

MIDDLE EAST TECHNICAL UNIVERSITY
Department of Computer Engineering ---Spring 2006

COURSE INFORMATION (Graduate Students Only)

- 1) Course Code and Title: **CENG 567 - Design and Analysis of Algorithms**
- 2) Credit Hours: (3-0) 3
- 3) Class Days and Time: Thursday 13:40 – 15:40
- 4) Instructor: Prof. Dr. Adnan YAZICI
Phone: 210 5583
e-mail: yazici@ceng.metu.edu.tr
office: A306
- 5) Text book: Introduction to Algorithms, T.H. Cormen, C.E. Leiserson, and R.L. Rivest, McGraw Hill & MIT Press
- 6) Other related Book(s):
 - 1) Fundamentals of Sequential and Parallel Algorithms, by Kenneth A. Berman and Jerome L. Paul, PWS Publishing Company
 - 2) Algorithms by R. Sedgewick, Addison Wesley
 - 3) Fundamentals of Computer Algorithms by E. Horowitz & S. Sahni, Computer Science Press

Additional Reading:

A number of technical papers and manuscripts.

- 7) Laboratory work required and departmental facilities for experiments: General purpose computing facilities on campus will be sufficient.

- 8) Grading Policy

Midterm	30 %
Final Exam	35 %
Project	15 %
Presentation	10 %
Assignments	15 %

9) Syllabus:

Introduction
The Complexity of Algorithms
Amortized Analysis
Lower and Upper Bound Theory
The Major Algorithm Design Paradigms
 Divide and Conquer
 Greedy Approach
 Dynamic Programming
 Backtracking
 Branch and Bound
NP-Complete and NP-Hard Problems
Approximation Algorithms
Other Additional Topics

Note: The instructor should feel free to modify the content, order of presentation, and the time allocated to each subject.

Another note: All students in this class are bound by the Department of Computer Engineering Guidelines for Students and the Honor Code of the Faculty of Engineering.