

Software Engineering Capstone Topic Approval Form

The purpose of this document is to help you clearly explain your capstone topic, project scope, proposed software product, and timeline. Identify each of these areas so that you will have a complete and realistic overview of your project. Your assigned instructor cannot approve your project topic without this information.

Note: you must fill out and submit this form. The space beneath each area requiring your response will expand as needed. Any cost associated with development of the capstone will be the responsibility of the student.

STUDENT NAME and ID:

Student name: Galen Hammerle

Student ID: 011047039

INFORM INSTRUCTOR:

Potential use of proprietary company information: (Y/**N**) N

ANALYSIS:

1. Project topic AND description:

Title:

Student Course Planning and Scheduling Mobile Application

Description:

This project extends the C971 .Net Maui C# course/term scheduling mobile application. Multi user support, access control and specific degree plan support will be added.

Two primary user roles:

- **Admin:** create, update, delete students, courses, terms and related entities
- **Student:** read only for most entities, change term and course related dates and notifications
shuffle courses between terms

The application will include a login screen and specific degree (e.g. Computer Science, Business Administration) support with common general education course.

2. Project purpose AND goals:



The purpose of the project is to provide a light weight portable tool for students to view their degree plan, and administrators to update content remotely.

Goals include:

- Supporting degree-specific course planning
- Enabling mobile access to scheduling information
- Providing role-based control over academic data
- Sending timely notifications to improve student engagement and awareness

3. Descriptive method:

- Wireframes will be utilized to visualize the UI design.
- UML will be generated to guide the structure and logic of the application.
- An ERD will be created to define the database schema.
- The software will be created using C# and the .Net Maui framework.
- All project artifacts will be stored in a git repository.

4. Predictive/prescriptive method:

- Validation rules will help ensure data integrity and guide users toward successful outcomes (e.g., students staying on track for graduation, admins maintaining consistent records).
- Notifications will alert to students to upcoming events.
- Role-based access via a login screen will be used to ensure proper user workflow and data integrity.

DESIGN and DEVELOPMENT:

1. Explain why the problem and software product you have proposed are worthy of study:

The application created in C971 set up a basic framework for tracking courses and terms for a single user. This project will extend the use case for administrative roles and student roles.

2. Projected outcomes and deliverables:

A mobile application utilizing the .Net MAUI framework for universities to share course schedules with their students.

3. Estimated number of hours for the following:

- i. Planning and design: 10
- ii. Development: 60



- iii. Documentation: 10
- iv. Total: 80

4. Projected completion date:
September 15, 2025

IMPLEMENTATION and EVALUATION:

1. Describe how you will approach the execution of your project:
 - a. Update wireframe to include new features (login page, create user...)
 - b. Extract the UML of the existing code.
 - c. Updated the UML to include new classes to support new features
 - d. Implement new features
 - i. Test new features during development
 - e. Document application flow and test cases
 - f. When feature development is complete test the application

INFORM INSTRUCTOR OF:

Potential use of human subjects (Y/N): N

Potential use of proprietary company information (Y/N): N

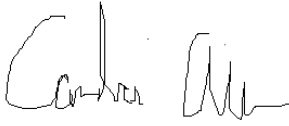
STUDENT NAME: Galen Hammerle

By submitting this form, you acknowledge all information provided is accurate and that any changes to the topic, proposal, or goals must be discussed with your assigned instructor prior to continuing.

INSTRUCTOR NAME: Candice Allen



INSTRUCTOR SIGNATURE:



INSTRUCTOR APPROVAL DATE: 07/27/2025

