

## Course 1

**Course ID:**

BTECH\_CSE\_101

**Title:**

Mastering Data Structures & Algorithms

**Description:**

Comprehensive course covering arrays, linked lists, stacks, queues, trees, graphs, sorting, and searching algorithms. Includes

**Learning Outcomes:**

Implement core data structures, Solve algorithmic problems efficiently, Prepare for coding interviews

**Level:**

Intermediate

**URL:**

<https://campusclature.com/courses/dsa>

**Type:**

Concepts

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## Course 2

**Course ID:**

BTECH\_CSE\_102

**Title:**

System Design Fundamentals

**Description:**

Introduction to designing scalable systems, covering load balancing, caching, database design, sharding, and system trade-offs

**Learning Outcomes:**

Understand distributed system design, Apply design patterns, Build scalable architectures

**Level:**

Advanced

**URL:**

<https://campusclature.com/courses/system-design>

**Type:**

Concepts

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## Course 3

**Course ID:**

BTECH\_CSE\_103

**Title:**

Operating Systems - Core Concepts

**Description:**

Covers process management, memory management, file systems, concurrency, and virtualization with real-world examples

**Learning Outcomes:**

Understand OS internals, Manage processes and threads, Implement scheduling algorithms

**Level:**

Intermediate

**URL:**

<https://campusclature.com/courses/operating-systems>

**Type:**

## Course 4

**Course ID:**

BTECH\_CSE\_104

**Title:**

Database Management Systems (DBMS)

**Description:**

Detailed study of relational databases, SQL, normalization, transactions, and indexing with practical implementation in MySQL

**Learning Outcomes:**

Design normalized schemas, Write optimized SQL queries, Understand transactions and ACID properties

**Level:**

Beginner

**URL:**

<https://campusclature.com/courses/dbms>

**Type:**

Concepts

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## Course 5

**Course ID:**

BTECH\_CSE\_105

**Title:**

Computer Networks Explained

**Description:**

Dive into the OSI model, TCP/IP, routing, switching, HTTP/HTTPS, and network protocols with detailed animations and hands-on labs

**Learning Outcomes:**

Understand data transmission, Configure basic networks, Analyze network protocols

**Level:**

Intermediate

**URL:**

<https://campusclature.com/courses/computer-networks>

**Type:**

Mixed

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## Course 6

**Course ID:**

BTECH\_CSE\_106

**Title:**

Compiler Design Made Easy

**Description:**

Understand how compilers work, including lexical analysis, parsing, syntax trees, semantic analysis, and code generation.

**Learning Outcomes:**

Build simple compilers, Understand language parsing, Apply compiler techniques in tools

**Level:**

Advanced

**URL:**

<https://campusclature.com/courses/compiler-design>

**Type:**

## Course 7

**Course ID:**

BTECH\_CSE\_107

**Title:**

Web Development Bootcamp

**Description:**

Learn full-stack web development using HTML, CSS, JavaScript, React, Node.js, and MongoDB. Includes hands-on projects.

**Learning Outcomes:**

Build responsive UIs, Develop REST APIs, Deploy full-stack applications

**Level:**

Beginner

**URL:**

<https://campusclature.com/courses/web-dev>

**Type:**

Projects

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## Course 8

**Course ID:**

BTECH\_CSE\_108

**Title:**

Machine Learning with Python

**Description:**

Covers regression, classification, clustering, neural networks using Python libraries like scikit-learn, TensorFlow, and Keras.

**Learning Outcomes:**

Train ML models, Analyze data trends, Solve real-world prediction problems

**Level:**

Intermediate

**URL:**

<https://campusclature.com/courses/ml-python>

**Type:**

Concepts

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## Course 9

**Course ID:**

BTECH\_CSE\_109

**Title:**

Software Engineering Principles

**Description:**

Covers SDLC, Agile methodologies, software testing, version control, and requirement gathering with industry examples.

**Learning Outcomes:**

Apply Agile practices, Write maintainable code, Collaborate in software projects

**Level:**

Beginner

**URL:**

<https://campusclature.com/courses/software-engineering>

**Type:**

## Course 10

**Course ID:**

BTECH\_CSE\_110

**Title:**

Cloud Computing Essentials

**Description:**

Introduction to cloud platforms like AWS, Azure, and GCP. Learn IaaS, PaaS, SaaS, serverless, storage, and basic DevOps.

**Learning Outcomes:**

Use cloud services, Deploy applications, Understand CI/CD and serverless

**Level:**

Intermediate

**URL:**

<https://campusclature.com/courses/cloud-computing>

**Type:**

Mixed

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