Course Outline (as of 29-Jan-2015)

<table>
<thead>
<tr>
<th>Numerical course code</th>
<th>MTAT.03.243</th>
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<tbody>
<tr>
<td>Title</td>
<td>Software Engineering Management</td>
</tr>
<tr>
<td>Faculty/Department</td>
<td>Faculty of Mathematics and Computer Science, Institute of Computer Science, Chair of Software Systems</td>
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<tr>
<td>Amount of credits (1 ECTS = 26 hours)</td>
<td>6 ECTS</td>
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<tr>
<td>Amount of credits (before 31-Aug-2009)</td>
<td>4 CP</td>
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<tr>
<td>CP*1.5 (before 31-Aug-2009)</td>
<td>6</td>
</tr>
<tr>
<td>Duration in semesters</td>
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<tr>
<td>Final assessment</td>
<td>Differentiated</td>
</tr>
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<td>Course responsible</td>
<td>Dietmar Pfahl</td>
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<td>Course instructors</td>
<td>Dietmar Pfahl</td>
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<tr>
<td>Course language</td>
<td>English</td>
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<tr>
<td>Study levels</td>
<td>Master’s studies, doctorate studies</td>
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| Forms of teaching and learning | Lectures (incl. practical work): 56 hours  
Independent work: 100 hours |
| Study period          | Weeks 24-39  
First lecture: 11-Feb-2015  
Last lecture: 20-May-2015 (tentative) |

Prerequisites
Compulsory: MTAT.03.094 Software Engineering (6 ECTS, 4 CP)

Curricula containing this course
Software Engineering (100864) | mas. 2010/11 2011/12 2012/13 2013/2014

Objectives
This course will expose students to concepts, models and methods pertaining to the management of software engineering activities. In particular, the course will expose students to common problems and approaches related to the management and improvement of software engineering processes, both in the context of single-site projects and in multi-site projects.

Learning outcomes
After successful completion of this course, students will:
- have gained a good understanding of modern software engineering processes, including lean and agile methods;
- know the characteristics and effects of different types of software engineering processes;
- be able to contribute to efficient analysis, organization, conduct and improvement of software engineering processes.

Course elements
The course will cover:
1. Software engineering process models: waterfall, iterative, incremental, agile, lean, etc.
2. Methods for software process modeling and analysis (incl. quantitative methods)
3. Methods for systematic software process improvement and organizational learning
4. International software process improvement standards and frameworks
Schedule (tentative – adjustments will be announced on the course wiki)

- Week 24: Introduction to Software Process Improvement (SPI)
- Week 26: Agile Principles and Processes
- Week 27: no lectures
- Week 28: SPI & Measurement
- Week 29: Project week 1
- Week 30: Lean and Flow-based (KANBAN) Principles and Processes
- Week 31: SPI & Empirical Methods + Industry Presentation (to be announced)
- Week 32: no lectures
- Week 33: SPI and Human Factors / Organisational Learning
- Week 34: Software Process Assessment
- Week 35: Other SPI Frameworks and QM Systems
- Week 36: Sub-Contracting / Outsourcing / Global Software Development
- Week 37: Project week 2
- Week 38: Course wrap-up, review and exam preparation
- Week 39: Exam

Assessment

- 4 homework assignments (25% of total course grade) – individual and in pairs
- Project work: project report & in-class presentation (35% of total course grade) – individual or in pairs
- Written exam (40% of course grade) – individual