Tárgytematika / Course Description

Earthwork

EKNM_SETA017

Tárgyfelelős neve / Teacher's name: Koch Edina
Félév / Semester: 2020/21/1
Beszámolási forma / Assesment: Vizsga
Tárgy heti óraszáma / Teaching hours(week): 3/0/0
Tárgy féléves óraszáma / Teaching hours(sem.): 0/0/0

OKTATÁS CÉLJA / AIM OF THE COURSE

Based on the knowledge of the BSc's geotechnical courses the subject deals with the design, construction, maintenance and reconstruction of the earthworks. We pursue that the graduate students will be able to solve these kind of problems individualy after a few years of practice.

TANTÁRGY TARTALMA / DESCRIPTION

Overview of type of earth structures and its functions. Basics of embankment foundation design and construction. Method of choosing earthworks materials. Quality assurance of earthworks. Basic requirements of the embankment materials. Design considerations of cuttings. Maintenance of the earthworks. Typical failures of earthworks and the investigation of the causes. Design of reconstructions. Standards for road- and railway earthworks. Special issues related to flood levies and its directives. Other earthworks.

SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESMENT'S METHOD

Class activity
During classes students have to solve and discuss practical problems related to the subject.

Homework assignments

HW1 Evaluation of English technical paper, presentation

HW2 Design problem I. (design of earthwork material)

Two-part exam (ITV)
Part I consists a 60 minute test of 50 questions
Part II: Solve and discuss a practical earthworks construction/design problem. (e.g. design embankment foundation for a given site)

Class activity – 20 points, HW1 – 10 points, HW2 – 10 points, ITV – 60 points

Course Grade Evaluation

0 - 49 point (1) fail,
50 - 61 point (2) sufficient,
62 - 73 pont (3) satisfactory,
74 - 85 pont (4) good,
86 - 100 pont (5) excellent.

KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

Required

Robert D. Holtz: Guide to Earthwork construction, Transportation Research Board, Washington, D. C. 1990.
U.Smoltzczyk szerk.: Geotechnical Engineering Handbook Volume 1-3, Ernst and Sohn, 2003 (related chapters)
International Levee Handbook, CIRIA, 2013. (related chapters)
Moseley, M. P., Kirsch, K. ed. Ground Improvement. Taylor and Francis, London, 2004. (related chapters)
Selected papers

Recommended

I Vanicek, M. Vanicek: Earth strucutres in Transport, Water and Environmental Engineering, Springer, 2008.

Robin Fell, Patrick MacGregor, David Stapledon, Graeme Bell: Geotechnical Engineering of Dams, Taylor & Francis, 2005

N. A. Trenter: Earthworks: Guide, Thomas Telford, 2001.