

COURSE UNIT (MODULE) DESCRIPTION

Course unit (module) title						Code		
Slope stability								
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<u>Lecture</u>		Department(s) where the course unit (module) is delivered						
Coordinator: Gintaras Žaržojus			Institute of Geosciences					
Other(s):			Department of Hydrogeology and Engineering Geology					
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Study cycle			Type of the course unit (module)					
Second			Compulsory					
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Mode of delivery Period		Period w	when the course unit			Language(s) of instruction		
Face-to-face (classroom)		3 rd semester	semester		Lithuania	ithuanian / English		
		Require	ements	for students				
Prerequisites: Addition			dditional requirements (if any):					
Engineering geology, Soil mechanic, Rock mechanic, Hydrogeology								
Geotechnical engineering								
Course (module) volume in Total student's workload Contact hours						Self-study hours		
credits	10000150					Soli study nours		
5	133		80			53		
Purpose o	of the cour	<u>se unit (modul</u>	le): pro	gramme competer	<u>ices to be o</u>	leveloped		
no develop: ability to work in	group with	colleagues from	m a var	iety of backgrounds	s and to tak	e me minanye, animy to lear		
maxuladaa and understanding	leuge, io se	arch for new or	r miaain	a information in Va	rious datak	ases: ability to apply the		
	in practice	ability to unde	r missin erstand a	information in va	rious datab	bases; ability to apply the		
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Active lectures, simulation of

Finding and reading of review

and scientific papers, seminar

papers, seminar preparation,

project preparation

preparation, project preparation

Reading of review and scientific

situations

Home work

Presentation Exam

Presentation

Presentation

Will be able to write the scientific and practical

reports and provide competent suggestions.

Will know where and how to find necessary

information by means of modern technology

Will be able to analyze and systemize information

	Contact hours					Self-study work: time and assignments			
Content: breakdown of the topics	Lectures	Tutorials	Seminars	Exercises	Laboratory work	Internship/work Nacement	Contact hours	Self-study hours	Assignments
1. Introduction to slope stability:	4						4	11	Readings of
The concept of slope stability;									references
The definition and notions;									
The interceptions with related disciplines									
Historical background									
2. The Earth pressure:	15			4			19	12	Readings of
Pressure at rest;									references,
The lateral Earth pressure;									homework
The Earth pressure of Rankin;									
The Earth pressure of Coulomb;									
The other theories of Earth pressure.									
3. The earth pressure in cohesion soils:	15			4			19	12	Readings of
The active pressure of the earth;									references,
The passive pressure of the earth.									homework
4. Slope stability:	15			4			19	12	Readings of
The nature of slopes;									references,
The methods of evaluations of slopes stability;									homework
The causes of loses of slope stability;									
The requirements of slope stability analysis;									
The sliding surfaces of slope;									
Slope stability analysis methods.									
5. Soil liquefaction	15			4			19	12	Readings of
									references,
									homework
Total	64			16			48	59	

Assessment strategy	Weight,	Deadline	Assessment criteria		
	%				
Home work	30	During	3 points. Thoroughly done homework. All answers is correct.		
		semester	2 points. Homework include small number of mistakes. Greater		
			part of answers is correct.		
			1 point. Homework include mistakes. Some answers is correct.		
			0 point. Homework was not submitted.		
Written examination (may be	70	January	7 points. Excellent knowledge and ability.		
in two parts: at the middle of			6 points. Well knowledge and ability, but answers is non-		
semester and at the end)			exhaustive.		
			5 points. Well knowledge and ability, answers has non-		
			essential mistakes.		
			4 points. Moderate knowledge and ability, the answers non-		
			exhaustive.		
			3 points. Moderate knowledge and ability, answers with errors.		
			2 points. Knowledge and ability below the average, the		
			mistakes is essential.		
			1 point. Knowledge and ability satisfy the minimum		
			requirements.		
			0 points. Knowledge and ability does not satisfy the minimum		
			requirements.		

Author	Year of public	Title	Issue of a periodical or volume of a	Publishing place and house or web link
	ation		publication	
Compulsary reading				
James K. Mitchell	2005	Fundamentals of soil	-	Hoboken, New Jersey, USA,
Kenichi Soga		behaviour 3 rd ed.		Published by John Wiley &
				Sons, Inc.
Laurence D. Wesley	2010	Fundamentals of soil	-	Hoboken, New Jersey, USA,
		mechanics for sedimentary and		Published by John Wiley &
		residual soil		Sons, Inc.
Lee W. Abramson	2002	Slope stability and	-	New Jersey, USA, Published
Thomas S. Lee		stabilisations methods		by John Wiley & Sons, Inc.
Sunil Sharma				
Glen M. Boyce				
D: 1 T 1	1005		[X7.1 · X7.1 · · ·
Rimvydas Tarvydas	1995	Gravitacinio slaito uolienų	-	Vilnius, Vilnius university
		slinkimo gamtinės sąlygos ir		
		dinamika (Slaitų deformacijos)		
		Metodiniai nurodymai		
Robin Chowdhury	2010	Geotechnical slope analysis	-	London, UK, CRC Press,
				Taylor & Francis Group
E. M. Lee	2004	Landslide risk assessment	-	London, UK, Published by
D. K. C. Jones				Thomas Telford, Ltd.