Insegnamento: TUNNELS AND UNDERGROUND STRUCTURES

Course objectives:
Due to the increase of social demand for sustainable mobility in large urban areas, underground works involving tunnelling in densely urbanised areas increased in recent years. The aim of the course is to illustrate to the students the main geotechnical issues related to tunnelling and underground construction, particularly in urban areas. The fundamentals of tunnel design and the most common methodologies for tunnel construction are presented with the aid of documented case histories. Besides attending the theoretical lessons, students are involved in applied activities consisting in exercises reflecting the state-of-practice of geotechnical design of tunnels.

Course contents:
Geotechnical Investigation for Tunnel Construction. Investigations at typical stages of a tunnel project. Rock rating and classification. Special tests for TBM excavation.


Lecturer: EMILIO BILOTTA

Exam Code: 32235

Requirements / Prerequisites: None

Teaching Method: Lectures, Classworks, Tutorials, Seminars on Case studies, Site visits.

Learning material:
- Lecture notes and slides
- D.Kolymbas, Tunnelling and Tunnel Mechanics, Springer
- D. Chapman et al., Introduction to Tunnel Construction, Spon Press

Final exam: Oral exam on course contents and discussion on classworks.