# Tárgytematika / Course Description

## Road design and traffic engineering

**EKNM_KETA042**

**Tárgyfelelős neve / Teacher's name:** dr. Miletics Dániel

**Félév / Semester:** 2021/22/2

**Beszámolási forma / Assesment:** Vizsga

**Tárgy heti óraszáma / Teaching hours(week):** 2/1/0

**Tárgy féléves óraszáma / Teaching hours(sem.):** 0/0/0

### OKTATÁS CÉLJA / AIM OF THE COURSE

The goal of the course is to become familiar with selected topics of road design and traffic engineering. The selection of the topics discussed in the framework of the course is based on the the BSc curricula and on the current problems of road design. The main focus of the classes is on designing safe roads, analysis of road infrastructure projects, description of traffic flows and the capacity calculations.

### TANTÁRGY TARTALMA / DESCRIPTION

| Date | Lectures | Tutorials |
|---|---|---|
| 4th Feb. | Course requirements, Geometric design (Koren, C.) | Assign0: Vocabulary |
| 11th Feb | Functional classification of roads, Self-explaining roads (Kosztolányi-Iván, G.) | Assign1: Road design deficiencies (13p) |
| 18th Feb. | Road categorisation (Kosztolányi-Iván, G.) | Assign1: Road design deficiencies (13p) |
| 25th Feb. | Typical road design deficiencies, Road Safety Audits (Koren, C.) | Assign1: Road design deficiencies (13p) |
| 4th Mar. | Cost Benefit Analysis (Koren, C.) | Assign2: Cost Benefit Analysis (10p) |
| 11th Mar. | Multi-criteria Analysis (Koren, C.) | Assign2: Cost Benefit Analysis (10p) |
| 18th Mar. | Description of traffic flow (Miletics, D.) | Assign2: Cost Benefit Analysis (10p) |
| 25th Mar. | Traffic flow of intersections (Miletics, D.) | Assign3: Signal coordination (12p) |
| 1st Apr. | Traffic actuated control, Signal coordination (Miletics, D.) | Assign3: Signal coordination (12p) |
| 8th Apr | Remote surveillance of signals, site visit (Miletics, D.) | Assign3: Signal coordination (12p) |
| 15th Apr. | Automated vehicles (Farah, H. - TU-Delft) | Automated vehicles |
| 22nd Apr. | Easter holiday | |
| 29th Apr. | Turbo Roundabouts (Miletics, D.) | Assign3: Signal coordination (12p) |

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

Attendance at the **lectures** is evaluated at maximum **10 points** (10*1 test question on the topic of the lecture).

**Assignments** (3) are evaluated at maximum **40 points**. Details are given in the terms of refence for each assignment. The evaluation of the assignments is based on the submitted written material and on the oral presentation. A minimum of 21 points have to be reached from the assignments.

At least 26 point form the 50 have to be reached during the term-time.

**Test exam** is evaluated at maximum **50 points**. A minimum of 26 points have to be reached. Final mark: up to 50 points: 1, 51-64 points: 2, 65-74 points: 3, 75-84 points: 4, from 85 points 5.

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## KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

Compulsory reading: pdf files of the presentaions and further reading on the Moodle site
Recommended reading: Fred L. Mannering, Scott S. Washburn: Principles of highway engineering and traffic analysis