

COURSE OF DOCTORAL STUDIES

Course title	Field of science (branch) code	University / Faculty	Institute / Department
Sedimentology	Natural Sciences (Geology) N 005	Vilnius University / Faculty of Chemistry and Geosciences	Institute of Geosciences
Study methods	Number of credits allocated	Study methods	Number of credits allocated
Lectures		Seminars	
Individual work	11	Consultations	
Course annotation			
<p>The program is intended for doctoral students studying the processes of sediment formation, transport and deposition in continental and marine environments. The sediments eventually form sedimentary rocks that reflect Earth's history and the sequence of events. It provides an opportunity to interpret dynamically changing environments and sedimentation processes that took place in them. The study program offers the study of the methodological basics of sedimentology science. Also, it provides knowledge of the processes which formed the sediments in different sedimentary environments (seas, rivers, lakes, deltas, etc.), emphasizing the present-day ones in continents and oceans. The plan of the study program covers the topics listed below. The purpose and tasks of sedimentology. Basic concepts of sedimentology. Research methods and tools in sedimentology. Sedimentological data analysis, ways and methods of interpretation. Sources of sedimentary material, its characteristics, transport and deposition, differentiation and integration of sedimentary material. Sediment structure and texture. Sedimentation processes and climate. Facies, sedimentary environments, facies analysis, sedimentary models. Cyclicity of sedimentation processes. Sedimentary environments of glaciers, deserts, rivers, deltas, lakes, deltas, seashores, estuaries, and shallow and deep seas. Sedimentary basins, their relationship with tectonics, basin analysis.</p>			
Required readings			
Nichols G. 2009. Sedimentology and Stratigraphy (2nd edit.). Blackwell Science, Inc., 419.			
Boggs S. Jr. 2021. Principles of sedimentology and stratigraphy (5th edit.). Prentice Hall, Inc., 662.			
Prothero D.R., Schwab F. 2014. Sedimentary geology. An introduction to sedimentary rocks and stratigraphy (3rd edit.). W.H. Freeman, 593.			
Mial A.D. 2000. Principles of sedimentary basin analysis (3rd edit.). Springer, 616.			
Reineck H.E., Singh I.B. 1980. Depositional sedimentary environments. Springer-Verlag, 549.			
Consulting lecturers Name, surname	Degree	The most important works in the field of science (branch) have been published during the last 5 years	
Petras Šinkūnas	Dr.	Šeiriienė V., Šinkūnas P., Stančikaitė M., Kisieliene D., Gedminienė L. 2019. Late Middle Pleistocene interglacial sediments from Buivydžiai site, eastern Lithuania: A problem of chronostratigraphic correlation. <i>Quaternary International</i> . 534. 18-29. Kaminskas D., Rudnickaitė E., Vaikutienė G., Bitinas A., Grigienė A., Buynevich I., Damušytė A., Pupienis D., Šinkūnas P. 2019. Middle and Late Holocene	

		paleoenvironmental development of the Curonian Lagoon, Lithuania. <i>Quaternary International</i> . 501. 240-249. Andronikov A.V., Rudnickaitė E., Laretta D.S., Andronikova I.E., Kaminskas D., Šinkūnas P., Melešytė M. 2015. Geochemical evidence of the presence of volcanic and meteoritic materials in Late Pleistocene lake sediments of Lithuania. <i>Quaternary International</i> . 386. 18-29.
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Approved by the doctoral committee of Geology (N 005) on 1 st of December 2022 (No. (7.17 E) 15600-KT-467).	
Committee Chairman prof. dr. Sigitas Radzevičius	