

**Course name: Road networks I.**

Course code: YCRKÖÉ1BNF

1 hr lecture /2 hr practice /0 laboratory / E: exam / 6 credits

Department of Infrastructure Development

In charge: Gergely Szűcs

For students of BSc in Civil Engineering

Pre-requirements for Erasmus students: 1 semester Surveying and Earthworks

**OBJECTIVE OF THE COURSE:**

Objective of the course is to introduce the students to the basic notions, elements and the operational principles of road infrastructure. During the seminar students will hear about main types, elements, design principles and priorities of transportation infrastructure. They will learn main terms of transportation dynamics, technology of junctions and carriageways. During seminars students must prepare a study plan for a rural road, completed with site plan, longitudinal and cross-sections and technical descriptions.

**14 WEEKS SCHEDULE:**

1. week: Transportation networks, priorities. Road network in Hungary. + Process of transportation projects. Types and elements of road planning.
2. week: Characteristics of road network, types of roads. Motorways. + Basic terms of transportation dynamics.
3. week: Parameters of carriageways, junctions. Split level junctions. + Introduction to the assignment.
4. week: Level junctions, geometry. + Consultation with assignment.
5. week: Roundabouts. + Consultation.
6. week: Traffic assignments, examinations basic terms. + Consultation.
7. week: Modelling of road networks, traffic estimations. + TEST 1.
8. week: Elements of road cross-sections. + Consultation.
9. week: Earthworks of transportation structures. + Consultation.
10. week: Pavement types, bases for roads, construction technologies. + Consultation.
11. week: Asphalt pavements, construction technologies. REMIX-technology. + Consultation.
12. 12. week: Concrete pavements. Cobble stones. + Consultation.
13. 13. week: Transitional curves. + Consultation.
14. week: TEST 2.

**Assesment:**

During semester two tests are to be completed and an assignment (study plan of a rural road) has to be prepared. An exam follows the semester. At least 60 % of marks should be achieved in both tests and the assignment as well to be able to take the exam.

