

Perfect 

Below is a **start-to-finish, production-style task list** for your **Core Django LMS**.

Follow this **step by step**, and you'll finish with a **portfolio-grade project** that smoothly transitions to DRF later.



LMS – Detailed Development Task List (Core Django)

Rule: Do not jump ahead.

Complete each phase fully before moving to the next.



PHASE 0 — Planning & Setup

0.1 Project Planning

- Read PRD fully
 - Finalize feature scope (no extra features yet)
 - Draw rough ER diagram (paper is fine)
 - Decide app names
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0.2 Environment Setup

- Create virtual environment
 - Install Django
 - Start Django project `lms`
 - Create `.gitignore`
 - Initialize Git repository
 - Create initial `README.md`
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PHASE 1 — Project Structure & Core Configuration

1.1 Create Apps

- Create apps:
 - `users`
 - `courses`
 - `lessons`
 - `enrollments`
 - `quizzes`
 - `dashboard`
 - Register apps in `INSTALLED_APPS`
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1.2 Core Settings

- Configure templates directory
 - Configure static files
 - Configure media files
 - Add custom context processors (if needed)
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PHASE 2 — User Management & Authentication

2.1 Custom User Model

- Extend `AbstractUser`
 - Add `role` field (student / instructor / admin)
 - Update `AUTH_USER_MODEL`
 - Run migrations
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2.2 Authentication System

- User registration
 - Login & logout
 - Role-based redirects
 - Secure password handling
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2.3 Permissions & Access Control

- Custom decorators / mixins
 - Instructor-only access
 - Student-only access
 - Admin overrides
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PHASE 3 — Course Management

3.1 Course Models

- Create `Course` model
 - Add fields:
 - title
 - description
 - category
 - thumbnail
 - instructor
 - status (Draft / Published)
 - Add timestamps
 - Run migrations
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3.2 Course CRUD

- Instructor can create course
 - Instructor can edit course
 - Instructor can delete course
 - Validate ownership
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3.3 Course Visibility

- Only published courses visible to students
 - Draft courses visible only to instructors
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PHASE 4 — Modules & Lessons

4.1 Module Model

- Create `Module` model
 - Link to course
 - Ordering support
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4.2 Lesson Model

- Create `Lesson` model
 - Fields:
 - `title`
 - `content`
 - `video` (optional)
 - `module`
 - `order`
 - Secure lesson access
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4.3 Lesson Flow

- Sequential lesson navigation
 - Disable skipping (optional)
 - Lesson detail view
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PHASE 5 — Enrollment System

5.1 Enrollment Model

- Create `Enrollment` model
 - Prevent duplicate enrollments
 - Timestamp enrollment
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5.2 Enrollment Logic

- Enroll button
 - Enrollment validation
 - Restrict lesson access to enrolled users
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PHASE 6 — Progress Tracking

6.1 Lesson Progress Model

- Create `LessonProgress` model
 - Track completion per user
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6.2 Progress Logic

- Mark lesson as completed
 - Auto-calculate progress
 - Prevent double completion
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6.3 Progress UI

- Progress bar per course
 - Completed lesson indicator
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PHASE 7 — Quiz & Assessment System

7.1 Quiz Models

- Create `Quiz` model
 - Create `Question` model
 - Support MCQ format
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7.2 Quiz Logic

- Quiz attempt form
 - Auto-evaluation
 - Store scores
 - One attempt per user
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7.3 Quiz Access Rules

- Quiz unlocks after lesson completion
 - Prevent reattempt
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● PHASE 8 — Dashboards

8.1 Student Dashboard

- Enrolled courses list
 - Progress overview
 - Quiz scores
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8.2 Instructor Dashboard

- Created courses list
 - Enrolled students count
 - Completion statistics
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● PHASE 9 — Admin & Optimization

9.1 Admin Panel

- Register all models
 - Custom admin views
 - Filters & search
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9.2 Query Optimization

- Use `select_related`
 - Use `prefetch_related`
 - Reduce N+1 queries
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PHASE 10 — UI & UX Polish

10.1 Templates

- Base layout
 - Navigation bar
 - Flash messages
 - Error pages
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10.2 Forms & Validation

- Server-side validation
 - User-friendly error messages
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PHASE 11 — Testing & Stability

11.1 Manual Testing

- Student flow testing
 - Instructor flow testing
 - Permission testing
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11.2 Django Tests (Optional but Strong)

- Model tests
 - View tests
 - Permission tests
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PHASE 12 — Documentation & Portfolio Prep

12.1 Documentation

- Update `README.md`
- Add project overview
- Add setup instructions

- Add screenshots
 - Add future roadmap
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12.2 Final Cleanup

- Remove unused code
 - Check `.gitignore`
 - Run `makemigrations` & `migrate`
 - Run server cleanly
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PHASE 13 — Ready for DRF Transition

13.1 DRF Preparation

- Identify serializers mapping
 - Identify API endpoints
 - Separate business logic from views
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Final Outcome

After completing this:

- You will **fully understand Django**
 - DRF will feel **natural**
 - Your portfolio will contain a **real backend system**
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Next Step?

If you want, I can:

- Break **PHASE 1** into **day-by-day tasks**
- Create **model code templates**
- Act as a **daily development guide**
- Prepare a **DRF roadmap**

Just tell me how you want to proceed

