**Product Vision:**

**Vision Statement:** To deliver a reliable, secure, and easy-to-use course registration system that ensures timely access, accurate information, and seamless interaction between students, faculty, and administrators.

**Alignment with Project Goals:**

* Ease of Use: Intuitive design that allows users to search, register, and manage courses effortlessly.
* Accuracy & Timeliness: Real-time course availability and enrollment updates.
* Security: Protected student and faculty information. Principle of least privilege implemented so students can not access privileged information / accounts.
* Accessibility: Available anytime and anywhere during registration periods.
* Collaboration: Supports students, faculty, advisors, and administrators in one integrated platform.

**Product Backlog:**

#### **User Story 1 – Student Course Search (High)**

**Story:** As a student, I want to search for available summer courses by department, instructor, or course number so that I can quickly find the classes that fit my academic plan.

**Priority & Time Sensitivity Value:** High / Full Team Effort or Multi-Day

**Justification:**

* **Stakeholder Value:** Essential for students to locate and compare classes. Without search capability, registration cannot occur.
* **Business Impact:** Enhances the student experience and directly supports enrollment and tuition revenue.
* **Dependency Considerations:** Depends on accurate course, instructor, and department data in the database. Must be implemented before course enrollment features.
* **Time Sensitivity:** High; search functionality must be available before registration windows open.

**Acceptance Criteria:**

* Students can search by department, instructor name, or course number.
* Results show course name, section, instructor, modality, and seat availability.
* Search updates dynamically when filters change.
* Students can clear or refine filters.
* Displays “No courses found” if no results match.

#### **User Story 2 – Advisor Prerequisite Override (High)**

**Story:** As an academic advisor, I want to override prerequisites and enroll students directly in the course registration system so that I can get students enrolled in the correct classes.

**Priority & Time Sensitivity Value:** High / Full Team Effort or Multi-Day

**Justification:**

* **Stakeholder Value:** Advisors need to resolve registration blocks.
* **Business Impact:** Improves satisfaction and reduces bottlenecks.
* **Dependency Considerations:** Depends on student and course data.
* **Time Sensitivity:** High; must be ready before registration deadlines.

**Acceptance Criteria:**

* Advisors can search for students by ID or name.
* View enrolled and blocked courses.
* Override prerequisites for selected courses.
* Enroll students and display confirmation.

#### **User Story 3 – Administrator Sets Max Class Sizes (High)**

**Story:** As an administrator, I want to set and update maximum class sizes for each session so that enrollment automatically closes when capacity is reached.

**Priority & Time Sensitivity Value:** High / Full Team Effort or Multi-Day

**Justification:**

* **Stakeholder Value:** Prevents over-enrollment and ensures fairness.
* **Business Impact:** Maintains compliance and classroom capacity limits.
* **Dependency Considerations:** Supports enrollment.
* **Time Sensitivity:** High; must be configured before registration opens.

**Acceptance Criteria:**

* Admin can set and edit max capacity.
* Enrollment closes automatically at the limit.
* Displays clear “class full” message.
* Updates reflected immediately.

#### **User Story 4 – Student Drops or Withdraws (High)**

**Story:** As a student, I want to drop or withdraw from a course so that I can adjust my schedule before the drop deadline.

**Priority & Time Sensitivity Value:** High / Full Team Effort or Multi-Day

**Justification:**

* **Stakeholder Value:** Crucial for managing schedules.
* **Business Impact:** Improves utilization and accuracy.
* **Dependency Considerations:** Depends on enrollment system.
* **Time Sensitivity:** High; must be available early in the registration cycle.

**Acceptance Criteria:**

* Students can view enrolled courses.
* Select and confirm the course to drop.
* Schedule updates automatically.
* Seat availability updates.
* The system displays confirmation.

#### **User Story 5 – Instructor Messaging (Medium)**

**Story:** As an instructor, I want to message all students enrolled in my class through the system so that I can share updates or materials easily.

**Priority & Time Sensitivity Value:** Medium / 2–6 Hours

**Justification:**

* **Stakeholder Value:** Improves communication.
* **Business Impact:** Reduces confusion and administrative overhead.
* **Dependency Considerations:** Requires course and enrollment data.
* **Time Sensitivity:** Needed by the start of classes.

**Acceptance Criteria:**

* The instructor can send a message to the entire class.
* Students receive messages via system (and optionally email).
* History is saved.
* Only assigned instructors can message their classes.

#### **User Story 6 – Instructor View Roster (Medium)**

**Story:** As an instructor, I want to view the list of students registered in each of my sessions so that I can prepare course materials and manage class rosters.

**Priority & Time Sensitivity Value:** Medium / 2–6 Hours

**Justification:**

* **Stakeholder Value:** Important for prep but not core.
* **Business Impact:** Supports readiness.
* **Dependency Considerations:** Depends on enrollment data.
* **Time Sensitivity:** Moderate; needed before classes start.

**Acceptance Criteria:**

* The instructor can view assigned sessions.
* View list of enrolled students with names and IDs.
* Displays current enrollment numbers.
* Updates dynamically.

#### **User Story 7 – Student Schedule Timeline (Medium)**

**Story:** As a student, I want to view a weekly timeline of all the courses I’ve registered for so that I can see any conflicting class times before finalizing my schedule.

**Priority & Time Sensitivity Value:** Medium / 2–6 Hours

**Justification:**

* **Stakeholder Value:** Helps avoid conflicts.
* **Business Impact:** Reduces errors and requests.
* **Dependency Considerations:** Depends on enrollment and schedule data.
* **Time Sensitivity:** Needed during registration period.

**Acceptance Criteria:**

* Displays registered courses by day/time.
* Highlights conflicts.
* Clickable course details.
* Auto-updates on changes.

#### **User Story 8 – Instructor Contact Information Update (Low)**

**Story:** As an instructor, I want to update my office hours and contact information so that students can easily reach me during the course.

**Priority & Time Sensitivity Value:** Low / Less than 2 Hours

**Justification:**

* **Stakeholder Value:** Improves communication.
* **Business Impact:** Enhances user experience but not core.
* **Dependency Considerations:** Independent.
* **Time Sensitivity:** Low.

**Acceptance Criteria:**

* Instructors can edit and save contact info.
* Students can view updated info.
* System confirms updates.

#### **User Story 9 – Administrator Enrollment Dashboard (Low)**

**Story:** As an administrator, I want to view a dashboard showing real-time enrollment statistics so that I can monitor system performance and identify high-demand courses.

**Priority & Time Sensitivity Value:** Low / Less than 2 Hours

**Justification:**

* **Stakeholder Value:** Useful for oversight.
* **Business Impact:** Informs resource allocation.
* **Dependency Considerations:** Depends on enrollment data.
* **Time Sensitivity:** Moderate.

**Acceptance Criteria:**

* Real-time dashboard view.
* Enrollment stats by course and section.
* Highlight high-demand courses.
* Auto-refreshes.

#### **User Story 10 – Administrator Enrollment Reports (Low)**

**Story:** As an administrator, I want to generate reports showing total enrollment numbers by department so that I can analyze registration trends and plan future offerings.

**Priority & Time Sensitivity Value:** Low / Less than 2 Hours

**Justification:**

* **Stakeholder Value:** Supports administrative decisions.
* **Business Impact:** Useful for reporting but not core.
* **Dependency Considerations:** Depends on enrollment data.
* **Time Sensitivity:** Low.

**Acceptance Criteria:**

* Generate and export reports by department.
* View total enrollment numbers.
* Filter by term or session.
* Exportable as CSV/PDF.

**Product Roadmap**

**Sprint 1:**

* **Core Registration:**
  + User Story 1 (Search)
  + User Story 2 (Override)
  + User Story 3 (Max Size)
  + User Story 4 (Drop/Withdraw)
  + User Story 6 (Roster)

**Sprint 2:**

* **Communication & Enhancements:**
  + User Story 5 (Messaging)
  + User Story 7 (Timeline)
  + User Story 8 (Contact Update)
  + User Story 9 (Dashboard)
  + User Story 10 (Reports)

### **Sprint Goal**

**Sprint 1 Goal:**

“Deliver the core registration functionality required for students to search and manage courses, advisors to override prerequisites, and administrators to control class capacities, ensuring registration can open smoothly and accurately.”

**Why:**

* Build foundational features that enable enrollment.
* Ensure search, override, capacity, and schedule functions are fully operational.
* Provide instructors with visibility into rosters.

### **Sprint Backlog:**

**User Story: 1 - Search**

* **Priority:** High
* **Est. Effort:** 6-9 Hours
* **Rationale:** Core to registration
* **Stakeholder:** Student

User Story: 2 - Override

* **Priority:** High
* **Est. Effort:** 6 - 9 Hours
* **Rationale:** Enables advisor action
* **Stakeholder:** Academic Advisor

**User Story: 3 - Max Size**

* **Priority:** High
* **Est. Effort:** 6 - 9 Hours
* **Rationale:** Prevents over-enrollment
* **Stakeholder:** Adminstator

**User Story: 4 - Drop/Withdraw**

* **Priority:** High
* **Est. Effort:** 6 - 9 Hours
* **Rationale:** Key for student control
* **Stakeholder:** Student

User Story: 6 - Roster View

* **Priority:** Medium
* **Est. Effort:** 2 - 6 Hours
* **Rationale:** Instructor prep
* **Stakeholder**: Student

### **Sprint Tasks**

#### **US 1 - Course Search**

* Database schema for courses/instructors.
* Search filter UI & backend queries.
* Dynamic search result rendering.
* Error handling for no results.

#### **US 2 - Prerequisite Override**

* Advisor role authentication.
* Student search by ID.
* Override function and confirmation.
* Notifications/logging.

#### **US 3 - Max Class Size**

* Capacity field in session model.
* Enrollment lock at limit.
* Admin interface to set/edit capacity.

#### **US 4 - Drop/Withdraw**

* “My Courses” UI for students.
* Drop/withdraw logic.
* Capacity refresh on drop.

#### **US 6 - Roster View**

* Instructor dashboard.
* Fetch and display enrolled students.
* Refresh mechanism.

**Sprint Plan Summary**

**Total User Stories:** 10

* 4 High, 3 Medium, 3 Low

**Sprints:** 2 total

**Sprint 1:** Foundational registration functionality

**Sprint 2:** Communication and administrative tools

**Effort:** Balanced across priority levels and capacity

**Outcome**: A working MVP registration system after Sprint 1, with enhanced features after Sprint 2.