



WASTE DISPOSAL, LANDFILL OPERATION AND RECLEMATION

Environmental Engineer MSc mesterszak

2018/19 II. félév

TANTÁRGYI KOMMUNIKÁCIÓS DOSSZIÉ

Miskolci Egyetem
Műszaki Földtudományi Kar
Környezetgazdálkodási Intézet

Tartalomjegyzék

1. Tantárgyleírás, tárgyjegyző, óraszám, kreditérték
2. Tantárgytematika (óraóra lebontva)

1. Tantárgyleírás, tárgyjegyző, óraszám, kreditérték

Course Title: Waste disposal, landfill operation and reclamation	Credits: 4
Type of course: compulsory	
Type (lec. / sem. / lab. / consult.) and Number of Contact Hours per Week: 2 lec. + 1 sem.	
The degree of theoretical or <u>practical</u> nature of the course, " course's character "13: 60 (kredit%)	
Type of Assessment (exam. / pr. mark. / other): exam. oral exam	
Grading Limits: > 90%: excellent, 80-89%: good, 70-79%: medium, 60-69%: satisfactory, < 60%: unsatisfactory.	
Position in Curriculum (which semester): 2nd	
Pre-requisites (<i>if any</i>): -	
Course Description:	
Acquired store of learning: <u>Study goals:</u> Teaching up-to-date techniques and recent results of landfilling - as one possible method of waste disposal - in the field of construction, operation, closure and recultivation, and the interaction of contaminants and the environment <u>Course content:</u> Aspects of site selection of landfills, compatibility problems between contaminants and subsoil. Contaminant retention capacity of soils. Geotechnical aspects of landfilling. Priority list of selected sites. Design of landfills: construction of the base liner system and the leachate collection system. Aftercare of landfills. Up-to-date, high security landfills, maintenance-free landfills. Final closure and recultivation of landfills. Water balance control of landfills. In situ stabilization (aeration, methane-oxidation, water balance control) of landfills. Facilities of landfills, the monitoring system. <u>Education method:</u> the small group size permits an extensive dialogue between students and teacher.	
The 3-5 most important compulsory, or recommended literature (textbook, book) resources:	
<ul style="list-style-type: none"> • Bagchi, A. (1989): Design, Construction and Monitoring of Sanitary Landfill. John Wiley and Sons, P. 285. • Christensen, Th.H.-Cossu, R.-Stegmann, R.. (1989):Sanitary Landfilling: Process, Technology and Environmental Impact, Academic Press • Oweis, I.S. - Khera, R.P. (1990): Geotechnology of Waste Management, Butterworths, p. 273. • Rowe, K.R.: Geotechnical and Geoenvironmental Engineering Handbook. Kluwer Academic Publishers, 2000. • Sarsby, R.: Environmental Geotechnics, Thomas Telford, 2000. 	
Competencies to evolve (see Appendix 1): T1, T2, T4, K6, A1, A2, F1, F4	

Responsible Instructor (*name, position, scientific degree*):

Attila Szabó Dr., Invited lecturer, PhD

Other Faculty Member(s) Involved in Teaching, if any (*name, position, scientific degree*): Tamás Kántor, assistant lecturer

2. TANTÁRGYTEMATIKA (ÓRÁRA LEBONTVA)

Waste disposal, landfill operation and reclamation

Tantárgytematika (ÜTEMTERV)

Aktuális tanév őszi félév

Environmental engineering MSc, 3. félév, törzs tárgy

A tantárgyak kéthetente, dupla óraszámmal vannak megtartva.

Week	Date	Course
1.	15 th 02, 2019	Introduction, Waste, basics, technical terms. Landfilling, types of landfilling, site selection aspects, data collection, measurements.
2.	22 th 02, 2019	
3.	1 st 03, 2019	Basics of landfill designing, layers, technical data Clay, GCL, GM, Leachate collection, landfill gas
4.	8 th 03, 2019	
5.	15 th 03, 2019	National Day, (educational break)
6.	22 th 03, 2019	
7.	29 th 03, 2019	On site visit.
8.	5 th 04, 2019	
9.	12 th 04, 2019	Landfill design. Landfill operation
10.	19 th 04, 2019	Good Friday, (educational break)
11.	26 th 04, 2019	Landfill operation, and remediation. Consultation.
12.	3 rd 05, 2019	
13.	10 th 05, 2019	Break by Rector's decision (educational break)
14.	17 th 05, 2019	