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

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 rebhan@tugraz.at 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 rebhan@tugraz.at for information regarding a Bachelor/Master Project.

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