Advanced Algorithmics (6EAP)  
MTAT.03.238  
https://courses.cs.ut.ee/2016/algorithmics/fall  
Organisation of course  
Jaak Vilo  
2015 Fall
Lecturer

- 1986-1991 U Tartu (diploma)
- 1991-1999 U Helsinki (sequence pattern discovery, PhD)
- 1999-2002 EMBL-EBI, UK (bioinformatics)
- 2002- EGeen -> Quretec (Biobank and Data Mgmnt)
- U Tartu, professor (Bioinformatics) 2007
  - STACC – Software Technologies and Applications Competence Center (Tarkvara TAK)
  - research projects
Goals

• To learn the main concepts and techniques of the algorithm design and analysis – the practical skills and theoretical basis

• To be able to choose, design, analyze and compare algorithms and data structures

• To learn to learn, use knowledge, solve, read, write, and present
Contact hours

• **Lectures: Jaak Vilo**
  – Tue 10-12 (403)
  – Thu 10-12 (403)
  – In total about 23-25 lectures (not 32)

• **Weekly practical sessions (homework):**
  – group 1. Tue 12-14  L 403 (Mari-Liis Allikivi)
  – group 2. Thu 12-14  L 403 (Mari-Liis Allikivi)
Contacts:

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• https://courses.cs.ut.ee/2016/algorithmics/fall

• Office
Course and Grade

- Lectures
- Homework 30 + bonus points
- Project work 20
- Essay 10
- Exam 40

All components obligatory

- Total 100p
Homework (obligatory)

- Most essential part of the course
- 12 weeks of homeworks (12w*5=60)
- First 20 – “no points”.
- Thereafter: 1 task = 1 point
- E.g. 50 HW tasks completed -> 50-20 = 30 points
- Presentations orally during the practicals
- Submissions over the web,
- deadline – Every Monday 23:59
- https://courses.cs.ut.ee/2016/algorithms/fall/Main/Hwformat
• Obligatory to get **a minimum of 50% done**
  – 30 tasks - 20 = 10 points (out of 30 max)

• Obligatory presence at the practice sessions
  – 70% (8 out of 12 weeks)
  – Every missed (out of 8) – subtract 5 points
    • 6 times present – deduct 10 points from already earned practice session points
Essay (obligatory)

• Will be based on some article

• To be decided during the course

• Reading and writing skills

• A format of the scientific article (abstract, citations, etc)
Project (obligatory)

• A practical algorithm implementation plus analysis and comparisons of efficiency

• Presentation in the form of a project report in scientific style (poster, report, ...
Exam (obligatory, minimum 50%)

• Will be based on questions similar to the homework assignments

• Knowledge of the basic principles of algorithms; broad understanding of the course materials.
## 6EAP vs expected hours

<table>
<thead>
<tr>
<th>Activity</th>
<th>Expected Hours</th>
<th>Hours/Week</th>
<th>Total (h/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td>22</td>
<td>1.5</td>
<td>33</td>
</tr>
<tr>
<td>Practice sessions</td>
<td>12</td>
<td>1.5</td>
<td>18</td>
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<tr>
<td>Homeworks</td>
<td>60</td>
<td>0.6</td>
<td>36</td>
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<tr>
<td>Essay</td>
<td></td>
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<td>16</td>
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<tr>
<td>Project</td>
<td></td>
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<td>40</td>
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<tr>
<td>Exam preparation</td>
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<td></td>
<td>8</td>
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<tr>
<td>Exam</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>155</strong></td>
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</tbody>
</table>

| EAP                        | 6              | 26         | **156**     |
• All deadlines – strict

• Plagiarism – not tolerated (will lead to exmatriculation quickly)
  – Any material used should be referenced & cited properly
  – Develop your solutions, your opinions, etc.
  – Study group work should be finalised privately
Questionnaire

• To assess the basic starting point and expectations before the course start

• Please fill in the form to the best of your ability as is during the next 15-20 minutes.