

# **3460:490 Senior Seminar**

## **Capstone Project**

With an expanding need for academic and industry to translate innovative ideas into developed products, entrepreneurial education plays a significant role for college students. Entrepreneurship-minded computer science students can translate innovative ideas and develop them into software products and services. This process requires critical and creative thinking, problem solving, resilience, a growth mindset, and the ability to manage risk. Adding some startup-related training elements to foster an entrepreneurship culture in capstone project could provide students with crucial future-ready skills and an array of new career possibilities. Entrepreneurial skills may include, but are not limited to, the ability to: (a) take initiative; (b) communicate effectively and market oneself and one's ideas; (c) creatively seek out and identify business opportunities; (d) develop budgets and forecast resource needs; and (e) understand various options for acquiring capital and the trade-offs associated with each option.

### **Capstone Project Milestones**

#### **1. Elevator Pitch (Date: Jan. 23)**

An elevator pitch is a short description of an idea or project that explains the concept in a way such that any listener can understand it in a short period of time.

Students will pitch their project ideas as well as themselves to the rest of class. Class will use a series of criteria to rank the ideas. Top K ideas will be chosen to continue. K will be determined based on class size. The person pitching the idea now becomes the team leader and advertises what skill sets the project needs. Interested parties talk with team leaders to join their teams (up to 4 members in a team).

Pitch structure includes:

- Introduce yourself.
- Introduce the problem and describe your solution.
- Talk about how you reach the goal.

#### **2. Team Formation (Due: Jan. 25)**

Each team chooses a short and fun name for your team. The team leader submits a document which contains Team Name, Members, and team leader. The team leader of each team is responsible to keep track of project progress. It is a great experience for the team leader to learn how to manage a team.

#### **3. Capstone Project Proposal (Due: Feb. 3)**

With the help of their teammates, team leaders will write their refined pitch up as a 2-page proposal describing their project in more detail. The proposal should include brief functional and design specifications, each member's tasks, and a proposed project schedule.

#### **4. Project Status Report (Due: Feb. 24)**

Each team will submit a status report more fully describing their ongoing project.

**5. Initial Demo (Dates: March 13 & March 15)**

Each team will present their initial demo in class.

**6. Capstone Project Abstract (Due: April 14)**

An abstract is an abbreviated version of the final report, limited to 250 words/one page. Describe the purpose of your project, what your approach for achieving your goal was and what results you obtained. Format the abstract as follows:

Project Title (Heading 2 type)
Team Member's Name (Heading 3 type)
(skip a line, normal type)
250 word summary, normal type

**7. Capstone Project Presentation (Dates: April 24 & April 26)**

A live talk and demonstration will take place in class. Allow 15 minutes for your talk, 5 minutes for Q&A. There will be a penalty for talks substantially shorter than 15 minutes in length.

**8. Written Capstone Project Report (Due: April 28)**

Finally write a 4-page final report about your project. Review what problem you worked on, what your final project does, what you learned in the course of working on your project, and what you would do different or next if you were to either start over or continue working.

**Submission: Please submit all documents to Brightspace.**

## Capstone Project Rubrics

### Quality of Capstone Project

<b>0 Unacceptable</b>	<b>1 Poor</b>	<b>2 Acceptable</b>	<b>3 Good/Solid</b>	<b>4 Exemplary</b>	<b>Score</b>
Project is not correctly specified, designed or implemented.	Project is partially specified, designed and implemented with major deficiencies.	Project is largely specified, designed and implemented with several minor deficiencies.	Project is almost completely specified, designed and implemented with only a few minor deficiencies.	Project is completely specified, designed and implemented with no deficiencies.	
No new technology/skill was demonstrated.	A new technology was introduced with minimal understanding and minimally demonstrated.	A new technology was introduced with some understanding or minimally demonstrated.	A new technology was introduced and demonstrates a good understanding but minimal proficiency.	Student has learned a new technology and demonstrates a good understanding and proficiency.	
The student cannot write well even with detailed feedback.	The student can eventually write adequately with much detailed feedback.	The student can write adequately with much feedback.	The student can write well with some feedback.	The student can write well independently.	

### Quality of Capstone Presentation

<b>0 Unacceptable</b>	<b>1 Poor</b>	<b>2 Acceptable</b>	<b>3 Good/Solid</b>	<b>4 Exemplary</b>	<b>Score</b>
No presentation was given.	Presentation does not appear to be practiced and is not presented in the time limit.	Presentation does not appear to be practiced but is presented in the time limit.	Presentation appears practiced but is not presented in the time limit.	Presentation appears well practiced and is presented in the time limit.	
Very poor oral communication skills, with little ability to answer any questions or participate in a discussion with reviews.	Poor oral communication skills, with ability to answer some questions and participate at a low level of discussion with reviewers.	Acceptable oral communication skills, with ability to answer most questions and participate in a moderate level of discussion with reviewers.	Good oral communication skills, with ability to answer questions and participate in high level of discussion with reviewers.	Excellent oral communication skills, with ability to answer questions and participate in a rigorous level of discussion with reviewers.	
The student is unable to present his/her work coherently.	The presentation is basically understandable but with many places lacking coherence.	The presentation is basically understandably but is unclear in several places.	The presentation is very understandable but may be unclear in a couple of places.	The presentation is completely understandable.	