

## **Exploration Geology**

(Applied Geophysics, Drilling Exploration and Rotary Drilling, Methods of Hydrogeological and Engineering Survey)

1. Physical properties of rocks and logging
2. Gravimetric and geomagnetic methods
3. Geoelectrical methods
4. Seismic methods
5. Fundamentals of drilling, fields of drilling applications, classification of the drilling, coring
6. Basic parameters (characteristics) of drilling rigs
7. Mud systems
8. Drilling and casing strings, well design
9. Hydrogeological works (project preparation – assignment and project, execution of works, evaluation of works, hydrogeological maps, profiles, and other documentation).
10. Basic principles of hydrogeological exploration of groundwater (tasks and objectives of the survey, contents of individual stages of the survey, targeted survey, small – medium and large actions).
11. Methods and methodology of engineering geological investigation and work in the field of exploration to date, documentation and mapping methods, remote sensing methods, surface and subsurface geophysical methods, technical exploration works.
12. Methods and methodology of engineering geological investigation and work in the field of special measurements in boreholes including logging, field geomechanical tests, improvement of the properties of the geological environment and geotechnical monitoring.