City University
Department of Computer Science and Engineering
Faculty of Science and Engineering

Course Outline of 1rdYear , First Semester
CSE 1113: Structured Programming Language

Part A **Course Information :**			
Course Code: **Course Title:**	CSE 1213 Structured programming language	**Credit Value:** **Contact Hours:**	**3.0** **40**
Prerequisites:	None	**Total Marks:**	100
Course Type:	Core		
Academic Session:	**Fall 2023**		
Class Routine:	Sat/Mon (11:40-01.00PM)	Class Room:	222
Google Class Room Code:	**56k4yu2**	**Office:**	**Room no-218**
Instructor Name:	**Sabbir Hossen**	**Designation:**	Lecturer
Consultation Hour:	Sat & Mon (2.50 PM - 5.00PM)	**Cell:**	**01757007366**
Email: sabbirhossen00@gmail.com			
Rationale: This course provides an exploration to standard programming structures used to introduce fundamental programming concepts including variables, operators, conditionals, loops, functions, and arrays and their role in problem solving. Course emphasizes structured programming in the development of algorithm solutions to common problems.			
Course Objectives: ➢ To know the basic features of C. ➢ Analyze the structure and role of C. ➢ Apply standard/structured programming techniques including design approaches, use of functions/methods, use of documentation, and avoidance of excessive branching. ➢ Use an integrated programming environment to write, compile, and execute programs involving a small number of source file			
Course Content:			
Introduction of C: C fundamentals and introduction to programming language, **C Tokens:** Identifier and keywords, data types, constants, variables and declarations, expressions **Operators & Expression:** Arithmetic operators, unary operators, relational operator , assignment operators, Special operator Operators & Expression Logical operators, increment & decrement operators, conditional operator, bitwise operator **Taking input user:** input & output operation, formatted input & output **C statements:** if statement, If else statement, Nested If else statement, Else if ladder **C loops:** Switch Statement, While statement, do statement, for statement, Jumps in Loops **Functions:** Defining a function, accessing a function, function prototype, function call, function declaration, Category of function, passing arguments to a function, Passing arrays to function, Passing Strings to			

functions, Recursion **C pointers:** pointer basics, pointer expression, pointer with arrays, pointer to string constant, pointer as parameter, arrays of pointer **Array:** Defining arrays, initializing arrays, Declaration of an array ,Two Dimensional array **Array &Strings :** initializing of multi-dimensional array multidimensional array, build arrays of string **Structure:** Use Structures, Declaring a Structure, Accessing Structure Elements. **Input/output & File:** Introduction, Input and output operations in files, **C Files:** error handling, random access file, command line arguments

Course Learning Outcomes (CLOs)

Course learning Outcomes
CLO1 : **understand** to fundamental programming techniques & features of C
CLO2: **analyze** the source code & output of C
CLO3: **implement** the C language programming for various programming
CLO4: **apply** the knowledge of C language of different solving problem

Mapping of Course CLO and PLO

Course Learning Outcome (CLOs) of the Course	Program Learning Outcome (PLO)											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
CLO1	X	X	X						X			
CLO2		X										
CLO3			X						X			
CLO4												

Part-B: Content of the course

Sl. No	Topic	Teaching Strategy	Assessment Strategy	Corresponding CLOs
Week 1	**Introduction of C:** C fundamentals and introduction to programming language	Lecture, Exercise	Quiz	**1**
Week 2	**C Tokens:** Identifier and keywords, data types, variables and declarations, expressions.	Lecture, Exercise	Quiz	**2**

Week 3	**Operators & Expression:** Arithmetic operators, unary operators, relational operator, assignment operators, Special operator. Logical operators, increment & decrement operators, conditional operator, bitwise operator,	Lecture, Exercise	Quiz, Assignment	**4**
Week 4	**Taking input user:** input & output operation, formatted input & output	Lecture, Exercise	Short question	**2**
Week 5	**C statements :** If statement, If else statement, Nested If else statement, Else If ladder	Lecture, Exercise	Short question	**3**
Week 6	**C loops** : Switch Statement, While statement, do while statement	Lecture, Exercise Small group discussion Exercise	Quiz , Assignment	**2,3**
Week 7	For statement, Nesting of Loops, Multiple Initializations in the for Loop	Lecture Small group discussion Exercise	Short question	**2,3**
Week 8	**Functions:** Defining a function, accessing a function, function prototype, function call, function declaration, Category of function.	Lecture, Exercise	Q/A, Test, Assignment	**4**
Week 9	Passing arguments to a function, Passing arrays to function, Passing Strings to functions, Recursion	Lecture, Exercise	Short question	**3,4**
Week 10	**C pointers :** pointer basics, pointer expression, pointer with arrays, pointer to string constant, pointer as parameter, arrays of pointer	Lecture, Exercise	Q/A, Test, Assignment	**2,3,4**
Week 11	**Array:** Defining arrays, initializing arrays, Declaration of an array ,Two Dimensional array	Lecture, Exercise	Q/A, Test, Assignment	**2,3**
Week 12	**Array &Strings :** initializing of multi-dimensional array multidimensional array, build arrays of string	Lecture, Exercise	Short question	**3,4**
Week 13	**Structure:** Use Structures, Declaring a Structure, Accessing Structure Elements.	Lecture, Exercise	Q/A, Test, Assignment	**2,4**

Week 14	**Input/output & File:** Introduction, Input and output operations in files, **C Files:** error handling, random access file, command line arguments	Lecture, Exercise	Q/A, Test, Assignment	**4**

Part C: Assessment and Evaluation

Assessment Schedule:

Assessment 1	Quizzes	Week 4, Week 10
Assessment 2	Assignments	Week 5, Week 11
Assessment 3	Presentation	Week 5, Week 11
Assessment 4	Mid-Term Exam	Week 7
Assessment 5	Final Exam	Week 15-16

Assessment Strategy:

Continuous Assessment	Class Participation and Performance :	05%
	Class test/ Quiz :	10%
	Assignment/ presentation :	10%
Summative Assessment	Midterm Examination :	25%
	Final Exam :	50%
	Total	**100%**

Part D: Learning Resources

List of References
Course Notes: Follow Lecture notes
Books recommended:

1. Yashavant P. Kanetkar-Let Us C
2. E Balagurusamy- A Text Book of Programming in ANSI C
3. Herbert Schildt – Teach yourself
4. Kernighhan, Ritchie : The C Programming Language
5. Schaums' Outline Series : Programming with C

Online Resources: Use Internet to get documents on specific topics
Facilities Required for Teaching and Learning

Projector, Whiteboard, Internet access from classroom computer, Audio/Visual equipment.