UNITED INTERNATIONAL UNIVERSITY

Department of Computer Science and Engineering (CSE)

Course Syllabus

1	**Course Title**	Structured Programming Language
2	**Course Code**	CSE 1111
3	**Trimester and Year**	Fall 2021
4	**Pre-requisites**	CSE 110
5	**Credit Hours**	3.0
6	**Section**	
7	**Class Hours**	
8	**Class Room**	418A
9	**Instructor's Name**	Md Benzir Ahmed
10	**Email**	benzir@cse.uiu.ac.bd
11	**Office**	418A
12	**Counseling Hours**	Saturday: 11:30 AM – 01:00 PM, 02:00 AM – 04:30 PM Sunday: 02:00 AM – 04:30 PM Tuesday: 09:30 AM – 12:30 PM Wednesday: 02:00 AM – 04:30 PM
13	**Text Book**	C - How to Program, (8th Ed. Or later) – Deitel & Deitel
14	**Reference**	1. C Programming: Absolute Beginner's Guide (3rd Edition or later) - Perry and Miller 2. Programming in ANSI C. (6th Edition or later) - E. Balagurusamy
15	**Course Contents (approved by UGC)**	Basic understanding of problem solving; Structured programming language: data types, operators, expressions, control structures (If-else, Switch-case, Loop); Functions and program structure: parameter passing conventions, scope rules and storage classes, recursion; Header les; Pointers and arrays; Strings; Multidimensional array; User dened data types: structures, unions, enumerations; Input and Output: standard input and output, formatted input and output, le access; Variable length argument list; Command line parameters; Error Handling; Graphics; Linking; Library functions.
16	**Course Outcomes (COs)**	

CO	Statement	Bloom's Domain	Program Outcome	Knowledge Profile	Complex Problem	Engineering Activities

CO1	Design problem solutions using programming control structures (conditions and loop).	C	c Design/ development of solutions	Engineering Fundamentals (K3)	Depth of Knowledge (P1)	
CO2	Modularize and reduce redundancy using functions, parameters, and return values.	C	b Problem Analysis:			
CO3	Store and manipulate large amount of data using arrays, structures, pointers, and files.	C	a Engineering Knowledge			

17	**Teaching Methods**	Lecture, Case Studies, Project Developments.
18	**CO with Assessment Methods**	

CO	Assessment Method	(%)
-	Attendance	5
-	Assignments	10
-	Class Tests	15
CO1, CO3	Midterm exam	30
CO2, CO3	Final exam	40

19 Lecture Outline

Class	Topics/Assignments	COs	Reading Reference	Lecture Outcomes/Activities
1	Introduction to basic C program structure, Executing a C program, Declaration and use of variables & data types, Managing input/output operation.	1	Sec 2.2-2.4	Lecture, Exercise, Assignment
2	Introduction to basic C program structure, Executing a C program, Declaration and use of variables & data types, Managing input/output operation.	1	Sec 2.2-2.4	Lecture, Exercise, Assignment
3	Use of Arithmetic, Relational, Logical, Assignment, Increment and decrement operators, Arithmetic expression evaluation, Mathematical functions of math.h.	1	Sec 2.5-2.6	Lecture, Exercise, Assignment
4	Use of Arithmetic, Relational, Logical, Assignment, Increment and decrement operators, Arithmetic expression evaluation, Mathematical functions of math.h.	1	Sec 2.5-2.6	Lecture, Exercise, Assignment
5	Decision making with if, if---else statement, Nesting of if---else statement, The else—if ladder, The switch statements	1	Sec 3.1-3.6, 4.7	Lecture, Exercise, Assignment

6	Decision making with if, if---else statement, Nesting of if---else statement, The else—if ladder, The switch statements	1	Sec 3.11-3.12, 4.7	Lecture, Exercise, Assignment
7	The for, while, do-while repetitive statement. Usage of break and continue	1, 2	Sec 3.7-3.9.	Lecture, Exercise, Assignment
8	The for, while, do-while repetitive statement. Usage of break and continue	1, 2	Sec 4.1-4.6, 4.8-4.12	Lecture, Exercise, Assignment
9	Solve problems such as displaying series, patterns.	1, 2	Chap 4 exercises	Lecture, Exercise, Assignment
10	Introduction, initialization, and use of Arrays.	1, 2	Sec 6.1-6.4, 6.9-6.10	Lecture, Exercise, Assignment
11	Introduction, initialization, and use of 2-D Arrays and matrix operations.	1, 2	Sec 6.11	Lecture, Exercise, Assignment
12	Review	1, 2	Sec 2.2-2.4	Lecture, Exercise, Assignment
	MIDTERM EXAM			
13	Introduction and use of User defined functions.	2,4	Chap 5	Lecture, Exercise, Assignment
14	Introduction and use of User defined functions.	2,4	Chap 5	Lecture, Exercise, Assignment
15	Introduction, Initialization and use of string, Different string handling functions	2,4	Sec 6.5, Chap 8	Lecture, Exercise, Assignment
16	Introduction, Initialization and use of string, Different string handling functions	2,4	Chap 8	Lecture, Exercise, Assignment
17	Introduction and use of structures.	2,3,4	Chap 10	Lecture, Exercise, Assignment
18	Introduction and use of structures.	2,3,4	Chap 10	Lecture, Exercise, Assignment
19	**Pointer**: Introduction to pointers and pointer arithmetic, Directly and indirectly referencing a variable, Pointer operators & and *, Pass-by-reference with pointer arguments.	2,3,4	Chap 7	Lecture, Exercise, Assignment
20	**File I/O:** Introduction to File management system, C File I/O, Opening a file, Reading from or writing to file, Closing a file, Various File-System functions.	2,3,4	Chap 11	Lecture, Exercise, Assignment
21	Recursion	2,3,4	Sec 5.14	Lecture, Exercise, Assignment
22	Solve different function related problems.	2,3,4	Chap 4-11	Lecture, Exercise, Assignment
23	Solve different structure related problems.	2,3,4	Chap 4-11	Lecture, Exercise, Assignment

24	Review	2,3,4		Lecture, Exercise, Assignment

Appendix 1: Assessment Methods

Assessment Types	Marks
Attendance	5%
Assignments	10%
Class Tests	15%
Mid Term	30%
Final Exam	40%

Appendix 2: Grading Policy

Letter Grade	Marks %	Grade Point	Letter Grade	Marks%	Grade Point
A (Plain)	90-100	4.00	C+ (Plus)	70-73	2.33
A- (Minus)	86-89	3.67	C (Plain)	66-69	2.00
B+ (Plus)	82-85	3.33	C- (Minus)	62-65	1.67
B (Plain)	78-81	3.00	D+ (Plus)	58-61	1.33
B- (Minus)	74-77	2.67	D (Plain)	55-57	1.00
			F (Fail)	<55	0.00

Appendix-3: Program outcomes

POs	Program Outcomes
PO1	An ability to apply knowledge of mathematics, science, and engineering
PO2	An ability to identify, formulate, and solve complex engineering problems
PO3	An ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations
PO4	An ability to investigate complex problems using research-based knowledge and research methods design and conduct experiments, as well as to analyze and interpret data
PO5	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice
PO6	The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
PO7	Understand and evaluate the sustainability and impact of professional engineering work in the solution of complex engineering problems in societal and environmental contexts
PO8	An understanding of professional and ethical responsibility
PO9	An ability function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings
PO10	An ability to communicate effectively
PO11	Project management and finance
PO12	A recognition of the need for, and an ability to engage in life-long learning