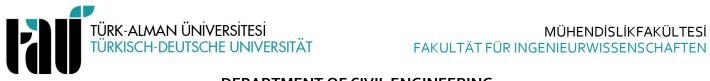


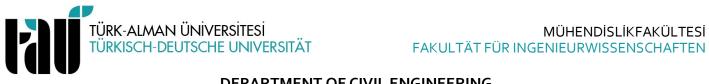
DEPARTMENT OF CIVIL ENGINEERING COURSE SYLLABUS

Course Details									
Code				Ac	ade	mic Ye	ar	Semester	
INF102	NF102				3			Spring	
Title				Т		Α	L	ECTS	
Object Oriented Programming				2		0	2	6	
Language	German								
Level	Undergraduate	Х	Graduate			P	ostgra	duate	
Department / Program	Civil Engineering								
Forms of Teaching and Learning	Formal								
Course Type	Compulsory				Elective			x	
Objectives	After completing this module, the students have knowledge of object-oriented programming and basic knowledge of basic data structures. They can name and apply elementary structuring and processing mechanisms (object orientation, modularization, and recursion).								
Content	The following concepts are introduced using an object-oriented programming language (Java): - Object-oriented data modeling with UML - encapsulation - inheritance and polymorphism - abstract classes and interfaces - exception handling - genericity Students deal with these concepts by independently solving, programming and handing in predetermined, relevant programming tasks.								
Prerequisites	INF101								
Coordinator									
Lecturer(s)									
Assistant(s)									
Work Placement	None								
Recommended or Required Reading									
Books / Lecture Notes	Ullenboom C. Java ist auch eine Insel. Galileo Computing, 2014 Grundkurs Programmieren in Java. D. Ratz, J. Scheffelt, D. Seele, J. Wiesenberber. Hanser Verlag, 2006.								
Other Sources	Concepts of Programming Languages, Robert W. Sebesta, Pearson Education, 2012.								
Additional Course Material									
Documents	-								



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Assignments	-				
Exams	-				
Course Composition					
Mathematics und Basic Sciences			%		
Engineering	40)	%		
Engineering Design		%			
Social Sciences		%			
Educational Sciences		%			
Natural Sciences			%		
Health Sciences			%		
Expert Knowledge	60)	%		
Assessment					
Activity	Cou	Percentage (%)			
Midterm Exam	1	40			
Quiz					
Assignments	6	0			
Attendance					
Recitations					
Projects					
Final Exam	1	60			
		Total	100		
ECTS Points and Work Load					
Activity	Count	Duration	Work Load (Hours)		
Lectures	14	2	28		
Self-Study	1	60	60		
Assignments	6	10	60		
Presentation / Seminar Preparation					
Midterm Exam	1	3	3		
Recitations					
Laboratory					
Projects					
Final Exam	1	10	10		
	159				
	ECTS Poi	6			
Learning Outcomes					



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1	Ability to ana	analyze problems, taking into account the required and generated data.							
2	Ability to per	Ability to perform object-oriented modeling with UML elements.							
3	Knowledge o	nowledge of principles of object-oriented programming.							
4	Ability to per	Ability to perform object-oriented programming in Java.							
Weekly Conte	ent								
1	Introduction t reusability)	Introduction to object-oriented programming (explanation of the advantages in terms of quality and reusability)							
2		oduction to object-oriented data modelling, class diagrams in UML							
3	Introduction t	ntroduction to object-oriented data modelling, class diagrams in UML							
4	Creation of cla	Creation of classes and objects, constructor methods							
5	Inheritance ar	Inheritance and polymorphism							
6	Method overl	Method overloading							
7	Type queries a	pe queries and conversions							
8	Repetition	etition							
9	Midterm exar	term exams							
10	Genericity	ity							
11	Abstract class	t classes and interfaces							
12	Interface prog	e programming							
13	Exception har	on handling							
14	Introduction t	uction to GUI programming with Java (Java Swing, JavaFX)							
15	Repetition								
Contribution	of Learning Out	comes to Prog	ram Objective	es (1-5)					
	P1	P2	P3	P4	P5	P6	P7		
1	5	5	5			3	1		
2	5	5	5			3	1		
3	5	5	5			3	1		
4	5	5	5			3	1		
Contribution L	evel	1: Low 2: Low-ir	ntermediate 3: I	ntermediate 4:	High 5: Very High	1			
Compiled by:									
Date of Compilation: 12.03.2020									
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