

## *The Hebrew University of Jerusalem*

### *Syllabus*

## **ALGORITHMIC PROBLEM SOLVING - 67573**

*Last update 26-10-2015*

*HU Credits:* 3

*Degree/Cycle:* 1st degree (Bachelor)

*Responsible Department:* computer sciences

*Academic year:* 0

*Semester:* 1st Semester

*Teaching Languages:* Hebrew

*Campus:* E. Safra

*Course/Module Coordinator:* Jonathan Mosheiff

*Coordinator Email:* [Jonathan.Mosheiff@mail.huji.ac.il](mailto:Jonathan.Mosheiff@mail.huji.ac.il)

*Coordinator Office Hours:* By appointment

*Teaching Staff:*

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Mr. Jonathan Mosheiff  
Mr. Oren Becker

Course/Module description:

*In this course we will develop problem-solving skills by dealing with "Olympiad Tasks" - beautiful problems with highly elegant solutions. Through these problems, various topics in algorithms will be taught. The following are among the topics that we will cover:*

*Range Minimum Queries,  
Lowest Common Ancestor,  
Suffix Trees and Suffix Arrays,  
Dynamic Programming,  
Pattern Matching,  
Some Computational Geometry,  
Fenwick Trees,  
Randomized Data Structures,  
Dynamic Graph Data Structures,  
Geometric Data Structures*

Course/Module aims:

NA

Learning outcomes - On successful completion of this module, students should be able to:

NA

Attendance requirements(%):

0

*Teaching arrangement and method of instruction: Lectures and exercises.*

Course/Module Content:

NA

Required Reading:

NA

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Additional Reading Material:

"Algorithmic Problem Solving" by the lecturers.

Course/Module evaluation:

End of year written/oral examination 80 %

Presentation 0 %

Participation in Tutorials 0 %

Project work 0 %

Assignments 10 %

Reports 0 %

Research project 0 %

Quizzes 10 %

Other 0 %

Additional information:

NA