Department of Electronics & Telecommunication Engineering
Faculty of Engineering

Course Profile

Course Title: Structured Programming		**Course Code:** ETE 111
Credit: 3.0	**Total Mark:** 100	**Contact Hour:** 1.5 hr

Rationale: In order to meet up the challenges of ICT and Wireless Communication Sectors, students need to learn about computer programming. This course is designed to teach the students about basic computer programming language which will help them to understand the current generation structured programming language. This course will help them to analyze and create numerous programming related problems professionally in their job field.

Objectives:
1. To learn the basics of computer programming.
2. To explain different computer programming generations and their structures.
3. To improve algorithm design skill through lecturers and exercises.
4. To develop leadership quality through Group works.
5. To grow programming skill through assignments.
6. To expand confidence by doing various practical problems.
7. To become professional programmer in real life problem solving.

Learning Outcomes	Course Content	Teaching Learning Strategy	Assessment Strategy
1. Able to realize the importance of the course. 2. Able to explain Computer programming definition. 3. Able to differentiate between computer programming generations. 4. Able to learn	**Lecture module 1:** Introduction to the course and necessary materials. 1.1 Introduction to Computer Programming. 1.2 Programming Language generations. 1.3 Problem solving process, Algorithms. 1.4 developing an algorithm.	Lecture, Discussion	Q/A, Viva Voce, Observation

problem solving processes.			
1. Able to explain algorithm and its properties. 2. Able to write & test algorithms in different formats.	**Lecture Module 2:** 2.1 Algorithm Properties. 2.2 Algorithm writing processes. (Block, Pseudo code, Flow chart, structure programming, coding) 2.3 Program Testing. 2.4 Introduction to C.	Lecture, Discussion, Problem based learning, Exercise.	Q/A, Observation
1. Able to learn different features of C. 2. Able to write C program structure. 3. Able to compile and program successfully.	**Lecture Module 3:** 3.1 Structure of C 3.2 Features, Data types, operators, Library functions. 3.3 C program writing. 3.4 Main Function, building process & compilation. 3.5 Basic C program writing and output observation.	Lecture, Discussion, Problem based learning, Exercise.	Q/A, MCQ, Viva Voce, Observation
1. Able to identify different types of operator and expressions. 2. Able to write C program using operators and Expressions.	**Lecture Module 4:** 4.1: C fundamentals, identifiers, keywords, variable declaration, 4.2 modifying basic data types, constants, arithmetic and logical expression. 4.3 Different C operators and functions. 4.4 C Program writing using operators and expressions	Lecture, Discussion, Problem based learning, Exercise.	Q/A, MCQ, Viva Voce, Observation
1. Able to learn about data input and output of C program. 2. Able to detect and correct errors.	**Lecture Module 5:** 5.1 Data input & output 5.2 Error detection and correction. 5.3 Introduction to Control statement and types.	Lecture, Discussion, Problem based learning, Exercise.	Assignment, Q/A, MCQ, Viva Voce, Observation
1. Able to understand Decision, Selection and Repetition Control Statements. 2. Able to solve practical problems using control structure. 3. Able to write C program based on real life problems.	**Lecture Module 6:** 6.1 Decision Control Statement(if statement, if with else, nested ifs, Ladder if) 6.3 Selection Statement (Switch-Case Structure) 6.4 Repetition/ Loop statement (while loop, for loop, do-while loop, break statement) nested 6.4 control statements. 6.5 Program writing using control structures.	Lecture, Discussion, Problem based learning, Exercise.	Assignment, Q/A, MCQ, Viva Voce, Observation
1. Able to understand functions and it's necessity in C programming. 2. Able to use	**Lecture Module 7:** 7.1 Introduction to Functions. 7.2 Passing values between Functions. 7.3 Functions Calling, Functions Return. 7.4 Call by value, Call by	Lecture, Discussion, Problem based learning, Exercise.	Assignment, Q/A, MCQ, Viva Voce, Observation

functions in C programming. 3. Able to write C programs using pointers.	references. 7.5 Pointer notation. 7.5 Program Writing using functions.		
1. Able to learn Array. 2. Able to write Program using 1D and 2D array.	**Lecture Module 8:** 8.1 Array initialization 8.2 Passing array elements to a function. 8.3 2D Array. 8.4 Array Program Writing	Lecture, Discussion, Problem based learning, Exercise.	Assignment, Q/A, MCQ, Viva Voce, Observation
1. Able to explain string and its functions. 2. Able to write C programs using String.	**Lecture Module 9:** 9.1 String basics 9.2 String standard library functions. 9.3 Programming with strings.		
1. Able to realize the outcome of the course.	**Module 10:** Course Review, Discussions & Presentation, Course Assignment.	Lecture, Discussion	Presentation

Recommended Books and Materials	
Text Books: **1. Let us C**By YashwantKanetkar, 5th Edition.	***Reference Books:*** **1. Programming with C** By Schaum's Outline **2. C Programming language** By Dennis Ritchie **3. Programming in C** By Balagurusamy

Prepared by

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