Graduation Project Evaluation Criteria

Introduction:

Graduation Project is generally conducted over two consecutive semesters (Semester 7 and Semester 8). In most cases, students will conduct their graduation projects in group and under the close guidance of a supervisor. The supervisor will nominate Co-supervisors if needed. The supervisor will also nominate a committee of two members for each graduation project. Students will prepare and defend a Project Proposal (in Semester #7) before undertaking the actual project work, Project Implementation (in semester #8).

While working for their project under the guidance of the supervisor, students will have the opportunity to present their work in front of the committee on more than one occasions to receive valuable feedback for their project. Both the supervisor and the committee members will evaluate each student individually. The overall grade of a student in project proposal or project implementation will be calculated based on the marks received from the supervisor (40 marks) and from the committee members (60 marks) during different evaluation phases as mentioned below.

Project Proposal will be presented and evaluated in three phases as follows:
- Initial Evaluation (during 5th week of the semester, 10 marks)
- Midterm Evaluation (during 9th week of the semester, 20 marks)
- Final Evaluation (during 16th week of the semester, 30 marks)

Project Implementation will be evaluated in two phases as follows:
- Midterm Evaluation (during 8th week of the semester, 20 marks)
- Final Evaluation (during 16th week of the semester, 40 marks)

Evaluation Criteria:

In principle, the evaluators will assess a student’s overall achievements by examining the report they submit, observing the presentation and demonstration they make, as well as by asking questions and requesting for further clarifications as appropriate.

The graduation project is a capstone of an undergraduate curriculum where students try to apply their knowledge comprehensively in solving a complex and realistic problem. Therefore, the evaluators try to evaluate student’s high-level learning outcomes by means of a set of predefined criteria.

In all phases of evaluation, students ability of communication (report and presentation) and team work (professionalism, cooperation and ethical behavior) will be taken into consideration. However the scientific and technical aspects and achievements of the project will play the key role in evaluation.

Reports and Presentations for each phase of evaluation should be organized logically and prepared professionally using correct spelling, grammar, format and style. Students should follow the recommended formatting and style in preparing their

Unlike Panel Members who mainly evaluated graduation projects in the past, the Committee Members will closely work with the supervisors and students to both facilitate and evaluate the graduation projects.
reports and presentations. The technical contents should be presented clearly, precisely and comprehensively to highlight their contributions and achievements.

Graduation Project Evaluation Phases:

1. Project Proposal - Initial Evaluation (Week 5, Semester 7)

During the initial evaluation students’ understanding and preparedness concerning the selected project will be assessed. By the end of this phase students should be able to demonstrate their ability to analyze the problem, and identify and define the computing requirements for the project. They should be also able to illustrate the local and global impact of their project on individuals, organizations, and society as a whole. The students are expected to provide the following information convincingly during this phase:

- Background of the project
- Motivation for the project
- Problem statement
- Scope of the project
- Project baseline requirements
- Expected outcomes
- Identified tasks and a tentative work plan

In this early stage of project evaluation, the evaluators (supervisors and committee members) will not only give grades, they will also provide valuable feedback to the students to improve the project in terms of quality.

2. Project Proposal - Midterm Evaluation (Week 9, Semester 7)

During the second phase the students are expected to show their maturity in handling the project by making significant progress as planned. By the end of this phase students should be able to demonstrate their ability to apply knowledge of computing and mathematics and define the computing requirements appropriate for proposed solution. The students are expected to provide the following information during the second phase:

- Background of the project
- Motivation for the project
- Problem statement
- Scope of the project
- Comprehensive analysis of related work
- Detailed project requirements
- Identification of alternative solutions/approaches and justification of selecting a solution/approach
- Expected outcomes
- Identified tasks and a realistic work plan

Some items above are inevitably accumulated from the initial phase and to be adapted further in the final phase. Any such revision and update should be explained or justified in detail.
3. Project Proposal - Final Evaluation (Week 16, Semester 7)

During the final phase of project proposal students should prepare and present a comprehensive Project Proposal. By the end of this phase students should be able to show their competency in analyzing the problem at hand and designing a computer-based system, process, component, or program to meet desired need of the project. They should also demonstrate their ability in using current tools and techniques and engaging themselves in continuing professional development. They are expected to show their awareness about professional, ethical, legal, security and social issues and responsibilities by the end of this phase. Students are expected to present and defend a comprehensive project proposal during the final proposal evaluation containing the following information:

- Background of the project
- Motivation for the project
- Problem statement
- Scope of the project
- Comprehensive analysis of related work
- Project requirements
- Identification of alternative solutions/approaches and justification of selecting a solution/approach
- Discussion of tools and techniques used during project proposal
- Appropriate analysis
- Details of proposed design conforming to the problem statement
- Description of tools and techniques to be used during project implementation
- Identified tasks and a realistic work plan for project implementation

It is strongly recommended that students carefully note all the comments made by the supervisors and committee members during the final proposal defense and try to incorporate them accordingly in the Project Implementation phase.

4. Project Implementation - Midterm Evaluation (Week 8, Semester 8)

During the first half of the implementation phase the students are expected to make acceptable progress in implementing the project. Although not complete yet, during the midterm week students should be able to show their ability to implement and evaluate a computer-based system, process, component, or program to meet desired need of the project. They should also demonstrate their capability to use current tools and techniques and engage themselves in continuing professional development. Students are expected to provide the following information during the midterm project evaluation:

- Background of the project
- Motivation for the project
- Problem statement
- Scope of the project
- Comprehensive analysis of related work
- Project requirements
- Identification of alternative solutions/approaches and justification of selecting a solution/approach
• Appropriate analysis
• Details of partial implementation conforming to the design/proposal
• Commands of tools and techniques being used during project implementation
• Preliminary outcomes/results
• Analysis of preliminary result through comparison/validation/verification
• Remarks on preliminary results and intermediate conclusions
• Identified tasks and a realistic work plan for next phase

In general, in the second-half of the project implementation, students will be spending more time in testing and validation of their projects as well as writing a comprehensive report. Therefore, by the midterm week, most students will be finishing a major part of their project implementation. Nonetheless, if there is any major change in project implementation with respect to the project proposal, students should justify/discuss such matters during the midterm evaluation with the supervisor and committee for approval.

5. Project Implementation – Final Evaluation (Week 16, Semester 8)

During the final phase of implementation students are expected to complete their projects according to their project proposal. They should highlight their achievement and contribution appropriately. By the end of implementation phase students should be able to show their ability to implement and evaluate a computer-based system, process, component, or program to meet desired need of the project. They should also demonstrate their capability to use current tools and techniques and engage themselves in continuing professional development. They are expected to show their awareness about professional, ethical, legal, security and social issues and responsibilities by the end of this phase. The students are expected to provide the following information by the end of final phase:

• Background of the project
• Motivation for the project
• Problem statement
• Scope of the project
• Comprehensive analysis of related work
• Project requirements
• Identification of alternative solutions/approaches and justification of selecting a solution/approach
• Appropriate analysis
• Details of project implementation conforming to the project proposal
• Mastery of tools and techniques being used in project implementation
• Overall project outcome/achievements
• Analysis of overall result through comparison/validation/verification
• Comprehensive remarks on overall project outcome and achievements (conclusions and future work)