CENG 707 – Data Structures and Algorithms
Course Outline, Fall 2004

INSTRUCTOR: Dr. Faruk Tokdemir

INTRAUCTION
- Review of CENG230
- Other C Structures: Text Files, Pointers, String Operations, Strucs and Unions, Binary Files

INTRODUCTION TO DATA STRUCTURES
- Classification of Data Structures
- Definition and Terminology
- System Software Life Cycle

SPACE AND TIME CONSIDERATIONS
- The Big-O Notation
- Simple Sorting Algorithms

STACKS AND QUEUES
- Basic Stack Operations
- Infix, Postfix and Prefix Notation of Arithmetic Expressions
- Conversions and Evaluations of Arithmetic Expressions
- Basic Queue Operations Circular Queues

RECURSION
- Recursion in C, Examples

TREE STRUCTURES
- Binary Trees and Binary Search Trees
- Basic Tree Operations
- Traversing in a Binary Tree
- Arithmetic Expressions in a Binary Tree
- General Trees and Their Implementations

TENTATIVE GRADING
- 20% Midterm 1
- 25% Midterm 2
- 35% Final
- 20% Projects, Homeworks, Attendance

Book available at the bookstore

RECOMMENDED READINGS FOR C PROGRAMMING
- C: How To Program by H.M. Deitel, P.J. Deitel, Prentice-Hall, 2001
- Problem Solving using C by Yuksel Uckan, McGraw-Hill, 1999
- Problem Solving and Program Design in C by J.R. Hanly, E.B. Koffman, Addison-Wesley, 1999

RECOMMENDED READINGS FOR DATA STRUCTURES
- Data Structures and Algorithm Analysis in C by M.A. Weiss, Addison-Wesley, 1997
- Data Structures and Program Design in C++ by R.L. Kruse and A.J. Ryba, Prentice Hall, 1999
- Data Structures, Algorithms & Software Principles in C by T.A. Standwich, Addison-Wesley, 1995