Requirement Specification Document

# Student Course Registration System

# Introduction

The Student Course Registration System allows students to register for courses, drop courses, and handle waitlists automatically when courses are full. The system ensures seat availability and manages waitlists efficiently.

# Functional Requirements

* 1. **Student Management**

**FR1.1 Student Account Registration**

1. Enable students to create accounts by providing:
   * + Unique Student ID
     + Full Name
     + Email Address
     + Password
2. Ensure validation checks for unique IDs and proper email format.

**FR1.2 Student Login**

1. Implement authentication so that registered students can securely log in using:
   * + - Student ID
       - Password
2. Display meaningful error messages for failed login attempts.

**FR1.3 Profile Dashboard**

1. After login, students should access a dashboard showing:
   * + - Personal information (ID, Name, Email)
       - List of courses they are enrolled in or have applied for
       - Status of each course: Active, Waitlisted, or Completed

**Expected Outcome**

By the end of Day 1, the system should:

* Allow students to register and log in successfully.
* Provide a functional profile dashboard showing basic information and course statuses.

**1.2 Course Management**

**FR2.1** Courses have details such as:

* Course ID
* Course Name
* Maximum Capacity / Seats
* LatestEnrollmentDate
* Start and End Date

**FR2.2** System must track available seats for each course.

**1.3 Course Enrollment**

**FR3.1** Students can enroll in courses if:

* + Prerequisites are satisfied
  + Seats are available

**FR3.2** System should update enrollment records and reduce available seats immediately upon successful enrollment.

**FR3.3** Student cannot enroll or waitlist twice for the same course.

* 1. **Course Dropping**

**FR4.1** Students can drop courses they no longer wish to take.

**FR4.2** System should increase available seats and update enrollment records immediately.

* 1. **Waitlist Management**

**FR5.1** If a course is full, students can join a waitlist.

**FR5.2** System automatically enrolls the next student when a seat becomes available.

**FR5.3** Notify students via dashboard or email when they move from waitlist to enrolled.

* 1. **Seat Availability Check**

**FR6.1** Before enrollment, the system must check:

* + Remaining seats in the course
  + If the student meets prerequisites

**FR6.2** Enrollment proceeds only if conditions are satisfied.

# Non-Functional Requirements

1. High performance and fast processing of enrollments.
2. Secure login and encrypted data storage.
3. Scalable system to handle thousands of students and courses.
4. Responsive design for multiple devices.

# Deliverable

A written Requirement Specification Document.