

■ MERN Stack LMS Project Specification (Initial Draft)

This document outlines the scope, features, and technology stack for the new LMS aimed at IT students.

1. Project Goal & Scope

Category	Description
Goal	To build a modern, intuitive, and feature-rich LMS tailored for IT skill development (Web Dev, IT Fundamentals, etc.).
Target Users	Students (IT learners), Tutors (instructors), and Admin (later phase).
Scope	MVP with Student & Tutor dashboards, content delivery, and basic assignment/grading.
Technology	MERN Stack: MongoDB, Express.js, React, Node.js

2. Core Features & User Stories

The system supports two user roles: Student and Tutor.

A. Student Dashboard Features ■

Feature Area	User Stories
Enrollment/Access	Browse/Search courses, Enroll, View enrolled courses.
Learning	Access modules, View materials (text/video), Track progress.
Assignments	View assignments, Upload submissions, View grades/feedback.
Profile	Edit profile, View completion and grade stats.

B. Tutor Dashboard Features ■■■

Feature Area	User Stories
Course Management	Create courses, Upload materials, Publish assignments.
Grading & Feedback	View submissions, Assign grades, Give feedback.
Student Management	View students, Track progress.
Profile	Edit profile information.

3. Technical Requirements (MERN Stack)

Component	Technology	Key Function/Requirement
Frontend (UI)	React.js	SPA, Component-based architecture, Responsive design.
Backend (API)	Node.js & Express.js	REST API, JWT authentication, File upload handling.
Database	MongoDB	Schema-less data storage using Mongoose models.
Security	JWT	Secure authentication & role-based access control.