Algorithms 1 (234247)
Spring 2018 Syllabus

1 Staff

Lecturers

- Roy Schwartz (Lecturer in Charge - no frontal teaching)
- Yohay Kaplan
- Gilad Kutiel

Teaching Assistants

- Yaron Fairstein (TA in Charge - no frontal teaching)
- Ran Yeheskel
- Shafik Nassar
- Ayelet Kravi
- Rana Shahut
- Michal Friedman
- Zuphit Fidelman

2 Course Material

Topic	Approx. Time
Breadth First Search(BFS)	2 hours
Depth First Search(DFS)	2 hours
Strongly Connected Components	2 hours
Minimum Spanning Trees (MST)	3 hours
Shortest Path Problem	3 hours
Greedy Algorithms	3 hours
Dynamic Programming	5 hours
• Including All-Pairs Shortest Path (APSP) Problem .	
Maximum Flow Problem	6 hours

3 Grading

There will be two "magen" mid-term tests, each consisting of 10% separately. The rest of the grade is determined by the final exam.

4 Magen Mid-Term Dates

- Mid-term 1 will take place on Tuesday, May 8th, 2018.
- Mid-term 2 will take place on Tuesday, June 5th, 2018.

5 Exam Dates

- Moed A will take place on Tuesday, July 24th, 2018.
- Moed B will take place on Wednesday, October 3rd, 2018.

6 Workshops

Each week a collection of questions will be published. The questions will be solved in workshops held at the following week. We highly recommend solving these questions and participating in the workshops to make the most out of the course! In addition, the magen mid-terms will contain mostly questions from these collections.

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 follow the updates 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:

- **Introduction to Algorithms**, T.H. Cormen, C.E. Leiserson, R.L. Rivest, C. Stein, MIT Press, 2nd edition, 2001.
- **Graph Algorithms**, S. Even, Computer Science Press, 1979.
- **Algorithm Design**, J. Kleinberg , E. Tardos, Addison Wesley, 2006.
- **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.