



New Regulations & Evaluation for Graduation Projects (SBE-480)

1. Graduation projects can be offered and assigned to the third year students two weeks before the final exams.
This will allow students to get necessary background and software skills required in their projects, when the Fall semester starts.
2. Supervisors are to provide the following for each offered project:
 - a. Title
 - b. Short description
 - c. Pre-requisites (e.g. training courses in GPU, C++, etc..)
 - d. Expected output of the project (e.g. software, hardware, design/simulation, ..etc)
 - e. Category of the project (Bio-Medical Informatics or instrumentations/clinical)
 - f. Number of students per project (maximum of 4 students per project or what the department council specify prior to enrollment)
3. For Midterm (late February or early March) and Final (July) GP evaluations, three examination committees will be formed: Medical Instrumentations (including clinical engineering); and Bio-Medical Informatics and software; and Mixed Mode. In case of number of students are less than 30, only one examination committee can be formed to evaluate both three tracks of the projects. This is to reduce the grading variations among the different committee members..
4. Examining committee members are highly encouraged to keep their opinion confidential until board meeting at end of day.
5. Two **closed exams** will be given: (1) Mid-Year exam: at the beginning of the second semester (e.g. February or early March); and (2) Final Exam: at the end of the year (e.g. July). The grades weight will be 30% (60 marks out of the total of 200) and 70% (140 marks out of the total of 200), to midterm and final evaluations, respectively.
6. In each of the exams (Midterm & Final), the weight of the supervisor grade to committee average grade is 50%-50% (i.e, in Midterm, total committee average evaluation has a maximum of 30 marks and supervisor maximum grade to each student has a maximum of 30 marks, both these marks are summed to give a value of maximum 60 marks, the same applies for final July exam but maximum summed marks are 140, then both midterm and final marks are to be added, to yield marks out of the total 200).
7. In both committees of midterm and final exams, usually most 20+ faculty members attend evaluations and use below forms.

8. Each evaluator gets a form, he/she initializes (anonymously), then evaluates project (i.e, out of 40% is given equally to all students) and (out of 60%) to each student at a time, then puts his/her marks in the form, then hand over all projects evaluation forms to the coordinator.
9. The coordinator then enter the anonymous evaluations into excel file, removes the outliers (minimum and maximum grade to each student), then average the remaining evaluations of other remaining faculty members. This is the committee evaluation to each student, which represents 50% of the grade. The remaining 50% of every student is supplied by the GP supervisor, 2-3 days earlier before the exam.
10. Then after the exam, the coordinator adds both supervisor and evaluation committee. This is done for Midterm and Final exams, then add both marks.
11. The Mid-Year exam includes one-day session for progress presentations and technical discussions of the project topic, objectives, and its proposed plan.
12. Final exam will include:
 - a. Power-point presentation
 - b. Technical inspection.
13. Both midterm and final exams are closed exams (No public attendance is allowed)
14. Examining committee weight to supervisor year works grades are 50/50. The proposed grading system will be as follows:

		Percentage (100%)	Marks (out of 200)
Mid-Year Exam (February)	Year works (By Supervisor)	15%	30
	Presentation + Two-page Paper (By Evaluation Committee)	15%	30
Final Exam	Year works (By Supervisor)	35%	70
	Presentation + Report + Technical Evaluation (By Evaluation Committee)	35%	70
Total		100%	200

15. In the mid-year exam, the students are requested to submit a 2-page IEEE formatted paper summarizing the GP containing the following:
 - a. Well defined problem
 - b. Gained necessary skills: presentation skills, technical,
 - c. Gantt chart of the project plan
 - d. Preliminary problem analysis

e. Preliminary design of the solution

16. In final exam (July), each GP group are requested to submit a single printed version of a 4-page IEEE formatted paper summarizing the whole GP as well as a single printed copy of the GP report. GP groups are to send PDF version of the GP report and the 4-page IEEE paper to the coordinating faculty member of GP evaluation, one day before the final exam. These two printed documents are to be submitted to the department secretary 1:00 pm the day before the final exam.
17. In all exams, the assessment by the evaluation committee is split into two parts:
 - a. Group Assessment: measures the overall performance of the group (40%)
 - b. Individual Assessment: measures the performance of each student (60%)
18. The maximum number of students per project is 4 students.
19. After finishing the final exam, the midterm and final grades are summed, discussed in a general faculty meeting, and then to be sent to to the control unit of the GP course SBE-480.

Example of the midterm exam evaluation form (out of 30)

Project Title: Title of the project

Supervisor: Dr. XYZ

Assessment Category	Group Assessment Item	Full Mark	Grade
General Objectives	Novelty (bonus +3)	2	
	Impact on university, government, and society		
	Relation/impact to BME field		
	SMART objectives		
	Business Plan /SWOT analysis		
Problem Analysis	Identification of project requirements and objectives	2	
	Identification of project constraints/limitations (e.g. economic, environmental, social, ethical, health and safety, manufacturability, and sustainability)		
	Detailed system workflow		
	Main system modules		
	Project Management chart		
	Awareness and explanation of alternative solutions		
System Design	Creativity	2	
	How it meets the identified problems and constraints		
Teamwork	Synchronized teamwork tasks	1	
Two-page paper	Adherence with the typical format of a technical report	5	
	Technical language		
	Plagiarism		
Group TOTAL (12)			

Assessment for each student

Student Name	Presentation (full Mark 12)			Technical (Full Mark 6)		Student Total (18)
	Presentation skills	Participation in presentation	Response to raised questions	Impact of task on project	Knowledge/ skills gained	
Student X						
Student Y						
Student Z						
Student Q						

Example of the final exam evaluation form (out of 70)

Project Title: Title of the project

Supervisor: Dr. XYZ

Assessment Category	Group Assessment Item	Full Mark	Grade
General Objectives	Novelty (bonus +3)	5	
	Impact on university, government, and society		
	Relation/impact to BME field		
	SMART objectives		
	Business Plan /SWOT analysis		
Problem Analysis	Identification of project requirements and objectives	5	
	Identification of project constraints/limitations (e.g. economic, environmental, social, ethical, health and safety, manufacturability, and sustainability)		
	Detailed system workflow		
	Main system modules		
	Project Management chart		
	Awareness and explanation of alternative solutions		
System Design	Creativity	5	
	How it meets the identified problems and constraints		
Teamwork	Synchronized teamwork tasks	3	
Four-page paper	Adherence with the typical format of a technical report	10	
	Technical language		
	Plagiarism		
TOTAL (28)			

Assessment for each student

Student Name	Presentation (full Mark 28)			Technical (Full Mark 14)		Total-Final (70)
	Presentation skills (9)	Participation in presentation (9)	Response to raised questions (10)	Impact of task on project (7)	Knowledge/ skills gained (7)	