical and analytical skills.
P1	45 – 49	2	Pass 1: Pass with basic understanding of the subject matter.
P2	40 – 44	1	Pass 2: Pass with rudimentary understanding of the subject matter.
F	Below 40	0	Fail: Poor comprehension of the subject matter; poor critical and analytical skills and marginal use of the relevant materials. Will require repeating the course.

Academic Integrity:

Our course rests on a foundation of trust and intellectual integrity. Academic honesty demands that every idea, fact, or phrase you incorporate from another source—whether published or unpublished, digital or print—be clearly attributed. Plagiarism occurs when you appropriate another's words or ideas without proper acknowledgment. Even paraphrasing requires citation; failing to do so undermines our scholarly community.

We use the following similarity thresholds for submitted work (e.g., essays, reports, presentations). Similarity percentages are calculated against digital archives and published texts:

- **Level 0 (≤ 10%)** Minor overlap; no penalty.
- **Level 1 (11–20%)** Reduction of 5 marks on the assignment.
- **Level 2 (21–29%)** Reduction of 10 marks on the assignment.
- **Level 3 (≥ 30%)** Assignment grade = Fail.

Cheating—including unauthorized collaboration, using prohibited materials, or representing AI-generated text as your own—will incur sanctions up to course failure or referral to the university's disciplinary board. Before using generative tools (e.g., ChatGPT), consult our section on AI use; any AI-derived material must be clearly labelled and cited to avoid charges of misrepresentation.

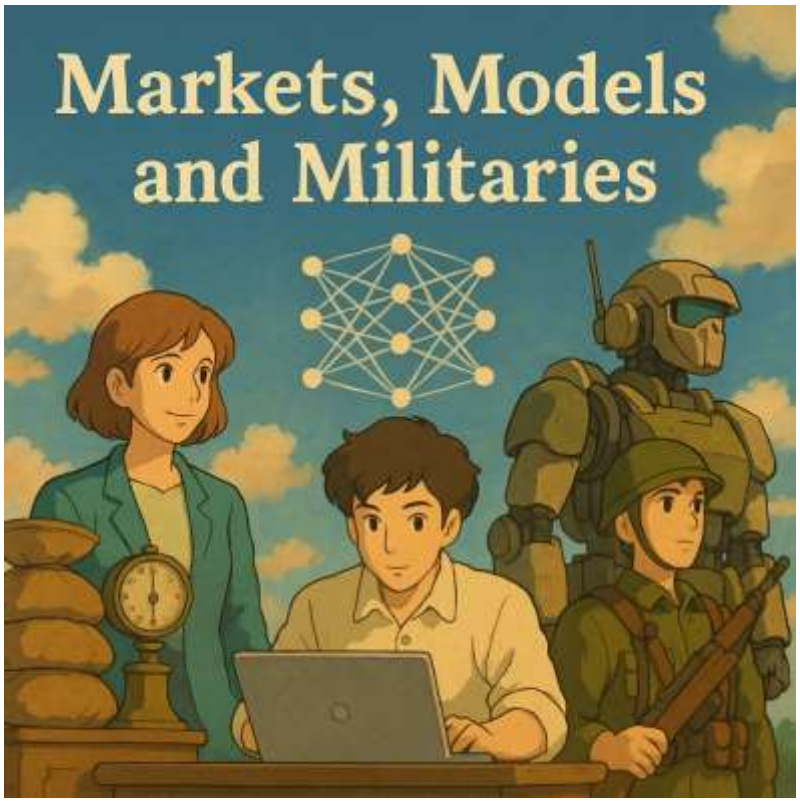
Participation & Attendance Policy

Active participation enriches our collective learning. You may miss up to two sessions without penalty; beyond that, each unexcused absence will lower your participation score by 2 %. Habitual lateness or silent attendance without contribution may likewise affect your grade. If an emergency prevents your attendance, please notify the instructor in advance to arrange make-up work.

Use of Electronic Devices

To maintain a focused environment, only course-related use of laptops or tablets is permitted during lectures. Cell phones must remain silent and stowed unless expressly authorized for an in-class activity. Unauthorized texting, browsing, or social media use will result in a deduction from your participation grade. Reasonable accommodations for documented disabilities will, of course, be honoured.

Week 1: Introduction to Markets, Models, and Militaries



Required Readings:

Farrell, Henry, and Abraham L. Newman. "Weaponized Interdependence: How Global Economic Networks Shape State Coercion." *International Security* 44, no. 1 (2019): 42–79. https://www.jstor.org/stable/26777882.

Levy, Jack S. *The Offensive/Defensive Balance of Military Technology: A Theoretical and Historical Analysis*. *International Studies Quarterly* 28, no. 2 (June 1984): 219–38.

Recommended Readings:

C.P. Snow, 'The Two Cultures', *London Sunday Times*, March 1957.

John Street, *Politics and Technology*, (three chapters, Macmillan 1992)

Brodie, Bernard. *From Crossbow to H-Bomb*. Revised and enlarged edition. Bloomington: Indiana University Press, 1973.

Scenario Analysis:

The Case of the Severed Signals

The monsoon rain clattered against the old windows of the Delhi guesthouse where Holmes had set up his temporary study. Outside, Connaught Place was alive with neon lights and the roar of motorbikes. Inside, a junior officer from Naval Intelligence placed a dossier on the table.

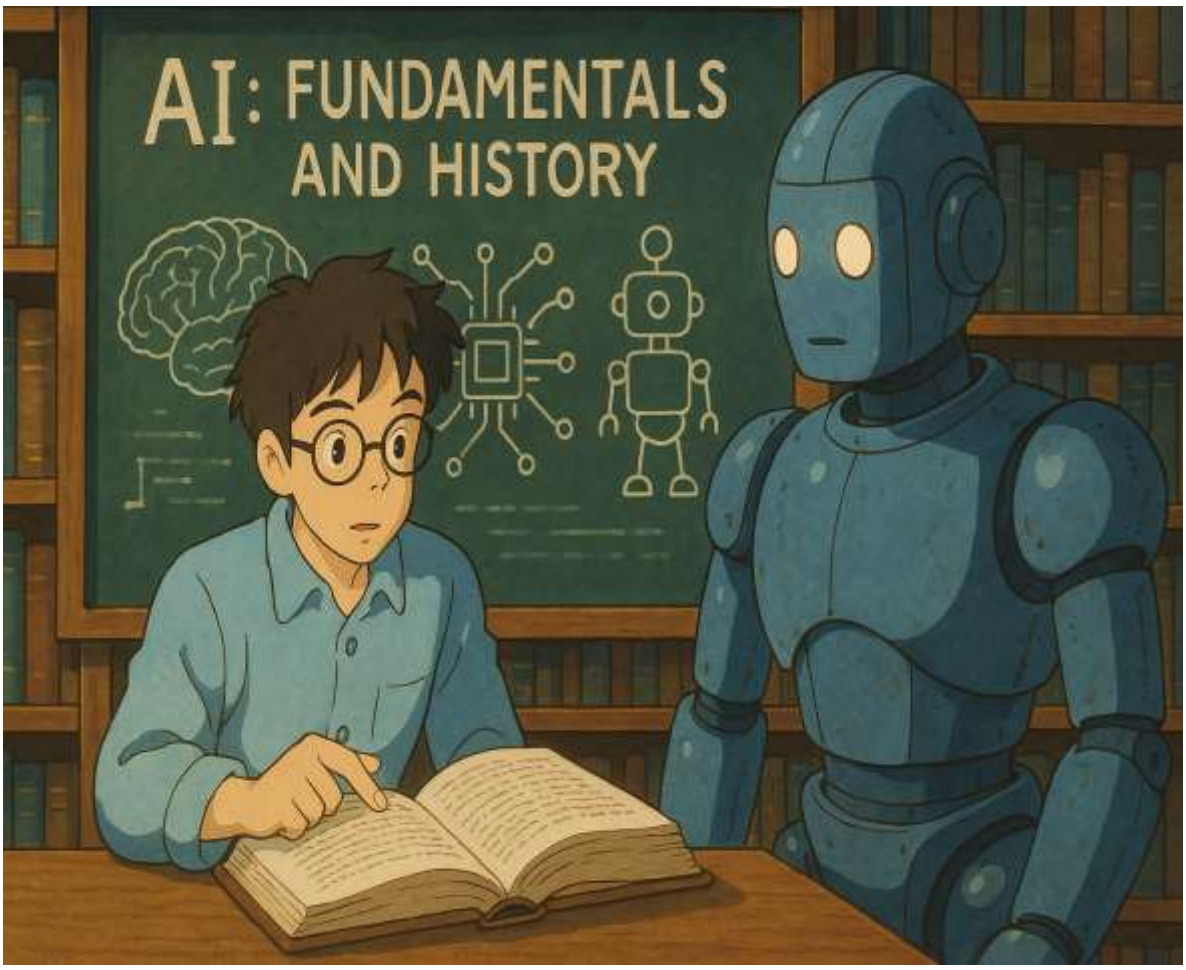
"Submarines in the Bay of Bengal report their communications are going dark," the officer stammered. "Entire cables, cut without trace."

Holmes leaned back, fingers steepled. "Markets panic when the data flow halts. Stock prices dip, shipping falters, even social media stutters. Militaries, however, see opportunity." He rose and walked to the map pinned to the wall, red lines tracing undersea networks. "This is no storm, Watson. The precision suggests an underwater navigation device—one agile enough to home in on submarine cables and slice them clean."

Watson frowned. "But who would gain?"

Holmes turned, eyes gleaming. "Whoever controls information, controls both the marketplace and the battlefield. This device is not just a weapon of war, but of finance. And it is here, in Delhi, that the trail begins."

Week 2: Fundamentals of Artificial Intelligence: History and Technical Foundations (Red Teaming)



Required Readings:

Stuart J. Russell and Peter Norvig, "Introduction," in *Artificial Intelligence: A Modern Approach*, 4th ed. (Hoboken, NJ: Pearson, 2021), 1–30.

LeCun, Y., Bengio, Y. & Hinton, G. Deep learning. *Nature* **521**, 436–444 (2015). https://doi.org/10.1038/nature14539

Recommended Readings:

Karjian, Ron. "The History of Artificial Intelligence: Complete AI Timeline." *TechTarget*, September 24, 2024

Russell, Stuart J. *Human Compatible: Artificial Intelligence and the Problem of Control*. New York: Viking, 2019

Goodfellow, Ian, Yoshua Bengio, and Aaron Courville. *Deep Learning*. Cambridge, MA: MIT Press, 2016.

Week 3: AI in Markets: Economic Impacts and Models

Required Readings:

Kissinger, Henry A., Eric Schmidt, and Daniel Huttenlocher. *The Age of AI*. 1st ed. London: Hachette UK, 2024.

AI Frontiers Media. "We Need a New Kind of Insurance for AI." *Substack*, September 30, 2024. https://aifrontiersmedia.substack.com/p/we-need-a-new-kind-of-insurance-for-e9f

Liberto, Daniel. "AI Companies Facing Financial Struggles: The Surprising Number That Will Shock You." *Investopedia*, September 3, 2025

Recommended Readings:

MIT Sloan School of Management, *A new look at the economics of AI* (2024).

PricewaterhouseCoopers (PwC), *Sizing the prize: What's the real value of AI for your business and how can you capitalise?*, 2017.

International Organization of Securities Commissions (IOSCO), *Artificial Intelligence in Capital Markets: Use Cases, Risks and Challenges* (Consultation Report, 2025).

Brian Merchant, *AI-Generated Business: The Rise of AGI and the Rush to Find a Working Revenue Model* (AI Now Institute report, December 2024).

Week 4: AI and Militaries: Autonomy, Robotics and Information Warfare

Required Readings:

National Security Commission on Artificial Intelligence [NSCAI], Final Report (Washington, D.C.: NSAI, March 2021), p. 7, https://www.nscai.gov/wp-content/uploads/2021/03/FullReport-Digital-1.pdf

Scharre, Paul. *Army of None: Autonomous Weapons and the Future of War*. New York: W.W. Norton & Company, 2018.

Michael C. Horowitz, Artificial Intelligence, International Competition, and the Balance of Power, *Texas National Security Review*: Volume 1, Issue 3 (May 2018), https://tnsr.org/2018/05/artificial-intelligence-international-competition-and-the-balance-of-power/

United States. *America's AI Action Plan*. Washington, D.C.: The White House, July 2025. https://www.whitehouse.gov/wp-content/uploads/2025/07/Americas-AI-Action-Plan.pdf

Bostrom, Nick. *Superintelligence: Paths, Dangers, Strategies*. Oxford: Oxford University Press, 2014.

Hendrycks, Dan, Eric Schmidt, and Alexandr Wang. *Superintelligence Strategy: Expert Version*. arXiv preprint, 2025. https://arxiv.org/abs/2503.05628

Recommended Readings:

Database by Autonomous Weapons Watch, https://autonomousweaponswatch.org/

Abraham, Yuval. "'Lavender': The AI Machine Directing Israel's Bombing Spree in Gaza." +972 Magazine, April 3, 2024. https://www.972mag.com/lavender-ai-israeli-army-gaza/.

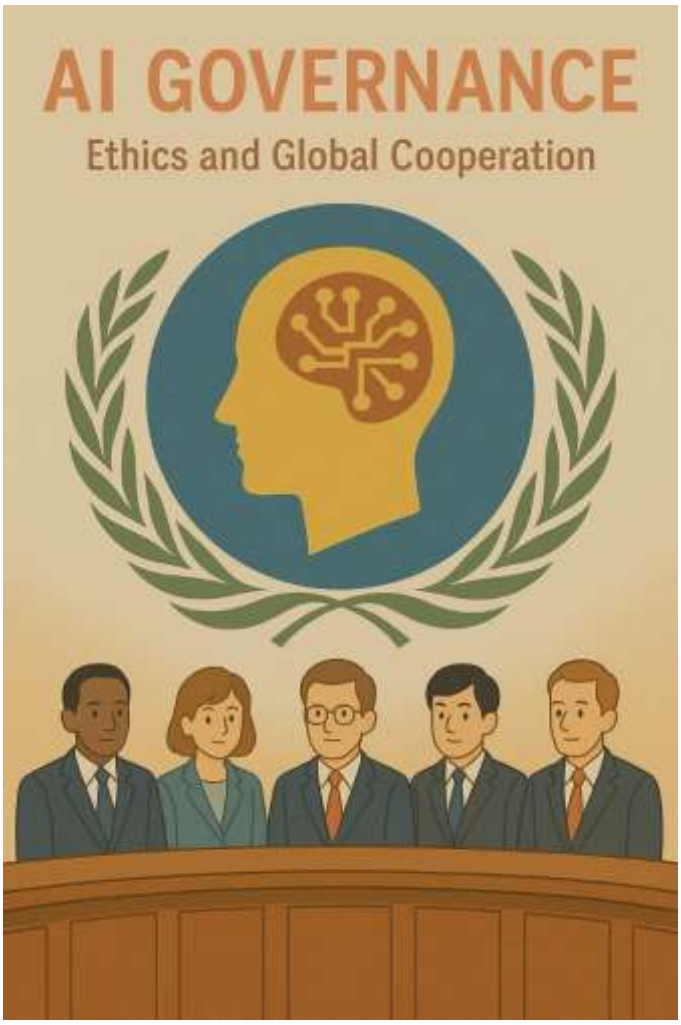
Dumba, Ami Roxas. "Commander of the Artificial Intelligence Center, 8200: Artificial Intelligence Enables Faster Classification and Detection of Terror Targets." *Israel Defense*, February 14, 2023. https://www.israeldefense.co.il/node/57256#google_vignette.

Harel, Amos. "Top Israeli Intel Officer Goes Where No One's Gone Before. And You Can Find It on Amazon." *Haaretz,* October 1, 2021. https://www.haaretz.com/israel-news/2021-10-01/ty-article/.highlight/top-israeli-intel-officer-goes-where-no-ones-gone-before-and-its-all-on-amazon/0000017f-e1fb-df7c-a5ff-e3fb21210000.

Y.S., Brigadier General. *The Human-Machine Team: How to Create Synergy Between Human and Artificial Intelligence That Will Revolutionize Our World*. Independently published, 2021. ISBN: 9798749152210.

Anthony Vinci, The Coming Revolution in Intelligence Affairs, August 31 2020, *Foreign Affairs,* https://www.foreignaffairs.com/articles/north-america/2020-08-31/coming-revolution-intelligence-affairs

Week 5: AI Governance, Ethics and Global Cooperation



Required Readings:

Natorski, Michal. *Multilateralism in the Global Governance of Artificial Intelligence*. arXiv preprint, August 2025. https://doi.org/10.48550/arXiv.2508.15397

United Nations. "Independent International Scientific Panel on AI." https://www.un.org/independent-international-scientific-panel-ai/en

Arora, Pooja. AI Weaponization: Threats to Peace or Paths to International Cooperation. The Palgrave Handbook of Global Approaches to Peace, 2nd ed.

Recommended Readings:

United Nations High-level Advisory Body on Artificial Intelligence – "Governing AI for Humanity" Final Report (Sept 2024)

OECD Recommendation on Artificial Intelligence (2019; updated 2023–24)

African Union. *Continental Artificial Intelligence Strategy: Harnessing AI for Africa's Development and Prosperity.* AU Executive Council, Accra, July 18–19, 2025. https://au.int/sites/default/files/documents/44004-doc-EN-_Continental_AI_Strategy_July_2024.pdf.

AI Action Summit. *Statement on Inclusive and Sustainable Artificial Intelligence for People and the Planet.* Paris, February 11, 2025. https://www.elysee.fr/en/emmanuel-macron/2025/02/11/statement-on-inclusive-and-sustainable-artificial-intelligence-for-people-and-the-planet.

AI Safety Summit. *The Bletchley Declaration by Countries Attending the AI Safety Summit.* November 1–2, 2023.

AI Seoul Summit. *Seoul AI Business Pledge.* Press Release, May 22, 2024. https://aiseoulsummit.kr/press/?ckattempt=1&mod=document&uid=43.

Association of Southeast Asian Nations (ASEAN). *ASEAN Guide on AI Governance and Ethics.* 2024.

Association of Southeast Asian Nations (ASEAN). *Expanded ASEAN Guide on AI Governance and Ethics – Generative AI.* 2025.

Week 6: Quantum Technology: Fundamentals, Security, and Markets

Required Readings:

Semenenko, Henry, Sherilyn Wright, Michelle Lollie, Jefferson Flórez, Matty Hoban, and Florian Curchod. *Quantum Communication 101*. NASA, 2023 (only 2 chapters)

NITI Aayog, Frontier Tech Hub. *Future Front: Quarterly Frontier Tech Insights, March 2025. Issue 2.* New Delhi: NITI Aayog, 2025.

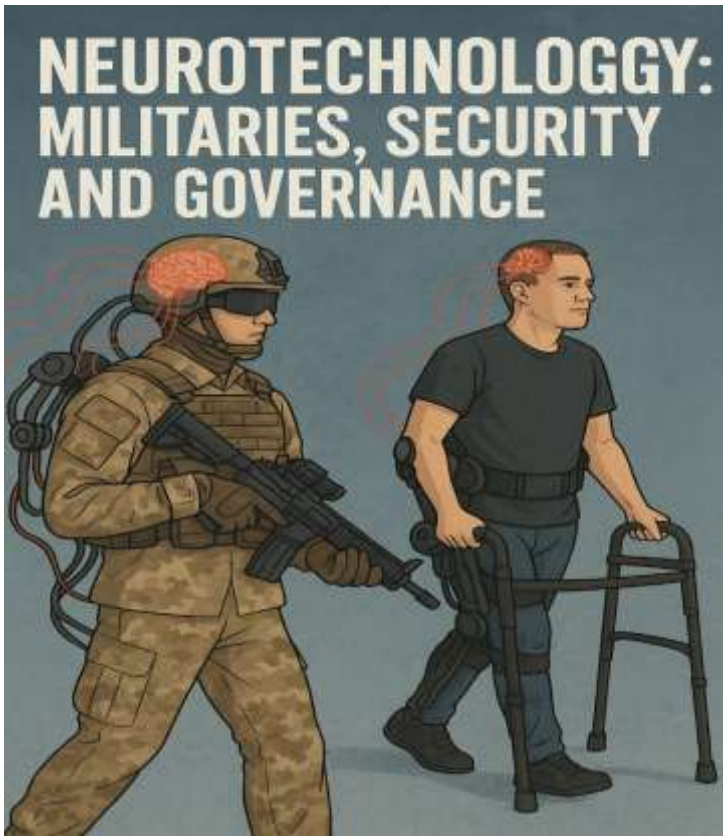
Recommended Readings:

"Quantum Computing Market" *Fortune Business Insights*.

Ruane, Jonathan, Elif Kiesow, Johannes Galatsanos, Carl Dukatz, Edward Blomquist, and Prashant Shukla. *Quantum Index Report 2025*. Cambridge, MA: MIT Initiative on the Digital Economy, May 2025.

Cybersecurity and Infrastructure Security Agency (CISA). *Post-Quantum Considerations for Operational Technology.* Washington, D.C.: Cybersecurity and Infrastructure Security Agency, October 2024.

Week 7: Neurotechnology: Militaries, Security and Governance



Required Readings:

Geneva Centre for Security Policy (GCSP). *Neurotechnologies: The New Frontier for International Governance.* Geneva: Geneva Centre for Security Policy, 2023.

Gielas, Anna M. "Warfare at the Speed of Thought: Can Brain-Computer Interfaces Comply with IHL?" *ICRC Humanitarian Law & Policy Blog*, August 21, 2025.

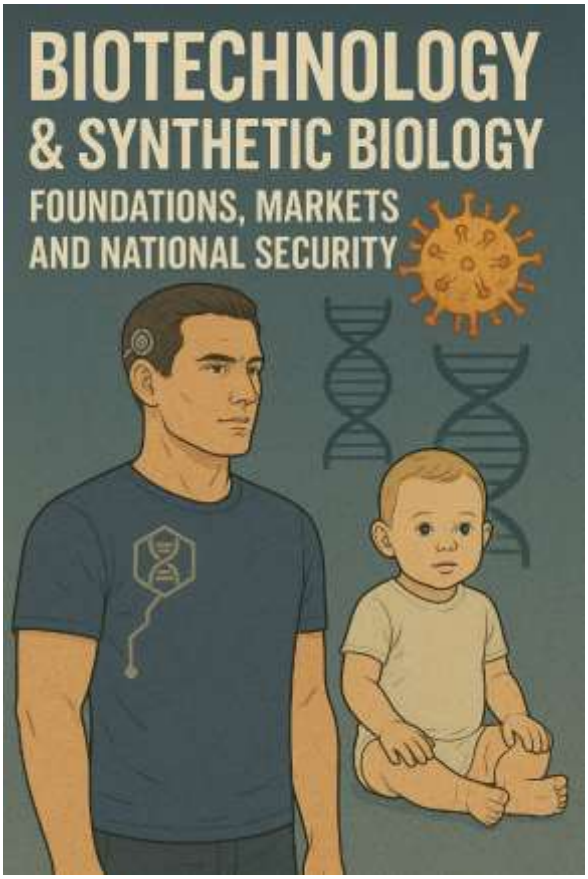
Recommended Readings:

Centre for Future Generations. "Mapping Neurotech Governance: An Overview of European Regulations and International Frameworks." *Centre for Future Generations*, September 29, 2025. https://cfg.eu/neurotech-governance-map/.

UNESCO. "Ethics of Neurotechnology."

Week 8: Mid semester Assignment Week

Week 9: Biotechnology & Synthetic Biology: Foundations, Markets and National Security



Required Readings:

U.S. Government Accountability Office. *Science & Tech Spotlight: Synthetic Biology*. GAO-23-106648. Washington, D.C.: U.S. GAO, April 17, 2023. https://www.gao.gov/products/gao-23-106648

U.S. Senate Select Committee on the Strategic Competition Between the United States and the Chinese Communist Party. "Introduction." *Final Report on Biotechnology*, Biotechnology Senate, accessed October 6, 2025, https://www.biotech.senate.gov/final-report/chapters/introduction/

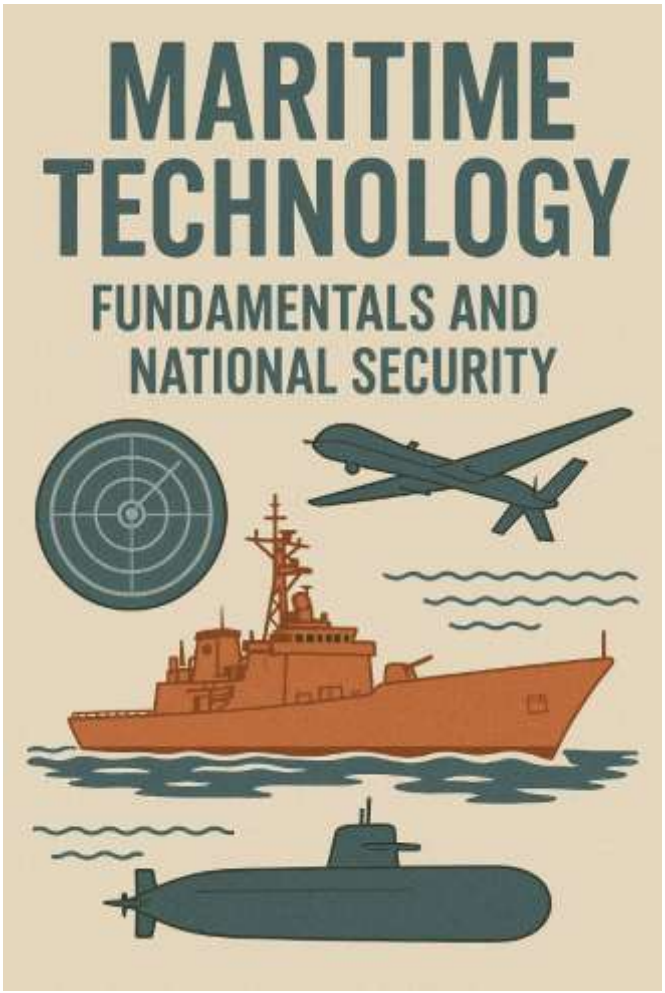
Trump, Benjamin D., Marie-Valentine Florin, Edward Perkins, and Igor Linkov, eds. *Biosecurity for Synthetic Biology and Emerging Biotechnologies: Critical Challenges for Governance*. In *Emerging Threats of Synthetic Biology and Biotechnology: Addressing Security and Resilience Issues*, 1–32. Dordrecht: Springer, 2021. https://www.ncbi.nlm.nih.gov/books/NBK584259/

Recommended Readings:

Organisation for Economic Co-operation and Development. "Synthetic Biology: A Game Changer for Economic Sustainability, Security and Resilience." *OECD Forum Network*, February 2025. https://www.oecd.org/en/blogs/2025/02/synthetic-biology-a-game-changer-for-economic-sustainability-security-and-resilience.html.

Stanford, *SETR*. "Biotechnology & Synthetic Biology, 2025." *SETR: Stanford Emerging Tech Review*. https://setr.stanford.edu/technology/biotechnology-synthetic-biology/2025

Week 10: Maritime Technology: Fundamentals and National Security



Required Readings:

Bueger, Christian, Timothy Edmunds, and Jan Stockbruegger. *Securing the Seas: A Comprehensive Assessment of Global Maritime Security*. Geneva: United Nations Institute for Disarmament Research (UNIDIR), 2024.

"Deep Sea Mining Explained as Global Fight Brews." *ABC News*, September 7, 2025. https://www.abc.net.au/news/2025-09-07/deep-sea-mining-explained-as-global-fight-brews/105725488

Recommended Readings:

Cato, Aurora, and Philippe Evoy. "Exploring Plausible Future Scenarios of Deep Seabed Mining in International Waters." *Earth System Governance* 24 (2025): 100249. https://doi.org/10.1016/j.esg.2025.100249.

U.S. Energy Information Administration (EIA), *World Oil Transit Chokepoints: Critical to Global Energy Security* (Washington, D.C.: U.S. Department of Energy, 2014/updated).

Week 11: Space Technologies: Commercial Markets and Innovation

Required Readings:

SpacePolicyOnline. "Commercial Space Activities." https://spacepolicyonline.com/topics/commercial-space-activities/#:~:text=The%20U,comprised%20of%20the%20following%20segments

Compete. "Commercial Space Operations: The Business of Low Earth Orbit (LEO) and Beyond." July 18, 2025. https://compete.org/2025/07/18/commercial-space-operations-the-business-of-low-earth-orbit-leo-and-beyond/#:~:text=How%20did%20we%20get%20here%3F.

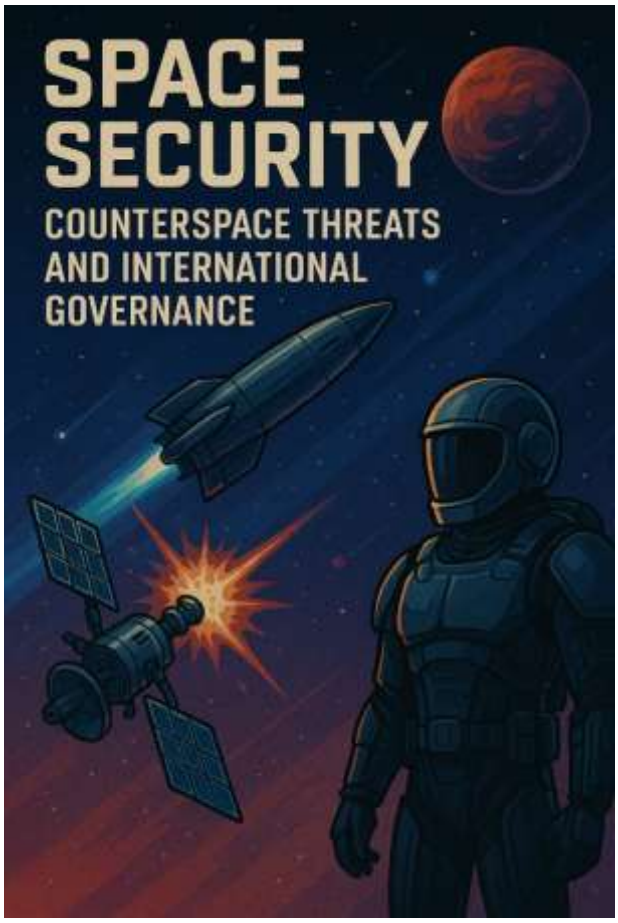
"India's Space Economy to Reach US$44 Billion by 2033: FICCI-EY Report." *IndBiz*, March 12, 2025. https://indbiz.gov.in/indias-space-economy-to-reach-us44-billion-by-2033-ficci-ey-report/

Recommended Reading:

U.S. Bureau of Economic Analysis. "The Space Economy: 2025 and Beyond." *Survey of Current Business*, March 2025. https://apps.bea.gov/scb/issues/2025/03-march/0325-space-economy.htm#:~:text=as%20well%20as%20by,2012%E2%80%932022%20statistics%20build%20on%20previous.

Chen, Emily. "China's Space Sector Set to Reach $900 Billion by 2029." *The Financial Analyst*, February 4, 2025. https://thefinancialanalyst.net/2025/02/04/chinas-space-sector-set-to-reach-900-billion-by-2029/

Week 12: Space Security: Counterspace Threats and International Governance



Required Readings:

Howells, Kate. "What Is the Outer Space Treaty?" *The Planetary Society*, May 14, 2024.

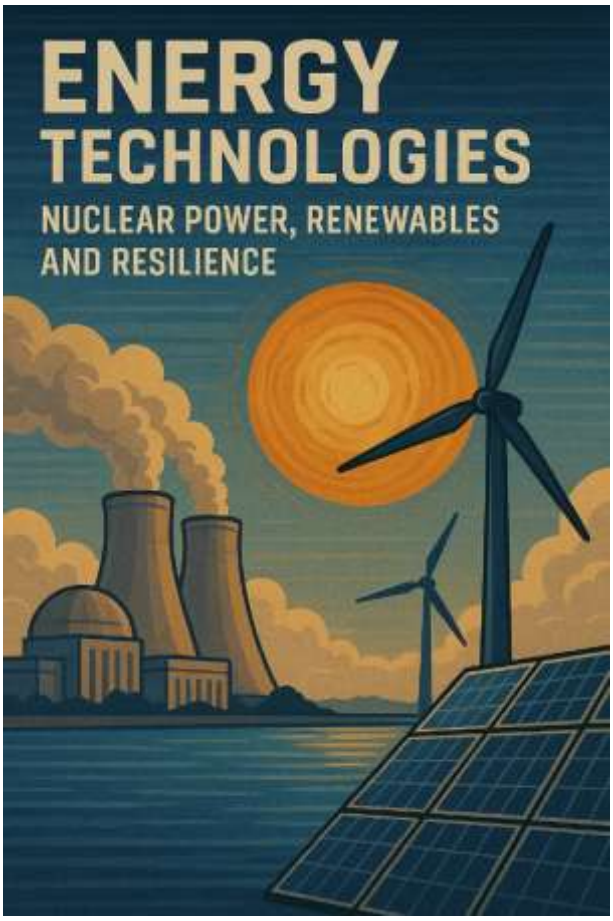
Lohani, Ritanshu, and Luiza Delaflora Cassol. *2024 Outer Space Security Conference Report.* Geneva: United Nations Institute for Disarmament Research (UNIDIR), 2025. https://doi.org/10.37559/WMD/25/Space/01

Recommended Readings:

Dembling, Paul G., and Daniel M. Arons. "The Evolution of the Outer Space Treaty." Reprint of article originally published in *Journal of Air Law & Commerce* 33 (1967): 419-456. *SpaceLawDocs*, University of Nebraska–Lincoln. https://digitalcommons.unl.edu/spacelawdocs/3/.

Hrinko, Ivan. "China and Russia Test Space Weapons in Earth Orbit." *Universe Space Tech*, March 24, 2025. https://universemagazine.com/en/china-and-russia-test-space-weapons-in-earth-orbit/.

Week 13: Energy Technologies: Nuclear Power, Renewables and Resilience



Required Readings:

Allan, Bentley, Jonas Goldman, and Daniel Helmeci. "Assessing Progress in Building Clean Energy Supply Chains: The Technical Paper of the U.S. Foreign Policy for Clean Energy Taskforce." Carnegie Endowment for International Peace, March 3, 2025. https://carnegieendowment.org/research/2025/02/building-clean-energy-supply-chains?lang=en

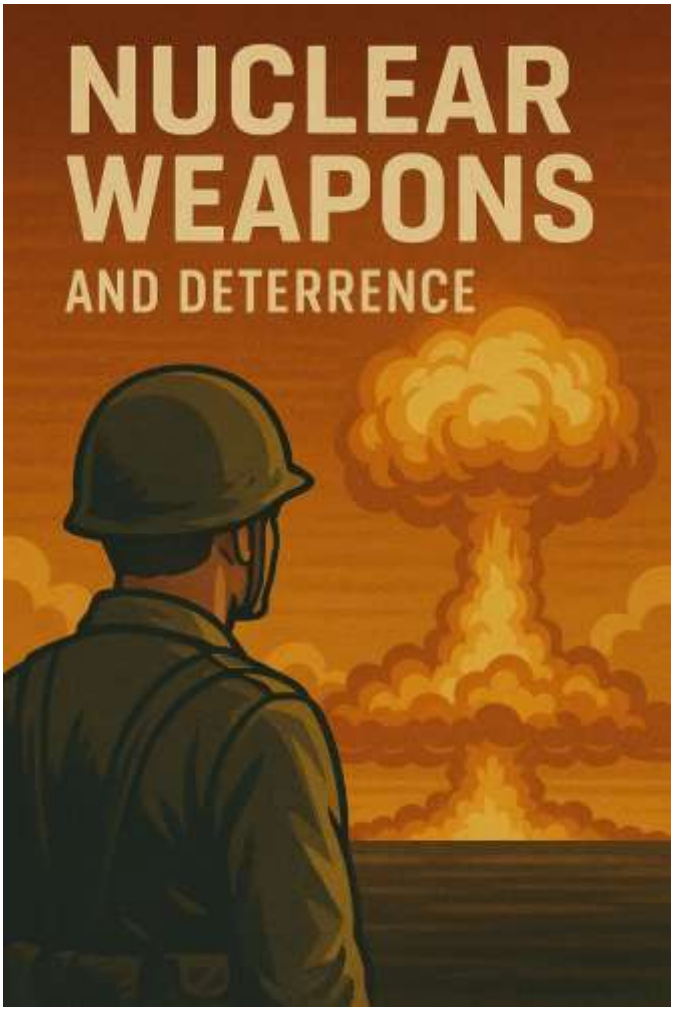
World Economic Forum. "Supply-Chain Resilience Is Key to the Energy Transition." *WEF Stories*, December 2023. https://www.weforum.org/stories/2023/12/supply-chain-resilience-key-to-energy-transition/.

Recommended Readings:

Paterson, Nathan. "Viewpoint: Supply Chain in Focus for Nuclear Industry." *World Nuclear News*, April 18, 2024. https://www.world-nuclear-news.org/articles/supply-chain-in-focus-for-nuclear-industry

Warrior, Dhruv, Vibhuti Chandhok, Abhinandan Khajuria, Shruti Gauba, and Rishabh Jain. 2024. Strengthening India's Clean Energy Supply Chains: Building Manufacturing Competitiveness in a Globally Fragmented Market. New Delhi: Council on Energy Environment and Water

Week 14: Nuclear Weapons and Deterrence



Required Readings:

Scott D. Sagan, 'The perils of proliferation: Organization theory, deterrence theory, and the spread of nuclear weapons', *International Security*, 18(4), Spring 1994, pp. 66-107.

Alexander Montgomery, "Ringing in proliferation: how to dismantle an atomic bomb network", *International Security*, vol. 30, no. 2, 2005, pp. 153-187.

Recommended Readings:

McNamara, Robert S. "The Dynamics of Nuclear Strategy." Speech at the University of Michigan, Ann Arbor, June 16, 1962. Reprinted in *Department of Defense Documents*, Washington, D.C.: U.S. Government Printing Office, 1962.

Keir A. Lieber, Daryl G. Press; The New Era of Counterforce: Technological Change and the Future of Nuclear Deterrence. *International Security* 2017; 41 (4): 9–49. doi: https://doi.org/10.1162/ISEC_a_00273

Week 15: Exams