

Module / Code	Object Oriented Programming in Java				JAVA2	
Semester	2	Credits (ECTS)	5	Valid as of	2017-01-19	
Lectures / week	2	Practical Hours / week	3	Duration	14 weeks	
Effort (in hours)	Lectures	Practical	Assessments	Self study	Total	
	28	42	20	50	140	
Authors	R. van den Ham, P. van den Hombergh, Th Dorssers.					
Motivation						
This module continues the introduction to Object Oriented Programming for beginning programmers. Focus is on fundamental programming principles and concepts, instead of on the details of the Java language itself. The module has been set up in an iterative way, which means that important concepts are discussed early in an abstract manner, and will be discussed again and again in a more detailed way. Tools used are the Java JDK and NetBeans IDE. Lectures have a highly practical character. Example programs are developed on the fly. During the practical work, students get a lot of assignments to practice.						
Learning goals: Student				Domain Description		
				Activity	Arch. Layer	Level
1. knows, understands and is able to apply principles of Object Oriented Programming				Design	Software	1
2. knows and understands basics of programming language concepts				Implement	Software	1
3. knows and understands the basics of quality of programs and program components, and is able to apply quality standards				Implement	Software	1
4. is able to implement simple programs with graphical and non graphical interaction				Implement	Software	1
5. understands and is able to apply and write API documentation				Manage	Software	1
List of Topics						
<ol style="list-style-type: none"> 1. Inheritance, Polymorphism, Exception handling 2. Enums and Generics 3. Lambda expressions 4. Collection Framework 5. Searching and application of lambda expressions 6. Serialization, File IO and Restful API 7. Java Database Connectivity (JDBC) 8. Threads and sockets 9. Bindings (Java Beans, FX Properties) 10. Java FX 11. Numbers and computation 12. RESTful API and JSON 						
Teaching Material						
<ul style="list-style-type: none"> - Y.D. Lang: Introduction to Java Programming. 10th edition, Pearson Education Limited 2015. ISBN 13: 978-1-292-07001-8. Making use of this book mandatory. The e-Book version is fine as well. - NetBeans IDE - For selected topics, (links to) further material will be published on the module site. 						
Prior Knowledge	JAVA1, DBS1					
Assessment type(s)	Written exams, performance assessments					

Grading

Learning goals 1 and 2 are mainly assessed in the theoretical exams and consolidated into the grade JAVA2T, learning goals 3, 4 and 5 in the performance assessments and consolidated in the grade JAVA2P.

JAVA2T: 2 Performance Assessments:

1. Session 1 40%,
2. Session 2 60%,

Minimal grade to pass: 5.5 for 2 Credits

JAVA2P: 2 Written exams

1. Exam 1 40%,
2. Exam 2 60%.

Minimal grade to pass: 5.5 for 3 Credits