

MODULE		PRC2 – Programming Concepts 2										
SEMESTER	1	CREDITS (ECTS)	5	VALID AS OF	2018-01-30							
LECTURES / WEEK	1	PRACTICAL HOURS / WEEK	5	TOTAL EFFORT	140 hours							
AUTHORS	P. van den Hombergh, R. van den Ham											
CREDENTIALS												
INTRODUCTION AND MOTIVATION												
<p>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.</p>												
LEARNING GOALS: THE STUDENT ...												
LG 1	knows, understands and is able to apply principles of Object Oriented Programming											
LG 2	knows and understands and is able to apply basics of programming language concepts											
LG 3	knows and understands the basics of quality of programs and program components, and is able to apply quality standards											
LG 4	is able to implement simple programs with graphical and non graphical interaction											
LG 5	understands and is able to apply and write API documentation											
LG 6	is able to explain storage of and calculation with numbers											
TOPICS												
<ul style="list-style-type: none"> • Inheritance, Polymorphism, Exception handling • Enums and Generics • Lambda expressions • Collection Framework • Searching and application of lambda expressions • Serialization, File IO and Restful API • Java Database Connectivity (JDBC) • Threads and sockets • Bindings (Java Beans, FX Properties) • Java FX • Numbers and computation • RESTful API and JSON 												
CONTRIBUTION TO FINAL COMPETENCE PROFILE (SEE OER)												
Learning Goal	Architectural Layers (enter "X", max 1 one per LG)					Activities (enter niveaus "1" .. "3", max 1 per LG)					(enter "X")	
	User Interface	Business	Infra-structure	Software	Hardware	Manage	Analyse	Advice	Design	Realise	Professional	Research Skills
LG 1									1	1		
LG 2							1			1		
LG 3									1	1		
LG 4										1		
LG 5									1	1		
LG 6							2		1	2		
MODULE ASSESSMENT												

Learning Goal	Type of Assessment (enter "X", at least one per LG)					Grade for (enter "X", one per LG)		Weight (in %) (adds up to 100%)
	Written Exam	Oral Exam	Performance Assessment	Presentation incl Defense	Report	Individual	Group	
			x			x		
TEACHING MATERIAL								
<ul style="list-style-type: none"> - Online java tutorials, mainly at the Oracle Java site. - NetBeans IDE <p>For selected topics, (links to) further material will be published on the module site.</p>								
PRIOR KNOWLEDGE								
No prior knowledge required								
ADDITIONAL INFORMATION (ON GRADING, ASSESSMENTS, RETAKES, PRACTICAL PARTS, ..)								
<p>Learning goals 1 and 2 are mainly assessed in the theoretical exam producing the grade PRC2T, learning goals 3, 4 and 5 in the performance assessments and consolidated in the grade PRC2P.</p> <p>PRC2P: Performance Assessment: Minimal grade to pass: 5.5 for 3 Credits (60% of final PRC2 grade)</p> <p>PRC2T: Written exam: Minimal grade to pass: 5.5 for 2 Credits (40% of final PRC2 grade)</p>								