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 Mgmt)
- U Tartu, professor (Bioinformatics) 2007
  -- EXCS – Center of Excellence
  -- 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, 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

- ari.algorithms@lists.ut.ee (lists.ut.ee)
- 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

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></th>
<th>Lectures</th>
<th>Practice sessions</th>
<th>Homeworks</th>
<th>Essay</th>
<th>Project</th>
<th>Exam preparation</th>
<th>Exam</th>
<th>Total</th>
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<tbody>
<tr>
<td>Hours</td>
<td>1.5</td>
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<td>12.5</td>
<td>40</td>
<td>8</td>
<td>4</td>
<td>156</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

• http://courses.cs.ut.ee/2013/algorithms

• Email
  – ati.algorithmics@lists.ut.ee
  – dmytro@ut.ee
  – 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.