Advanced Algorithmics (6EAP)
MTAT.03.238
https://courses.cs.ut.ee/2017/algorithmics/fall
Organisation of course
Jaak Vilo
2017 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
  - STACC – Software Technologies and Applications Competence Center (Tarkvara TAK)
  - research projects

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

Short CV

EMBL-EBI
EGeen
QureTEC
BI2IT
STACC

Contacts:

- Jaak Vilo  vilo @ ut.ee
- Mari-Liis Allikivi  ml.allikivi @ gmail.com
- Dmytro Fishman  dmytro.fishman @ ut.ee
- ati.algorithms @ lists.ut.ee (lists.ut.ee )
- https://courses.cs.ut.ee/2017/algorithmics/fall
- Office – Liivi 2 - 215 and 311

Contact hours

- Lectures: Jaak Vilo
  - Tue 10-12 (403)
  - Thu 10-12 (403)
  - In total about 23-25 lectures (not 32)

- Weekly practical sessions (homework):
  - group 1. Tue 12-14  L 403 (Mari-Liis Allikivi)
  - group 2. Thu 12-14  L 403 (Mari-Liis Allikivi)
  - group 3. Fri 12-14  L 403 (Dmytro Fishman)
### Course Grade
- Lectures
- Homework: 30 + bonus points 0-30
- Project: 20
- Essay: 10
- Exam: 40

All components obligatory

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
- 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, ...)

---

### 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></th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td>22</td>
</tr>
<tr>
<td>Practice sessions</td>
<td>12</td>
</tr>
<tr>
<td>Homeworks</td>
<td>60</td>
</tr>
<tr>
<td>Essay</td>
<td>16</td>
</tr>
<tr>
<td>Project</td>
<td>40</td>
</tr>
<tr>
<td>Exam preparation</td>
<td>8</td>
</tr>
<tr>
<td>Exam</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>155</strong></td>
</tr>
</tbody>
</table>

EAP

- 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.