Algorithms 1 (234247)
Winter 2016-2017 Syllabus

1 Staff

Lecturers

• Prof. Eldar Fischer (Lecturer in Charge)
• Gilad Kutiel

Teaching Assistants

• Yaron Fairstein (TA in Charge)
• Ran Yeheskel
• Shafik Nassar
• Ayelet Kravi
• Rana Shahut

2 Course Material

<table>
<thead>
<tr>
<th>Topic</th>
<th>Approx. Time</th>
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<tbody>
<tr>
<td>Breadth First Search(BFS)</td>
<td>2 hours</td>
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<tr>
<td>Depth First Search(DFS)</td>
<td>2 hours</td>
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<tr>
<td>Inseparable Components / Strongly Connected Components</td>
<td>2 hours</td>
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<tr>
<td>Minimum Spanning Trees (MST)</td>
<td>3 hours</td>
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<tr>
<td>Shortest Path Problem</td>
<td>3 hours</td>
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<tr>
<td>Greedy Algorithms</td>
<td>3 hours</td>
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<tr>
<td>Dynamic Programming</td>
<td>5 hours</td>
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<tr>
<td>• Including All-Pairs Shortest Path (APSP) Problem .</td>
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<tr>
<td>Maximum Flow Problem</td>
<td>6 hours</td>
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3 Grading

The grade will consists of 20% homework and a final exam worth 80%.

4 Exam Dates

• Moed A will take place on Monday, January 29th, 2018.
• Moed B will take place on Tuesday, February 27th, 2018.
5 Homework Policy

There will be 5 homework assignments, which are submitted in pairs (assignments not submitted in pairs are not checked, and will not count as a submission!). Submission of at least three assignments (out of the five) is mandatory. The assignments’ grade is calculated by the top four highest grades, so if only three assignments are submitted, the fourth grade is a zero.

6 Workshops

After each home assignment we will hold workshops in which we will go through common mistakes, and you can consult the TAs after the assignment is due. We highly recommend that you take advantage of this opportunity to make the most out of the course!

7 Course Website

The course has an online website at http://webcourse.cs.technion.ac.il/234247. You are expected to visit the website and update frequently. The course also has a mailing list; make sure you are registered for receiving updates (Auto Update on the GR website).

8 Literature

The course textbooks are:

- **Lectures booklet**, written by Prof. Shlomo Moran in 2015

Notes regarding the books:

1. There is a third edition of the Introduction to Algorithms book. The course follows the second edition.
2. There is a Hebrew translation of Chapters 1-7 of the Algorithm Design book.
3. On the course website you can find a lecture notes booklet. The booklet contains most of the studied material, although there may be some differences. In any case, the exam is based on the material taught during the lectures and tutorials.