



Lesson Plan for TH1-Programming in C
Academic Session 2026-27(W)
Department of Information Technology.
U.C.P. Engineering school, Berhampur

Discipline: IT	Semester: 3rd	Name of the Faculty: Smt. Swagatika Malik, Lecturer Stage-I(IT)
Subject: Prog. in C Code: TH1	No of Days/per week class allotted: 3 P/W	Semester from date: 1/07/2026 To Date: 5/11/2026 No of weeks: 15
WEEK	PERIOD	TOPIC
1 st	1 st	Introduction to C: Types of Programming Languages and overview of C-language
	2 nd	C Fundamentals The "C" character Set
	3 rd	Identifiers and Keywords
2 nd	1 st	Data Types
	2 nd	Constants, Variables and Arrays
	3 rd	Declarations and Expressions
3 rd	1 st	Statements and Symbolic Constants
	2 nd	Operators and Expressions Arithmetic Operators
	3 rd	Unary operators
4 th	1 st	Relational and Logical Operators
	2 nd	Assignment Operators
	3 rd	The Conditional Operator
5 th	1 st	Library Functions
	2 nd	Data Input and Output Preliminaries, Single Character Input-The getchar Function
	3 rd	Single Character Output-The putchar Function
6 th	1 st	Entering Input data-The scanf function
	2 nd	Writing Output Data-The printf function
	3 rd	gets and puts Function
7 th	1 st	Preparing and running a complete C Program: Planning a C Program
	2 nd	Writing a C Program, Entering the Program into the Computer
	3 rd	Monthly Class Test
8 th	1 st	Compiling and Executing the Program, Error Diagnostics, Debugging Techniques
	2 nd	Control Statements Preliminaries, Branching: The if statement, if-else statement, elseif ladder

	3 rd	Looping: while, do-while & for statements, Nested Control Structures
9 th	1 st	The switch statement, The break statement, The continue statement
	2 nd	The Comma operator and The goto statement
	3 rd	1st Internal Assessment
10 th	1 st	User Defined Functions Concepts of a Function Accessing a Function
	2 nd	Function Prototypes, Passing parameters in Functions
	3 rd	Arrays: Defining an Array, Processing an Array
11 th	1 st	Multidimensional Arrays
	2 nd	Arrays and Strings & its Library functions
	3 rd	Pointers: Fundamentals of Pointers, Pointer Declaration
12 th	1 st	Operation on pointers
	2 nd	Passing pointer to a function
	3 rd	Pointers and one-dimensional array
13 th	1 st	Pointers and two -dimensional array
	2 nd	2nd Internal Assessment
	3 rd	Structures and Unions: Defining a Structure, Defining a Structure
	4 th	Doubt Clearing Class
14 th	1 st	Processing a Structure
	2 nd	Quiz Test
	3 rd	Structure and Pointers
15 th	1 st	Arrays of Structure
	2 nd	2nd Internal Assessment
	3 rd	Unions
		Previous Year Question Discussion
		Doubt Clearing Class



LESSON PLAN FOR TH2-PROG.WITH PYTHON
Academic Session 2026-27(W)
Department of Information Technology.
U.C.P.Engineering school,Berhampur

DISCIPLINE: IT	SEMESTER: 3RD	NAME OF THE TEACHING FACULTY: SARADA SAHU
Subject:Prog.With Python Code: TH2	No of Days/per week class allotted:3P/W	Semester from date:14/07/2026 To Date:5/11/2026 No of weeks: 15
WEEK	PERIOD	TOPIC
1 st	1 st	Introduction to Python: Overview of Python: Features and Applications
	2 nd	Setting Up the Python Environment (Python Installation, IDEs)
	3 rd	Setting Up the Python Environment (Python Installation, IDEs)
2 nd	1 st	Python Syntax: Variables
	2 nd	Python Syntax: Data Types
	3 rd	Operators Writing, Executing
3 rd	1 st	Debugging Python Scripts
	2 nd	Control Structures and Functions: Conditional Statements: if, else, elif
	3 rd	Control Structures and Functions: Conditional Statements: if, else, elif
4 th	1 st	Loops: for, while
	2 nd	Loops: for, while
	3 rd	Nested Loops
5 th	1 st	Functions: Defining, Calling
	2 nd	Functions: Defining, Calling
	3 rd	Scope of Variables
6 th	1 st	Introduction to Lambda Functions
	2 nd	Recursion
	3 rd	Data Structures in Python: Lists, Tuples, Sets
7 th	1 st	Dictionaries: Operations and Applications
	2 nd	Doubt Clearing Class
	3 rd	List Comprehensions and Dictionary
8 th	1 st	List Comprehensions and Dictionary
	2 nd	List Comprehensions and Dictionary
	3 rd	Comprehensions Working with Strings
9 th	1 st	Methods and Manipulation
	2 nd	Introduction to Python's Collections Module
	3 rd	File Handling and Modules: File Operations, Reading
10 th	1 st	Writing, and Appending Files
	2 nd	Appending File

	3 rd	Working with CSV and JSON Files
11 th	1 st	Python Modules :Built-In Modules (e.g.,math,os,datetime)
	2 nd	Creating and Using CustomModules
	3 rd	Creating and Using Custom Modules
12 th	1 st	Object-Oriented Programming(OOP)in Python: Understanding Classes and Objects
	2 nd	Object-Oriented Programming (OOP)in Python: Understanding Classes and Objects
	3 rd	ConceptsofEncapsulation
13 th	1 st	Inheritance
	2 nd	Polymorphism
	3 rd	Wor kingwithMagicMethodsandOperatorOverloading, Exception Handling in Python
	4 th	Advanced Python and Applications: IntroductiontoLibraries: NumPy, Pandas, Matplotlib
14 th	1 st	BasicsofWebScraping:UsingrequestsandBeautifulSoup
	2 nd	UsingrequestsandBeautifulSoup
	3 rd	ScriptingforAutomation: WorkingwithOSandshutilModules,
15 th	1 st	PreviousYearQuestionDiscussion
	2 nd	Mini-Project:DevelopingaPythonScriptforaReal-WorldProblem
	3 rd	Mini-Project:DevelopingaPythonScriptforaReal-WorldProblem



LESSON PLAN FOR TH3-DATA STRUCTURE AND ALGORITHM
Academic Session 2026-27(W)
Department of Information Technology.
U.C.P. Engineering school, Berhampur

LESSON PLAN OF 2026-2027		
(3 RD SEMESTER IT)		
DISCIPLINE: IT	SEMESTER: 3RD	NAME OF THE TEACHING FACULTY: SARADASAHU
SUBJECT: DSA (TH-3)	NO. OF DAYS/PER WEEK	SEMESTER FROM DATE: 14/07/2026 TO DATE: 5/11/26
	CLASS ALLOTTED: 3	NO. OF WEEKS: 15
WEEK	CLASS DAY	THEORY/ PRACTICAL TOPICS
1 st	1 st	Introduction to Data Structures: Basic Terminology
	2 nd	Classification of Data Structure
	3 rd	Classification of Data Structure
2 nd	1 st	Operations on Data Structure
	2 nd	Asymptotic and worst-case analysis of algorithms
	3 rd	Asymptotic and worst-case analysis of algorithms
3 rd	1 st	Linear Data Structures: Stacks-Introduction to Stacks
	2 nd	Array Representation of Stacks
		Operations on a Stack
	3 rd	Applications of Stacks-Infix-to-Postfix Transformation, Evaluating Postfix Expressions
4 th	1 ST	Queues: Introduction to Queues
	2 nd	Array Representation of Queues, Operations on a Queue
	3 rd	Types of Queues - DeQueue
		Circular Queue
5 th	1 st	Applications of Queues-Round Robin Algorithm
	2 nd	Linked Lists: Singly Linked List, Representation in Memory
	3 rd	Operations on a Single Linked List, Circular Linked Lists
6 ^h	1 st	Circular Linked Lists
	2 nd	Doubly Linked Lists
	3 rd	Linked List Representation and Operations of Stack
7 th	1 st	Linked List Representation and Operations of Queue
	2 nd	Non-Linear Data Structures : Trees-Basic Terminologies
	3 rd	Definition and Concepts of Binary Trees, Representations of a Binary Tree using Arrays and Linked Lists
8 th	1 st	Operations on a Binary Tree-Insertion, Deletion, Traversals

	2 nd	Operations on a Binary Tree-Insertion,Deletion,Traversals
	3 rd	Types of Binary Trees
9 th	1 st	GRAPHS : Graph Terminologies
	2 nd	Representation of Graphs-Set,Linked,Matrix, Graph Traversals
	3 rd	Algorithm Paradigms : Greedy ,Divide and Conquer
10 th	1 st	Greedy ,Divide and Conquer
	2 nd	Branch and Bound
	3 rd	Dynamic Programming and Backtracking.
11 th	1 st	Backtracking
	2 nd	Sorting:The sorting problem.Bubble sort
	3 rd	Selectionsort
12 th	1 st	Insertion sort
	2 nd	Merge sort
	3 rd	Quick sort
13 th	1 st	Searching: Symbol Tables
	2 nd	Binary Search Trees
	3 rd	Balanced SearchTrees.HashTables.
14 th	1 st	Graphs:Definition of adirected and undirected graph, Paths,Cycles,spanningtrees
	2 nd	Directed Acyclic Graphs
	3 rd	Directed Acyclic Graphs
15 th	1 st	Topological Sorting.Minimum Spanning Tree algorithms
	2 nd	Shortest Path algorithms:Dijkstra's algorithm
	3 rd	Flow-based algorithms



Lesson plan for TH-4 Digital Electronics And Computer Organisation

Academic Session 2026-27 (W)

Department of Information Technology,

UCP Engineering School, Berhampur

DISCIPLINE:IT	SEMESTER:3RD	NAME OF THE TEACHING FACULTY: BINOD KUMAR SABATA
SUBJECT: Digital Electronics and Computer Organisation	NO.OF DAYS/PER WEEK	SEMESTER FROM DATE: 14/07/2026 TO DATE: 05/11/2026
	CLASS ALLOTTED: 3	NO.OF WEEKS:15
WEEK	CLASS DAY	THEORY/PRACTICAL TOPICS
1 st	1 st	Introduction to Digital Electronics:
	2 nd	Difference Between Analog and Digital Signals Number Systems
	3 rd	Binary, Octal, Decimal, Hexadecimal Number System
2 nd	1 st	Conversion Between Number Systems
	2 nd	Binary Arithmetic Boolean Algebra
	3 rd	Basic Operations ,
3 rd	1 st	L a w s & Simplification
	2 nd	L a w s & Simplification
	3 rd	Logic Gates and Circuits
4 th	1 ST	Logic Gates: AND, OR, NOT, NAND
	2 nd	NOR, XOR, XNOR
	3 rd	Design and Simplification of Logic Circuits Using Boolean Algebra,
5 th	1 st	Karnaugh Maps (K-Maps) for Simplification
	2 nd	Practical Applications of Logic Gates in Real-World Circuits
	3 rd	Practical Applications of Logic Gates in Real-World Circuits
6 ^h	1 st	Combinational and Sequential Circuits: Combinational Circuits:
	2 nd	Multiplexers, Demultiplexers
	3 rd	Encoders, and Decoders
7 th	1 st	Sequential Circuits:
	2 nd	Flip-Flops (SR, JK, D, T) and Their Applications
	3 rd	Counters:
8 th	1 st	Synchronous and Asynchronous Counters
	2 nd	Registers and Shift Registers: Types and Uses
	3 rd	Fundamentals of Computer Organization
9 th	1 st	Basic Structure of a Computer:
	2 nd	CPU, Memory, Input/Output Devices
	3 rd	Instruction Cycle: Fetch,
10 th	1 st	Decode, Execute Memory Organization
	2 nd	Types of Memory (RAM, ROM, Cache, Virtual Memory),

	3 rd	Introduction to Buses
11 th	1 st	Address Bus, Data Bus, and Control Bus
	2 nd	Processor Architecture and Control
	3 rd	Unit Introduction to Microprocessors and Microcontrollers
12 th	1 st	Basics of Arithmetic Logic Unit (ALU)
	2 nd	Control Unit
	3 rd	Instruction Set Architecture (ISA):
13 th	1 st	RISC vs CISC Pipelining
	2 nd	Performance Optimization in Processors
	3 rd	Input/Output Systems and Advanced Topics
14 th	1 st	I/O Devices and Interfaces
	2 nd	Keyboard, Mouse, Printers
	3 rd	Storage Devices Interrupts and DMA
15 th	1 st	Overview of Modern Trends: Multicore Processors
	2 nd	GPUs, and Embedded Systems, Mini- Project:
	3 rd	Design a Simple Digital Circuit or Simulate a Basic CPU Operation



Lesson plan for TH-5 Computer Graphics & Multimedia
Academic Session 2026-27 (W)
Department of Information Technology,
UCP Engineering School, Berhampur

DISCIPLINE:IT	SEMESTER:3RD	NAME OF THE TEACHING FACULTY: BINOD KUMAR SABATA
SUBJECT: COMPUTER GRAPHICS & MULTIMEDIA	NO.OF DAYS/PER WEEK	SEMESTER FROM DATE: 14/07/2026 TO DATE: 05/11/2026
	CLASS ALLOTTED:3	NO.OF WEEKS:15
WEEK	CLASS DAY	THEORY/PRACTICAL TOPICS
1 st	1 st	Introduction to Computer Graphics:
	2 nd	Image Processing
	3 rd	Picture analysis
2 nd	1 st	Conceptual frame work for interactive graphics
	2 nd	Classification
	3 rd	Hardware: Various display devices,
3 rd	1 st	Video controller, Random-scan display processor
	2 nd	Image scanners
	3 rd	Interaction hardware
4 th	1 ST	Raster Graphics Techniques: Interaction handling
	2 nd	Raster graphics features
	3 rd	Line drawing algorithms,
5 th	1 st	Circle drawing algorithms
	2 nd	Scan conversion
	3 rd	Polygon filling
6 ^h	1 st	Pattern filling, Halftoning
	2 nd	Clipping techniques
	3 rd	Geometric Transformation and Viewing: 2D and 3D transformation
7 th	1 st	Representation and composition
	2 nd	3D viewing
	3 rd	User Interfacing, Interaction handling models,
8 th	1 st	Window management
	2 nd	Window management
	3 rd	Input/Output handling
9 th	1 st	Tool kits
	2 nd	Curves & Surfaces and Solid Modelling
	3 rd	Polygon meshes
10 th	1 st	Parametric cubic curves
	2 nd	Quadric surfaces,

	3 rd	Bezier and B-spline curves
11 th	1 st	Representing solids: sweep representation,
	2 nd	boundary representation, Spatial partitioning
	3 rd	Visibility
12 th	1 st	Hidden line and Hidden surfaces
	2 nd	Floating horizon algorithm
	3 rd	Robert's algorithm
13 th	1 st	Z-buffer List priority algorithms
	2 nd	Rendering
	3 rd	Illumination models
14 th	1 st	Shadows Shading
	2 nd	Transparency
	3 rd	Animation
15 th	1 st	Conversion
	2 nd	Computer Aided animation
	3 rd	Rules & Technology