

ERM151 Infrastructure Planning and Development

- Semester: First
- Type: Compulsory
- Instructor: Nikolaos Gavanas

ECTS Credits: 6

The aim of this course is to provide comprehensive and updated knowledge of different types of infrastructure networks and a deep understanding of the main approaches and trends in infrastructure design, development, and policy.

Assessment

Students are assessed using the following methods:

- (a) a written final exam in English (maximum score: 10)
- (b) presentation of an individual project at the end of the semester and an oral examination of the students (maximum score: 10).

Participation in the exams is mandatory, and the final grade is calculated using the following formula: final exam grade * 50% + project grade * 50%.

Explicitly defined assessment criteria are accessible to students in the regulations of the Joint Postgraduate Program (Article 15).

Indicative Bibliography

- Asher, W., & Krupp, C. (2010). *Physical Infrastructure Development: Balancing the Growth, Equity, and Environmental Imperatives*. New York: Palgrave Macmillan.
- Brown, H. (2014). *Next Generation Infrastructure: Principles for Post-Industrial Public Works*. Washington: Island Press.
- Bruneau M., Reinhorn A. (2006). Overview of the Resilience Concept, Proceedings of the 8th U.S. National Conference on Earthquake Engineering, April 18-22, 2006, San Francisco, California, USA.
- Dimitriou, H., Ward, J., & Wright, P. (2013). Mega Transport Projects - Beyond the Iron Triangle: Findings from the OMEGA research programme. *Progress in Planning*, 86, 1-43.
- European Commission, COM(2021) 118 final, 2030 Digital Compass: the European way for the Digital Decade.
- European Commission, COM(2019) 236 final, Review of progress on implementation of the EU green infrastructure strategy.
- European Union, Directive (EU) 2022/2557 of the European Parliament and of the Council of 14 December 2022 on the resilience of critical entities and repealing Council Directive 2008/114/EC.

- European Union, Regulation (EU) 2022/869 of the European Parliament and of the Council of 30 May 2022 on guidelines for trans-European energy infrastructure, amending Regulations (EC) No 715/2009, (EU) 2019/942 and (EU) 2019/943 and Directives 2009/73/EC and (EU) 2019/944, and repealing Regulation (EU) No 347/2013.
- European Union, Regulation (EU) no 1315/2013 of the European Parliament and of the Council of 11 December 2013 on Union guidelines for the development of the trans-European transport network and repealing Decision No 661/2010/EU.
- Flyvbjerg B. (2014). What You Should Know About Megaprojects, and Why: An Overview, *Project Management Journal*, vol. 45, no. 2, April-May, pp. 6-19.
- Gomez-Ibanez, J. (2003). *Regulating Infrastructure: Monopoly, Contracts, and Discretion*. Cambridge, Massachusetts: Harvard University Press.
- Kramberger, T., Potocan, V., Ipavec, V. M. (eds.) (2016). *Sustainable Logistics and Strategic Transportation Planning*. Hershey: IGI Global.
- Marshall, T. (2014). The European Union and Major Infrastructure Policies: The Reforms of the Trans-European Networks Programmes and the Implications for Spatial Planning. *European Planning Studies*, 22:7, 1484-1506.
- Mell, I. (2016). *Global Green Infrastructure: Lessons for successful policymaking, investment and management*. New York: Routledge.
- Nijkamp P. (1986). Infrastructure and regional development: A multidimensional policy analysis. *Empec*, Vol.11, pp. 1-21.
- OECD. (2006). *Infrastructure to 2030. Telecom, Land Transport, Water and Electricity*. Paris: OECD Publishing.
- Priemus, H., Flyvbjerg, B., & van Wee, B. (2008). *Decision-Making on MegaProjects: Cost- Benefit Analysis, Planning and Innovation*. Cheltenham, UK: Edward Elgar.

Related academic journals:

- *European Planning Studies*
- *Impact Assessment and Project Appraisal*
- *Journal of Infrastructure Development*
- *Journal of Infrastructure Intelligence and Resilience*