

| | |
|--------------|--|
| Course ID | CS116 |
| Course Name | INTRODUCTION TO PROGRAMMING II |
| Semester | Spring 2009-2010 |
| Instructor | ilker Korkmaz |
| e-Mail | ilker.korkmaz@ieu.edu.tr |
| Class Times | Wednesday 8:30-12:20 and Friday 8:30-12:20 |
| Office Hours | To be announced (TBA). |
| Text book | Textbook: A Book on C, AI KELLEY and Ira POHL, ISBN: 0201183994 Reference tutorials: Available C tutorials on the Web (ex: http://www.iu.hio.no/~mark/CTutorial/CTutorial.html). Free software: GNU Compiler Collection (a.k.a GNU C Compiler), www.gnu.org |
| Objectives | This course is a continuation of CS115. It will further introduce concepts such as recursion, and data structures. As the initial steps in studying data structures, compound structures, strings, records, sets, file types, linked lists, stacks, and queues are dissected. Moreover, libraries and linking, error handling, pointer expressions, implementation issues will be studied. It is also expected that a major programming term project has to be accomplished during this course. Prerequisite: CS115. |

COURSE OUTLINE

| <u>Week#</u> | <u>Topic</u> | <u>LAB HOUR</u> |
|--|---|-----------------|
| 1 | Review on CS115 - Part I: functions, call-by-value, call-by-reference, and recursion. | NO LAB |
| 2 | Review on CS115 - Part II: arrays, pointers and strings. | NO LAB |
| 3 | Structures and Unions - Part I: <code>struct</code> keyword and structures, accessing members of a structure, using structures with functions, initialization of structures. | LAB #1 HW #1 |
| 4 | Structures and Unions - Part II: union keyword and unions, bit fields, <code>struct</code> and union examples. | LAB #2 HW #2 |
| 5 | Structures and List Processing - Part I: self referential structures, linear linked lists, storage allocation, list operations. | LAB #3 HW #3 |
| 6 | Structures and List Processing - Part II: list processing functions: Creation, Counting, Insertion, Deletion, | LAB #4 HW #4 |
| 7 | Structures and List Processing - Part III: stacks and queues. | QUIZ #1 |
| 8 | Review before Midterm | NO LAB |
| MIDTERM (on April 10th) | | |
| 9 | Structures and List Processing - Part IV: binary trees and tree traversal, general linked lists and list traversal. | LAB #5 |
| 10 <i>(no class on April 23rd)</i> | Problem solving session for Wednesday section. No lecture (<i>holiday</i>) for Friday section. | NO LAB |
| 11 | Input/Output - Part I: I/O functions. | LAB #6 |
| 12 | Input/Output - Part II: file operations, accessing a file randomly, file descriptor I/O, file access permissions. | QUIZ #2 |
| 13 | Advanced Issues: timing C codes, debugging Codes; dynamic allocation of matrices. | Lab quiz |

| | | |
|---|---|---------------|
| 14 <i>(no class on May 19th)</i> | Problem solving session for Friday section. No lecture (<i>holiday</i>) for Wenesday section. | <i>NO LAB</i> |
| 15 | Review before Final + Project presentations | <i>NO LAB</i> |
| Evaluation | Homework 5 pts. Lab 10 pts Project 10 pts Quiz 10 pts Midterm 30 pts Final 35 pts | |
| Attendance | %80 for labs. %70 for lectures. | |
| Course Policies | Discussions of problems and assignment with your classmates are welcomed and encouraged, however, sharing of solutions is not. Needles to say, cheating will not be tolerated and subject to disciplinary action. Any work that is shared by two students will not be graded at all. In case of verifiable emergencies for exams and assignments, arrangements must be made with the instructor. | |