Advanced Algorithmics (6EAP)

courses.cs.ut.ee/2014/algorithmics/fall

MTAT.03.238

Organisation of course

Jaak Vilo
2014 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
  — 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

Lectures + Practical sessions

• Lectures: Jaak Vilo
  — Mon 12-14 (404)
  — Thu 10-12 (404)
  — In total about 22-25 lectures (not 32)

• Weekly practical sessions (homework):
  — group 1. Mon 14-16  L 404 (Dmytro Fishman)
  — group 2. Thu 12 – 14  L 404 (Riivo Kikas)

Contacts:

• Jaak Vilo  vilo@ut.ee
• Dmytro Fishman  dmytro@ut.ee
• Riivo Kikas  kikasriivo@gmail.com

• ati.algorithmics@lists.ut.ee (lists.ut.ee)
• http://courses.cs.ut.ee/2014/algorithmics/
• 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

All components obligatory

- 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 weeks of homeworks (12w*5=60)
- Presentations orally during the practicals
- Submissions over the web,
- **deadline** – just before the lecture starts (the same day of your ordinary practice session)

### 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, ...)
- Start around mid-November (?)

### 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

### 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
  - 6 times present – deduct 10 points from already earned practice session points
6EAP vs expected hours

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<th>Lectures</th>
<th>Practice sessions</th>
<th>Homeworks</th>
<th>Essay</th>
<th>Project</th>
<th>Exam preparation</th>
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- All deadlines – strict

- **Plagiarism** – not tolerated (will lead to exmatriculation very quickly)
  - Any material used should be referenced & cited properly (including homeworks)
  - Develop your solutions, your opinions, etc.
  - Study group ok, but work should be finalised privately

Contact

- Lectures, practicals – active hours
- 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.