Advanced Algorithmics (6EAP)
courses.cs.ut.ee/2013/algorithmics/fall
MTAT.03.238
Organisation of course
Jaak Vilo
2013 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
  - EXCS – Center of Excellence
  - STACC – Software Technologies and Applications Competence Center (Tarkvara TAK)
  - research projects
Short CV

EMBL-EBI

Estonian Biocentre

Estonian Genome Center
University of Tartu

QureTEC

STACC

Software Technology and Applications Competence Center
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 (206)
  – Thu. 10-12 (404)
  – In total about 22-25 lectures (not 32)

• Weekly practical sessions (homework):
  – group 1. Tue 12 – 14  L 402 (Dmytro Fishman)
  – group 2. Thu 12 – 14  L 404 (Dmytro Fishman)
Contacts:

• Jaak Vilo  vilo@ut.ee
• Dmytro Fishman  dmytro@ut.ee

• ati.algorithmics@lists.ut.ee  (lists.ut.ee )
• http://courses.cs.ut.ee/2013/algorithmics/
• JV: room 327
  – Come by (knock on door) or when door open
• Upon agreement
Course and Grade

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

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• Total 100p
Homework (obligatory)

- **Most essential part** of the course
- First 20 – no points.
- Thereafter: 1 task = 1 point
- E.g. 50 HW tasks completed -> 50-20 = 30 points
- **12-14 weeks of homeworks** (12w*5=60)
- Obligatory to get a **minimum of 50% done**
  - 30 tasks - 20 = 10 points (out of 30 max)
- **Presentations orally** during the practicals
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 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

• Creative use of the algorithms
# 6EAP vs expected hours

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hours</th>
<th>Expected</th>
<th>Total</th>
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<tbody>
<tr>
<td>Lectures</td>
<td>24</td>
<td>1.5</td>
<td>36</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>50</td>
<td>0.75</td>
<td>37.5</td>
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<tr>
<td>Essay</td>
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<td>12.5</td>
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<td>Project</td>
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<td>Exam preparation</td>
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<tr>
<td>Exam</td>
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<td>4</td>
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<td><strong>Total</strong></td>
<td></td>
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<td><strong>156</strong></td>
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| 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
Contact

• Lectures, practicals – active hours


• Email
  – [ati.algorithimcs@lists.ut.ee](mailto:ati.algorithimcs@lists.ut.ee)
  – [dmytro@ut.ee](mailto:dmytro@ut.ee)
  – [vilo@ut.ee](mailto:vilo@ut.ee),
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.