

Human–Environment Interactions: From Past Landscapes to Contemporary Challenges
- COURSE SYLLABUS



1.	Course title: <i>Human–Environment Interactions: From Past Landscapes to Contemporary Challenges</i>
2.	Lecturers: Dr. habil. Dariusz Brykała, Prof. Michał Słowiński, Dr. Agnieszka Gruszczyńska, Dr. habil. Anna Kowalska, Dr. Robert Piotrowski, Dr. habil. Andrzej Affek, Prof. Jerzy Solon, Dr. habil. Izabela Zawiska, Dr. Tomasz Związek, Dr. Łukasz Sobechowicz
3.	Field, type and level of studies, year of study: Earth and Environmental Sciences, geography, hydrology, ecology, landscape science, forestry and human–environment studies, all years of PhD study
4.	Course character: GeoPlanet interdisciplinary lecture
5.	Teaching method: on-line
6.	Language: English
7.	Course type and number of hours: Lecture, 30 h
8.	Estimated load of student’s independent work: 20 h
9.	Total workload and number of ECTS points: 50 h, 3 ECTS
10.	Short description and main focus of the course: The course explores the complex and reciprocal relationships between human societies and the environment from historical to contemporary perspectives. It examines how human activities transform landforms, water systems, land cover, forests, ecosystems, biodiversity and landscapes, as well as how environmental processes, resources and constraints influence human societies. The lectures address processes operating at local, regional and global scales and consider both gradual environmental transformations and rapid disturbances. Particular attention is paid to anthropogenic landscape change, water management, freshwater ecosystems, forest management, wildfires, biodiversity, landscape fragmentation, ecosystem services and the long-term legacies of past human–environment interactions. The course also considers cultural interpretations of the natural environment, including geomorphology and the ways in which geological and geomorphological features have been incorporated into myths, beliefs and cultural traditions. By integrating perspectives from physical geography, hydrology, ecology, historical geography, environmental history, landscape science, forestry and geomorphology, the

	course provides students with an interdisciplinary framework for understanding human–environment relations, their drivers, consequences, feedbacks and cultural dimensions.	
11.	References: Affek, A., Solon, J., Kowalska, A., Regulska, E., Wolski, J. & Kołaczowska, E. (2024). The potential of Polish forests to provide ecosystem services. <i>Geographia Polonica</i>, 97(1), 65–90. DOI: 10.7163/GPol.0269. Brykała, D. & Podgórski, Z. (2020). Evolution of landscapes influenced by watermills, based on examples from Northern Poland. <i>Landscape and Urban Planning</i>, 198, 103798. DOI: 10.1016/j.landurbplan.2020.103798. Liu, J., Dietz, T., Carpenter, S.R., et al. (2007). Complexity of coupled human and natural systems. <i>Science</i>, 317, 1513–1516. DOI: 10.1126/science.1144004. Piccardi, L. & Masse, W.B. (eds.) (2007). <i>Myth and Geology</i>. Geological Society, London, Special Publications, 273. Geological Society of London. DOI: 10.1144/GSL.SP.2007.273. Słowiński, M., Lamentowicz, M., Łuców, D., et al. (2019). Paleoecological and historical data as an important tool in ecosystem management. <i>Journal of Environmental Management</i>, 236, 755–768. DOI: 10.1016/j.jenvman.2019.02.002. Słowiński, M., Związek, T., Swoboda, P., et al. (2024). Human impacts on environment in the preindustrial forest landscapes in Poland—An overview. <i>Elementa: Science of the Anthropocene</i>, 12(1), 00065. DOI: 10.1525/elementa.2023.00065. Solon, J. (2005). Incorporating geographical (biophysical) principles in studies of landscape systems. In: J.A. Wiens & M.R. Moss (eds.), <i>Issues and Perspectives in Landscape Ecology</i>, pp. 11–20. Cambridge University Press. DOI: 10.1017/CBO9780511614415.003. Zalasiewicz, J., Waters, C.N., Williams, M. & Summerhayes, C.P. (eds.) (2019). <i>The Anthropocene as a Geological Time Unit: A Guide to the Scientific Evidence and Current Debate</i>. Cambridge University Press. DOI: 10.1017/9781108621359. Zawiska, I., Jasiewicz, J., Rządziejewicz, M. & Woszczyk, M. (2023). Relative impact of environmental variables on the lake trophic state highlights the complexity of eutrophication controls. <i>Journal of Environmental Management</i>, 345, 118679. DOI: 10.1016/j.jenvman.2023.118679. Additional journal papers, book chapters and on-line resources will be provided by individual lecturers for particular topics.	
12.	Prerequisites: None. Basic knowledge of Earth and environmental sciences is recommended but not required.	
13.	Educational outcomes: Knowledge: <i>By the end of the course, participants will understand the major processes through which human activities transform geomorphological, hydrological, ecological, climatic and landscape systems. They will understand the reciprocal character of human–environment relations, including feedbacks, cumulative impacts and long-term environmental legacies. They will also recognize the importance of spatial and temporal scales in the analysis of environmental change.</i> Practical Skills: <i>By the end of the course, participants will be able to integrate knowledge and scientific evidence from different fields of</i>	<u>PQF level 8 codes:</u> P8S_WG P8S_UW

	<i>Earth and environmental sciences in the analysis of complex human–environment interactions. They will be able to compare processes and case studies operating at different spatial and temporal scales and to synthesize interdisciplinary scientific information.</i>	
	Social Skills: <i>By the end of the course, participants will be able to critically evaluate scientific interpretations of human–environment interactions and recognize the importance of interdisciplinary knowledge in understanding and addressing complex environmental problems.</i>	P8S_KK
14.	Evaluation of the educational outcomes: Take-home interdisciplinary essay on a selected human–environment relationship, integrating concepts and examples discussed during the course. Recommended length: 1,000–1,500 words.	
15.	Criteria to complete the course: At least 80% attendance. The final grade is based on the evaluation of the essay. The essay should address a problem related to human–environment relations and integrate at least two topics or perspectives presented during the course.	
16.	Contact with the lecturer: Contact with the course coordinator – Dr. habil. Dariusz Brykała – by e-mail: darek@twarda.pan.pl. Individual lecturers can be contacted after their lectures.	