

CourseMate

Project Report

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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

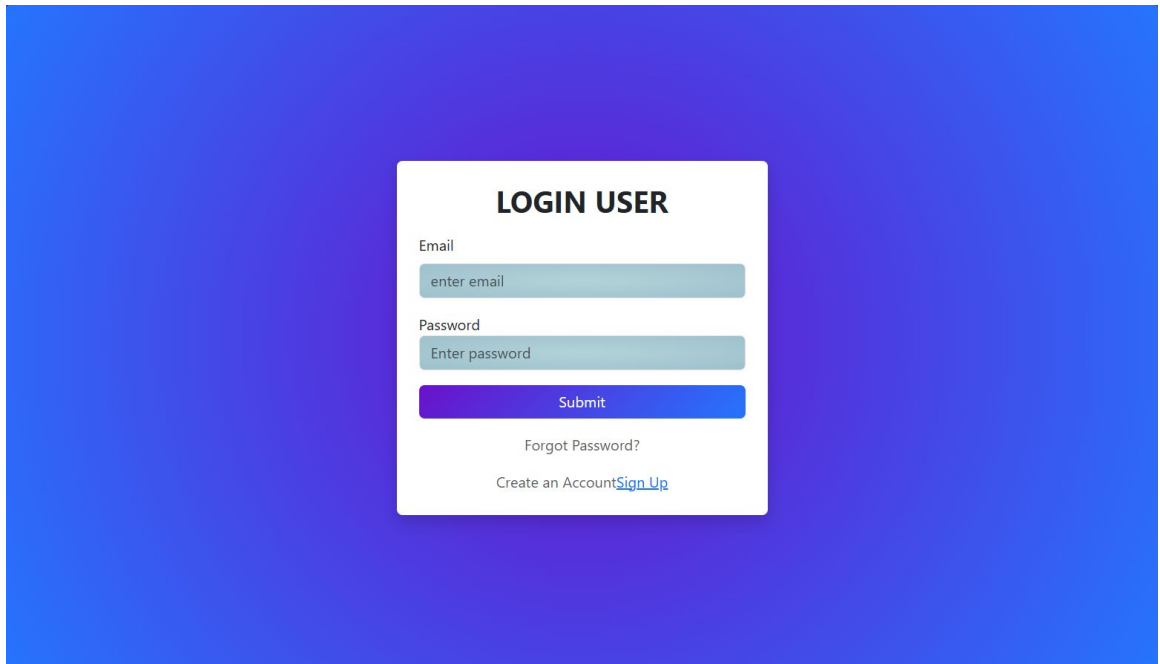
Database Schema

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:

A screenshot of a login form titled "LOGIN USER" centered on a blue gradient background. The form is white with rounded corners and contains the following elements: a label "Email" above a light blue input field with the placeholder text "enter email"; a label "Password" above a light blue input field with the placeholder text "Enter password"; a blue "Submit" button; a link "Forgot Password?" below the submit button; and a link "Create an Account" followed by a blue "Sign Up" link at the bottom.

LOGIN USER

Email
enter email

Password
Enter password

Submit

[Forgot Password?](#)

Create an Account [Sign Up](#)

Signup:

Create Your Account

Sign up to get started!

Role
☒ Student ☐ Instructor ☐ Admin

FirstName
Enter your Firstname

LastName
Enter your Lastname

Age
Enter age

Phone
Enter phone number

Program
Select your program

Semester
1

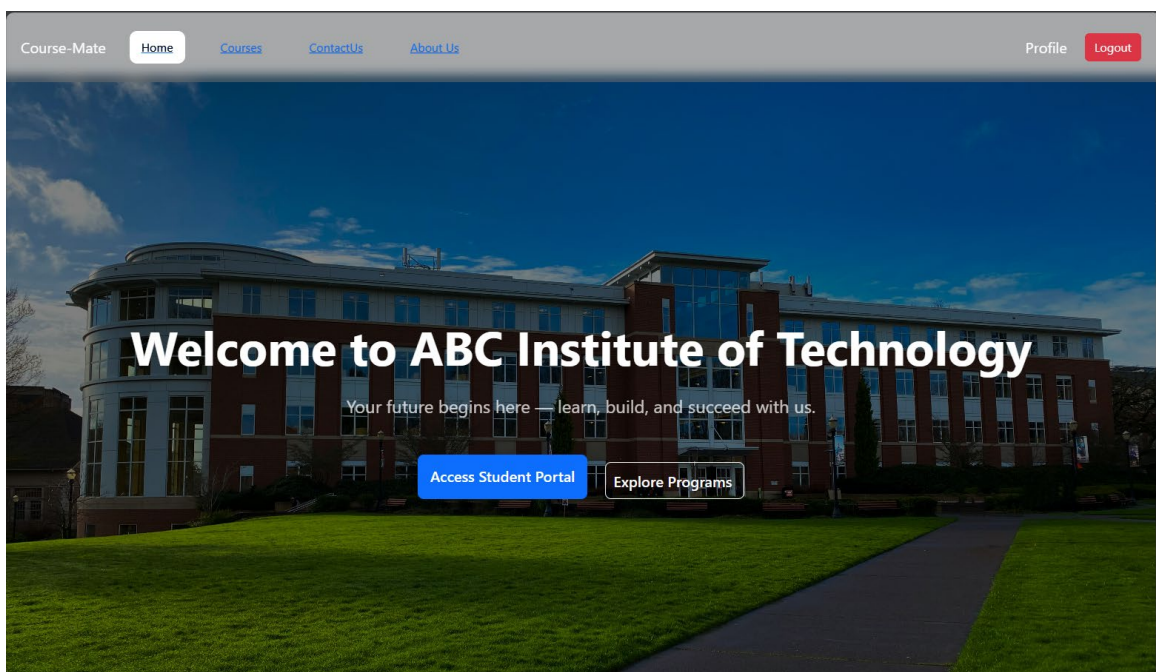
Email
Enter email

Password
Enter password

Register

Already Have a Account [Sign In](#)

LandingPage:



CoursePage:

Course-Mate

HomeCoursesContactUsAbout Us

ProfileLogout

[Back to Home](#)Course Management Portal

Welcome back, Student!

Computer Science - Sem 1

10

Ongoing CoursesCompleted

Search courses by name or code...

AllOngoingCompletedPending


IPSC

cs123 + 3 Credits

ONGOING

This is test course

Progress0%

 Shubham Mehta

1 Classes/Week

Available Free Courses

Free Course

CSD101 + 3 Credits

This is free test course

[Add Course](#)

Weekly Timetable

Export PDF

Course	Code	Day	Time	Room	Instructor
IPSC	cs123	Monday	10am	R-101	Shubham Mehta

localhost:5173/student

userProfile:


Course-Mate

HomeCoursesContactUsAbout Us

ProfileLogout

Student Profile

Update your profile information below.



Program: Computer Science

Choose File

No fi...osen

First Name

abc

Last Name

xyz

Age

23

Phone

9687062562

Email

xyz@gmail.com

Address

Update Profile

Admin & Instructor Page:

Admin Dashboard - Course Management

Back to Home

Logout

Total Courses
2

Ongoing
1

Completed
0

Pending
1

Add New Course

Course Name *

Enter course name

Semester 1

Course Code *

e.g., CS101

Credits

3

Instructor

Instructor name

Status

Pending

Description

Course description

Assignments

Assignment Title

dd-mm-yyyy

Pending

Add Assignment

Schedule

Day (e.g., Monday)

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

Room (e.g., R-101)

Free Course

☐ Mark as Free Course (no instructor)

Add Time Slot

Add Course

All Courses

Search courses...

All Status

All Courses				
Search courses... All Status				
Course Details	Instructor	Status	Schedule	Actions
IPSC cs103 • 3 Credits This is test course	Shubham Mevada	Ongoing	Monday 10am R-101	Edit Delete
Free Course CSD101 • 3 Credits This is free test course	Free Course	Pending		Edit 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.

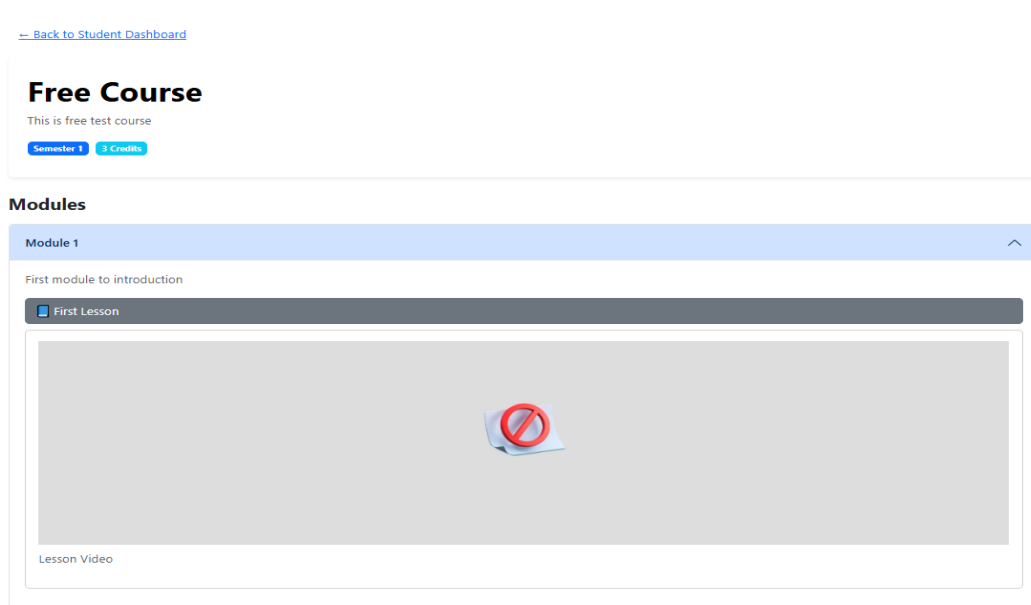
Semester 7

No free courses for this semester.

Semester 8

No free courses for this semester.

Free Course Page:



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.