

CourseMate

Project Report

Submitted by: [Shubham Mevada]

Date: July 19, 2025

Abstract

CourseMate is a full-stack web application designed to simplify course management for students and instructors. It enables users to register, manage courses, assignments, track progress, and handle free course content visually using an intuitive dashboard. The system is built with a modern tech stack and follows a modular architecture to ensure scalability and maintainability.

Technologies Used

- Frontend: React.js (Vite)
- Backend: Node.js with Express.js
- Database: MongoDB
- Authentication: bcrypt
- File Uploads: multer / FormData
- Styling: Bootstrap 5
- PDF Export: jsPDF

System Architecture

The system uses a client-server architecture where the frontend is developed with React and interacts with a RESTful API built in Express.js. MongoDB serves as the primary data store. The backend also handles authentication and course logic.

Features

- Admin can add courses, modules, lessons, and assignments
- Students can enroll in free courses of their semester
- Assignments can be uploaded directly by students
- Timetable export in PDF format
- User authentication and role-based access
- Dynamic content rendering via React Router

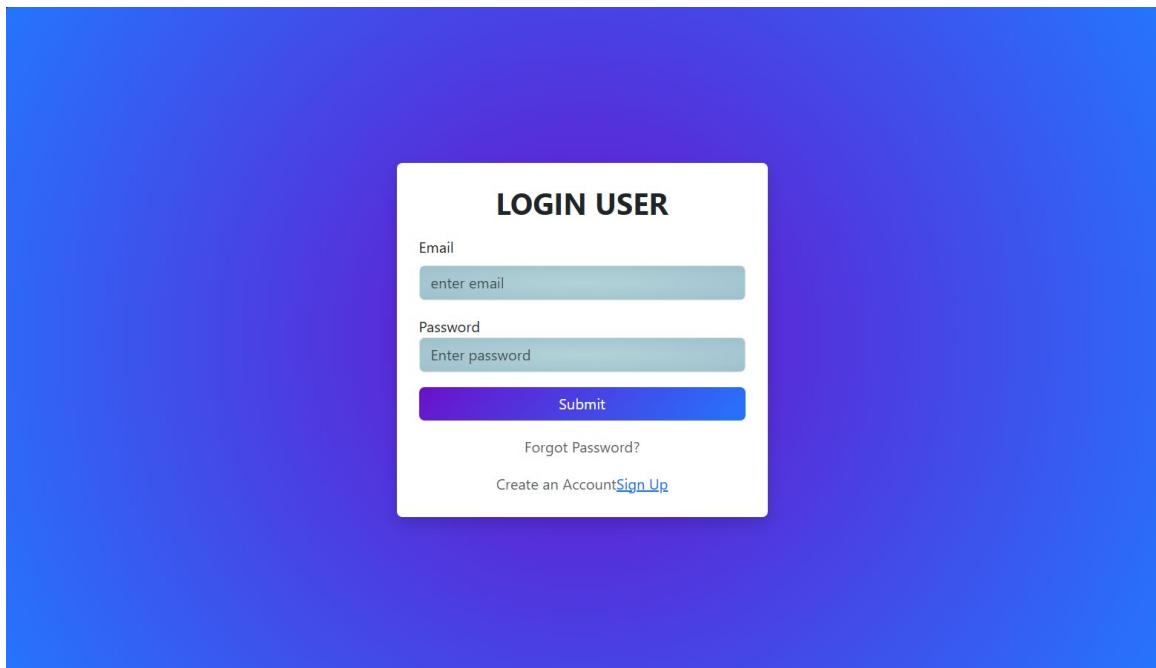
Database Schema

Below is the logical structure of the main collections in the MongoDB database:

- Users: Contains student/admin data with personal and login details
- Courses: Holds course info, including modules, schedule, and assignments
- Roles: Describes the role (admin or student)
- Assignments: Related to each course and user submission tracking

Screenshots

Login:



Signup:

The screenshot shows a registration form titled "Create Your Account" with a sub-instruction "Sign up to get started!". It includes fields for Role (Student selected), FirstName, LastName, Age, Phone, Program (dropdown menu), Semester (dropdown menu showing '1'), Email, and Password. A "Register" button is at the bottom, and a link "Already Have a Account [Sign In](#)" is at the bottom right.

Create Your Account
Sign up to get started!

Role
 Student Instructor Admin

FirstName

LastName

Age

Phone

Program

Semester

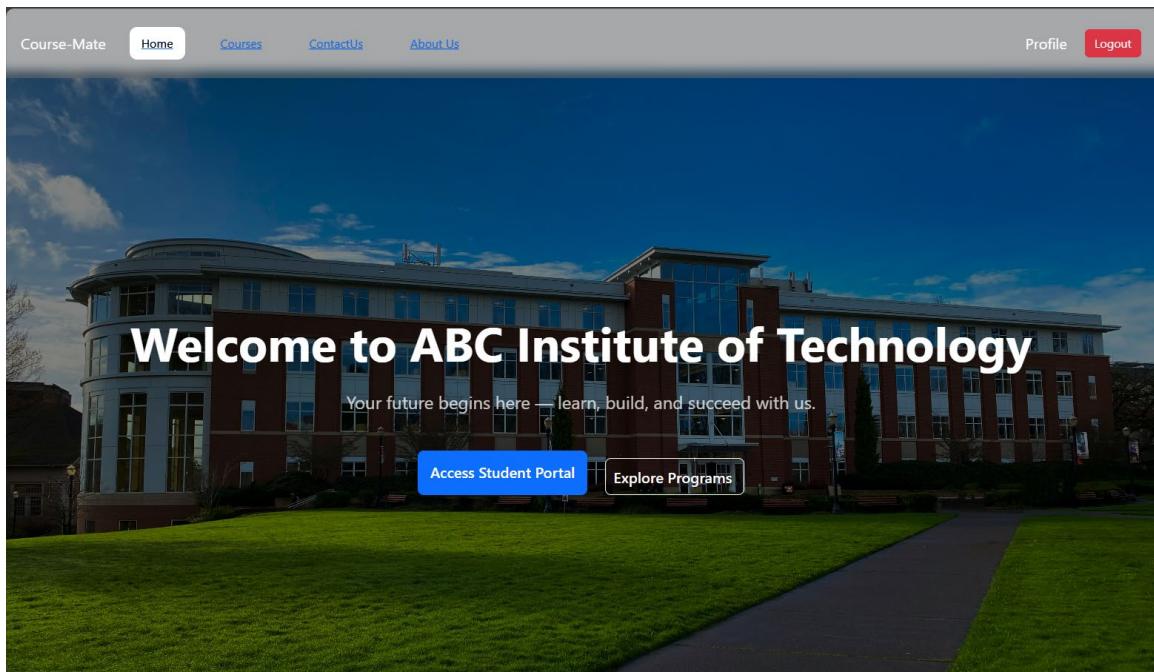
Email

Password

Register

Already Have a Account [Sign In](#)

LandingPage:



CoursePage:

The screenshot shows the Course Management Portal interface. At the top, there are navigation links: Course-Mate, Home, Courses, ContactUs, About Us, Profile, and Logout. Below the header, a purple banner displays "Welcome back, Student!" and "Computer Science - Sem 1". It shows course statistics: 1 Ongoing Courses and 0 Completed. A search bar allows searching by name or code, with filters for All, Ongoing, Completed, and Pending. The main content area displays a course card for "IPSC" (Code: cs123, 3 Credits) which is "ONGOING". It includes a progress bar at 0% and information about the instructor, Shubham Mevada, who teaches 1 Class/Week. Below this, a section for "Available Free Courses" lists a "Free Course" (Code: CS101, 1 Credit) with the note "This is free test course". A "Add Course" button is available. To the right, a "Weekly Timetable" section shows a single entry for "IPSC" on "Monday" at "10am" in "R-101" with "Shubham Mevada" as the instructor. An "Export PDF" button is present. The URL "localhost:5173/student" is visible at the bottom.

userProfile:

The screenshot shows the Student Profile page. At the top, there are navigation links: Course-Mate, Home, Courses, ContactUs, About Us, Profile, and Logout. The main content area is titled "Student Profile" and contains a placeholder message "Update your profile information below." It features a circular placeholder for a profile picture. Below it, there is a "Choose File" button and a message "No file chosen". Form fields include "First Name" (abc), "Last Name" (xyz), "Age" (23), "Phone" (9687062562), "Email" (xyz@gmail.com), and "Address" (a large text input field). A blue "Update Profile" button is located at the bottom right of the form.

Admin & Instructor Page:

Admin Dashboard - Course Management

Total Courses 2	Ongoing 1	Completed 0	Pending 1
--------------------	--------------	----------------	--------------

Add New Course

Course Name *
 Semester 1

Credits
 Instructor

Description

Assignments
 dd-mm-yyyy

Schedule
 Time (e.g., 10:00 AM - 11:30 AM)

Free Course
 Mark as Free Course (no instructor)

All Courses

All Courses

Course Details	Instructor	Status	Schedule	Actions
IPSC cs123 - 3 Credits This is test course	Shubham Mevada	Ongoing	Monday 10am R-101	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Free Course CSD101 - 3 Credits This is free test course	Free Course	Pending		<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Free Courses by Semester

Semester 1
Free Course (CSD101) - 3 Credits This is free test course

Semester 2
No free courses for this semester.

Semester 3
No free courses for this semester.

Semester 4
No free courses for this semester.

Semester 5
No free courses for this semester.

Semester 6
No free courses for this semester.

Semester 7
No free courses for this semester.

Semester 8
No free courses for this semester.

Free Course Page:

[← Back to Student Dashboard](#)

Free Course

This is free test course

Semester 1 3 Credits

Modules

Module 1

First module to introduction

First Lesson



Lesson Video

Conclusion

CourseMate is a practical, responsive, and modular platform for managing academic content. It simplifies interactions between students and administrators by offering visual tools and seamless data integration.