GHENT UNIVERSITY

Course Specifications

Valid as from the academic year 2024-2025

Software Engineering Lab 1 (C003780)

Course size *(nominal values; actual values may depend on programme)*

Credits 6.0 **Study time 180 h**

Course offerings and teaching methods in academic year 2024-2025

A (semester 2)	Dutch	Gent	lecture
			seminar

Lecturers in academic year 2024-2025

Scholliers, Christophe	WE02	lecturer-in-charge
Verschaffelt, Pieter	GE31	co-lecturer

Offered in the following programmes in 2024-2025	**crdts**	**offering**
Bachelor of Science in Computer Science	6	A

Teaching languages

Dutch

Keywords

software-design, mobile platforms, Android

Position of the course

This course is the first in a series of Software Engineering labs, in which students get acquainted with important concepts and principles in the Software Engineering discipline, through the use of a specific platform. For this course, the focus is on mobile platforms, and in this context considerable empasis is put on the development of a mobile application, based on the Software Engineering principles introduced.

Contents

1. Basic concepts of programming for mobile applications
2. Development methodology for mobile applications
   a. Ideation and application concept definition
   b. Design and testing of a user interface (HCI aspects)
   c. Planning using KANBAN
3. Development of a mobile app on the Android platform
   a. Basic components and principles
   b. Architectural patterns
   c. Interaction with a cloud back-end
4. Test driven design
   a. The test pyramide
   b. Testing architectures
   c. Platforms and libraries for testing
5. Communication skills
   a. Sales pitch
   b. Infographic and demo

Initial competences

Object oriented programming (in Java) including event driven programming and user interfaces.

Final competences

1 Design, develop and test a mobile application in Android.
2 Plan and implement a software project in a team.
3 To communicate clearly and well structured on the chosen application.

4 To take into account the specific characteristics of mobile environments in the design and implementation of a mobile application.

Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Group work, Seminar, Lecture

Extra information on the teaching methods

- *Lectures (mix of theory and hands-on practice)*
- *Work shops (presence required)*
- *Feedback sessions (presence required)*
- *Guest lectures :some workshops are give by guest lectures from industry, in addition to this other guest lectures can be organised where presence is required*

Study material

Type: Slides

Name: Slides'
Indicative price: Free or paid by faculty
Optional: no

References

- Bill Philips, Chris Stewart, Kristin Marsicano, Brian Gardner, Android Programming: The Big Nerd Ranch Guide (4th edition).
- Lance Gleason, Fernando Sproviero, Victoria Gonda, “Android Test-Driven development by Tutorials”
- Carl Boel, Dieter Verstraete en André Mottart, “Beter communiceren”

Course content-related study coaching

E-learning environment
Exercises and project supervised
Interaction through e-mail and fora

Assessment moments

continuous assessment

Examination methods in case of periodic assessment during the first examination period

Examination methods in case of periodic assessment during the second examination period

Examination methods in case of permanent assessment

Participation, Peer and/or self assessment, Assignment

Possibilities of retake in case of permanent assessment

examination during the second examination period is not possible

Extra information on the examination methods

- *Assessment of communication skills (25%)*
- *Assessment of project result (55%)*
- *Participation (10%)*
- *Peer evaluation (10%)*

In case substantial differences in input from different group members are observed, the scores can differ between members of the same group.

Calculation of the examination mark

Weighted score as mentioned above, with special conditions:

- For both items "communication skills" and "project result", students should obtain at least 40%, if not the final score is limited to 9/20
- Participation to guest lectures, workshops and feedback sessions is mandatory, for each non-attended lecture 1 point is subtracted from the item total score (with a max of 2 points - i.e. the total partial score for the part 'participation').