

MIDDLE EAST TECHNICAL UNIVERSITY  
Department of Computer Engineering

**CEng 315 - Algorithms**

**Instructors**

Prof. Dr. Adnan Yazıcı                      A-306 (Sec. 02 and Sec. 03)  
Prof. Dr. İ. Hakkı Toroslu                A-407 (Sec. 01)

**Teaching Assistant**

Kerem Hadımlı

**Outline**

1. Introduction to Algorithms
  - Algorithms, Analysis and Design
2. Algorithm Analysis
  - Growth of Functions
  - Summations
  - Recurrences
3. Sorting
  - Comparison-Based Sorting
  - Sorting Algorithms in Linear Time
4. Searching
  - Hashing
5. Graph Algorithms
  - Elementary Graph Algorithms
  - Minimum Spanning Trees
  - Single-Source Shortest Paths
  - All-Pairs Shortest Paths
  - Maximum Flow
6. String Processing
  - String Matching
  - Huffman codes
7. NP-Completeness

**Textbook**

*Introduction to Algorithms* by Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, Cliff Stein, Mc Graw-Hill.

**Grading**

|                 |     |
|-----------------|-----|
| 3-4 Assignments | 25% |
| 1 Mid-term      | 35% |
| 1 Final         | 40% |

**Policy:**

- Class attendance is not mandatory, but it is highly recommended. we may at times cover material that is not included in the text, and anything we cover in class could appear on an exam.
- The homework assignments that are designated as individual assignments must be completed individually. Copying from others, either from fellow students or off the internet is strictly forbidden and will surely constitute grounds for failure.

Midterm will be on xx-November-2009.