# CS 255 System Design Document

## UML Diagrams

### UML Use Case Diagram

*A diagram of a driver pass

Description automatically generated*

### UML Activity Diagrams

*A screenshot of a diagram

Description automatically generated*

*A screenshot of a diagram

Description automatically generated*

### UML Sequence Diagram*A diagram of a diagram Description automatically generated*

### UML Class Diagram

*A diagram of a software company

Description automatically generated with medium confidence*

## Technical Requirements

*Functional Requirements:*

* *Payment portal system so students can pay for courses*
* *DMV update pathway to provide most up-to-date information on website*
* *Instructor feedback system to provide students with feedback on their coursework*
* *User authentication and authorization capabilities for users of all levels*
* *Course management system in which users can add and drop courses*

*Nonfunctional Requirements:*

* *Security: as to not expose sensitive information to attackers*
* *Scalability: as the website grows in users it needs to be able to accommodate them*
* *Performance: the website must be usable and perform to a high standard*
* *Accessibility: the website must accommodate a wide range of users with and without disabilities*
* *Compatibility: the website must be able to run smoothly across different web browsers and devices*

*Hardware Requirements*

* *Servers to host the website*
* *Devices to access the application*

*Software Requirements, Tools, and Infrastructure*

* *Web servers to host the application*
* *An operating system to run server on*
* *A cloud provider to host server*
* *Database management systems to store and mutate application and user data*
* *GitHub for version control of the codebase*
* *Tools for encrypting for security*
* *IDE of choice for writing code*
* *Tool for testing the code on the application, such as Selenium*
* *Frontend and backend framework to develop application*
* *Tool for project management, such as JIRA*
* *A firewall system to protect user data, probably provided by cloud provider*