

COURSE OF DOCTORAL STUDIES

Course title	Field of science (branch) code	University / Faculty	Institute / Department
Geodynamic processes	Natural Sciences (Physical Geography) N 006	Vilnius University / Faculty of Chemistry and Geosciences	Institute of Geosciences / Department of Cartography and Geoinformatics
Study methods	Number of credits allocated	Study methods	Number of credits allocated
Lectures		Seminars	
Individual work	8	Consultations	2
Course annotation			
<p>The conception of geospheres. The interaction of geospheres and determined relationships. Research methods of geosphere interaction. The conception of technosphere. Interaction of geospheres and technosphere. Spatial distribution of the technosphere. Conflicting areas of geospheres and technosphere interaction.</p> <p>Methods of qualitative and quantitative analysis. Assessment of surface genesis. Morphographic surface assessment. Morphometric surface evaluation. Lithological assessment of deposits.</p> <p>Erosive processes. Process classification. Intensity of erosion processes in Lithuania. Anthropogenic factors of erosion. Erosion processes in urban areas.</p> <p>Aeolian processes. Deflation and accumulation. Deflationary processes in different relief genesis. Aeolian relief forms. Aeolian processes in Lithuania. Aeolian processes in agrolandscapes.</p> <p>Fluvial processes. Fluvial erosion and accumulation. River valleys, their classification. Distribution of fluvial relief in Lithuania. Development of Lithuanian valleys. Economic uptake of Lithuanian river valleys.</p> <p>Karst processes. Classification of soluble sediments. Distribution of karst relief in Lithuania. Influence of groundwater dynamics on karst intensity. Influence of engineering structures on karst intensity. Regulation of economic activities in karst regions.</p> <p>Suffosion processes. Process determinants. Distribution of suffosion relief in Lithuania. Influence of suffosion processes on engineering structures.</p> <p>Littoral and liminal processes. Shore - forming factors. Coastal classifications. Wave activity. Littoral relief forms. Distribution of littoral processes in Lithuania. Anthropogenic shore reshaping. Influence of technical devices on littoral processes.</p> <p>Organogenic processes. Determinants of organic processes. Sediment accumulation. Organogenic relief forms. Distribution of swamps in Lithuania. Swamps degradation.</p> <p>Anthropogenic changing processes of terrain. Mining. Surface levelling. Transformation of natural relief forms. Geodynamic processes in urban areas.</p>			
Required readings			
Česnulevičius A. 2010. Geomorfologija. Vilnius: Vilniaus pedagoginio universiteto leidykla. 356 p.			
Encyclopedia of Geomorphology (2004). Ed. A.S. Goudie. Vol. 1–2. London–New York: Routledge. 1156 p.			
Huggett R.J. 2011. Fundamentals of Geomorphology. New York: Taylor and Francis. 536 p.			
Lietuvos žemės gelmių raida ir išteklių. 2004. Vilnius: Petro ofsetas. 700 p.			
Motuza G. 2013. Kaip veikia Žemė: Geologijos pagrindai. Vilnius: Mokslo ir enciklopedijų leidybos centras.			
Stahler A., Strahler A. 2002. Physical geography. New York: John Wiley and Sons. 748 p.			
Consulting lecturers name, surname	Degree	The most important works in the field of science (branch) have been published during the last 5 years	
Algimantas Česnulevičius	dr. habil.	<p>Morkūnaitė R., Bautrėnas A., Česnulevičius A., 2017. The recent investigations and providences about active aeolian forms in Curonian Spit (Lithuania). Acta Geographica Silesiana. 11(1), 23- 29.</p> <p>Łabuz T.A., Grunewald R., Bobykina V., Chubarenko B., Česnulevičius A., Bautrėnas A., Morkūnaitė R., Tõnisson H., 2018. Coastal dunes of the Baltic Sea shores: a review. Quaestiones Geographicae, 37(1). 47–71.</p> <p>Morkūnaitė R., Bautrėnas A., Česnulevičius A., Dobrotin N., Baubiniėnė A., Jankauskaitė M., Kalesnikas A., Mačiulevičiūtė-Turlienė, N. 2018. Changes in quantitative parameters of active wind dunes on the south-east Baltic Sea coast</p>	

		<p>during the last decade (Curonian Spit, Lithuania). <i>Geological Quarterly</i>, 62(1), 38–47,</p> <p>Česnulevičius A., Bautrėnas A., Bevainis L., Ovodas D., Papšys K. 2018. Applicability of Unmanned Aerial Vehicles in Research on Aeolian Processes. <i>Pure and Applied Geophysics</i>, 175, 3179–3191.</p> <p>Česnulevičius A., Bautrėnas A., Bevainis L., Mačiulevičiūtė-Turlienė, N. 2019. Comparison of Accuracy of UAV Aerials and Ground Measurements in the Curonian Spit Dunes. <i>Baltic Journal of Modern Computing</i>, 7(4), 571-585</p> <p>Česnulevičius A., Bautrėnas A., Bevainis L., Ovodas D. 2019. A Comparison of the Influence of Vegetation Cover on the Precision of an UAV 3D Model and Ground Measurement Data for Archaeological Investigations: A Case Study of the Lepelionys Mound, Middle Lithuania. <i>Sensors</i>, 19(23), 5303.</p>
<p>Approved by the Doctoral Committee for Physical Geography (N006) on 9th of March 2021, protocol no. (4.20 E) 610000-KT-24</p>		
<p>Committee Chairman assoc. prof. dr. D. Pupienis</p>		