

## LTAT.05.003 Software Engineering

2019/2020 autumn regular studies

<b>Faculty/Department</b>	Chair of Software Engineering (LTAT05)
<b>Amount of credits (1 ECTS=26 hours)</b>	6 ECTS
<b>Duration in semesters</b>	1
<b>Final assessment</b>	differentiated (A, B, C, D, E, F, not present)
<b>Syllabus credits</b>	6 ECTS
<b>Lecturers</b>	Dietmar Alfred Paul Kurt Pfahl (responsible), Stanislav Bondarenko, Siim-Alexander Kütt, Toomas Aleksander Veromann, Mario Ezequiel Scott, Yar Muhammad
<b>Languages of instruction</b>	English
<b>Minimum number of attendants</b>	10
<b>Maximum number of attendants</b>	195
<b>Study levels</b>	bachelor's studies
<b>Target group and/or preconditions for participation</b>	2. aasta bakalaureuseõppe informaatikutele, LO arvutitehnikutele
<b>Forms of teaching and learning and no of hours</b>	lectures: 32 practice learning: 32 independent work (including e-learning): 92
<b>Web-based learning</b>	Partially
<b>Study period (in weeks)</b>	1.-16.õppenädal

### Prerequisites

Compulsory:	MTAT.03.130 Object-oriented Programming (6 ECTS, 4 CP) or LTAT.03.003 Object-oriented Programming (6 ECTS)
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### Curricula containing this course

Computer Engineering (83866)	bac.	2016/2017	2017/2018	2018/2019	2019/2020
Computer Science (2476)	bac.	2016/2017	2017/2018	2018/2019	2019/2020
Conversion Master in IT (144919)	mas.	2016/2017	2017/2018		
Mathematical Statistics (2474)	bac.	2016/2017	2017/2018	2018/2019	2019/2020

### Objectives

To obtain basic knowledge in software engineering and primary skills for working at any stage of software development projects.

### Learning outcomes

Upon completion, students will be able to demonstrate basic knowledge of and skills in:

- software engineering paradigms;
- system analysis;
- requirements analysis;
- planning;
- implementation;
- testing;
- maintenance;
- project management.
- software processes and methodology.

### Brief description

The course covers: software engineering paradigms, project management, system and requirements analysis, design, implementaton, testing, quality management and control.

## Groups

Mark	Limit of attendants	Lecturers
1. rühm	15	supervisor of practical class Siim-Alexander Kütt
2. rühm	21	supervisor of practical class Stanislav Bondarenko
3. rühm	21	supervisor of practical class Yar Muhammad
4. rühm	18	supervisor of practical class Mario Ezequiel Scott
5. rühm	21	supervisor of practical class Siim-Alexander Kütt
6. rühm	18	supervisor of practical class Stanislav Bondarenko
7. rühm	21	supervisor of practical class Yar Muhammad
8. rühm	21	supervisor of practical class Yar Muhammad
9. rühm	18	supervisor of practical class Toomas Aleksander Veromann
10. rühm	21	supervisor of practical class Mario Ezequiel Scott

## Schedule

<p>practical session - * Week 01: -- (no labs)</p> <ul style="list-style-type: none"> <li>* Weeks 02-04: Requirements gathering</li> <li>* Weeks 04-06: Formalizing, modeling, planning</li> <li>* Weeks 06-08: Development infrastructure</li> <li>* Weeks 08-10: Realization - I</li> <li>* Weeks 10-12: Realization - II</li> <li>* Weeks 12-14: Automatic unit test, refactoring &amp; functional test planning</li> <li>* Weeks 14-16: Functional and non-functional testing</li> </ul>
<p>lecture - * Week 01: Lecture 01 - Introduction to Software Engineering</p> <ul style="list-style-type: none"> <li>* Week 02: Lecture 02 - Requirements Engineering - I</li> <li>* Week 03: Lecture 03 - Requirements Engineering - II</li> <li>* Week 04: Lecture 04 - Analysis</li> <li>* Week 05: Lecture 05 - Development Infrastructure - I</li> <li>* Week 06: Lecture 06 - Development Infrastructure - II</li> <li>* Week 07: Lecture 07 - Architecture and Design</li> <li>* Week 08: Lecture 08 - Refactoring</li> <li>* Week 09: Lecture 09 - Verification and Validation I</li> <li>* Week 10: Lecture 10 - Verification and Validation I</li> <li>* Week 11: Lecture 11 - Industry Guest Lecture 1</li> <li>* Week 12: Lecture 12 - Agile/Lean Methods</li> <li>* Week 13: - (no lecture)</li> <li>* Week 14: Lecture 13 - Industry Guest Lecture 2</li> <li>* Week 15: Lecture 14 - Course wrap-up, review and exam preparation</li> </ul>

## Lecture materials and course home page

### Web-based learning environment

<https://courses.cs.ut.ee/>

### Compulsory study materials

See "Reading" section of course web site

### Recommended study materials

See "Reading" section of course web site

### List of independent works and their instructions

See Grading section of course web site

## Assessment methods and criteria

practical assignment	<p>The Practical Assessment will be obtained as follows:</p> <ul style="list-style-type: none"> <li>* 10 points per lab session. Total = 70 points. See below for details on how the lab sessions are graded.</li> <li>* Lab tasks have to be done in groups of 3 students.</li> <li>* A detailed description of the lab tasks as well as the schedule and assessment rules is provided in the course wiki.</li> </ul> <p>If you get less than 30 out of 70 points in the practical assessment, you will get a grade of 'F' in your first examination. In this case, you will be given a second chance to improve your practical assessment score. If your score after the second try is at least 30 out of 70, you will become eligible for a resit (kordueksam).</p>
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	Conceptual Assessment
final written assessment	<p>The exam is worth 30 points. Students who get less than 10 out of 30 in this exam, will get a grade of 'F', regardless of their Practical Assignment score. This same rule will apply for the resit (kordueksam).</p> <p>The scores of the Practical Assignments and the Exam will be added. This cumulated score will be translated into a grade between A and F according to the standard university scale:</p> <ul style="list-style-type: none"> <li>* A: &gt;90 .. 100</li> <li>* B: &gt;80 .. 90</li> <li>* C: &gt;70 .. 80</li> <li>* D: &gt;60 .. 70</li> <li>* E: &gt;50 .. 60</li> <li>* F: 0 .. 50</li> </ul>

Requirements to be met for final assessment

See course web site

To obtain final grade, the following is required

The final result consists of:

- a completed project conducted during the labs (practice sessions) - 70% of total grade
- a final exam - 30% of total grade

Options for taking tests/exams at later date

No possibilities

Other information

<https://courses.cs.ut.ee/>