**Course Module Description**

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| **General module information**  Title: Programming for Interaction  Type: Course module  Language of instruction: English  ECTS points: 5 ECTS  Period: 1 February 2019 — 30 June 2019 |
| **Placement**  2nd semester, B.Sc. in Medialogy |
| **Module coordinator**  Aalborg: David Meredith (coordinator), Diana Wolff Bie (secretary)  Copenhagen: Evangelia Triantafyllou (coordinator), Pia Skovlund Jensen (secretary) |
| **Academic content and relationships to other modules/semesters**  The formal study plan description of the module can be found here:  https://moduler.aau.dk/course/2018-2019/MSNMEDB2174  The course provides a solid grounding in object-oriented programming in Java and Android as well as providing project-management and software engineering skills, including an understanding of a versioning system (GIT). The course will cover the following topics:   * the basic concepts of object-oriented programming (e.g., inheritance, modularity, encapsulation, visibility, interfaces, dependency, substitutability) * an introduction to UML, with a particular focus on class diagrams * an introduction to procedural programming in Java (e.g., primitive types, loops, conditionals, arrays) * basic object-oriented programming in Java (e.g., constructors, methods, setters, getters, null, reference types, this, encapsulation, inheritance) * intermediate Java (static fields and methods, final fields, abstract classes and methods, interfaces, exceptions, collections) * project-management and software engineering development methodologies * versioning systems (GIT) * Android fundamentals * Android layouts * Android sensors |
| **Objectives and learning goals**  By completing the module, the students will be able to design, program, and evaluate interactive applications both on the standard PC platform as well as mobile platforms. The module will also introduce basic concepts from object-oriented programming. The module covers the fundamentals of programming graphical user interfaces (GUIs) as well as interactions in mobile environments that afford touch or sensor-based interaction. The course also introduces project-management tools and techniques and software engineering methodologies. The objective is that the students acquire the knowledge, skills, and competencies required for designing and implementing interactive applications, as well as the basic skills for managing code-bases and software-engineering projects. |
| **Extent and expected work load**  The total workload of the course is 5 ECTS. Students will be required to submit one or more mini-projects or exercises in order to be allowed to sit the examination. Approximately 1.5 ECTS will be allocated to lectures, 1.5 ECTS to exercises and 2 ECTS to mini projects. |
| **Pre-requisites for participation**  See the module description (find the link above) for any further detail on pre-requisites. |
| **Examination**  4-hour written examination, consisting of questions covering all topics taught in the lectures, evaluated according to the 7-point scale. In order to be allowed to sit the examination, students must submit one or more mini-projects or exercises as instructed by the course instructors. No aids are allowed in the examination (i.e., no notes, no books, no electronic devices). |