CSCI 110 OUTLINE

FUNDAMENTALS OF COMPUTER SCIENCE

TEXT: An Introduction to CS Using C Eggen/Eggen

Approved: **Effective: FALL 2007**

MATERIAL TO BE COVERED	SECTIONS FROM TEXT	TIME LINE
Introduction: general computer organization, memory organization and data representation, processor capabilities, algorithms and problem solving. Binary and hexadecimal number systems, conversion between bases, representation of negatives using two's complement, binary arithmetic.	1.1 - 1.4	5 Hours
Operating systems, programming fundamentals, understanding C, writing your first C program.	2.1 - 2.4	3.75 Hours
Data types: int, float, double, char. Representing floating point (KEEE754). Pointers, addressing and dereferencing. Variables, assignment, arithmetic. Input and output: scanf(), getc(), gets(), printf(). Strings and string functions. Arrays and structures.	3.1 - 3.4	6.25 Hours
Selection: simplte if, if else, nested ifs, switch. Repetition: for, while, do while. Nested loops. Applications: linear and binary search, selection and bubble sort.	4.1 - 4.4	5 Hours
Pointers. Functions. Call by value, call by reference. Passing arrays as arguments to functions. Software engineering, structured programming, modularity, debugging. Software documentation, software testing.	5.1 - 5.4	7.5 Hours
Introduction to recursion and examples. Operating system support to recursion: activation records. Command line arguments. Scope. Recursive binary search and quickshot (optional).	6.1 - 6.4	3.75 hours
Pointers and dynamic memory allocation: malloc, calloc, realloc. Deallocation: free. Ragged arrays in C. Applications: linked lists and binary trees (optional).	7.1 - 7.3	3.75 Hours
Sequential files, random access files. Merge sort (optional).	8.1 - 8.3	5 Hours

*** One Hour = 1 hour of face time. ****This outline allows for 3 hours of exams.

16 Week Term : 1 week = 2.8333 hours (face time) 6 Week Term: 1 week = 7.5 hours (face time)

NOTES:

Keep in mind that most holidays affect M/W or MWF classes, so this timeline -- NOT the topical outline --may need
At least one to three exams plus a comprehensive final will be given during the semester.

Submitted by: Pop