KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
COMPUTER ENGINEERING DEPARTMENT

ICS 103: Computer Programming in C
Term 092 Lecture Breakdown

Lec #	Date	Topics	Ref.
1	U 21/2	No Class.	
2	T 23/2	No Class.	
	S 27/2 (Makeup)	Syllabus. Overview of Computers, Hardware & Software, Computer Hardware Components of a Computer, Memory, Computer Software.	1.1-1.5, H1
3	U 28/2	No Class.	
4	T 2/3	Memory, Computer Software, Computer Languages, Compiler, Software Development Method.	1.1-1.5, H1
	S 6/3 (Makeup)	Pseudo code & Flowchart. Overview of C: History & Philosophy, Why C? What's Missing? General Form of a C program: Preprocessor Directives, Comments, The "main" Function, Variables and Data Types, Executable Statements, Input/Output Operations and Functions, The printf Function, The scanf Function, Assignment Statements, return Statement, Reserved Words, Identifiers, Punctuation and Special Symbols, Formatting Numbers in Program Output (for integers).	1.1-1.5, H1 & 2.1-2.5, H2, H3
5	U 7/3	C Arithmetic Expressions, C Operators, Data Type of an Expression, Mixed-Type Assignment Statement, Type Conversion Through Casts, Expressions with Multiple Operators, Rules for Evaluating Expressions, Writing Mathematical Formulas in C, Programming Style, Bad Programming practices.	3.1-3.3, H4
6	T 9/3	Introduction to Functions, Predefined Functions and Code Reuse, Some Mathematical Library Functions. **(Quiz#1)**	3.4,3.5, H5
7	U 14/3	Simple User-defined Functions, Function Prototypes, Function Definition, Placement of Functions in a program, Execution Order of Functions. Control Structures, Compound Statements, Conditions,	3.4,3.5, H5 & 4.1-4.5, H6

		Relational and Equality Operators, Logical Operators.	
8	T 16/3	Operator Precedence, Character Comparison, Logical Assignment, Complementing a condition, DeMorgan's Theorem, *if* statement: Two alternatives, One alternative, Nested if Statements, Multiple-Alternative Decision Form, Common if statement errors.	4.1-4.7, H6
9	U 21/3	Switch statement, Nested if versus switch, Common Programming Errors.	4.6-4.7, H6
10	T 23/3	Repetition in Programs, Counting Loops, While Statement, Compound Assignment Operators, For Statement, Increment and Decrement Operators.	5.1-5.5, H7
	Th. 25/3	**Major Exam I**	
11	U 28/3	Prefix and Postfix Increment/Decrement. Conditional Loops, Sentinel Controlled Loops, Nested Loops.	5.5-5.8, H7
12	T 30/3	No Class.	
	W 31/3	**Last Day for Dropping with W**	
13	U 4/4	Do While Loop. Why data files? Steps For Using Data Files, Declaring FILE pointer variables, Opening data files for input/output, Scanning from and printing to data files, Closing input and output files, Handling File not found error, EOF-controlled Loops.	5.6-5.8, H7 & 2.6, H8
	M 5/4 (Makeup)	Types of Functions, void Functions with Input Arguments, Actual Arguments & Formal Parameters, Writing Modular Programs using Functions, Functions with Input Argument and a Single Result.	6.1, H9
14	T 6/4	Re-usability of Functions, Logical Functions, Functions with Multiple Arguments, Function Data Area, Testing Functions Using Drivers, Why do we use Functions? Common Programming Errors.	6.1, H9
15	U 11/4	Introducing Functions that return multiple results, What is a Pointer variable? **(Quiz#2)**	6.3 , 6.5, H10
16	T 13/4	Functions returning multiple results, Triple use for Asterisk (*), Examples of Functions Returning Multiple Results. Examples of Functions Returning Multiple Results.	6.3 , 6.5, H10
	17/4-21/4	**Midterm Vacation**	
17	U 25/4	Introducing Recursive Functions, Format of recursive Functions, Recursive Factorial,	6.6, H11

		Tracing Recursive Functions, Recursive Multiplication, Recursive Power Function. Recursive Fibonacci Function, Tracing using Recursive Tree.	
18	T 27/4	What is an Array? Declaring Arrays, Array Initialization, Array Subscripts, Accessing Array Elements. **(Quiz#3)**	7.1-7.3, H12
19	U 2/5	Accessing Array Elements, Array Examples. Using array elements as function arguments: Examples. Using arrays as function arguments.	7.4, H13
20	T 4/5	Using arrays as function arguments: Examples. Returning an array result: Examples.	7.4, H13
	W 5/5	**Last Day for Dropping all Courses with W**	
21	U 9/5	Partially filled Arrays. Introduction to Searching, Linear Search Algorithm, Binary Search Algorithm, Binary Search Implementation.	7.5, H14
	U 9/5 (Makeup)	Introduction to Sorting. Selection Sort Algorithm, Selection Sort Implementation, Bubble Sort Algorithm, Bubble Sort Implementation.	7.5, H14
22	T 11/5	Review for Major Exam II.	
	Th. 13/5	**Major Exam II**	
23	U 16/5	What is a String? Input/Output with printf and scanf, Input/Output with gets and puts, Input/Output with fgets and fputs.	7.6, H15
24	T 18/5	String Copy (strcpy), String Length (strlen), String Comparison (strcmp), String Concatenation (strcat), String Tokenization (strtok), Searching a string (strchr and strstr). **(Solution of Major Exam II)**	7.6, H15
25	U 23/5	String Comparison (strcmp), String Concatenation (strcat), String Tokenization (strtok). **(Quiz#4)**	7.6, H15
	M 24/5 (Makeup)	Searching a string (strchr and strstr), Character Related functions. Introduction to 2-D Arrays, Declaration of 2-D Arrays, Accessing 2-D Array elements, Initialization of 2-D Arrays, Processing 2-D Arrays.	7.6, H15 & 8.1, H16
26	T 25/5	Processing 2-D Arrays, 2-D Arrays as parameters to functions. 2-D Arrays Example Programs.	8.1, H16
27	U 30/5	No Class.	
28	T 1/6	No Class.	

	W 2/6	**Dropping all Courses with WP/WF**	
29	U 6/6	Array of Strings, Input/Output with Arrays of Strings, Use of *break* in loops, Use of *continue* in Loops.	8.2,8.3, H17
30	T 8/6	Final Exam Review. **(Quiz#5)**	