CS 4991 Capstone Syllabus

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Introduction

This class supports the writing of the technical report component of the fourth-year thesis in STS 4600. Students will write the report assuming a *non-computing professional audience*. The course is part of the CS 4XXX elective option in the fourth-year CS thesis track.

Should I take this class?

Take this course if you are a 4th year student who is not taking CS 4980 or a CS 3xxx/4xxx independent study. The course requires STS 4500 as a pre- or co-requisite.

Successful completion of the course fulfills the SEAS's capstone technical report requirement.

Format

Because the class is 0-credit Pass/Fail there will be no class meetings. There will be office hours. A schedule will be announced soon.

What are the possible technical report options?

There are two possibilities.

- *Describe an experiential learning event — internship, personal project, non-profit volunteer effort — that offered documented value to a specific organization, community, or group.*
    - Describe the tools, techniques, and soft skills you learned during the experience.
    - Indicate classes that prepared you for your experience.
    - Discuss ways in which CS classes could be improved to better prepare you.
    - If appropriate, indicate how the project could be enhanced or redesigned for increased value.

- *Propose a synthesis of ideas from two completed CS courses that connects how topic(s) might be enhanced, extended, refined, or reworked.*
    - For example, select the idea of TCP back off timers from networking and connect it to the idea of Q-learning from a Machine Learning class. Coupling these ideas would allow a discussion of how Q-learning can be used to create a more efficient TCP back off time.

What are the deliverables?

There will be three artifacts to produce.

- A one to two paragraph abstract due the third week of the semester.
    - The abstract should give an overview of the project that includes both its purpose and significance.
    - The paper should be in Word DOCX format.
    - Graded on a 5-point scale with at least 3.5 points needed to be considered passing.
    - Students will receive feedback on the writing.

- Draft technical report of three to four pages due by the eighth week of the semester.
  - The report should describe the nature and purpose of the project, the work accomplished, and its significance. Discussion should include how the student's program of study prepared them for the project. If appropriate, what additional training would have better helped the student achieve the project goals.
  - The paper should be in two-column layout in Word DOCX format.
  - Graded on a 5-point scale with at least 3.5 points needed to be considered passing.
  - Students will receive feedback on the writing along with suggested edits.

- Final technical report of three to four pages in two-column format due by the tenth week of the semester.
  - The report should describe the nature and purpose of the project, the work accomplished, and its significance. Discussion should include how the student's program of study prepared them for the project. If appropriate, what additional training would have better helped the student achieve the project goals.
  - Graded Pass/Not satisfactory.

What template should I use?

Use the ACM template for your reports. You can download a copy of the template here or just modify this document.