

COURSE OF DOCTORAL STUDIES

Course title	Field of science (branch) code	University / Faculty	Institute / Department
Sedimentary petrology	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>Sedimentary petrology is one of the essential branches of geosciences. It forms the basis of knowledge about sedimentary rocks and their evolution through the appearance of sediments, deposition, diagenesis, rock formation and alteration. These are necessary to understand things like facies geometry and the development of rock properties like composition or porosity, which are essential in various geological studies. In this subject of the doctoral study program,</p> <p>each group of rocks is consistently examined, emphasizing their composition, structure, other petrographic properties, sedimentary structures, diagenesis of sediments and rocks, and sedimentation environments and facies. Doctoral students should also be familiar with the latest scientific information and an overview of the latest ideas in the field to critically analyze scientific geological details and theories, test hypotheses and conclude. Without being competent in basic concepts and general knowledge of sedimentary rock petrology, doctoral students must know the latest sedimentary rock petrology research methods, understand the classifications of sedimentary rocks, different rock groups and facies sedimentation environments and processes determining their formation, the mechanism of processes of post-sedimentary diagenesis, characteristics of the composition and texture of sedimentary rocks, features of sedimentary rock environments and facies, distribution in the lithosphere and development in the Earth's history, to be able to apply the knowledge of sedimentary petrology in conducting scientific research in field conditions, in the laboratory and interpreting the obtained results. Sedimentary petrology is one of the world's most rapidly developing fundamental disciplines, which is the base of many geological sciences.</p>			
Required readings			
Tucker, M.E. Sedimentary Petrology. Blackwell Publishers. 2009. 262.			
Prothero D.R., Schwab F. 2014. Sedimentary geology. An introduction to sedimentary rocks and stratigraphy (3rd edit.). W.H. Freeman, 593.			
Tucker, M.E. Sedimentary Rocks in the Field. Wiley & Sons. 2003. 244.			
Nichols G. 2009. Sedimentology and Stratigraphy (2nd edit.). Blackwell Science, Inc., 419.			
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.	<p>Šeiriene V., Šinkūnas P., Stančikaitė M., Kisielienė 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.</p> <p>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.</p> <p>Andronikov A.V., Rudnickaitė E., Lauretta 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.</p>

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