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- EGeeen, Quretec (Biobank and Data Mgmnt)
• U Tartu, professor (Bioinformatics) 2007
  — STACC – Software Technologies and Applications Competence Center (Tarkvara TAK)
  — research projects

Short CV
Jaak Vilo
1986–1991 University of Tartu (diploma)
1991–1999 University of Helsinki (sequence pattern discovery, PhD)
1999–2002 European Molecular Biology Laboratory (bioinformatics)
2002–2007 EGeen, Quretec (Biobank and Data Management)
2007–present University of Tartu, professor (Bioinformatics)

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 ‘at’ ut.ee
• Dmytro Fishman dmytro.fishman ‘at’ ut.ee
• Joonas Puura joonas.puura ‘at’ 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 All components obligatory
- Exam 40

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- 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

“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, ...)

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
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>Hours</th>
<th>Lectures</th>
<th>Practice sessions</th>
<th>Homeworks</th>
<th>Essay</th>
<th>Project</th>
<th>Exam preparation</th>
<th>Exam</th>
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<td>1.5</td>
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<td>16</td>
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EAP 6 26 156 (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

• 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.