

NIRMA UNIVERSITY
Integrated B. Tech. (CSE)-MBA programme
Term - I

L	T	P	C
2	1	2	4

Course Code	CSI0104
Course Title	Fundamentals of Programming

Course Outcomes:

After successful completion of the course, a student will be able to –

1. explain the fundamental programming concepts and methodologies essential to build programs
2. analyze given problem and apply appropriate operator/control construct for programming the same
3. apply array structure and manipulate strings in programming

Syllabus

**Teaching
hours:20**

Unit I

Introduction to Computers and Programming: Introduction to Computers, its Applications and Characteristics, Hardware and Software, Computer Organization, Algorithms and Flowcharts, Programming Languages, Program Development Environment.

3

Unit II

Basic structure of C program: Character set, Tokens, Identifiers in C, Variables and Data Types, Constants, Console I/O Operations.

5

Operators and Expressions: Expressions and Arithmetic Operators, Relational and Logical Operators, Conditional operator, size of operator, Assignment operators and Bitwise Operators.

Unit III

Decision Making and Control Statements: If Statement, Switch Statement, Unconditional Branching using go to statement, While Loop, Do While Loop, For Loop, Break and Continue statements.

6

Unit IV

Arrays: Defining Arrays, Sorting and Searching Arrays, Multidimensional Arrays, Variable-Length Arrays.

6

Characters and Strings: Fundamentals of Characters and Strings, Character-Handling Library Functions, Standard Input/Output Library Functions for strings, String-Manipulation Functions.

Self-Study:

The self-study contents will be declared at the commencement of semester. Around 10% of the questions will be asked from self-study contents.

Laboratory Work:

Laboratory work will be based on above syllabus with minimum 8 experiments to be incorporated.

Tutorial Work:

The tutorial work will be based on the topics covered in the syllabus. Minimum 8 tutorials should be carried out.

Suggested Readings[^]:

1. Deitel and Deitel, 'C How to program', Pearson.
2. E Balagurusamy, 'Programming in ANSI C', McGraw Hill.
3. YashwantKanitkar, 'Let Us C', BPB Publications.
4. Kernighan., Ritchie, 'ANSI C Language', Prentice Hall of India.
5. V Rajaraman, 'Fundamentals of Computers', Prentice Hall of India.

L=Lecture, T=Tutorial, P=Practical, C=Credit

[^]this is not an exhaustive list
