

C Language Syllabus

Introduction and First Program **45 mins**

- Why Programming 21 mins
 - History of C Language 10 mins
 - Hello World Program 14 mins
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Variables and Data types **50 mins**

- Identifiers in C 10 mins
 - Variables and DataTypes 20 mins
 - Constants 20 mins
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Console IO Operations **48 mins**

- Printf and Scanf 39 mins
 - Unformatted IO Functions 09 mins
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Operators and Expressions **70 mins**

- Expressions and Arithmetic Operators 23 mins
 - Relational and Logical Operators 16 mins
 - Bitwise Operators 31 mins
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Control Flow Statements **209 mins**

- If Statement 48 mins
 - Switch Statement 21 mins
 - Unconditional Branching using goto statement 11 mins
 - While Loop 63 mins
 - Do While Loop 07 mins
 - For Loop 33 mins
 - Break and Continue 13 mins
 - Special Cases 13 mins
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Working with Functions **83 mins**

- Introduction and Writing Functions 34 mins
 - Scope of Variables,Storage Classes,Pass byValue and reference 35 mins
 - Recursion 14 mins
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Working with Arrays **89 mins**

• Arrays Declaration and Initialization	20 mins
• Sample Programs using Arrays	23 mins
• Arrays as Function Parameters	18 mins
• 2-Dimensional Array	28 mins

Pointers **142 mins**

• Introduction to Pointers	23 mins
• Pointers as Function Parameter	17 mins
• Pointer Arithmetic	06 mins
• Pointers and Arrays	30 mins
• Function Pointers	32 mins
• Dynamic Memory Allocation using malloc	25 mins
• calloc and comparison with malloc	09 mins

String Handling **76 mins**

• Introduction to Strings	13 mins
• Sample Program	31 mins
• More Sample Programs	09 mins
• Standard String Library Functions	11 mins
• Array of String	12 mins

Structures and Unions **71 mins**

• Declaring and Instantiating Structures	18 mins
• Structure as Parameter and Pointer to Structure	15 mins
• Enumerated Data Type	08 mins
• Union	21 mins
• Bit Fields	09 mins

File Handling **70 mins**

• What is a Stream	18 mins
• File Handling-Writing and Reading Characters	17 mins
• Writing and Reading Structure in Text Format	14 mins
• Writing and Reading in Binary Format	21 mins

Pre-Processor Directives **42 mins**

• Understanding Pre-Processor directives	23 mins
• Header Files and Project	19 mins

Command Line Arguments and Variable Arguments

20 mins

📁 Command Line Argument	09 mins
📁 Variable Number of Arguments	11 mins

Searching and Sorting

157 mins

📁 Linear Search	19 mins
📁 Iterative Binary Search	19 mins
📁 Recursive Binary Search	10 mins
📁 Bubble Sort	21 mins
📁 Selection Sort	16 mins
📁 Insertion Sort	17 mins
📁 Quick Sort	30 mins
📁 Merge Sort	25 mins

Stack

105 mins

📁 Introduction to Data Structures	09 mins
📁 Stack Using Arrays	26 mins
📁 Stack Using Linked List	27 mins
📁 Infix to Postfix Expressions	43 mins

Queue

41 mins

📁 Queue Using Arrays	24 mins
📁 Queue Using Linked List	17 mins

Linked List

144 mins

📁 Introduction to Linked List	14 mins
📁 Single Linked List	54 mins
📁 Double Linked List	34 mins
📁 Circular Linked List	42 mins

Trees

116 mins

📁 Introduction to Trees	27 mins
📁 Programming Tree - 1	51 mins
📁 Programming Tree - 2	38 mins
