Okay, here are the functional requirements, non-functional requirements, and constraints for a student portal:

## Student Portal Requirements

### Functional Requirements

These describe what the system should do.

**User Registration and Management:**

* 1. FR01: Allow new students to register with personal details (name, contact information, etc.).
  2. FR02: Allow students to log in and log out securely.
  3. FR03: Allow students to update their personal information.
  4. FR04: Allow administrators to create, update, and deactivate student accounts.
  5. FR05: Implement password recovery mechanisms.

**Course Management:**

* 1. FR06: Allow students to browse available courses.
  2. FR07: Allow students to enroll in courses (subject to prerequisites and capacity).
  3. FR08: Allow students to drop courses (within a defined period).
  4. FR09: Display enrolled courses for each student.
  5. FR10: Allow administrators to add, update, and remove course information (name, description, credits, prerequisites, capacity)

**Scheduling:**

* 1. FR11: Display the course schedule for each enrolled student.
  2. FR12: Show the timetable of all available courses.
  3. FR13: Allow students to view the details of each scheduled session (date, time, location, instructor).

**Grade Management:**

* 1. FR14: Allow instructors to input and update student grades.
  2. FR15: Allow students to view their grades for completed coursework.
  3. FR16: Calculate and display the student's GPA.

**Communication:**

* 1. FR17: Provide a system for announcements from administrators or instructors to students.
  2. FR18: Potentially integrate with an internal messaging system between students and instructors (optional).

**Document Management:**

* 1. FR19: Allow students to access relevant academic documents (e.g., syllabus).
  2. FR20: Potentially allow students to upload certain documents (e.g., assignments).

### Non-Functional Requirements

These describe the qualities of the system.

**Security:**

* 1. NFR01: The system must ensure the confidentiality and integrity of student data.
  2. NFR02: Implement secure authentication and authorization mechanisms to prevent unauthorized access.
  3. NFR03: Protect against common web vulnerabilities (e.g., SQL injection, XSS).

**Performance:**

* 1. NFR04: The system should respond to user requests within an acceptable timeframe (e.g., page load times under 3 seconds for most common operations).
  2. NFR05: The system should handle a defined number of concurrent users without significant performance degradation.

**Scalability:**

* 1. NFR06: The system should be scalable to accommodate a growing number of users and data.
  2. NFR07: The architecture should allow for easy addition of resources as needed.

**Usability:**

* 1. NFR08: The user interface should be intuitive and easy to navigate for students.
  2. NFR09: The system should provide clear and helpful error messages.

**Reliability:**

* 1. NFR10: The system should be available for a specified percentage of time (e.g., 99.9% uptime).
  2. NFR11: Data should be backed up regularly to prevent loss.

**Maintainability:**

* 1. NFR12: The system should be designed in a modular and well-documented way to facilitate maintenance and updates.

### Constraints

These are limitations or restrictions on the development of the system.

**Budget:**

* 1. C01: The total development cost must not exceed a specified budget (e.g., $X).
  2. C02: Ongoing operational costs (hosting, maintenance) should be within a defined limit.

**Timeline:**

* 1. C03: The initial version of the student portal must be launched by a specific date (e.g., YYYY-MM-DD).
  2. C04: Key features (e.g., registration, course browsing) might have interim deadlines.

**Technical Stack:**

* 1. C05: The system must be developed using a specific set of technologies (e.g., Python/Django, React, PostgreSQL).
  2. C06: Integration with existing university systems (e.g., student information system) might be required.

**Compliance:**

* 1. C07: The system must comply with relevant data privacy regulations such as GDPR (if applicable to users) and FERPA (if the institution is in the US). This includes data handling, consent, and access rights.
  2. C08: Adherence to accessibility standards (e.g., WCAG) might be required.

Let me know if you'd like a more detailed breakdown of any of these categories!