



ELEVO LABS

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Course Overview

Course Details

Course Name: Operating Systems: The Core of Computing

Instructor: Kenji Tanaka

Created On: 16 June, 2025

Updated On: 16 June, 2025

Price: 7000 INR

Duration: 9 weeks

Modules: 6

Language: English, Hindi

Level: Intermediate

Certifications: Yes

Course Description

This course explores the fundamental principles of modern operating systems. You will learn what happens 'under the hood' of your computer, from the moment you press the power button. We cover the four major components of an OS: process management, memory management, file systems, and I/O management. You will study crucial concepts like CPU scheduling, virtual memory, concurrency issues like deadlocks, and how the OS handles files and permissions.

What You'll Learn:

- The role and structure of an Operating System.
- Process Management and CPU Scheduling algorithms.
- Concurrency and Synchronization problems (Deadlocks, Mutexes).
- Memory Management techniques (Paging, Segmentation, Virtual Memory).
- File Systems and Directory Structures.

Who Is This Course For?

This is a foundational course for computer science students and anyone who wants a deep understanding of how software interacts with hardware.

Course Curriculum Details

Module 1: Module 1: Introduction

1 Lessons

1. What is an Operating System? 25min

Module 2: Module 2: Process Management

2 Lessons

1. Processes and Threads 30min

2. CPU Scheduling Algorithms 40min

Module 3: Module 3: Process Synchronization

2 Lessons

1. The Critical-Section Problem 25min

2. Semaphores and Mutexes 35min

Module 4: Module 4: Deadlocks

1 Lessons

1. Deadlock Characterization and Handling **30min**

Module 5: Module 5: Memory Management

2 Lessons

1. Paging and Segmentation **35min**

2. Virtual Memory and Demand Paging **40min**

Module 6: Module 6: File Systems

1 Lessons

1. File Concepts and Directory Structures **30min**

This curriculum is subject to minor adjustments to ensure the most up-to-date and effective learning experience.