

# Information Sheet Bachelor & Master Project

Bachelor and Master projects are essential components of your studies, allowing you to work independently on a topic of your choice. Both **Bachelor and Master Projects** carry a weight of **5 ECTS** in the curriculum, equivalent to approximately **125 working hours** (about 3 weeks of work). The **maximum duration** of a project should be limited to **3 months**.

At the Institute for Soil Mechanics, Foundation Engineering, and Computational Geotechnics, projects are offered on the following topics:

### Sustainability & Natural Hazards

Exploring sustainability issues in geotechnical engineering (Green Engineering) and addressing natural hazards and the impacts of climate change.

### Geotechnical Verification Methods

Application of verification methods for the design and safety assessment of geotechnical structures using practical software solutions and relevant standards.

# Laboratory and Field Experiments

Execution and evaluation of geotechnical laboratory and field experiments for determining soil parameters, characteristics, or testing new systems.

# Numerical Modelling

Creation, evaluation, and assessment of numerical models; various applications of the Python programming language for analysing geotechnical boundary value problems.

The **results** achieved during the project can be either **application-oriented** or **fundamental**, with various modes to choose from:

### Practical Work in the Laboratory or Field

Content: Experiment planning or preparation of fundamentals Submission: Technical report + photo documentation

# Analytical Verifications or Numerical Modelling

Content: Literature review, methodology description, calculations, analyses Submission: Technical report

#### Literature Review:

Content: Literature review, creation of a Citavi database Submission: Literature review as a report and Citavi database

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### What do we offer:

- Interesting and relevant topics
- Thorough and individual supervision
- Space for your own ideas and creativity
- Practical problem-solving through projects with research partners
- Workspace and necessary software solutions (if needed)

# Requirements:

- Enthusiasm for geotechnics and civil engineering
- Participation/completion of the course "Geotechnik GL1" (LV 217.353) for Bachelor Projects
- Participation/completion of the course "Soil Mechanics and Foundation Engineering" (LV 217.452) for Master Projects
- Ability to work independently.
- Don't hesitate to contact us!!

### How do you get your Bachelor/Master Project?

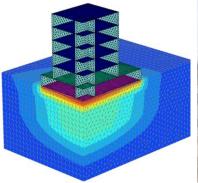
 Simply send an email to <u>rebhan@tugraz.at</u> with your desired topic area and an approximate start date. We will then clarify everything further in a short discussion.

### Would you like more information about the topics and the offered projects?

- Simply attend the information session held as part of the courses "Geotechnik GL1" or "Soil Mechanics and Foundation Engineering",
- or contact <u>rebhan@tugraz.at</u> for information regarding a Bachelor/Master Project.

# We look forward to shaping the future of geotechnics TOGETHER with YOU!!







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