Course Title: "Sustainable Development and Climate Change Mitigation"
Instructor: Hooman Farzaneh
Level: Graduate/Undergraduate
Prerequisite: No basic knowledge is assumed, but interest in the topics is vital.
Assessment Methods: 60% participation, 40% assignments/Quizzes

Course Description:
With growing recognition of the signs of a global climate emergency, a unique window of opportunity has opened to raise ambitions to mitigate and build resilience to climate change while addressing other sustainability challenges across the Asia-Pacific region, especially in Japan. A potentially particularly important agent of change is young people. The emergence of student-led global movement for climate justice seen in many parts of the world is already beginning to push decision-makers to do more to protect the climate and achieve a sustainable future. There is nonetheless more that can be done to equip students with knowledge and skills needed for transformative changes. This course aims to enhance student capacities for civic engagement on climate issues and their interrelationships with other areas of sustainable development. The course curriculum will draw chiefly from resources and materials developed by Institute for Global Environmental Strategies (IGES) and Kyushu University, highlighting current activities and initiatives both in Japan as well as at the international level.

Expected outcomes of proposed activities include:
• Enhanced student understanding about international policy trends on climate, energy and sustainable development
•Increased awareness about the need for interdisciplinary responses to climate change and sustainable development challenges

Course Format
Through a combination of lectures and hands-on exercises, participants will be introduced to key policies and initiatives that can address climate change and sustainable development. They will also gain insights into how these can be used to inform strategic actions addressing climate change and sustainability challenges. Course content is structured around three main pillars:

1- *Overview of climate change science and sustainable development*
2- *International climate policy: targets, strategies, and implementation*
3- *Climate Change and the 2030 Agenda on Sustainable Development*

Course activities are facilitated through lectures, readings, participatory discussion, and in-class exercises, including:

- ✓ **Discussions:** Each lesson will have discussion questions clearly identified in the lesson content. Students are to comment on these questions to earn their participation grade for this category.
- ✓ **Quizzes:** Each lesson will have an associated quiz that is due upon its completion.

Course Materials:

(Lecture notes, homework sets, literature data sets, software, etc.) will be made available for download during the semester on the course webpage.

Course Outline

	Lecturers	Lecture topic
Week 1	Hooman Farzaneh Matthew Hengesbaugh	-Introduction to the course -How has climate change affected your life?
Week 2	Tim Ferraro	Science and impacts of climate change
Week 3	Eric Zusman Nanda Kumar Janardhanan	-International climate negotiations: from Kyoto to Paris and beyond -Co-innovation for low-carbon technologies in Asia and the Pacific
Week 4	Hooman Farzaneh	Climate co-benefits assessment, a quantitative approach
Week 5	Fernando Ortiz-Moya Aditi Khodke	-The role of sub-national and local government in implementation -The importance of individual efforts in climate action
Week 6	Simon Hoiberg Olsen Matthew Hengesbaugh	-Rationalities that inform policy choices for sustainable development -Multistakeholder engagement in advancing climate action
Week 7	Eric Zusman Hooman Farzaneh Matthew Hengesbaugh	-Strengthening the science- policy interface -Summarizing main points and reflections on future action

lecturers for the first semester of 2022

Lecturer	Affiliation
Hooman Farzaneh	Kyushu University, Japan
Matthew Hengesbaugh	Institute for Global Environmental Strategies (IGES), Japan
Tim Ferraro	Waseda University, Japan
Eric Zusman	Institute for Global Environmental Strategies (IGES), Japan
Aditi Khodke	Institute for Global Environmental Strategies (IGES), Japan
Simon Hoiberg Olsen	Institute for Global Environmental Strategies (IGES), Japan
Fernando Ortiz-Moya	Institute for Global Environmental Strategies (IGES), Japan
Nanda Kumar Janardhanan	Institute for Global Environmental Strategies (IGES), Japan

Hooman Farzaneh

Hooman Farzaneh is associate professor and head of the Energy and Environmental Systems (EES) laboratory at the Interdisciplinary Graduate School of Engineering Sciences (IGSES), Kyushu University, Japan. He is particularly interested in issues related to quantitative and qualitative analysis and focusing on policy implementations designed to tackle air pollution problems at both regional and local scales. Prior to joining Kyushu University, Hooman worked at the Institute of Advanced Energy, Kyoto University and the United Nations University. Dr. Farzaneh has more than fifteen years of experience teaching energy-science-related subjects at various universities in Iran and Japan. He has received prestigious research awards from the Hitachi Global Foundation (2019-2020) and the Asia-Pacific Network (2017-2019) together with a scientific research grant from the Japan Society for Promotion of Science (2016-2019) for his research on multiple benefits assessment of the Low emission development strategies in Asian cities. His recent books include: "Aligning Climate Change and Sustainable Development Policies in Asia-2021", "Energy Systems Modeling Principles and Applications- 2019" and "Devising a Clean Energy Strategy in Asian cities-2018".

Tim Ferraro

Tim Ferraro worked as a meteorologist for the US government from 1999 to 2007. In Spain, he spent four years working on weather advisories and forecasts in an office whose area of responsibility spanned the Baltic Sea in the north to the Suez Canal in the south. He spent another four years forecasting in Japan, where in addition to normal weather duties, he worked on tropical weather forecast dissemination dealing with the threat from typhoons. He completed a B.A. In History with University of Maryland University College, then a M.S.Ed. At Temple University Japan. He has been working for the past seven years at Waseda University in Tokyo. His meteorological experience in Europe and Asia fueled his interest in worldwide climate change impacts. He believes the acceleration of climate

change warrants much higher priority in university level education and he constantly strives to integrate such information into lesson plans for his students.

Eric Zusman

Eric Zusman is a senior policy researcher/area leader at the Institute for Global Environmental Studies in Hayama, Japan. Dr. Zusman holds a bachelor's degree in Mandarin Chinese from Rutgers University, a dual Master's Degree in public policy and Asian studies from the University of Texas at Austin and a Ph.D. in political science from the University of California, Los Angeles. For much of the past two decades he has conducted research on environmental issues in Asia. This has included working with China's Yellow River Conservancy Commission, the Chinese Research Academy on Environmental Science, Woodrow Wilson Center's China Environment Forum as well as Taiwan's Academia Sinica. He has published books and articles on water scarcity, air pollution regulation, environmental law, multilevel governance, sustainability transitions, low carbon development and the Sustainable Development Goals. He is currently serving as a lead author for the sixth assessment report of the Intergovernmental Panel on Climate Change (Chapter 17).

Aditi Khodke

Ms. Aditi Khodke is a policy researcher at the Institute for Global Environmental Strategies (IGES). She conducts research on policy-driven accelerated sustainability transitions and manages the 1.5-Degree Lifestyles project in five countries. She leads training on urban climate resilience and action at the Asia Pacific Mayors Academy for Sustainable Urban Development. Aditi holds two master's degrees in sustainability science and sustainable urban development from the United Nations University and the University of Oxford, and is a licensed architect.

Simon Hoiberg Olsen

Simon is from Denmark and currently works as a senior policy researcher for IGES. He works on the SDGs, civic engagement, and governance for sustainable development. He has a Masters Degree in Southeast Asian Studies from University of Copenhagen and a PhD from the Department of Environmental Sciences and Policy at the Central European University, Budapest/Vienna. Simon has worked in this field since 2006. Outside of work he examines the question of sustainability from an individual and community perspective. When he doesn't work in his garden, he likes to play with his daughter and learn about traditional Japanese time-framing.

Fernando Ortiz-Moya

Fernando Ortiz-Moya is an architect and urban planner with a training in human geography. His research focuses on global transformations of urban systems, and particularly on shrinking cities, analyzing the responses given in different countries to the problems generated by decay. In studying shrinking cities, Fernando has also approached them from a cinematic perspective, analyzing how the film media portrays the ongoing changes of our built environment. His more recent work explores urban-based solutions to confront climate change. Fernando is currently a Policy Researcher at the Institute for Global Environmental Strategies (IGES) in Japan. Before joining IGES, he held a position at the University of Nottingham Ningbo, China. He has a Doctorate in Architecture from the University of Tokyo, an MSc in Urban Studies from the University of Edinburgh, and an MArch in Architecture and Urban Planning from the Technical University of Madrid.

Matthew Hengesbaugh

Matthew Hengesbaugh is a Project Researcher supporting IGES's Integrated Sustainability Governance Centre with action research on the 2030 Development Agenda. Mr. Hengesbaugh has worked extensively in the Asia-Pacific region advocating and delivering sustainable development policy objectives since 2006, over which time he has advised and consulted with the United Nations, including the International Labour Organization and the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) on issues including climate change, green jobs, green economy, and sustainable consumption and production. He received his M.A. from University of Trento, Italy, where as an Erasmus Mundus scholar he studied Local Economic Development. In addition, he also holds a M.A. in International Relations from the University of Wollongong, Australia, as well as B.A.s in Psychology and Anthropology from the University of Santa Cruz, California.

Nanda Kumar Janardhanan

Dr. Janardhanan is an energy and climate professional with policy research, market research and academic experience in the fields of energy policy, energy geopolitics, climate mitigation, air pollution and nuclear energy. He has worked with leading think tanks, universities and the private sector both in India and Japan, including the International Atomic Energy Agency (IAEA) and the International Centre for Theoretical Physics. He served as instructor for training programmes on Nuclar Energy Management by the International Atomic Energy Agency (IAEA) and the International Centre for Theoretical Physics, and also formerly associated with Massachussets Institute of Technolgy (MIT) as Fellow in the Climate Co-Lab.