

COMP242 Advanced Programming

Fall 2008 Syllabus

Instructor	Öznur Özkasap, Assistant Professor of Computer Engineering Office: Eng144, Phone: 338 1584, oozkasap@ku.edu.tr Office hour: Tue, Thu 14:00-15:00 (or by appointment)
Teaching Assistants	C. Göktuğ Gürler Gül Seda Ünal Murat Yatağan Özgün Genç cgurler@ku.edu.tr gunal@ku.edu.tr myatagan@ku.edu.tr ogenc@ku.edu.tr
Course hours	Tuesday, Thursday 15:30 – 16:45, Eng-B29
Lab hour	Friday 12:30 – 13:45, Sos-Z07-Z08-Z13
Course web	http://portal.ku.edu.tr/~oozkasap/comp242
Course material	(Storage server) F:\COURSES\UGRADS\COMP\COMP242
Description	Advanced programming techniques using C and C++. Introduction to the C and C++ languages. Functions. Arrays and pointers. C++ classes. Dynamic storage allocation, memory management. Operator overloading. Inheritance. Virtual functions and polymorphism. C++ Stream Input/Output. Templates. Exception Handling. File processing. Bits, characters, strings and structures. The Standard Template Library.
Prerequisite	Introductory computer programming course (Comp 131 or Comp 130)
Textbooks	<i>C How to Program, 5th Edition, H.M. Deitel and P.J. Deitel, Prentice Hall, 2007 (required)</i> C++ How to Program, 5th Edition, H.M. Deitel and P.J. Deitel, Prentice Hall, 2005
Reference books	C Programming Language, 2nd Ed, B.W.Kernighan and D.M.Ritchie, Prentice Hall Programming in C++: Lessons and Applications, Timothy B. D'Orazio, McGraw Hill, 2004.
Compiler	We will use Microsoft® Visual Studio 6.0 C/C++ compiler.
Course elements	During the lab hour on Fridays, there will be in-lab programming quizzes which will constitute a majority of your in-semester grade. In order to help you prepare for the quizzes, there will be homework assignments about the concepts covered in class. Besides, lecture slides and program source codes used in the lectures will be posted on the course folder. Homeworks will not be graded, and hence you are not required to submit your homework solutions. For your self-study, homework solutions will be posted through the course web site. There will be a final exam during the finals' week (Jan 12-22).
Attendance	Students taking this course are required to attend classes and lab sessions <u>on time</u> . Attendance will be taken, and no late comers will be allowed.

Tentative Outline

Topics

Reading

(*C How to Program, 5th ed, Deitel&Deitel, 2007*)

Introduction

Chapter 1

Procedural Programming Concepts:

Overview of C

Chapter 2, Sections 3.11-3.12, Sections 9.1-9.5

Program control

Sections 3.1-3.10, Chapter 4

Design with functions

Chapter 5

Call by value and call by reference

Arrays, Pointers

Chapter 6, Chapter 7

Strings

Chapter 8

Structures, Enumerations

Chapter 10

File processing

Sections 11.1-11.5

Programming in the large

Dynamic memory allocation

Sections 12.1-12.4 and 14.11

Windows API

Object-oriented Programming Concepts:

Overview: C++ enhancements to C

Chapter 18

C++ classes and data abstraction

Chapter 19

C++ classes: advanced concepts

Chapter 20

Operator overloading

Chapter 22

Inheritance

Chapter 23

Polymorphism and Virtual functions

Chapter 24

Templates

Chapter 25

Exception Handling

Chapter 27

File Processing

Sections 17.1-17.6 (*C++ book*)

Class string and Stream processing

Chapter 18 (*C++*)

Introduction to Standard Template Library

Sections 23.1 and 23.2.1 (*C++*)

Microsoft Foundation Classes

Grading

Quizzes	60%
Final exam	35%
Class/Lab attendance	5%

Your quiz average should be at least 50 over 100 in order to get a passing grade.

Academic Honesty

The students taking this course are expected to submit their own work in all assignments and exams. Academic dishonesty includes using other people's words or ideas without acknowledgement, cheating on exams and assignments. In case any of the academic dishonesties are disclosed, disciplinary action and/or reduction of the final letter grade will follow.