GHENT UNIVERSITY

# Course Specifications

From the academic year 2017-2018 up to and including the

## Software Engineering (E690005)

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

| | | | |
|---|---|---|---|
| Credits 3.0 | Study time 90 h | Contact hrs | 30.0 h |

Course offerings and teaching methods in academic year 2018-2019

| | | | |
|---|---|---|---|
| A (semester 2) | Dutch | group work | 6.0 h |
| | | seminar | 6.0 h |
| | | lecture | 18.0 h |

Lecturers in academic year 2018-2019

| | | |
|---|---|---|
| Volckaert, Bruno | TW05 | lecturer-in-charge |

| Offered in the following programmes in 2018-2019 | crdts | offering |
|---|---|---|
| Bachelor of Science in Engineering Technology (main subject Electronics and ICT Engineering Technology) | 3 | A |
| Bachelor of Science in Electronics and ICT Engineering Technology | 3 | A |
| Linking Course Master of Science in Electronics and ICT Engineering Technology (main subject Embedded Systems) | 3 | A |
| Linking Course Master of Science in Electronics and ICT Engineering Technology (main subject MIT) | 3 | A |

Teaching languages

Dutch

Keywords

Software Processes, Software Methods, Software Project, Risk Management, Change Management, People Management, Project Management

Position of the course

The development of software applications requires a methodical approach to minimize the probability of failure (to late and/or over budget). In the Software Engineering course, techniques are taught how to tackle step by step (from idea to realization, to follow-up) such projects. In the lab, the theory is transferred into practice. Students work to develop such projects and pass through the various phases: requirements analysis, design and implementation, test and operation.

Contents

1. Introduction to Software Engineering (software processes, requirements engineering, design and implementation, software testing, software evolution)
- Introduction (what, basics, ethics)
- Software Processes
  - Process Methods
  - Process Activities
  - Change Management
  - Rational Unified Process (RUP)
  - Risk Management
- Software Methods
  - Rapid Methods
  - Agile Methods
  - Plan-driven Methods
  - Extreme Programming
- Earned Value Analysis

2. Software management (project management, project planning)
- Gantt
- Pert

Initial competences

Possess the competences of the course computer science and software development.

Final competences

1 Knowledge of the software processes and methods that are part of software projects,

2 Knowing how risks in software projects are identified, assessed, reviewed, managed and controlled.

3 Manage a software project within a team,

4 Motivate the choice of the software method for the development of projects

5 Thinking and reasoning critically, creatively and scientifically,

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, lecture, seminar

Extra information on the teaching methods

-In the lectures the concepts are applied and examples and case studies are worked out, in which the input of the student is an important factor in the coached decision.
- In the seminars and group work a software project is approached, in the course of which the student is the project leader.

Learning materials and price

Slides Software Engineering on Minerva

References

Software Engineering 10, Ian Sommerville, Pearson, ISBN: 1-292-09613-6

Course content-related study coaching

Interactive support via Minerva; guided lab exercises; contact with teacher via e-mail and personally after appointment.

Evaluation methods

end-of-term evaluation and continuous assessment

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

Written examination with open questions

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

Written examination with open questions

Examination methods in case of permanent evaluation

Report

Possibilities of retake in case of permanent evaluation

examination during the second examination period is not possible

Extra information on the examination methods

First examination period:
PE1: written exam with open questions
NPE1: assessment of project report. The evaluation is based on a presentation and a motivation of the choices made and the solutions.

Second examination period:
PE2: written exam with open questions
NPE2: not applicable

Calculation of the examination mark

- 60% of the final grade is determined by the answers to the written exam of the course
- 40% of the final grade is determined by the evaluation of the project report
- In order to pass the course, the student must score at least 8/20 for both PE and

NPE. If this condition is not met, a score of 10 or more is reduced to 9.