Montanuniversität
Leoben

MASTER OF SCIENCE IN

Geotechnics and Tunnelling

AS A SPECIAL STUDY TRACK INSIDE THE MSC PROGRAMME MINING&TUNNELLING

Do you want to pioneer global tunnelling?

Austrian tunnelling expertise and especially the New Austrian Tunnelling Method ("NATM") are globally renowned and applied. That's why the master's programme Geotechnics and Tunnelling teaches the technical & scientific skills to lead global tunnelling.

The programme covers geotechnical exploration, calculation methods, planning & selection of optimal construction methods, geophysical & rock mechanical methods and digitisation in tunnel construction. It also includes construction contracts & management, measurement methods and tunnel safety. Practical work in the geotechnical & 1:1 research lab "Zentrum am Berg (ZaB)" completes the in-depth training.

Graduates are well prepared to work for design consultants and construction companies, owners and operators of infrastructures, the supplier industry as well as for governmental offices in a wide variety of functions.

Move mountains

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MASTER'S PROGRAMME

Geotechnics and Tunnelling

PROGRAMMEME STRUCTURE | 120 ECTS

1st Semester (29 ECTS)	
Soil Mechanics	6 ECTS
Rock Mechanics and Rock Engineering	6 ECTS
Computer-Aided Calculations for Solving Practical Case Studies	3 ECTS
Advanced Hydrogeology and Deep Geothermal Systems	2 ECTS
Construction Contracts	3 ECTS
CAD-Design in Tunnelling	3 ECTS
Conventional and Mechanised Tunnelling Methods	3 ECTS
Planning and Construction of Underground Structures	3 ECTS
2nd Semester (24 ECTS)	
Geotechnical Laboratory and Site Investigations	8 ECTS
Calculation Exercises on the Finite Element Method	2 ECTS
Selected Aspects of Engineering Surveying	6 ECTS
Design of Underground Structures	4,5 ECTS
Introduction to Building Information Modelling (BIM) in Tunnelling	2 ECTS
Tunnel Maintenance	1,5 ECTS
3rd Semester (37 ECTS)	
Geotechnical Measurement Methods and Equipment	1,5 ECTS
Numerical Methods in Geotechnics	6 ECTS
Special Methods of Rock and Foundation Engineering	1,5 ECTS
Construction Operations in Tunnelling	2 ECTS
Cost Calculation and Construction Management	1,5 ECTS
Tunnel Safety	1,5 ECTS
Sustainability in Subsurface Engineering	4 ECTS
Work Practise	5 ECTS
Elective courses	14 ECTS
4th Semester (30 ECTS)	
Master Thesis	30 ECTS

For programme details and registration **follow the link.**

04/2025