

Research Project Courses CSCI 8874/8875

Course Grade

This is a Pass/Fail course. Please see the Assessment section for further description.

Prerequisites

CSCI 3101.03, CSCI 3110.03, CSCI 3120.03, CSCI 3130.03, CSCI 3136.03, CSCI 3171.03, a minimum GPA of 3.0, permission of instructor, and permission of the Faculty of Computer Science.

Proposed Instructor

The instructor of record for the course will be the student's supervisor (like directed studies). It is expected that the supervisor will continue in that role for the student's Master's research.

Course Offering Policy

- A student may take these courses sequentially or concurrently.
- A student must have a supervisor for these courses, who will likely be their Master's supervisor.
- Student and supervisor must submit a joint research program proposal, which must be approved by both the graduate and undergraduate chairs. The proposal must include:
 - A brief outline of the planned Master's research program. This is needed to understand how the student's work in these courses will contribute to their Master's research.
 - The milestones that a student is expected to achieve in the 3-credit hours that the course entails. A brief description of how the milestones are to be assessed should also be included.
Note: If a student takes both courses concurrently, separate milestones must be specified for each of the 3-credit hour courses. I.e., a student is expected to do 3 credit-hours of work in each of the courses.
 - An explanation of how the accomplishment of these milestones will contribute to the student's Master's program.
 - An assessment rubric, describing what would constitute a pass in the course. I.e., at minimum which milestones must be met for a student to earn a pass the course.
 - Any resources that the student will need for the research project, including those that will be provided by the supervisor, as well as those that the student is responsible for providing.

The Undergraduate Chair or their designate will ensure that the amount of work is appropriate for a 3 credit-hour course. The Graduate Chair will ensure that the milestones will contribute to the student's Master's research and that the assessments are reasonable.

- These courses cannot be used to satisfy CS Elective requirements for the BCS. They can be used to satisfy free elective requirements.

Learning Outcomes

The learning outcomes for the course are dependent on the proposal the research proposal put forth by the student and the supervisor. However, it is expected that most learning outcomes will follow the lines of the following broad learning outcomes:

- Describe the field of research, the problem(s) being addressed, and their importance in the field.
- Identify the approaches to be used to address the problems and describe their strengths and weaknesses.
- Apply or describe the tools to be used in the research program and identify their strengths and weaknesses.
- Implement tools and programs to address or study the problems being addressed by the research program.
- Explain and relate other's research to the problems being addressed in the research program.

Text Book and Resources

No specific textbooks or resources are required. It is assumed that the supervisor will provide access to the student to all literature, tools, and resources necessary for the student to achieve the proposed milestones.

Assessment

The assessment is based on a set of milestones proposed by the student and instructor that are to be accomplished over the period of the course.

- Formative assessment takes the form of feedback that the supervisor provides to the student during regular meetings.
- Supervisors are responsible for regularly meeting with the student to ensure that the milestones are being accomplished and that the student gets feedback on the milestones.
- The supervisor must submit an update to the Undergraduate and Graduate chairs, which reports
 - The milestones that have been achieved
 - An estimate of which milestones will be achieved by the end of the course
 - An update to the milestones to be achieved (with the consent of the student) if the previously proposed milestones are unachievable. In this case, an explanation should be attached explaining (i) why the current milestones are unachievable and (ii) why the new milestones are a reasonable substitute. In this case, the student, the Undergraduate chair, and the Graduate chair must all consent to the changes.

- Typically, there are expected to be three to five milestones to be achieved. Assuming all milestones are of comparable scope, achieving at least 2/3 of the milestones should warrant a Pass.
- At the end of the term, the supervisor submits a final report to the Graduate and Undergraduate chairs. The undergraduate chair, or his designate will record a final grade for the student based on the supervisor's recommendation.

Example of a Course Schedule

Week	Milestone	Student/Supervisor/Graduate Chair Communications
1		Meet w/ Student
2		
3	Milestone 1	Meet w/ Student, feedback on Milestone 1
4		
5		Meet w/ Student
6	Milestone 2	Meet w/ Student, feedback on Milestone 2
7		Midterm update to the Graduate Chair
8		Meet w/ Student
9	Milestone 3	Meet w/ Student, feedback on Milestone 3
10		
11		Meet w/ Student
12		
13	Milestone 4	Meet w/ Student, feedback on Milestone 4 Final report to the Graduate Chair and Undergrad Chair