Advanced Algorithmics (6EAP)
MTAT.03.238
courses.cs.ut.ee/2019/algorithmics/fall

Organisation of course

Jaak Vilo
2019 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
Short CV

EMBL-EBI

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, implement, design, analyze and compare algorithms and data structures
• To learn to learn, use knowledge, program quickly, solve tasks, read, write, and present
Contact hours

• Lectures: Jaak Vilo  ~ 24 lectures
  – Tue 10-12 (L2 - 405)
  – Thu 10-12 (L2 - 111)

• Weekly practical sessions (homework):
  – G1. Tue 12.15 - 14.00 L2 - 122 (Dmytro Fishman)
  – G2. Tue 12.15 - 14.00 L2 - 206 (Joonas Puura)
  – G3. Thu 12.15 - 14.00 L2 - 202 (Joonas Puura)

• Consultancy – Wed, 16:15, L2 611

Contacts:

• Jaak Vilo vilo ‘ät’ ut.ee
• Dmytro Fishman dmytro.fishman ‘ät’ ut.ee
• Joonas Puura joonas.puura ‘ät’ ut.ee

• ati.algorithmics@lists.ut.ee (lists.ut.ee)
• Piazza - https://piazza.com/class/jzjhle1dkuv3au
• Office – Liivi 2 - 215 and 311
Course Grade

• Lectures
• Homework 30 + bonus points 0-30
• Project 20
• Essay 10
• Exam 40
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• Total 100p

All components obligatory

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
• 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
    • E.g. **6 times present** – deduct 10 points from already earned practice session points

“**Essay**“ (obligatory)

• Will be based on some article – 2 page summary

• 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, ...)

03.09.19
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

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<thead>
<tr>
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<th>Hours</th>
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<tbody>
<tr>
<td>Lectures</td>
<td>22</td>
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<tr>
<td>Practice sessions</td>
<td>12</td>
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<tr>
<td>Homworks</td>
<td>60</td>
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<td>Essay</td>
<td>16</td>
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<tr>
<td>Project</td>
<td>40</td>
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<td>Exam preparation</td>
<td>8</td>
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<td>Exam</td>
<td>4</td>
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<td><strong>Total</strong></td>
<td><strong>155</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
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.