KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
COMPUTER ENGINEERING DEPARTMENT

ICS 103: Computer Programming in C
Term 132 Lecture Breakdown

Lec #	Date	Topics	Ref.
1	U 26/1	Syllabus. Course Introduction. Overview of Computers, Hardware & Software, Computer Hardware Components of a Computer, Memory, Computer Software, Computer Languages, Compiler.	1.1-1.5
2	T 28/1	Software Development Method, 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.	1.1-1.5 & 2.1-2.5
3	U 2/2	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.	2.1-2.5
4	T 4/2	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.	2.5-2.8
5	U 9/2	Introduction to Functions, Predefined Functions and Code Reuse, Some Mathematical Library Functions. Simple User-defined Functions. Function Prototypes.	3.1-3.3
6	T 11/2	Function Prototypes, Function Definition, Placement of Functions in a program, Execution Order of Functions. **(Quiz#1)**	3.4, 3.5
7	U 16/2	Actual Arguments & Formal Parameters, Argument List Correspondence, The Function Data Area, Local Variables vs. Global	3.4, 3.5

		Variables. Why do we use Functions?	
8	T 18/2	Control Structures, Compound Statements, Conditions, Relational and Equality Operators, Logical Operators. Operator Precedence. Character Comparison.	4.1-4.7
9	U 23/2	Character Comparison, Logical Assignment, Complementing a condition, DeMorgan's Theorem, *if* statement: Two alternatives, One alternative, Nested if Statements. Multiple-Alternative Decision Form.	4.1-4.7
10	T 25/2	Multiple-Alternative Decision Form. Common if statement errors. Switch statement. Nested if versus switch, Common Programming Errors. Repetition in Programs, Counting Loops, While Statement.	4.1-4.7 5.1-5.5
11	U 2/3	While Statement, Compound Assignment Operators, For Statement. Increment and Decrement Operators. Prefix and Postfix Increment/Decrement. Conditional Loops, Sentinel Controlled Loops.	5.1-5.8
12	T 4/3	Sentinel Controlled Loops, Nested Loops.	5.5-5.8
	TH 6/3	**Last Day for Dropping with W**	
13	U 9/3	Do While Loop. **(Quiz#2)**	5.5-5.8
14	T 11/3	Review of Loop questions.	
15	U 16/3	What is a Pointer variable? Functions returning multiple results, Triple use for Asterisk (*), Examples of Functions Returning Multiple Results.	6.1-6.3
16	T 18/3	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.	6.1
	23-29/3	**Midterm Vacation**	
17	U 30/3	Review for midterm exam.	
18	T 1/4	Review for midterm exam.	
	Th. 3/4	**Midterm Exam**	
19	U 6/4	What is an Array? Declaring Arrays, Array Initialization, Array Subscripts, Accessing Array Elements. Array Examples.	7.1-7.3
20	T 8/4	Using array elements as function arguments: Examples. Using arrays as function arguments.	7.4
	TH 10/4	**Last Day for Dropping all Courses with W**	

21	U 13/4	Using arrays as function arguments. Returning an array result: Examples. Partially filled Arrays.	7.4
22	T 15/4	Introduction to Searching, Linear Search Algorithm,. Introduction to Sorting. Selection Sort Algorithm, Selection Sort Implementation.	7.5
23	U 20/4	Introduction to 2-D Arrays, Declaration of 2-D Arrays, Accessing 2-D Array elements, Initialization of 2-D Arrays, Processing 2-D Arrays. **(Quiz#3)**	7.6
24	T 22/4	2-D Arrays as parameters to functions. Parallel Arrays. Enumerated types.	7.6 – 7.7
25	U 27/4	What is a String? Input/Output with printf and scanf. Input/Output with gets and puts.	8.1
26	T 29/4	Input/Output with gets, fgets, puts and fputs. **(Quiz#4)**	8.1
27	U 4/5	String Copy (strcpy), String Length (strlen), String Comparison (strcmp), String Concatenation (strcat), String Tokenization (strtok)	8.2-8.4
28	T 6/5	String Tokenization (strtok), Searching a string (strchr and strstr). Character Related functions. Array of Strings, Input/Output with Arrays of Strings. Sorting array of strings.	8.6 & 8.8
	TH 8/5	**Dropping all Courses with WP/WF**	
29	U 11/5	**(Quiz#5)** Review for Final Exam.	
30	T 13/5	Review for Final Exam.	