

Course page: 0510-7407  
Advanced Topics in Hardware Design  
Spring 2007  
Dr. Guy Even  
[http://hyde.eng.tau.ac.il/Advanced\\_Hardware](http://hyde.eng.tau.ac.il/Advanced_Hardware)

## 1 Place & Time

- Class: Sundays 16:10-20:00, 103 , Techna.

## 2 People

- Dr. Guy Even  
Office Hours: Wednesdays 10-11, Room 202,  
Computer Engineering and Software Engineering Building . Tel: 640-7769

Please coordinate meetings either by email or by phone.

## 3 Syllabus

Most of these topics will be covered:

- Computer Arithmetic: focus on floating point arithmetic and the IEEE standard for IEEE floating point arithmetic.
- Systolic arrays and retiming.
- Theory of VLSI: models for area, time and area tradeoffs, lower bounds.
- Comparator Networks.
- Parallel algorithms and architectures.

## 4 Bibliography

Most of the material is based on articles that will be distributed to the students.

## 5 Course Requirements

Course grade will be determined as follows:

1. Homework: 5 homework assignments will be given. Homework grade will constitute roughly 20% of the final grade.
2. Project: Each student is required to complete a project. Projects can be: (1) implementation of circuits in HDL, or (2) summary of an article. Project grade will constitute 20% of the final grade.
3. Final exam.

Remarks:

- Students absent due to military service should contact me in advance to coordinate submission of homework assignments during their service.
- Homework may NOT be submitted in pairs.
- Students unable to attend the final exam are requested to inform me of this event as soon as possible.