

## Implementation plan Finished

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|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Study unit</b>                                             | Object-Oriented Programming with Java (R0317), 5.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Implementation</b>                                         | CCV1711: 1/2017-2018 (28.08.2017 - 22.12.2017)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Type</b>                                                   | SOFTWARE PROGRAMMING (R059)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Groups</b>                                                 | Primary: CCV17SY Others :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Involved in the project</b>                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Lecturers</b>                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Number of participants</b>                                 | <b>Minimum: Maximum: 30</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Enrolment period</b>                                       | 15.05.2017 08:00 - 31.05.2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Main timing for implementation</b>                         | On working days during daytime                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Applicability</b>                                          | <b>For exchange students: No For elective studies: No Open UAS student: No Suitable for virtual UAS: Yes</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Teachers</b>                                               | Stenberg Mika (Teacher in charge)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Campus</b>                                                 | Laurea Tikkurila                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Main location for implementation</b>                       | At the campus                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Implementation method</b>                                  | Optima realization/student group <b>Language: Finnish Virtuality: 1 cr Integration of R&amp;D: 0 cr</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Implementation class</b>                                   | LbD supporting knowledge and skills development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Focus areas</b>                                            | No connection to focus areas                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Evaluation at the latest</b>                               | 22.01.2018 <b>Storing of graded material ends.: 22.12.2018</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Exam days</b>                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Having completed the study unit the student is able to</b> | <p>The student is able to</p> <ul style="list-style-type: none"> <li>• apply the principles of Object-Orientation programming</li> <li>• design Object-Oriented applications using standard modeling methods</li> <li>• use functionality from off-the-shelf libraries when developing an own application</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Previous studies</b>                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Previous studies, more information</b>                     | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Learning objectives</b>                                    | <p>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 Vaadin). 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.</p> |
| <b>Contents</b>                                               | <ul style="list-style-type: none"> <li>• Application of Object-Oriented programming principles in the implementation of an own application</li> <li>• Database access with JDBC</li> <li>• Eclipse IDE</li> <li>• GUI implementation with Swing and Eclipse WindowBuilder plugin</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## Implementation plan Finished

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| <b>Study material</b>                  | <p>Besides the material provided by the teacher during the contact sessions, students can make use of a diverse range of resources. For example:</p> <ul style="list-style-type: none"> <li>• Beginning Java Programming: The Object-Oriented Approach, Baesens Bart, Wiley, 2015 ((Link to EBL: <a href="http://www.laurea.eblib.com/patron/FullRecord.aspx?p=1895071">http://www.laurea.eblib.com/patron/FullRecord.aspx?p=1895071</a>))</li> <li>• Java 2 - Ohjelmoinnin peruskirja, Kosonen Pekka, Docendo, 2008</li> </ul> |
| <b>Tutoring and communication</b>      | Optima                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Evaluation criteria and methods</b> | Evaluation will be based on the outcomes of the student's personal project (java desktop application). There will be no exams.                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Other arrangements</b>              | <p>Attendance to the first contact session is compulsory. Students that do not attend the first contact session and don't 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 enrolment's 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).</p>                |