



COURSE OUTLINE

Course Code	AUTH2
Course Title	Impact of Metro construction on the long-term sustainability of a Metropolitan city: The case of Thessaloniki
Course Address	Faculty of Engineering Aristotle University of Thessaloniki
City	Thessaloniki, Greece
Minimum year of study (<i>absolute superior education level</i>)	3 th , 4 th and 5 th year (5 th year = 3 ^{ème} année Grande Ecole). Msc and Phd students are also accepted.
Minimum level of English:	Good
Key words	Metro systems, sustainability, construction, building environment, urban planning
Language (<i>in which the Course will be taught</i>)	English
Responsible Professor	Professor Dimitris Pitilakis (dpitilakis@civil.auth.gr , +302310994357) Prof. Ioannis Politis (pol@civil.auth.gr , +30 2310 995826)
Participating Professors & Tutors	K. Katakalos, G. Leoutsakos (Attiko Metro), K. Petroutsatou, D. Pitilakis, I. Politis, C. Pyrgidis, P. Savvaidis, G. Tsegas, A. Yannakou
Number of places:	45
Minimum	10
Maximum	45
Reserved for Home students	10
Objectives	To provide the theoretical and practical background for undergraduate students to gain an improved understanding of the financial, managerial, and technical difficulties related to the construction of a new Metro system and its overall consequences to a city's sustainability.
Program to be followed	4 morning lecture sessions of 4 hours each, 4 afternoon lectures of 2 hours each, and 6 hours of site visits.
Prerequisites	Basic knowledge of Civil Engineering and/or Urban Planning
Course exam	A written examination to be answered in-class and after the end of the course



Impact of Metro construction on the long-term sustainability of a Metropolitan city: The case of Thessaloniki

Thessaloniki, March 16-23, 2024

Saturday 16/03 Arrival

Sunday 17/03 Registration and European dimension activities

- 10:00 – 11:00 Welcome meeting and registration
11:00 – 15:00 Visits to Thessaloniki Museums and City Tour

Monday 18/03 European dimension activities

- 07:30 – 16:30 Excursion to the Vergina archaeological sites

Tuesday 19/03 Overview of the metro project and site visit

- 09:00 – 09:30 *Welcome Addresses*
Grigorios Papagiannis, Dean of the Polytechnic School of the AUTH
Nikolaos Kouretas, CEO, ELLINIKO METRO S.A.
- 09:30 – 12:30 *Thessaloniki Metro Project: Civil works construction-Systems installation-Testing and commissioning-Organization and operation-Project benefits*
George Leoutsakos, Dr. Mechanical Engineer, ELLINIKO METRO S.A.
- 13:00 – 14:00 Lunch break
- 14:00 – 16:00 Visit to a Metro construction site (Agias Sophias Station)

Wednesday 20/03 Site visit and land use planning

- 09:00 – 13:00 Visit to a Metro construction site (Depot)
- 13:00 – 14:00 Lunch break
- 14:00 – 16:00 *Urban planning aspects of Thessaloniki Metro construction*
Athina Yiannakou, Emeritus Professor, Dept. of Spatial Planning and Development, AUTH
- 20:00 – 24:00 Dinner at a local restaurant (optional)

Thursday 21/03 Geotechnical and soil aspects, protecting monuments and monitoring

- 09:00 – 11:00 *Simplified Methods for Ground Settlements Due to Tunneling in Urban Environment*
Dimitris Pitilakis, Professor, Dept. of Civil Engineering, AUTH
- 11:00 – 13:00 *Metro Thessaloniki - Reason for featuring the ancient city*
Methods for protecting and restoring the monuments at Venizelos Station
Konstantinos Katakalos, Associate Professor, Dept. of Civil Engineering, AUTH
- 13:00 – 14:00 Lunch break



14:00 – 16:00 *Deformation Monitoring of Underground Technical Works*
Paraskevas Savvaïdis, Emeritus Professor, Dept. of Civil Engineering, AUTH

Friday 22/03 Transportation and environmental aspects

09:00 – 11:00 *Thessaloniki Metro: Contribution to the sustainability of the city agglomeration*
Ioannis Politis, Associate Professor, Dept. of Civil Engineering, AUTH

11:00 – 13:00 *Urban railway systems – Basic characteristics of Metro systems*
Christos Pyrgidis, Professor, Dept. of Civil Engineering, AUTH

13:00 – 14:00 Lunch break

14:00 – 16:00 *Environmental implications of the Metro construction*
Georgios Tsegas, Research Associate, Dept. of Mechanical Engineering, AUTH

Saturday 23/03 Worksite management - impact of construction techniques

09:00 – 10:00 *Verification of technical and operational applicability of metro systems*
Christos Pyrgidis, Professor, Dept. of Civil Engineering, AUTH

10:00 – 12:00 *Construction, operation and maintenance management of underground projects*
Kleopatra Petroutsatou, Associate Professor, Dept. of Civil Engineering, AUTH

12:00 – 13:00 Exams

13:00 – 13:30 Discussion- Feedback – Deliverance of attendance certificates

13:30 Lunch

Technical Visits

