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|---|--|-------------------------------|------------------------|---------------------|------------------------|---|----------------|---------------|---------------|----------------|-------------------------|------------------------|
| 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 | <i>Architectural Layers</i> (enter "X", max 1 one per LG) | | | | | <i>Activities</i> (enter niveaus "1" .. "3", max 1 per LG) | | | | | <i>(enter "X")</i> | |
| | <i>User Interface</i> | <i>Business</i> | <i>Infra-structure</i> | <i>Software</i> | <i>Facing Hardware</i> | <i>Manage</i> | <i>Analyse</i> | <i>Advice</i> | <i>Design</i> | <i>Realise</i> | <i>our Professional</i> | <i>Research Skills</i> |
| 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 exams and consolidated into the grade JAVA2T, learning goals 3, 4 and 5 in the performance assessments and consolidated in the grade JAVA2P.</p> <p>JAVA2T: 2 Performance Assessments:</p> <ol style="list-style-type: none"> 1. Session 1 40%, 2. Session 2 60%, <p>Minimal grade to pass: 5.5 for 2 Credits</p> <p>JAVA2P: 2 Written exams</p> <ol style="list-style-type: none"> 1. Exam 1 40%, 2. Exam 2 60%. <p>Minimal grade to pass: 5.5 for 3 Credits</p> | | | | | | | | |