# Task 1.1

At the start of the process, the system enters the "Enrollment" state. When the system receives the first student's enrollment request, it transitions to the "Student Eligibility Check" state.

The system checks the first course choice of the student against three different rules for eligibility. These rules are applied in sequential order. The system transitions to the "Course Choice Check" state each time a rule is applied. If the student is ineligible due to any of the three rules, the system transitions to the "Course Declined" state, declining the course choice. If the student remains eligible throughout the entire filtration, the system transitions to the "Course Accepted" state, accepting the student into that course.

After processing the first course choice, the system transitions to the "Next Course Check" state to perform the same process on each of the remaining course choices of the student. Once all course choices have been processed, the system transitions to the "Next Student" state to perform the same process on the next student.

If all students have completed the enrollment process, the system transitions to the "Enrollment Completed" state. Otherwise, the system transitions back to the "Student Eligibility Check" state to process the enrollment request for the next student.

Overall, this state machine represents the enrollment process, where each student's eligibility is checked for each course choice based on three sequential rules. The system each course choice and repeats the process for each student until all course choices have been accepts or declines processed.

# Task 1.2

Diagram

Description automatically generated

# Task 2

Diagram

Description automatically generated