LMS - Learning Management System

Frameworks to be used

- Flask for application code
- Jinja2 templates + Bootstrap for HTML generation and styling
- SQLite for data storage

LMS System

- It is a multi-user app (one required admin and other users)
- Used for creating and managing courses
- User can enroll in multiple courses
- Admin can create multiple courses and add content
- Each course will have:
  - Name
  - Description
  - Duration
  - Enrollment Status
  - Course Resources
- Each course can run multiple batches
- System will automatically show the latest added courses
- Every user can enroll in courses
- System will automatically show the latest enrolled courses

Core Functionality

Base requirements:

- Admin login and User login
- Course Management
- Student Management
- Course Enrollment
- Resource Management
- Search for courses/content

Core - Admin and User Login

- Form for username and password for user
- Separate form for admin login

- You can either use a proper login framework, or just use a simple HTML form
- Suitable model for user

Core - Course Management (Only for Admin)

- Create a new course
  - Storage should handle multiple languages - usually UTF-8 encoding is sufficient for this
- Edit a course
  - Change title/description
- Remove a course
  - With a confirmation from the admin

Core - Resource Management (Only for Admin)

- Add content to course
- Upload resources (PDFs, videos)
- Remove resources
- Track student progress

Core - Search for Courses/Content

- Ability to search courses based on title
- Ability to search courses based on category
- Basic view for a course

Recommended (graded)

- APIs for interaction with courses and resources
  - CRUD on courses
  - CRUD on resources
  - Additional APIs for getting the courses/resources to display
- Validation
  - All form inputs fields - text, numbers, dates etc.
  - Backend validation before storing / selecting from database

Optional

- Styling and Aesthetics
- Proper login system
- Export course details (number of students enrolled, course performance)
- Student progress tracking
- Predict course popularity based on previous enrollment trends.