

## 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**

[Bachelor of Science in Computer Science](#)

**crdts**

**offering**

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 emphasis 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 pyramid
  - 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 (4<sup>th</sup>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').

