

## Use Case Specification: Online Learning Platform

### *Use Case Name: Course Enrollment, Management, and Participation*

#### Actors:

- **Student:** A registered user seeking to enroll in and participate in courses.
- **Instructor:** A registered educator managing the course content.
- **Admin:** The system administrator responsible for platform maintenance, user management, and ensuring smooth operations.

#### Preconditions:

- The student and instructor must be registered and logged-in users.
- The student must have a valid payment method available.
- The instructor must have provided verified teaching credentials.
- The platform must be operational, overseen by the Admin.

#### Postconditions:

- The student successfully enrolls in the desired course and can access the course materials.
- The student participates in the course (viewing lectures, taking tests, submitting assignments, participating in discussions).
- The instructor manages the course content, interacts with students, and monitors their progress.
- The Admin ensures all platform functionalities work correctly, including payments, content access, and user management.

#### Main Flow:

1. **Student** navigates to the platform's homepage.
2. **Student** browses or searches for available IT courses.
3. **Student** selects a course and views detailed information (e.g., syllabus, instructor, price).

4. **Student** clicks the "Enroll Now" button.
5. **Admin** ensures the platform processes the student's enrollment request securely.
6. **Student** enters valid payment information if the course is paid.
7. **Admin** processes the payment and grants course access to the student.
8. **Student** accesses course materials and begins participation in lectures, tests, assignments, and discussions.
9. **Instructor** logs in and navigates to the course management dashboard.
10. **Instructor** creates a new course or manages existing courses (e.g., updating materials, monitoring student progress).
11. **Admin** verifies instructor content uploads and ensures students can access the content.
12. **Instructor** interacts with students via the messaging system and course forums.
13. **Admin** oversees platform performance, handles maintenance, and resolves any technical issues.

#### Alternate Flows:

- **AF1: Payment Failure:**
  - a. If the student's payment fails, the **Admin** logs the issue and notifies the student of the failure.
  - b. **Student** updates the payment details and retries.
  - c. The main flow resumes at step 6.
- **AF2: Student Cancels Enrollment:**
  - d. **Student** navigates to their dashboard and selects the course to cancel.
  - e. **Admin** verifies the cancellation and revokes the student's access to the course.
  - f. **Admin** ensures that payment or refund processing follows the platform's policy.
- **AF3: Instructor Updates Course:**
  - g. **Instructor** navigates to the course management dashboard.
  - h. **Instructor** selects the course to update (e.g., uploading new materials, modifying tests).
  - i. **Admin** ensures the updates are processed and visible to the students.

#### Exceptions:

- **E1: Platform Downtime:**

- If the platform is undergoing maintenance or facing technical issues, the **Admin** informs all users (students and instructors) and provides estimated downtime.
- **E2: Account Deactivation:**
  - If the **Student** or **Instructor** account is deactivated or suspended, **Admin** prevents access to the platform and informs the affected user of the issue.
- **E3: Instructor Verification Incomplete:**
  - If the **Instructor** fails to provide valid credentials, **Admin** blocks the publication of any courses and sends a notification to the instructor to complete the verification process.

**Triggers:**

- The student initiates course enrollment by selecting a course.
- The instructor manages course content, creating or updating materials.
- The Admin monitors platform operations to ensure seamless user interactions and transaction processing.