**COURSE OF DOCTORAL STUDIES**

| Course title | Field of science (branch) code | University / Faculty | Institute / Department |
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| **Neotectonics** | 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 | **9** | Consultations | |

Course annotation

Neotectonics is an important branch of geological sciences that deals with recent and contemporary tectonic processes. Research methodology and practical adaptation differ from traditional paleotectonic methods.

Modern tectonic processes can be directly recorded by modern technical tools, e.g. vertical and horizontal movements of the Earth's crust, tectonic stresses, earthquakes. In Lithuania, the neotectonics is represented in the geological section the Quaternary deposits, the conditions of which were formed (ice and their melting waters). It is very different from others in Earth histori, which requires a specific research methodology. Neotectonic processes are making influence in the human natural environment - the threat of earthquakes, coastal flooding or drainage, therefore they are given special attention.

During the doctoral studies, it is necessary to get a knowlagers of the research methods of neotectonics investigation methods (geological, morphometric, instrumental, etc.), neotectonics processes in the world and in the Baltic region, by practical request of neotectonics knowledge (e.g. location selection of objects of increased danger).

Required readings

Cox, R.T., Tuttle, M.P., Boyd, O.S., and Locat, J., eds.. 2013. Recent Advances in North American Paleoseismology and Neotectonics East of the Rockies: Geological Society of America Special Paper 493. Geological Society of America, 275 p.

Šliaupa A., 2001. Lietuvos ir gretimų teritorijų neotektonika. Geologijos institutas. 102 p. (rusų k.)

Zakarevičius A. 1994. Dabartinių vertikalių žemės plutos judesių Lietuvos teritorijoje tyrimas. 276 p.

Steffen, H., Olesen, O., & Sutinen, R. (Eds.). (2021). Glacially-Triggered Faulting. Cambridge University Press.

| Consulting lecturers Name, surname | Degree | The most important works in the field of science (branch) have been published during the last 5 years |
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| **Šliaupa Saulius** | habil. dr. | Šliaupa, S., Satkūnas, J., Motuza, G., Šliaupienė, R. (2017) Morphotectonic implication of the Paleoproterozoic Mid- Lithuanian Suture Zone. Geological Quarterly. 61 (3): 590-601.<br>Dundulis, G., Kačianauskas, R., Markauskas, D., Stupak, E., Stupak, S., Šliaupa, S. (2017) Reanalysis of the floor response spectra of the Ignalina Nuclear Power Plant Reactor Building. Nuclear Engineering and Design. 324: 260-268.<br>Šliaupa S., Šliaupienė R., Žaludienė G., Vaskaboinikava T., Bibikava A., Evstratenko L., Kovkhuto A. (2016) Prospects of Lithuanian Silurian shale gas, Baltic sedimentary basin. Oil Shale. 33 (4): 357-372.<br>Molenaar, N., Vaznytė, J., Šliaupa, S. (2019) Aridisols in the Southern Permian Basin of Lithuania: a key to understanding clay cement distribution. International Journal of Earth Sciences. 108 (7): 2391-2406.<br>Šliaupa, S., Lozovskis, S., Lazauskienė, J., Šliaupienė, R. 2020. Petrophysical and mechanical properties of the lower Silurian perspective oil/gas shales of Lithuania. Journal of Natural Gas Science and Engineering, 79: art. no. 103336. |

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| Approved by the doctoral committee of Geology (N 005) on 1st of December 2022 (No. (7.17 E) 15600-KT-467). |
| Committee Chairman prof. dr. Sigitas Radzevičius |