

Tárgytematika / Course Description

Case studies in Geotechnics

EKNM_SETA020

Tárgyfelelős neve /

Teacher's name: dr. Ray Richard Paul

Félév / Semester: 2019/20/2

Beszámolási forma /

Assesment: Folyamatos számonkérés

Tárgy heti óraszám /

Teaching hours(week): 2/1/0

Tárgy féléves óraszám /

Teaching hours(sem.): 0/0/0

OKTATÁS CÉLJA / AIM OF THE COURSE

Aim of the course is to expand the student's previous knowledge about geotechnics and to provide students with a comprehensive engineering approach through case studies. This will be done by presenting the geotechnical design process as well as the construction of various infrastructure works (bridge, underpass, retaining structure, excavations), with an emphasis on damages or failures connected to geotechnical activity or the soil surrounding. By presenting economical aspects as well as the importance of risk management, the student's complex engineering approach will develop.

TANTÁRGY TARTALMA / DESCRIPTION

Case Studies in Geotechnical Engineering Fall 2019

(Richard P. Ray +36-30-298-6010 ray@sze.hu)

Class	Topics	Lecturer	Reading
1.	Introduction to course, Motivation Pisa	RPR	1. Delatte & Rens
2.	New Orleans Levee and Hurricane Katrina	RPR	2. Seed et al 3. Guidelines for Case Study
3.	How to Give Scientific Presentations	RPR	4. Craft of TC 40 Forensic Sci Pres.
4.	Choose Case Study		

5.	Scientific Presentations RPR And Posters		5. Poster Templates
6.	Site Investigation RPR Soil Variability		6. Statistics
7.	No Lecture Holiday (Oct 23)		
8.	Expansive Clays RPR		7. Soil Heave
9.	Non-Destructive RPR Evaluation		8. NDE Methods
10.	Holiday (Nov. 7)		
11.	Second Case Study RPR		Selected Cases
12.	Construction Monitoring RPR		Instrumentation Literature
13.	Geoenvironmental RPR		Environmental Monitoring Equipment
13.	Student Presentations		

SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESMENT'S METHOD

The main focus of the course is researching journal and conference articles on case studies. Therefore the largest portion of grading concerns written reports, presentations and posters on students interpretation of case studies they have chosen to report on.

Grade is based on

1. Attendance and participation in discussion during class	20 points
2. First case study (failure study), written report	15 points
edited report	5 points
verbal presentation (ppt)	10 points
3. Second case study (construction monitoring)	
written report	20 points
edited report	10 points
verbal presentation (ppt)	10 points
poster	10 points
Total Points	100
Grade Divisions	100-90 pts (5) 80-89 pts (4) 70-79 pts (3) 60-69 pts (2) 0-59 pts (1)

KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

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

[Richard P. Ray: Design practice for tieback excavation in the U.S.](#)

2. Delatte, N., and Rens, K. (2002). "Forensics and Case Studies in Civil Engineering Education: State of the Art." *J.Perform.Constr.Facil.*, 16(3), 98-109. http://engagedscholarship.csuohio.edu/encee_facpub?utm_source=engagedscholarship.csuohio.edu%2Fencee_facpub%2F37&utm_medium=PDF&utm_campaign=PDFCoverPages

3. Seed, R.B. et al New Orleans and Hurricane Katrina. I: Introduction, Overview, and the East Flank *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 134, No. 5, May 1, 2008 10.1061/(ASCE)1090-0241 (2008) 134:5 (701)