

Implementation plan Finished

Study unit	Object-Oriented Programming with Java (R0317), 5.0
Implementation	CCA1711: 1/2017-2018 (28.08.2017 - 22.12.2017)
Type	SOFTWARE PROGRAMMING (R059)
Groups	Primary: CCA17SY Others :
Involved in the project	
Lecturers	
Number of participants	Minimum: Maximum:
Enrolment period	15.05.2017 08:00 - 31.05.2017
Main timing for implementation	On working days during daytime
Applicability	For exchange students: Yes For elective studies: No Open UAS student: No Suitable for virtual UAS: No
Teachers	De Arruda Camara Antonius (Teacher in charge)
Campus	Laurea Leppävaara
Main location for implementation	At the campus
Implementation method	Optima realization/student group Language: English Virtuality: 0 cr Integration of R&D: 0 cr
Implementation class	LbD supporting knowledge and skills development
Focus areas	No connection to focus areas
Evaluation at the latest	22.01.2018 Storing of graded material ends.: 22.12.2018
Exam days	
Having completed the study unit the student is able to	The student is able to • apply the principles of Object-Orientation programming • design Object-Oriented applications using standard modeling methods • use functionality from off-the-shelf libraries when developing an own application
Previous studies	
Previous studies, more information	First year Tiko/BIT ICT courses: Fundamentals of programming (any language), Basics of relational databases and SQL. Students should have an own computer to install the development environment and do the development work.
Learning objectives	This course is targeted to students that want to extend the basic programming skills learned during the first year of studies or want to pursue careers in web/mobile application development. In the web/mobile app development job market, knowledge of Object-Oriented programming techniques is a necessary pre-requisite as many commonly used development frameworks are based on Object-Oriented principles (ex: Android SDK, PHP Symfony, PHP Laravel, Java Spring). In this course students will extend their java programming skills with object-oriented programming techniques. The learning process will be based on a personal project to implement a java desktop application. Students can freely decide the purpose and topic of the application. Besides applying object-oriented programming principles, students will also learn methods to design object-oriented applications, how to access relational databases with JDBC, and how to use the Swing toolkit to implement User Interfaces. The java applications developed in this course are expected to be simple desktop applications consisting of few screens where the user can read data from the database, insert data, update data, and delete data. The application's user interface should contain standard UI elements such as text boxes, drop-down lists, and command-buttons.
Contents	• Application of Object-Oriented programming principles in the implementation of an own application • Database access with JDBC • Eclipse IDE • GUI implementation with Swing and Eclipse WindowBuilder plugin

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Study material	Besides the material provided by the teacher during the contact sessions, students can make use of a diverse range of resources. For example: Beginning Java Programming: The Object-Oriented Approach, Baesens Bart, Wiley, 2015 (Link to Ebook Central: http://ebookcentral.proquest.com/lib/laurea/reader.action?docID=1895071) Java 2 - Ohjelmoinnin peruskirja, Kosonen Pekka, Docendo, 2008
Tutoring and communication	Optima Lectures and course material are in English. Finnish students (Tiko) can return material in Finnish and can communicate with the teacher in Finnish
Evaluation criteria and methods	Evaluation will be based on the outcomes of the students' personal project (Java desktop application). There will be no exams. Students will implement a personal project (Java desktop application) based on the targets and criteria specified by the teacher. During the project work, students will collect points from completing different project targets according to the set criteria and deadlines. The final grade will be based on the total points collected by the student. There will be no exams.
Other arrangements	Attendance to the first contact session is compulsory. Students that do not attend the first contact session and do not inform the teacher in advance will be removed from the course. The unused study-places will then be offered to students that are on the enrolments waiting list. Attendance to other contact sessions is not compulsory and it is optional. Contact sessions will be offered to support students' learning process (theory, workshops, development environment, personal project). The course will not have contact sessions every week. Students should check in ASIO the reserved dates, and in Optima the content of each contact session. If a student misses contact sessions it is still possible to complete the course, provided that the student is able to independently learn the topics and comply with the requirements and deadlines of the personal project work.