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

Estonian Genome Center
University of Tartu

Estonian Biocentre

QureTEC

Software Technology and Applications Competence Center (STACC)
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.algorithimics@lists.ut.ee (lists.ut.ee)
• http://courses.cs.ut.ee/2014/algorithimics/
• 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)
• 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
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
## 6EAP vs expected hours

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<th>Hours</th>
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<td>Lectures</td>
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<td>Practice sessions</td>
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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](ati.algorithmics@lists.ut.ee)
  – [dmytro@ut.ee](dmytro@ut.ee)
  – [vilo@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.