

Course Information						
	Year	AY 2026-2027	School	UNU-IAS		
	Course Title	Understanding the mechanism to implement the Paris Agreement to the UNFCCC				
	Instructor & Contact Information	Himangana Gupta, Mahesti Okitasari, Naoyuki Okano, Sato Atsushi (gupta@unu.edu , okitasari@unu.edu , okano@unu.edu , atsushi.sato@murc.jp)				
	Term/Day/Period	AY 2026 Autumn / 6 Oct 2026 - 26 Jan 2027 /				
	Category	Elective course	Eligible Year	1 st year and above	Credits	2
	Classroom	Lecture room, 6th floor in the UNU building	Campus	UNU-HQ, Tokyo, Japan		
	Main Language	English				
	Class Modality Categories	On-Campus				
	Course Code					
	Level	Graduate-level	Types of lesson	Lecture		

Syllabus Information

Subtitle	
Course Description (Word limit: 200)	The 1992 United Nations Framework Convention on Climate Change (UNFCCC) resulted from the recognition that climate change was unequivocal and anthropogenic. It laid the foundation for mitigation, adaptation, finance, technology, and monitoring and reporting. In 2015, the Paris Agreement under the UNFCCC was adopted, committing all countries to climate action based on their capabilities and intentions. So far, human activities have caused approximately 1.1°C of global warming above pre-industrial levels, and this is likely to reach 1.5°C by 2040 if warming continues to increase at the current rate. Therefore, the Paris Agreement (PA) faces a much greater task in tackling the global climate crisis, requiring much more far-reaching impacts across economic, social, and environmental domains. This course introduces the basics of the PA and provides a deep understanding of the current climate action regime. The PA sets the basic framework for mitigation and adaptation, including new market mechanisms, a transparency framework, and a global stocktake. It is important to understand the modalities under the PA for its effective implementation at the national and global levels. This course begins with an overview of the UNFCCC and the PA, followed by discussions on the selected key elements of the PA.
Objectives and Learning Goals (Bullet points)	- Enhance understanding of the Paris Agreement, including its implementation modalities, by discussing its key articles in detail, including climate change mitigation (Article 4), market mechanisms (Article 6), climate change adaptation (Article 7), Finance (Article 9), transparency (Article 13), and Global Stocktake (GST, Article 14). - Examine the enablers and barriers in the context of the science-policy interface in the current climate regime. - Provide an opportunity to develop students' ability to explore information on climate change data and policy and measures which are necessary to consider solutions of different goals of the Paris Agreement for a common temperature goal.

Requirements <i>This part should include the expected working hours.</i>	The course requires students to attend all classes, to arrive on time, to complete the readings and to participate actively in class discussions. This means speaking during each and every class. At the discretion of the instructor, frequent late arrivals or absences may result in a lower grade. Please note that the first session is of particular importance and cannot be missed. Students are also strongly encouraged to regularly follow the news to keep up with international developments, as these events will be reflected in the class discussions. Relevant news sites and reporting archives will be shared by the instructor during the class. The expected working hours per week are five hours, including pre-readings, lecture attendance, and review for assignments.			
Course Outline <i>Detailed information could be provided on Moodle such as the information of the lecturers, etc.</i>	Lecture No.	Title	Date	Instructors/Invited Speakers if any
	1	Orientation and course overview & Introduction to the UNFCCC	Tuesday 6 October 2026, 15:50-17:30	Dr. Himangana Gupta Dr. Naoyuki Okano Dr. Mahesti Okitasari Dr. Atsushi Sato (MURC)
	2	Overview of the Paris Agreement & IPCC	Tuesday 13 October 2026, 15:50-17:30	Dr. Atsushi Sato
	3	Transparency and NDCs (Articles 13, 3 & 4) - GHG emissions and data sources Transparency under Paris Agreement	Tuesday 20 October 2026, 15:50-17:30	Dr. Atsushi Sato
	4	Mitigation (Articles 4 & 5) - Characteristics of GHG emission - Sector specific issues including LULUCF/REDD+ accounting - MRV for National, local and private sector	Tuesday 27 October 2026, 15:50-17:30	Dr. Atsushi Sato
	5	Decarbonization and sustainable societies in the context of net- zero targets under the PA	Tuesday, 3 November 2026, 15:50-17:30	Dr. Tatsuya Hanaoka
	6	From Mitigation to Adaptation – Interlinkages and Nature-based Solutions	Tuesday 17 November 2026, 15:50-17:30	Dr. Himangana Gupta
	7	Assignment 1 - Class presentation (mitigation)	Tuesday 24 November 2026, 15:50-17:30	Dr. Himangana Gupta Dr. Mahesti Okitasari Dr. Atsushi Sato
	8	Adaptation and loss and damage	Tuesday, 1 December 2026, 15:50-17:30	Dr. Naoyuki Okano
	9	Global Stocktake	Thursday, 3 December 2026, 15:50-17:30	Dr. Naoyuki Okano
	10	International cooperation of climate change - Example of Japan International Cooperation Agency (JICA) - Article 10, 11 and 12	Tuesday 8 December 2026, 15:50-17:30	Mr. Toru Yoshida (JICA)

	11	Just transition pathway for net- zero emissions	Tuesday, 15 December 2026, 15:50-17:30	Dr. Mahesti Okitasari
	12	Climate Finance	Wednesday, 6 January 2027, 11:20-13:00	Dr. Kanako Morita (Keio)
	13	Market mechanisms under the Paris Agreement (Article 6)	Tuesday, 12 January 2027, 15:50-17:30	Mr. Supanut Chotevitayatarakorn (IGES)
	14	Technology transfer and capacity building	Tuesday, 19 January 2027, 15:50-17:30	Kaoru Yamaguchi (Global Environment Centre)
	15	Assignment 2 - Class Presentation: (Mitigation and adaptation)	Tuesday, 26 January 2027, 15:50-17:30	Dr. Himangana Gupta Dr. Mahesti Okitasari Dr. Atsushi Sato
Course Readings	<i>Participants are expected to actively contribute to class discussions based on the reading material provided. The lecturer reserves the right to update the reading list throughout the course and will alert participants to the changes in class. If any required readings from academic journals or e-books are added to the course, these can be accessed through the public workstations at the UNU library, using your UNU student login and password. Additional readings from web based content will also be included.</i>			
	Lecture No.	Recommended Readings		
	1	Orientation and course overview & Introduction to the UNFCCC <u>Outline:</u> This lecture provides an overview of the UNFCCC and its Kyoto Protocol. It discusses the major international climate priorities, and their relevance in the contemporary context. This lecture will form the foundation for further lectures on the context and specificities of the Paris Agreement. Recommended readings 1. UNFCCC. (1992). <i>United Nations Framework Convention on Climate Change</i>. United Nations. http://unfccc.int/resource/docs/convkp/conveng.pdf 2. UNFCCC (1997). Kyoto Protocol to the UNFCCC. https://unfccc.int/resource/docs/convkp/kpeng.pdf 3. A record of climate negotiations summaries from 1992 to 2022 is available at Earth negotiations bulletins: https://enb.iisd.org/topics/climate-change		
	2	Overview of the Paris Agreement & climate science and IPCC <u>Outline:</u> This lecture broadly outlines the structure and elements of the Paris Agreement. It also highlights the latest scientific findings on climatic change available from IPCC assessment report, including the information on the possible pathway following the Paris Agreement. Recommended readings 1. Science in the UNFCCC negotiations: How does science connect to policy under the UNFCCC? https://unfccc.int/topics/science/the-big-picture/science-in-the-unfccc-negotiations 2. IPCC. (2021). Summary for Policymakers. In: <i>Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change</i>. Cambridge University Press,		

		Cambridge, United Kingdom and New York, NY, USA, pp. 3-32. https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf 3. IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, pp. 1-34, doi: 10.59327/IPCC/AR6-9789291691647.001 https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf 4. United Nations. (2015). <i>Paris Agreement</i>. United Nations Framework Convention on Climate Change. http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf
	3	Transparency and NDCs - GHG emissions and data sources - Transparency under Paris Agreement Outline: This lecture provides an understanding of climate change mitigation objectives under the Paris Agreement, including Nationally Determined Contributions (NDCs). It talks about GHG emissions, and procurement of related data from national reports to international database. It discusses how Paris Agreement has setup transparency rules to enhance mitigation estimations. Recommended readings: 1. All about the NDCs: https://www.un.org/en/climatechange/all-about-ndcs 2. Transparency: https://unfccc.int/Transparency
	4	Mitigation: - Characteristics of GHG emission - Sector specific issues including LULUCF/REDD+ accounting - MRV for National, local and private sector Outline: This lecture provides details on the types of GHGs, various type of GHG emission profiles, their estimation needs, and accounting. It also describes the concept of monitoring, reporting, and verification. Recommended readings: 1. FAQs of Task Force on National Greenhouse Gas Inventories - IPCC https://www.ipcc-nggip.iges.or.jp/faq/faq.html 2. GHG data interface - UNFCCC https://unfccc.int/topics/mitigation/resources/registry-and-data/ghg-data-from-unfccc 3. GHG protocol - https://ghgprotocol.org/about-us
	5	Decarbonization and sustainable societies in the context of net-zero targets under the PA Outline: This lecture sheds light on decarbonization and its relevance for sustainability. Recommended readings: 1. Decarbonization and sustainable development: https://journals.sagepub.com/doi/full/10.1177/09749101241251618 2. Determinants of decarbonization: https://www.mdpi.com/1996-1073/14/9/2640 3. Roadmap for rapid decarbonization: https://www.science.org/doi/full/10.1126/science.aah3443
	6	From Mitigation to Adaptation – Interlinkages and Nature-based Solutions

		Outline: This lecture discusses some key mechanisms under the UNFCCC which are beneficial for the achievement of NDCs. This includes REDD+, Ecosystembased mitigation, and Nature-based solutions. Some best practices of implementation around the world will be discussed. Recommended readings: 1. What is REDD+? https://unfccc.int/topics/land-use/workstreams/redd/what-is-reddWarsaw framework for REDD+: https://unfccc.int/topics/land-use/workstreams/redd/redd-resources#Warsaw-Framework-for-REDD 2. IUCN. 2016. 'WCC-2016-Res-069-EN. Defining Nature-Based Solutions'. International Union for Conservation of Nature. https://portals.iucn.org/library/sites/library/files/resrecfiles/WCC 2016 RES 069 EN.pdf
	7	Assignment 1 - Class presentation (Mitigation)
	8	Adaptation and loss and damage Outline: This lecture explains the basics of adaptation and loss and damage. It discusses key negotiation outcomes and recent implementation strategies under the UNFCCC and the Paris Agreement. Recommended readings: 1. UNFCCC's page on adaptation and loss and damage 2. 30 years of Adaptation under the Convention and the Paris Agreement: https://unfccc.int/30-years-of-adaptation-under-the-convention-and-the-paris-agreement 3. Timeline: The struggle over 'loss and damage' in UN climate talks: https://interactive.carbonbrief.org/timeline-the-struggle-over-loss-and-damage-in-un-climate-talks/index.html
	9	Global Stocktake Outline: This lecture also talks briefly about the basic idea behind Global Stocktake and details the outcome of the first Global Stocktake Recommended readings: 1. UNFCCC's page on global stocktake 2. Reflections on the first Global Stocktake of the Paris Agreement: https://doi.org/10.1016/j.esg.2024.100212
	10	International cooperation of climate change - Example of Japan International Cooperation Agency (JICA) - Article 10, 11 and 12 Outline: This lecture explains finance and investment, grant aid, and technical cooperation, in the context of climate change mitigation and adaptation. It sheds light on multiple benefits that can be achieved through climate action, including SDGs. Examples from JICA's implementation in developing countries are presented. Recommended readings: 1. JICA's efforts to combat climate change: https://www.jica.go.jp/Resource/english/publications/reports/annual/2021/fp4rrb000000sky0-att/2021_25.pdf
	11	Just transition pathway for net-zero emissions

	Outline: The lecture introduces the concept of a just transition and the work programme on just transition pathways in UNFCCC and under the Paris Agreement. It discusses the coverage of just transition in nationally determined contributions and long-term low-emission development strategies, implementation within key sectors, tracking its progress and financing mechanisms. Recommended readings: 1. Denton et al. (2022). Accelerating the transition in the context of sustainable development. In IPCC, Climate Change 2022: Mitigation of climate change. Contribution of WG III to AR6 Report of the IPCC. https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_Chapter17.pdf 2. UNFCCC. KCI (2025). Just transitions in national climate frameworks and climate policies: Experiences in alignment, planning and progress tracking. https://unfccc.int/documents/645834 3. UNFCCC. SCF (2023) Financing just transitions https://unfccc.int/sites/default/files/resource/UNFCCC_SCF_2023_web.pdf
12	Climate Finance (Article 2.1.(c) and 9) Outline: Climate finance is one of the most highly debated agenda items in climate negotiations. This lecture will shed light on finance related concerns under the Paris Agreement, and opportunities that can spearhead climate action. It covers climate finance discussions focused on international cooperation for developing countries, such as the GCF and GEF funding, and broader discussions on climate finance under Paris Agreement 2.1(c). Recommended readings: 1. Introduction to climate finance: https://unfccc.int/topics/introduction-to-climate-finance 2. Biennial Assessment and Overview of Climate Finance Flows: https://unfccc.int/topics/climate-finance/resources/biennial-assessment-and-overview-of-climate-finance-flows 3. Climate Policy Initiative - Global Landscape of Climate Finance: A Decade of Data: https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-a-decade-of-data/
13	Market mechanisms under the Paris Agreement (Article 6) Outline: This lecture presents an overview of the market mechanisms under the Paris Agreement, carbon pricing, and standards such as VERRA, Gold Standard, and others. It sheds light on operationalization of new mechanisms under Article 6 of PA, and trends of carbon credits trading. Covering key negotiations under this article, it presents its relevance for bringing down emissions. Recommended readings: 1. A guide to UN market-based mechanisms: https://unfccc.int/blog/a-guide-to-unmarket-based-mechanisms. 2. What you need to know about Article 6 of the Paris Agreement: https://www.worldbank.org/en/news/feature/2022/05/17/what-you-need-to-know-about-article-6-of-the-paris-agreement
14	Technology transfer and capacity building

Outline: This lecture introduces the concepts of technology transfer and capacity building under the UNFCCC and the Paris Agreement, highlighting their roles in supporting climate mitigation, adaptation, and sustainable forest management. It also examines barriers to technology diffusion, institutional and human capacity development, and the importance of integrating local and Indigenous knowledge into climate action.

Recommended readings:

1. IPCC Sixth Assessment Report: Climate Change 2022: Mitigation of Climate Change – Chapter 16: Innovation, Technology Development and Transfer.
2. Paris Agreement – Articles 10 (Technology Development and Transfer) and 11 (Capacity Building).
3. Technology Framework under Article 10, paragraph 4, of the Paris Agreement – Guidance on accelerating climate technology development, transfer, and capacity building.

15 **Assignment 2 – Class presentation (Mitigation and adaptation)**

Reference
Grading policy

Rate	%	Evaluation Criteria
Assignment 1: Class presentation 1	20	Understanding and Quality of analysis Application of knowledge from lectures Policy relevance Discussion Punctuality
Assignment 2: Class Presentation 2	30	Understanding and Quality of analysis Application of knowledge from lectures Policy relevance Discussion Punctuality
Assignment 3: Research paper	40	Completeness of PA elements Quality and clarity Application of knowledge from lectures Policy relevance
Class Participation and Discussion	10	Discussion during the class, Q/A Attendance in-person

Assignment 1: Class presentation

In a group of two, participants are requested to make a presentation on their analysis of national commitments, GHG emissions and removals, and key mitigation actions for a selected country. They are expected to carry out an analysis of NDCs and GHGs from national documents for preparation of their presentation. Each participant will be given 15 minutes for presentation and 5 minutes for discussion.

Assignment 2: Class presentation 2

In a group of two, participants are requested to make a presentation building on the analysis made under Assignment 1, identifying the mitigation and adaptation actions needed to meet the NDCs, and improve NDC and GHG reporting. They are expected to also identify key national circumstances, including vulnerability, adaptation, and loss and damage, etc. that may affect their ability to meet the national commitment under PA. Each participant will be given 15 minutes for presentation and 5 minutes for discussion.

Note/URL, if any

Assignment3: Research paper

Participants are requested to write a research paper based on Assignment 1 & 2 covering key analysis of GHG and NDCs, ways of improving transparency in GHG reporting, enablers and barriers to achieve the national targets, key mitigation and adaptation strategies, and role of finance, international cooperation, and stakeholder engagement, etc. in effective implementation of PA in the selected country.

Format: Arial 12, 1.5 space, Harvard referencing style, Maximum of 3,500 words (Excluding references)

Submission deadline of the Assignment: 3: Friday, 5th February 2027

Class Conduct & Etiquette

Students are expected to arrive on time and not to engage in disruptive behaviour during class. This includes, among other things, private side conversations, the use of cellphones and other electronic devices, or the reading of newspapers. Cellphones should be switched off and stored in the bag. We wish to create an atmosphere of open and tolerant discussion in the classroom and request students to recognize every individual's right to have an opinion. The lecturer and other students should be treated with dignity and respect in discussions on contentious political issues where a diversity of opinion is likely to arise. However, we also recognize that there are limits to tolerance and the lecturer reserves the right to request disciplinary action against any student who violates this policy or repeatedly shows disruptive behavior in class.

Plagiarism & Academic Misconduct

Please be aware that the consequences of plagiarism are severe, and students found guilty of academic misconduct will be punished in accordance with UNU's academic honesty policies. The lecturer reserves the right to run all assignments through an antiplagiarism software provided by the UNU. If evidence of academic misconduct on the assigned presentations, the mid-term exam or the final essay should be found, the assignment will receive a failing grade. In case of repeated violations of academic conduct, the student may receive a failing grade for the entire course and will be reported to the appropriate authorities for disciplinary action.

Use of AI

The use of generative AI tools for brainstorming ideas and exploring possible answers to questions may be useful for you to organize your ideas for assignments in this course. However, the assignments submitted by students must be written by the students themselves. Violations of academic honesty include the following: (1) Plagiarism; (2) Purchasing work from a company, (3) Hiring a person or company to complete an assignment for you; and (4) Extensive use of outputs from generative AI tools in your submitted assignments

