

## Application and Admission



Applicants who fulfil one of the following requirements qualify for the programme:

- a master's degree from a technical university in a related field
- a bachelor's degree from a technical university in a related field and a minimum of 3 years of professional experience
- a degree from a technical college in a related field
- good command of English language

Applicants have to send in the completed registration form, a CV and copies of degrees.

Application deadline:  
please see [www.natm.at](http://www.natm.at)

Admission is based on the review of the applications and if required on interviews with the candidates or on a test.

**Number of participants**  
A maximum of 30 students per programme.

**Teaching Language**  
All courses are taught in English.

**Degree**  
Participants are awarded the degree "Master of Engineering".

# Facts

**Attendance Fee**  
18,900 EUR (no VAT)

**Application forms and detailed information**  
[www.natm.at](http://www.natm.at)

**Organisation & Accommodation**  
Graz has an international airport and a train station. Leoben can be easily reached by train from Graz in one hour.

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> NATM Master of Engineering

## NATM Master of Engineering

Construction, Rehabilitation and Operation of NATM- & TBM-Tunnels

Next start  
11 September 2023



## Aim of the Programme

The university programme was created to satisfy the continuously increasing world-wide demand for qualified tunnel engineers and aims at increasing the skills of the participants in the fields of geotechnical engineering and tunnelling, with an emphasis on NATM and TBM tunnelling.

The degree holders shall be enabled to accomplish tunnelling projects on their own in the face of geotechnical, structural, organisational, contractual and economic needs according to the latest state of the art.

## Participants

The programme addresses civil engineers, geotechnical engineers and engineering geologists who do have a distinctive technical education and aim at a specialisation in tunnelling.

Future fields of work may be planning, design and consulting of underground projects for engineering offices, or construction management for contractors and owners.

## Lecturers

The majority of the lectures will be held by the professors Galler, Marcher, Schubert, Kieffer und Tschuchnigg. In addition, lecturers from industry will contribute to special issues.



### Module 1 / Geology, Geotechnics & Tunnelling Methods

Lab Tests  
Geological Model  
Geotechnical Characterisation  
Geotechnical Models  
Investigation  
Tunnel Construction Methods  
Field Trip

### Module 2 / Tunnel Design & Support Methods

TBM incl. Support - part 1  
Road Header  
NATM (New Austrian Tunnelling Method)  
Tunnel Design & Layout, Analytics  
Numerical Methods in Tunnelling  
Field Trip

### Module 3 / Contract & Site Management

NATM Contract  
Geotechnical Monitoring  
Interpretation  
Blasting  
Site Management  
Field Trip

### Module 4 / Special Methods in Tunnelling & HSR

NATM & TBM – Design Guide Lines  
Grouting  
TBM - part 2  
Health & Safety  
Risk Assessment  
Field trip

### Module 5 / Equipment & Maintenance

Equipment (motorway tunnels, railway tunnels, metros, power houses)  
LCA (Life Cycle Assessment)  
Maintenance & Repair  
Tunnel Ventilation  
Water Mist Systems  
Field Trip

### Module 6 / Master Thesis

Preparation of a thesis for the master's programme is mandatory. A final exam concludes the programme.