Algorithmics (6EAP)
MTAT.03.238
https://courses.cs.ut.ee/2020/Algorithmics/fall
Organisation of course
Jaak Vilo
2020 Fall
Coronavirus: cs.ut.ee/reg

Lecturer
• 1984-1991 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
  – Head of #UniTartuCS (from 2011)

Short CV
Jaak Vilo 1984 - 1991 University of Tartu (diploma)
1991 - 1999 University of Helsinki (sequence pattern discovery, PhD)
1999 - 2002 European Molecular Biology Laboratory (EMBL-EBI, UK, bioinformatics)
2002 - EGeen, Quretec (Biobank and Data Management)
2007 - Professor, University of Tartu (Bioinformatics)
2007 - Assistant Researcher, STACC (Software Technologies and Applications Competence Center)
2011 - Head of #UniTartuCS

Goals
• To learn the main concepts and techniques of the algorithm design and analysis – the practical skills and (some) theoretical basis
• To be able to choose, implement, design, analyze and compare algorithms and data structures
• Learn to learn, use knowledge, solve tasks, program efficiently, read, write, and present
• Equalizing backgrounds for students from different degree programmes etc. (Leveling course)

Contact hours
• Lectures: Jaak Vilo ~ 24 lectures
  – Tue 10-12 (Delta 1021; mostly Online)
  – Thu 10-12 (Delta 1021)
• Weekly practical sessions (homework):
  – G1 Tue 12:15 - 14.00 Delta:2048 (Joonas Puura)
  – G2 Thu 14:15 - 16.00 Delta:2010 (Kallol Roy)
  – G3 Thu 10:15-12. Online (?) (prev.time of lectures)
• Consultancy – ...

Contacts:
• Jaak Vilo vilo ‘ät’ ut.ee
• Joonas Puura joonas.puura ‘ät’ ut.ee
• Kallol Roy kallol.roy ‘ät’ ut.ee
• Piazza forum – https://piazza.com/class/ke78jd1mo78
  • ati.algorithimcs@lists.ut.ee (lists.ut.ee) – Self-service
Course Grade

- Lectures
- Homework 30 + bonus points 0-30
- Project 20
- Essay 10
- Exam 40

Total 100p

Homework (obligatory)

Most essential part of the course

- 12 weeks of homeworks (12w*5=60 tasks)
- Points: nr of tasks – 20 (e.g. 40hw -> 20 p)
- Presentations orally during the practicals
- Submissions over the web,
- deadline – Every Monday 23:59

50% minimum threshold

- 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 3 points
    - E.g. 6 times present – deduct 6 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, peer review
- 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, ...)

All components obligatory
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>
<th>Activity</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Lectures</td>
<td>33</td>
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<tr>
<td>Practice sessions</td>
<td>18</td>
</tr>
<tr>
<td>Homeworks</td>
<td>36 (3h/w)</td>
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<tr>
<td>Essay</td>
<td>16</td>
</tr>
<tr>
<td>Project</td>
<td>40</td>
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<tr>
<td>Exam preparation</td>
<td>8</td>
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<tr>
<td>Exam</td>
<td>4</td>
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<td><strong>Total</strong></td>
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EAP

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<th>Activity</th>
<th>Hours</th>
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<td>156</td>
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- 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 (tbd)

- 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.