COURSE OF DOCTORAL STUDIES

Course title	Field of science (branch) code	University / Faculty	Institute / Department
Methodology of landscape geography	Natural Sciences (Physical Geography) N 006	Vilnius University / Faculty of Chemistry and Geosciences	Institute of Geosciences / Department of Geography and Land management

Study methods	Number of credits allocated	Study methods	Number of credits allocated
Individual work	7	Seminars	2
Consultations	1		

Course annotation

The subject of landscape geography methodology is designed to provide the doctoral student with the knowledge required to conduct geographic landscape research.

Theoretical part of the subject (7 credits), topics:

Landscape science system and its development. Landscape morphological research methods. Investigations of landscape morphological structure. Problems of mathematical morphology of landscape. Landscape classification problems. Landscape anthropogenization research. Landscape polarization studies. The problem of landscape zoning. Landscape change and monitoring problems. Theoretical basis and concepts of landscape ecology. Studies of landscape geosystem organization. Studies of landscape biosystem organization. Geochemical landscape research. Geophysical landscape research. Applied landscape research.

Subject seminar (2 credits):

The doctoral student prepares a seminar report (15 min.) on the landscape research direction related to the topic of the dissertation. The report is presented to the examination commission or the unit supervising the doctoral studies. Student who does not pass the seminar is not allowed to take the exam.

The seminar score is 20 percent of overall assessment, exam score - 80 percent of overall assessment. Work during consultations is not assessed.

Required readings

Kavaliauskas P. 2011. Kraštovaizdžio samprata ir planavimas. Vilniaus universitetas/ *elektroninė mokomoji knyga*

Jankauskaitė M. 2004. *Kraštovaizdžio ekologinių (geoekologinių) tyrimų metodologiniai pagrindai.* Vilnius.

Veteikis D. 2012. Kraštovaizdžio antropogeninės struktūros. Vilniaus universitetas/ *elektroninė mokomoji knyga*

Nacionalinis kraštovaizdžio tvarkymo planas. Sprendiniai ir rekomendacijos. 2015. LR Aplinkos ministerija. ISBN 978-9955-9796-4-7

Kilpys J., Jukna L., Stonevičius E., Šimanauskienė R., Bevainis L. 2021. Žemės stebėjimas iš kosmoso, Vadovėlis, Vilnius: Vilniaus universiteto leidykla
(http://www.hkk.gf.vu.lt/wordpress/wp-content/uploads/2021/02/Zemes_stebejimas_is_kosmoso_2021.pdf)

Recommended reading

Kavaliauskas P., Jankauskaitė M., Veteikis D., Šimanauskienė R. 2013. Lietuvos Respublikos kraštovaizdžio erdvinės struktūros įvairovės ir jos tipų identifikavimo studija. I ir II dalys. Vilnius: LR Aplinkos ministerija.

Victorov A. S. (2008). Methods of the mathematical morphology of landscape. *Methodology of landscape research.* 104-127. http://www.krajobraz.kulturowy.us.edu.pl/publikacje.artykuly/metodologia/viktorov.pdf [paskutinė prieiga 2018-10-04]

Volungevičius J., Kavoliutė F., Skorupskas R., Jukna L., Veteikis D. (2018). Ekogeografinių kraštovaizdžio tyrimų metodika. Vilniaus universitetas. 186 p. (Mokomoji knyga).

Forman R. T. T. (1997). *Land Mosaics: the ecology of landscapes and regions*. Cambridge University Press.

Leitao A. B., Miller J., Ahern J. (2006). *Measuring Landscapes: A Planner's Handbook*. Washington: Island Press.

Consulting lecturers name, surname	Degree	The most important works in the field of science (branch) have been published during the last 5 years
Darijus Veteikis	dr.	Jasinavičiūtė A., **Veteikis D.** 2020. A new methodology to assess landscape reserves in Lithuania. Baltica, 33 (2), 200– 216. Misiune I., Julian J. P., **Veteikis D.** 2020. Pull and push factors for use of urban

		green spaces and priorities for their ecosystem services: Case study of Vilnius, Lithuania. Urban Forestry & Urban Greening, 58, 126899. Šimanauskienė R, Linkevičienė R, Bartold M, Dąbrowska-Zielińska K, Slavinskienė G, **Veteikis D**, Taminskas J. 2019. Peatland degradation: The relationship between raised bog hydrology and normalized difference vegetation index. Ecohydrology, 12, e2159. **Veteikis D.**, Kavaliauskas P., Skorupskas R. 2016. Assessing the optimality of landscape structure in a landscape plan (a Lithuanian example). In: Halada, Ľ., Bača, A., Boltižiar, M. (eds.): Landscape and Landscape Ecology. Proceedings of the 17th International Symposium on Landscape Ecology, 348-358. Volungevicius J., Jukna L., **Veteikis D.**, Vaisvalavicius R., Amaleviciute K., Slepetiene A., Skorupskas R., Jankauskaite M. 2016. The problem of soil interpretation according to the WRB 2014 classification system in the context of anthropogenic transformations. Acta Agriculturae Scandinavica, Section B — Soil & Plant Science, 66(5), 452–460.
Margarita Jankauskaitė	dr.	Volungevicius J., Jukna L., Veteikis D., Vaisvalavicius R., Amaleviciute K., Slepetiene A., Skorupskas R., **Jankauskaite M.** 2016. The problem of soil interpretation according to the WRB 2014 classification system in the context of anthropogenic transformations. Acta Agriculturae Scandinavica, Section B — Soil & Plant Science, 66(5), 452–460. Taraškevičius R., Radžiūnienė J., Zinkutė R., Petrauskienė A., **Jankauskaitė M.** 2016. Conditions to obtain results analyzing a small amount of plant material by EDXRF. Chemija 27 (2), 114 -122. Zinkutė R., TaraškevičiusR., **Jankauskaitė M.**, Stankevičius Ž. 2017. Methodological alternatives for calculation of enrichment factors used for assessment of topsoil contamination. Soils and Sediments, 17(2), 440-452. Morkūnaitė R., Bautrėnas A., Česnulevičius A., Dobrotin N., Baubinienė A., **Jankauskaitė M.**, Kalesnikas A., Mačiulevičiūtė–Turlienė N. 2018. Changes in quantitative parameters of active wind dunes on the south–east Baltic Sea coast during the last decade (Curion Spit, Lithuania). Geological Quaterly, 62(1), 38-47. Zinkute R., Taraškevičius R., **Jankauskaitė M.**, Kazakauskas V., Stankevičius Ž. 2020. Influence of site- classification approach on geochemical background values. Open Chemistry, 18, 1391- 1411.
Rasa Šimanauskienė	dr.	Taminskas J., **Šimanauskienė R.**, Linkevičienė R., Volungevičius J., Slavinskienė G., Povilanskas R., Satkūnas J. 2020. Impact of Hydro-Climatic Changes on Coastal Dunes Landscape According to Normalized Difference Vegetation Index (The Case Study of Curonian Spit), Water,12, 3234; doi:10.3390/w12113234 **Šimanauskienė R**, Linkevičienė R, Bartold M, Dąbrowska-Zielińska K, Slavinskienė G, Veteikis D, Taminskas J. 2019. Peatland degradation: The relationship between raised bog hydrology and normalized difference vegetation index. Ecohydrology, 12, e2159. Slavinskienė G., Jurevičius A., Satkūnas J., **Šimanauskienė R.** 2019. Landfill leachate quantity and attenuation distance of inorganic contaminants in the groundwater of different hydrogeological systems: a case study of Lithuania, Baltica, Volume 32, Edvardsson J., Baužienė I., Lamentowicz M., **Šimanauskienė R.**, Tamkevičiūtė M., Taminskas J., Linkevičienė R., Skuratovič Ž., Corona C., Stoffel M. 2019. A multi-proxy reconstruction of moisture dynamics in a peatland ecosystem: A case study from Čepkeliai, Lithuania, Ecological Indicators 106, 105484, Urbis A., Povilanskas R., **Šimanauskienė R.**, Taminskas J. 2019. Key Aesthetic Appeal Concepts of Coastal Dunes and Forests on the Example of the Curonian Spit (Lithuania), Water, 11, 1193; doi:10.3390/w11061193 Taminskas J., Linkevičienė R., **Šimanauskienė R.**, Jukna L., Kibirkštis G., Tamkevičiūtė M. 2018. Climate change and water table fluctuation: Implications for raised bog surface variability, Geomorphology, 304, 40-49, DOI:10.1016/j.geomorph.2017.12.026
Approved by the Doctoral Committee for Physical Geography (N006) on 9th of March 2021, protocol no. (4.20 E) 610000-KT-24		
Committee Chairman assoc. prof. dr. D. Pupienis		