

Final Exam – Online Learning System

Objective

Develop a Django-based online learning platform using the models below. The system must support three roles (Student, Instructor, Employee) and include course enrollment, multimedia lessons, practical assignments, and course review functionality.

Models to Implement

- **User** (custom, with role: student, instructor, employee)
 - **Student**
 - **Instructor**
 - **Employee**
 - **Category**
 - **Tag**
 - **Course**
 - **Enrollment**
 - **Lesson**
 - **Assignment**
 - **Submission**
 - **Review**
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Detailed Project Tasks

1. User Authentication and Role Management

- Implement a custom user model with a `role` field (`student` , `instructor` , `employee`).

- Each user must be linked to a specific profile (Student, Instructor, or Employee).
 - Provide a single login page; after login, redirect each user to a role-specific dashboard.
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2. Course Organization

- Build models for **Category** (one per course) and **Tag** (many-to-many).
 - Implement **Course** with links to instructor, category, and tags. Include title, description, price, image, published status, and date fields.
 - Instructors can create, edit, and manage their courses.
 - Employees can manage all courses, categories, and tags.
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3. Lessons and Learning Content

- Each course has multiple **lessons**.
 - Each lesson supports:
 - Video content (upload or external link)
 - PDF/document resource (file upload)
 - Description and sequence/order
 - Instructors can add/edit lessons for their courses.
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4. Enrollment

- Students can:
 - Browse and filter all courses by category, tag, or instructor (no search required).
 - Enroll in courses and see their enrolled courses on the dashboard.
 - Track lesson completion/progress within each enrolled course.
 - Employees can view and manage all enrollments.
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5. Assignments & Practical Submissions

- Instructors can create assignments for lessons (with title, description, due date, max score).
 - Students can submit practical assignments as file uploads or code/text.
 - Instructors review submissions, assign scores, and provide feedback.
 - Students can view grades and feedback.
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6. Course Reviews

- Students can rate and write a review for any course they are enrolled in.
 - Employees can moderate reviews if necessary.
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7. Dashboards

- **Student Dashboard:**
 - Enrolled courses, lesson progress, upcoming assignments, grades, and course reviews.
 - **Instructor Dashboard:**
 - List of own courses, enrolled students, assignments to grade, and course stats.
 - **Employee Dashboard:**
 - System-wide stats (users, courses, enrollments), management links for all models.
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8. Admin Management

- All models must be registered in Django admin for management by employees.
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9. Filtering

- Implement **filtering** for courses (by category, tag, instructor).
- Implement filtering for students, assignments, and submissions as appropriate for each role.

Submission Checklist

- ☐ **Source code:** Full Django project
- ☐ **README:** Brief setup guide, features list, and sample login credentials for each user role
- ☐ **Screenshots:** All main pages/features (save in a `/screenshots` folder)
- ☐ **Credentials:** Username/password for student, instructor, and employee

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