

Department of GEOTECHNICAL ENGINEERING

School of Civil Engineering - NTUA

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THE GEOTECHNICAL GROUP

The goal of the Geotechnical Department is to advance education in the topics of Soil Mechanics, Rock Mechanics, Foundation Engineering, Engineering Geology and Geoenvironmental Engineering. Main subject areas covered by the Geotechnical Department include:

1. Subsurface investigations, laboratory studies of the mechanical behavior of soils and rocks under static and dynamic loading, in situ measurements of soil and rock parameters.
2. Ground water flow.
3. Modelling of the mechanical behavior of soils and rocks.
4. Engineering behavior of rock formations and geological strata.
5. Slope stability analysis. Stability and deformation analysis of retaining structures.
6. Design, analysis and construction of foundations of buildings, dams, roads, etc.
7. Dynamic behavior of soils, foundations and other geotechnical structures.
8. Soil-structure interaction under static and seismic loading conditions.
9. Seismic behavior of underground structures, quay walls, bridge piers.
10. Analytical and numerical methods for the solution of problems in soil mechanics, foundation engineering and soil dynamics.
11. Analysis of geotechnical failures, with emphasis on earthquake-induced failures.
12. Protection and restoration of the geoenvironment.
13. Engineering geology and hydrogeology in karst environments.
14. Geotechnical description and behavior of unstable masses as applied to tunneling and dam construction.

Due to the multidisciplinary nature of the subject matter, education and research in the Geotechnical Department is closely related to the other Departments in the Civil Engineering School.

The Department includes 10 faculty members, 8 instructors and 5 staff members providing administrative and laboratory support. The Department houses two Laboratories, the [Soil Mechanics Laboratory](#) and the [Foundation Engineering Laboratory](#). The Department is administered through the General Assembly of its faculty members and the [Department Head](#) who is elected yearly.

In brief, the activities of the department can be described as educational (instruction, supervising of diploma theses, Master's theses and doctoral

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dissertations), research-related (management of funded research projects) and scientific-professional (organizing seminars and conferences, collaborating with universities and research institutes from abroad) with the purpose of further advancing instruction and research in the broader area of Geotechnical Engineering.

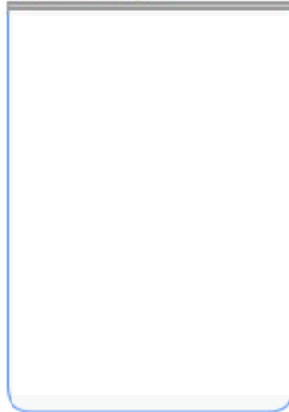
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POSTGRADUATE STUDIES

The Geotechnical Department offers thirteen courses in three Interdisciplinary Programs of Postgraduate Studies:

- [Design and Construction of Underground Structures](#)
- [Structural Design and Analysis of Structures](#)
- [Water Resources Science and Technology](#)

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Students from these postgraduate programs undertake their Master's Thesis at the Geotechnical Department and [PhD candidates](#) pursue doctoral work within the [research areas](#) of the Department.