Course Code   Course Title
COMP 4981H   Final Year Thesis

Course Description

Students are expected to conduct research under the supervision of a faculty member, summarize their work in an individual thesis and make a defense at the end. Credit load will be spread over the year. For students in the BEng in Computer Science and BEng in Computer Engineering programs under the four-year degree only. Instructor's approval is required for enrollment in the course. Exclusion(s): COMP4981

List of Topics

N/A

Textbook

N/A

Reference books

N/A

Grading Scheme

1. All students are given an official grade of PP at the end of the Summer and Fall Terms respectively. The five components of the final letter grade have the following weighting from the advisor's perspective:

Project proposal report	5%
Individual essay	5% (graded by communication tutors)
Project progress report	20%
Final project report	35%
Oral presentation/thesis defense	30%
Monthly reports	5%
Total	100%

Letter grade with A to F will be given. The advisor may give different letter grades in each of the five components to students within the same group.

The reader will focus on the product of the project. A different set of weights are used based on the reader's perspective:

Project proposal report	5%
Project progress report	15%
Final project report	35%
Oral presentation/thesis defense	40%
Poster session	5%
Total	100%

The reader gives one letter grade for each of the five components for each project.

2. Grade Determination

- Advisors and readers grade the five components independently.
- Advisors grade the five components for each of the students in group projects. Thus, it is possible that members of the group receive different letter grades for each component.
- Readers grade the five components for the project only. Thus, all members receive the same letter grade for each component.
- The final letter grade for each student is computed by combining the letter grades given by the advisor and the reader using a advisor-reader weighting of 60:40.
- Readers may interact with advisors during the year to gain more insights on the projects.

3. The components
  - For FYT:
    - The grading scheme for the proposal report is (both advisors & readers):
      - Thesis objective formulation, methodology to be followed, background - 60%
      - Clarity and presentation of the report (organization, use of English) - 30%
      - Planning of future work - 10%
    - The grading scheme for the individual essay is (advisors/communication tutors only):
      - Clarity - 30%
      - Content - 30%
      - Relevance - 40%
    - The grading scheme for the progress report is (both advisors & readers):
      - Work completed - 60%
      - Clarity and presentation of the report (organization, use of English) - 30%
      - Use of research approaches related to computer science and engineering discipline (literature review, system/algorithm design, mathematical analysis, modeling, simulation, system prototyping are included here) - 10%

- The grading scheme for the final report is (both advisors & readers):
  - Results obtained - 60%
  - Clarity and presentation of the report (organization, use of English) - 30%
  - Use of research approaches related to computer science and engineering discipline (optimization, analysis, simulation, result verification are included here) - 10%
- The grading scheme for the thesis defense is (both advisors & readers):
  - Result presentation - 40%
  - Delivery: Oral delivery, contact with audience, slides, timing - 40%
  - Quality of answers - 20%
- The grading scheme for the monthly reports is (advisors only):
  - Each monthly report - 33.33%
- The grading scheme for the poster session is (readers only):
  - Clarity and presentation of the poster - 50%
  - Information conveyed - 50%

Course Intended Learning Outcomes

The objectives of this course are to:

1. Provide an opportunity for the student to apply and integrate the knowledge acquired throughout his/her undergraduate study.
2. Develop the capabilities of a student in analyzing and solving complex and possibly real-case problems.
3. Develop a student's skills in the systematic development, documentation and presentation of a significant piece of work.

Assessment Rubric

Program Outcome	Component	Percen-tage	Exemplary (A- to A+)	Competent (B- to B+)	Needs Work (C-
			Proposal Report		
	Project objective formulation, methodology to be followed, background	60%	The objectives are well defined and prioritized. All relevant information and constraints are obtained and accurately analyzed. Decision and design recommendation are well supported by the information.	All major objectives are identified. Sufficient information is obtained. Appropriate analyses are selected. Decision and design recommendation are reasonable and mostly supported by the information.	Most major object are identified but two minor ones a missing or prioriti not established. N constraints are ide some are not adeq addressed or accu analyzed. Decisio design recommen is reasonable.
	Clarity and presentation of the report (organization, use of English)	30%	Report is well organized and clearly written. The underlying logic is clearly articulated and easy to follow. Words are chosen that precisely express the intended meaning and support reader comprehension. Diagrams or analyses enhance and clarify presentation of ideas. Sentences are	Report is organized and clearly written for the most part. In some areas the logic or flow of ideas is difficult to follow. Words are well chosen with some minor exceptions. Diagrams are consistent with the text. Sentences are mostly grammatical and only a few spelling errors are present but they do not	Report is organize topic/flow, but in areas it is difficult follow the flow of Words can be furt improved. Some diagrams are not v explained. Gramm errors that impede flow of communic

Program Outcome	Component	Percen-tage	Exemplary (A- to A+)	Competent (B- to B+)	Needs Work (C-
			Progress Report		
	Work completed	60%	Progress is beyond expectations with respect to plan. Highly detailed discussions on milestones completed.	Progress is highly satisfactory with respect to plan. Detailed discussions on milestones completed.	Progress is mostly satisfactory with to plan. Some dis on milestones co
	Clarity and presentation of the report (organization, use of English)	30%	Report is well organized and clearly written. The underlying logic is clearly articulated and easy to follow. Words are chosen that precisely express the intended meaning and support reader comprehension. Diagrams or analyses enhance and clarify presentation of ideas. Sentences are grammatical and free from spelling errors.	Report is organized and clearly written for the most part. In some areas the logic or flow of ideas is difficult to follow. Words are well chosen with some minor exceptions. Diagrams are consistent with the text. Sentences are mostly grammatical and only a few spelling errors are present but they do not hinder the reader.	Report is organize topic/flow, but in areas it is difficul follow the flow o Words can be fur improved. Some diagrams are not explained. Gramm errors that imped flow of communi
	Use of software engineering techniques (concepts of initial system development	10%	Employ appropriate analytical tools and/or software engineering techniques. Clearly demonstrates mastery of several areas of the	Employ appropriate analytical tools and/or software engineering techniques acquired in his course of study to the project at hand	Employ some ana tools and/or softw engineering techn acquired.

Program Outcome	Component	Percen-tage	Exemplary (A- to A+)	Competent (B- to B+)	Needs Work
			Final Report		
	Results obtained	60%	Perform competently and in addition notice improvements that can be made to the design spec. Deliver code of exceptional quality. Plan and execute thorough list of test cases.	Develop code that follows the design spec. Develop structured code. Plan and execute list of test cases with expected result specified.	Develop code follows the de but can be fur improved. Pla execute some but not coveri possible scena
	Clarity and presentation of the report (organization, use of English)	30%	Report is well organized and clearly written. The underlying logic is clearly articulated and easy to follow. Words are chosen that precisely express the intended meaning and support reader comprehension. Diagrams or analyses enhance and clarify presentation of ideas. Sentences are grammatical and free from spelling errors.	Report is organized and clearly written for the most part. In some areas the logic or flow of ideas is difficult to follow. Words are well chosen with some minor exceptions. Diagrams are consistent with the text. Sentences are mostly grammatical and only a few spelling errors are present but they do not hinder the reader.	Report is orga topic/flow, bu areas it is diff follow the flo Words can be improved. So diagrams are explained. Gr errors that imp flow of comm
	Use of software	10%	Employ appropriate	Employ appropriate	Employ some

Program Outcome	Component	Percen-tage	Exemplary (A- to A+)	Competent (B- to B+)	Needs Work
			Oral Presentation		
	Project demonstration	40%	Present a fully-functioning working product with several original/inventive elements. Show strong effort was made in breaking new ground and building excitement about the application. The demonstration techniques are imaginative and effective in conveying ideas to the audience.	Present a working product with support to all desired functions. Offer some new information or approach about the application. The demonstration techniques are effective in conveying main ideas.	Present a wo product but s functions are supported or malfunctione shows how t application v demonstratic conveys mai
	Delivery: Oral delivery, contact with audience, slides, timing	40%	Slides cover complete, accurate description of important outcomes. Effective use of charts, graphs, figures etc. Use of fluent English and confident. Hold attention by direct eye contact and nature hand gestures. Excellent timing and smooth transition among	Slides cover accurate description of most of important outcomes. Use of charts, graphs, figures etc. Fair use of English. Hold attention by consistent use of direct eye contact. Presentation runs with desired pace and finishes within allocated time.	Slides cover outcomes. Li charts, graph etc. Use of E noticeable er eye contacts Presentation well planned within alloca