

Tárgytematika / Course Description

Earthwork

EKNM_SETA017

Tárgyfelelős neve /

Teacher's name: Koch Edina

Félév / Semester: 2017/18/1

Beszámolási forma /

Assesment: Vizsga

Tárgy heti óraszám /

Teaching hours(week): 3/0/0

Tárgy féléves óraszám /

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 individually 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

Homework assignments

HF1 Evaluation of english technical paper

HF2 Fill materials design

HF3 Embankment foundation design

Midterm exam

There will be 1 midterm exam. Students can use an A4 hand-written note.

ZH1 Solving soil mechanics problems

Evaluation system

Class activity- 10 points, HW1-10 points, HW2-15 points, HW3-15 points

ITV Final written exam- 50 points

Two-part exam

Part I consists a 45 minute test of 30 questions

Part II: Solve and discuss a practical earthworks construction/design problem. (e.g. design embankment foundation for a given site)

Course Grade Evaluation

0 - 49 point (1) fail, 50 - 61 point (2) pass, 62 - 73 pont (3) average,

74 - 85 pont (4) good, 86 - 100 pont (5) excellent

KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

I Vanicek, M. Vanicek: Earth structures 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.

U.Smolzczyk szerk.: Geotechnical Engineering Handbook Volume 1-3, Ernst and Sohn, 2003