



COURSE UNIT DESCRIPTION

Course Unit Title	Code
ADRESSING CLIMATE CHANGE	-

Lecturer(s)	Department(s)
Coordinator: j. assisit. Justė Vežikauskaitė Other(s):	Institute of International Relations and Political Science, Vilnius university, Vokiečių str. 10, LT-01130, Vilnius, tel. +370 52514130, e-mail: tspimi@tspmi.vu.lt

Study cycle	Type of the course unit
First	Elective

Mode of delivery	Course unit delivery period	Language (s) of instruction
Face-to-face	4 (spring) semester	English

Requirements for students	
Pre-requisites: -	Co-requisites (if any): -

Number of credits allocated	Total student's workload	Contact hours	Self-study hours
5	145	32	113

Purpose of the course unit: programme competences to be developed		
<p>This course aims to address the whole complexity of climate change as an issue, by bringing together the science, impacts, economics, abatement technologies, and policy solutions into one course. Students will be taught to master the relevant concepts drawn from the Earth sciences, chemistry, physics, engineering, economics, and political science and explain the relevance of them for our present understanding of human-caused climate change and for the viability of different proposed solutions.</p>		
Learning outcomes of the course unit	Teaching and learning methods	Assessment methods
Students will understand and will be able to apply concepts relevant for climate change, drawn from chemistry, physics, and economics as well as improve their abilities to read and understand research paper from several disciplines addressing climate change.	Problem-oriented lectures, seminars (critical analysis of texts, case study, group discussion, oral presentations on assigned topics), individual studies (search for information, critical literature studies).	Participation in seminars, final exam
Students will be able to explain impact of climate change on human well-being and the natural world, also to evaluate the means by which these impacts can be reduced.		
Explain and evaluate the evidence for human-caused climate change in the context of historical climate change, as well as the relevant scientific uncertainties and possible evidence to the contrary.		
Students will be able to evaluate the successes and failures of past national and international efforts of addressing climate change, and evaluate prospects for future management of climate change.		
Assess the communication of science and policy for climate change, as an example of how science and policy can and should inform one another.		
Students will be able to provide recommendations or policy analysis of national and international efforts to address climate change in different professional settings.		Participation in seminars, group presentation, final exam
Students will professionally communicate orally and in written, unambiguously and reasonably convey well-grounded ideas, arguments and conclusions based on theoretical knowledge and will be able to trigger or contribute to the discussion.	Group discussions, oral presentation on assigned topics	Final exam, group presentation

Students will be able to actively and productively participate and collaborate in cross-cultural team activities, as well as to ensure group members integration by applying ethical values and moral sensibility in respect to cultural and social diversity		Group presentation, participation in seminars
Students will be able to critically reflect and evaluate potential economic and social consequences of everyday life activities related to climate issues in everyday life, as well as to take responsibility in addressing climate change challenges.	Problem-oriented lectures, seminars (critical analysis of texts, case study, group discussion, oral presentations on assigned topics), individual studies (search for information, critical literature studies).	Participation in seminars, final exam

Content: breakdown of the topics	Contact hours						Self-study: hours and assignments		
	Lectures	Consultations	Seminars	Practical sessions	Laboratory activities	Internship/work	Contact hours	Self-study hours	Assignments
1. The science of climate change (Greenhouse gases, radiative transfer and estimates of climate sensitivity, global carbon cycle, global atmospheric circulation, climate modeling and climate change feedbacks)	6		2				8	6	<p>Seminar discussion on early discoveries about climate change (energy balance model, greenhouse gases, radiative transfer and estimates of climate sensitivity)</p> <p>Read and analyse: John Houghton, Global Warming: The Complete Briefing, 5th edition, 2015, Cambridge: Cambridge University Press, Chapters 1-3.</p>
2. What will the effects of climate change be?	2		2				4	6	<p>Seminar discussion on what do we now know about the effects of climate change (scientific consensus and current uncertainties)</p> <p>Read and analyse: Intergovernmental Panel on Climate Change, Summary for Policy makers, Climate Change 2021: The Physical Science Basis, Cambridge: Cambridge University Press, https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf; Mark Maslin, Climate Change: A Very Short Introduction, 4th edition, Oxford University Press, 2021.</p>
3. Climate effects on freshwater resources and water systems			2				2	4	<p>Student presentations: students present their group presentation with regards to specific climate change effects on freshwater resources and water systems (topics agreed in advanced with the lecturer)</p> <p>The rest of the class - read and prepare for discussion: Intergovernmental panel on climate change, see newest report on the specific effects relevant for this seminar.</p>
4. Climate effects on oceans			2				2	4	<p>Student presentations: students present their group presentation with regards to specific climate change effects on oceans (topics agreed in advanced with the lecturer)</p>

									The rest of the class - read and prepare for discussion: Intergovernmental panel on climate change, see newest report on the specific effects relevant for this seminar.
5. Climate effects on key economic sectors and services			2				2	4	Student presentations: students present their group presentation with regards to specific climate change effects on key economic sectors and services (topics agreed in advanced with the lecturer) The rest of the class - read and prepare for discussion: Intergovernmental panel on climate change, see newest report on the specific effects relevant for this seminar.
6. Climate change effects on human security, livelihoods and poverty			2				2	4	Student presentations: students present their group presentation with regards to specific climate change effects on human security and livelihoods (topics agreed in advanced with the lecturer) The rest of the class - read and prepare for discussion: Intergovernmental panel on climate change, see newest report on the specific effects relevant for this seminar.
7. Why is it so difficult to combat climate change?			2				2	6	Seminar discussion on the challenges of public opinion on climate change. Read and analyse: Robert O. Keohane: “The Global Politics of Climate Change: Challenge for Political Science”, The 2014 James Madison Lecture, https://depts.washington.edu/envirpol/wp-content/uploads/2014/07/Keohane2015.pdf ; Jacobs, A., & Matthews, J. “Why Do Citizens Discount the Future? Public Opinion and the Timing of Policy Consequences”, British Journal of Political Science, 42(4), 2012, 903-935.
8. The coordination challenge: International Negotiation and the “Prisoner’s Dilemma”			2				2	6	Seminar discussion on the pitfalls and perils of international cooperation on climate change. Read and analyse: A. Thompson, “Management under anarchy: the international politics of climate change”, Climatic Change 78, 2006, 7–29; J. Hovi, D. F. Sprinz & A. Underdal: “Implementing long-term climate policy: time inconsistency, domestic politics, international anarchy”, Global Environmental Politics, 9 (3), 2009, 20-39.
9. The economic challenge			2				2	6	Seminar discussion on the economic challenges of climate change Read and analyse: Richard S. J. Tol: “The Economic Effects of Climate Change“, Journal of Economic Perspectives, 23 (2): 29-51; Nicholas Stern: The Economics of Climate Change: The Stern Review (Executive Summary): http://mudancasclimaticas.cptec.inpe.br/~rmclima/pdfs/destaques/sternreview_report_complete.pdf .
10. The ethical dimension: what would a just			2				2	6	Seminar discussion on how to think about ethics and climate change.

response to climate change look like?									Read and analyse: S. Gardiner & L. Hartzell-Nichols, "Ethics and Global Climate Change", Ethics and Global Climate Change. Nature Education Knowledge, 3(10), 2012; Clare Palmer, "Does nature matter? The place of the nonhuman in the ethics of climate change", Cambridge: Cambridge University Press, 2011, 272-291.
11. Policy: how should we tackle climate change?			2				2	6	Seminar discussion on policy options. Read and analyse: Naomi Klein: This Changes Everything: Capitalism vs. The Climate, Introduction Greenpeace International: "Climate Solutions"; Alex Gourevitch: "War on Terror / War on Global Warming"; Pacala and Socolow: "Stabilization Wedges: Solving the Climate Problem for the next 50 Years with Current Technologies".
12. A step back: what role should science play in a democracy?			2				2	6	Seminar discussion on the role of experts in responding to climate change. Read and analyse: Alvin I. Goldman, "Experts: Which Ones Should You Trust?" Philosophy and Phenomenological Research 63, no. 1 (2001): 85–110; Turner S. What is the Problem with Experts? Social Studies of Science. 2001;31(1):123-149; Steel, Daniel and Kyle Powys Whyte. "Environmental Justice, Values, and Scientific Expertise." Kennedy Institute of Ethics Journal, vol. 22 no. 2, 2012, p. 163-182.
Group presentation								32	Preparation of group presentation on an assigned topic.
Final exam								17	Preparation for the final exam.
Total	8		24				32	113	

Assessment strategy	Weight, percentage	Assessment period	Assessment criteria
Participation in seminars	40%	During semester	Assessment will be based on: <ul style="list-style-type: none"> - Quality of comments, insights and relevant remarks (10%); - Ability to base answers on academic literature (10%); - Active participation during seminars discussion (10%); - Ability to use relevant examples (10%).
Group presentation	30%	During semester	Students working in smaller groups with chosen case study on the specific effects of climate change. Their contributions have to be either empirical, normative or policy (will be discussed in greater detail at the beginning of the semester, specific topics assigned), 3 different presentations will be presented during one seminar (no longer than 20 min.). Assessment will be based on: <ul style="list-style-type: none"> - Comprehensiveness of argumentation (10%); - Ability to draw on existing evidence (10%); - Quality and number of sources (10%).
Final exam	30%	At the end of semester	Assessment will be based on: <ul style="list-style-type: none"> - Ability to understand and correctly apply the concepts used during the course (10%); - Ability to draw on course literature and in-class discussions (10%); - Comprehensiveness of the argumentation and usage of evidence, examples (10%).

Author	Year of publication	Title	Issue of periodical or volume of publication	Publishing place and house or web link
Compulsory reading				

John Houghton	2015	Global Warming: The Complete Briefing	5 th edition	Cambridge: Cambridge University Press
		Climate Change 2021: The Physical Science Basis: Summary for Policy makers		IPCC: Intergovernmental Panel on Climate Change https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf
Mark Maslin	2021	Climate Change: A Very Short Introduction	4 th edition	Oxford University Press
Robert O. Keohane		The Global Politics of Climate Change: Challenge for Political Science, The 2014 James Madison Lecture		https://depts.washington.edu/envirpol/wp-content/uploads/2014/07/Keohane2015.pdf
Jacobs, A., & Matthews, J.	2012	Why Do Citizens Discount the Future? Public Opinion and the Timing of Policy Consequences	42(4)	British Journal of Political Science
A. Thompson	2006	Management under anarchy: the international politics of climate change	78	Climatic Change
J. Hovi, D. F. Sprinz & A. Underdal	2009	Implementing long-term climate policy: time inconsistency, domestic politics, international anarchy	9 (3)	Global Environmental Politics
		Richard S. J. Tol: "The Economic Effects of Climate Change", Journal of Economic Perspectives, 23 (2): 29-51;		
		Nicholas Stern: The Economics of Climate Change: The Stern Review (Executive Summary)		http://mudancasclimaticas.cptec.inpe.br/~rmclima/pdfs/destaques/sternreview_report_complete.pdf
S. Gardiner & L. Hartzell-Nichols	2012	Ethics and Global Climate Change	3(10)	Ethics and Global Climate Change. Nature Education Knowledge
Clare Palmer	2011	Does nature matter? The place of the nonhuman in the ethics of climate change		Cambridge: Cambridge University Press
Naomi Klein		This Changes Everything: Capitalism vs. The Climate Introduction Greenpeace International: "Climate Solutions"		
Alex Gourevitch		War on Terror / War on Global Warming		
Pacala and Socolow		Stabilization Wedges: Solving the Climate Problem for the next 50 Years with Current Technologies		
Alvin I. Goldman,	2001	Experts: Which Ones Should You Trust?	63, no. 1	Philosophy and Phenomenological Research
Turner S.	2001	What is the Problem with Experts?	31(1)	Social Studies of Science
Steel, Daniel and Kyle Powys Whyte	2012	Environmental Justice, Values, and Scientific Expertise	vol. 22 no. 2	Kennedy Institute of Ethics Journal
Recommended reading				
Boersema J. J., Reijnders L.	2009	Principles of Environmental Sciences		Springer
Kanazawa M.	2017	Research Methods for Environmental Studies: A Social Science Approach		Routledge
Kukkonen, A., Ylä-Anttila, T., Swarnakar,	2018	International organizations, advocacy coalitions, and	Vol. 81	Environmental Science & Policy

P., Broadbent, J., Lahsen, M., & Stoddart, M. C.		domestication of global norms: Debates on climate change in Canada, the US, Brazil, and India		
Gupta, J.	2007	Legal Steps Outside the Climate Convention: Litigation as a Tool to Address Climate Change	Vol. 16	Review of European Community & International Environmental Law
Munta, M.	2020	The European Green Deal		https://www.researchgate.net/profile/Mario-Munta/publication/344161380_The_European_Green_Deal_A_game_changer_or_simply_a_buzzword/links/5f572eab458515e96d3906a4/The-European-Green-Deal-A-game-changer-or-simply-a-buzzword.pdf
Zhan, J. X., & Santos- Paulino, A. U.,	2021	Investing in the Sustainable Development Goals: Mobilization, channelling, and impact	Vol. 4, Issue 1	Journal of International Business Policy