Advanced Algorithmics (6EAP)
http://courses.cs.ut.ee/2012/algorithmics/
MTAT.03.238
Organisation of course

Jaak Vilo
2012 Spring
Short CV (Jaak Vilo)

- Tallinna Reaalkool (2. Keskkool) 1984
- European Bioinformatics Institute 1999-2002
- PhD 2002, Univ. of Helsinki. /Pattern discovery/
- EGeen 2002 => Quretec 2006
- U. Tartu: docent, sen. researcher,
- Professor (from dec 2007)
- STACC
Short CV (Jaak Vilo)

1986
University of Tartu

1991
University of Helsinki

1999
EMBL-European Bioinformatics Institute, UK

2002
Estonian biobank, biotech, IT startups

2007
University of Tartu, professor
Research

• Bioinformatics, Data mining, Machine Learning, Visualization, ...
• Data management and analysis
• Practical algorithms

biit.cs.ut.ee

www.stacc.ee
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**
  – Wed. 10-12 (405)
  – Thu. 12-14 (405)
  – In total about 22-25 lectures (not 32)

• **Weekly practical sessions (homework):**
  – Wed 14-16 **Aivi Kaljuvee** (405)
  – Thu 16-18 **Aivi Kaljuvee** (403)
Contacts:

• Jaak Vilo – prof. of bioinformatics  vilo@ut.ee
• Aivi Kaljuvee  aivi@ut.ee

• ati.algorithms@lists.ut.ee
• http://courses.cs.ut.ee/2012/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
- Total 100p
Homework

- **Most essential part** of the course
- 1 task = 0.5 points
- **30 points = 60 HW tasks completed** \((12\text{w}*5)\)
- **12-14 weeks of homeworks**
- Obligatory to get a minimum 50% points
- **Presentations orally** during the practicals
- Submissions over the web
Essay

• 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

• A practical algorithm implementation plus analysis and comparisons of efficiency

• Presentation in form of a project report in scientific style (poster, report, ...)

Exam

- Will be based on questions similar to the homework assignments
- Knowledge of the basic principles of algorithms
- Creative use of the algorithms
Contact

• Lectures, practicals – active hours

• http://courses.cs.ut.ee/2012/algorithms

• Email (vilo @ ut.ee)
• 6 EAP * 26 h/EAP = 156 h

• (22 * 2) + (13 * (2 + 3)) + 14 + 30 + 3 = 156
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.