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)
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 foorum –  https://piazza.com/class/ke78jd1mzo79r

• ati.algorithmics@lists.ut.ee (lists.ut.ee )
  – Self-service
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 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, ...)


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>Hours</th>
<th>Expected</th>
<th>Total</th>
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<tbody>
<tr>
<td>Lectures</td>
<td>22</td>
<td>1.5</td>
<td>33</td>
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<tr>
<td>Practice sessions</td>
<td>12</td>
<td>1.5</td>
<td>18</td>
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<tr>
<td>Homeworks</td>
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<tr>
<td>Essay</td>
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<tr>
<td>Project</td>
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<td>Exam preparation</td>
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<td>Exam</td>
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<td><strong>Total</strong></td>
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<td><strong>155</strong></td>
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EAP: 156

(3h/w)
• 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.