

## Tárgytematika / Course Description

### Tunnels

NGM\_SE108\_1

Tárgyfelelős neve /

Teacher's name: Wolf Ákos

Félév / Semester: 2015/16/2

Beszámolási forma /

Assesment: Vizsga

Tárgy heti óraszám /

Teaching hours(week): 2/1/0

Tárgy féléves óraszám /

Teaching hours(sem.): 0/0/0

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### OKTATÁS CÉLJA / AIM OF THE COURSE

Based on previous geotechnical knowlegde, this course is introducing the different tunnel construction methods, the principles of tunnel design and the failures, maintenance and renovation of underground structures. The topic focuses on the design process of underground structures. The students will be able to determine the main input data for tunnel design, will know the tunnel excavation method, and can choose an adequate tunneling method to solve a specific problem. We are also introducing the principles of waterproofing and tunnel maintenance. After a successful exam the students will be able to actively participate in tunnel design and excavation processes and after some year of experience they will be able to manage tunnel design and tunnel excavation

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### TANTÁRGY TARTALMA / DESCRIPTION

Geotechnical design of tunnels  
Tunnel construction  
Enviromental issues  
Risk analysis, risk management  
Ground improvement methods  
Tunnel excavation methods  
Temporary lining  
Groundwater, waterproffing  
Survey, monitoring  
Inner lining, mainenance  
Caverns  
Ventilation, fire hazard

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### SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESMENT'S METHOD

Homework: Design of an infrastructure tunnel based on the topics of recitation

Exam: writing exam with two question

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### KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL