Subject Description Form

Subject Code	EE2009C
Subject Title	Group Project
Credit Value	6
Level	2
Pre-requisite/ Co-requisite/ Exclusion	Pre-requisite: Students should have completed most of the subjects required in Year 1 of the programme including the online tutorial on academic integrity before taking this subject.
Objectives	 To provide an opportunity for students: 1. to apply specialized engineering knowledge as a group in the design, implementation, managing and evaluation of an engineering project, 2. to identify key engineering problems, to solve them and to communicate the findings in presentation and written report format, and 3. to work effectively and efficiently as a team for a technical project, students are normally grouped into teams of two or three.
Subject Intended Learning Outcomes	 Upon completion of the subject, students will be able to: a. apply specialized knowledge learnt from the program; b. identify key engineering problems, to solve them and to communicate what is achieved orally and in written reports; c. monitor the progress of project from concept to final implementation and testing; d. synthesize and apply their knowledge, analytical and practical skills gained in various disciplines; e. build team spirit, confidence and develop professionalism by successfully completing the project.
Subject Synopsis/ Indicative Syllabus	 completing the project. Choice of Project Projects are proposed by academic staff, or jointly proposed by students and staff. Industrial experience, research and consultancy activities are fertile ground for project ideas. Project Plan At the beginning of the project, students are required to submit a clear project proposal. The proposal should include items such as: an abstract and clear objectives of the project; brief literature survey, background theory; suggested methods to solve the problem; preliminary time schedule and milestones of the project; cost estimate; references Interim Progress Report and Presentation A progress report should be submitted between the end of the 1st semester and the start of the 2nd semester. This gives the supervisor a more formal opportunity than at discussions to indicate his assessment of students' progress to an assessor after the submission of the report.

Final Project Report

A good project schedule includes adequate time for preparing a report of the appropriate standard. The final report should be submitted in Week 10 of the Second Semester. The report will be given to the Assessment Panel for understanding of the students' work and for assessment purpose. To ensure that the project report is prepared properly and of appropriate standard, students must first submit a draft of the report to the supervisor for comments.

Each project is assessed by an Assessment Panel of three members, including two examiners and the project Supervisor.

The Project Supervisor will provide information on student's progress, initiative and ability to work independently. The Supervisor will also be in a position to contribute views on the students' technical achievement. All members of the Assessment Panel will grade the project report. Other assessors will also grade the presentation based on the following activities:

- listening to the students' presentation (could be a video clip),
- examining students during the poster presentation, and
- evaluate the project's outcomes based on a demonstration (could be a video clip).

Assessment

In assessing the project, the assessors will typically consider the following aspects:

- a. Intellectual achievement;
- b. In-depth understanding of the topic and relevant topics;
- c. Quantity and quality of work being achieved, including design and construction of equipment, experimentation, mathematical models, program writing, verification;
- d. Presentation including the written report, presentation and response to questions.

Examiners will ensure that all aspects of the project are thoroughly considered before arriving at a grade. In arriving at their decision, the examiners should bear in mind their experiences in respect of the achievements in other projects in the Department in the current and previous years.

Method of Assessment: 100% continuous assessment

(I) Formal Project Proposal

Students are required to submit a formal project proposal when the project commences. This will contribute to 5% of the final grade.

The contents of the proposal should include:

- A. An abstract and objectives of the project
- B. Proposed specifications of the product
- C. Summary of the literature search
- D. Proposed approach/methodology to be used
- E. Some brief descriptions on the theory of the approach/methodology
- F. Schedule and milestone of the entire project
- G. References

Assessment Criteria

- 1. Literature review.
- 2. Problem definition and methodology.
- *3. Project plan.*
- 4. Writing quality.

(II) The Interim Progress Report

Students are required to submit an interim progress report after semester 1. This will contribute to 10% of the final grade.

The contents of the progress report should include:

- A. An abstract and aims of the project (especially any change from the original aims).
- B. A brief outline of the theory.
- C. Work that has been carried out up to the date.
- D. The system design and the block diagram of the system, brief descriptions on the theory.
- E. Difficulties encountered and the measures taken to solve them.
- F. Proposed schedule for the rest of the work up to the end of the project.
- G. Difficulties expected in the coming period.
- H. References

Assessment Criteria

- 1. Abstract and introduction
- 2. Methodology
- 3. Preliminary results
- 4. Project management and overall presentation of the report

(III) Mid-term presentation

Students are required to present the progress to an assessor after the submission of the Interim Progress Report. The presentation will contribute to 10% of the final grade.

Assessment Criteria

- 1. Technical concept/knowledge/application
- 2. Up-to-date progress and preliminary results
- 3. Response to questions
- 4. Presentation skill and language competence.

(IV) The Final Report

The final project report should contain all the work carried out by the students in the project. The length of the main body of the final report **should be at least 45 pages** in standard report format. Students are advised to form a framework for the report first, and then proceed to the formation of the titles of the chapters. The titles and structure of the sections within each chapter are then decided. Continuing the process, each section may be further expanded into appropriate sub-sections, divisions and sub-divisions etc., until a complete framework is formed. **The final report will contribute to 40% of the final grade.**

The content of the final report includes:

- A. An abstract of the project.
- B. Objectives of the project (especially any change from the original aims).
- C. The motivation behind the project and a brief outline of the project work.
- D. A summary of work done or developed in the project.
- E. The system design and the block diagram of the system, plus descriptions on the theory.
- F. Results and discussion
- G. Difficulties encountered and the measures taken to solve them.
- H. The achievement of the project, the conclusions from the work and suggestions for further work.
- I. A list of the references referred to the source of information in the report. This is compulsory.
- J. Materials which are closely related to the contents of the report, and which are themselves self-contained, may be included in the report as appendixes.

Assessment Criteria

- 1. Abstract and introduction
- 2. Literature review and background
- 3. Methodology and technical skills
- 4. Results, discussions and conclusion
- 5. Overall presentation and organization of the report

(V) The Presentation and Demonstration

The students should keep the presentation concise and interesting through good use of visual aids and multimedia, logic flow of ideas, and appropriate control of the pace. Show good mastering of topics and avoid undue pauses. The students should be able to elaborate on technical details in answering questions. Be courteous during the poster presentation.

Hardware must be neatly built and laid out and there is good engineering sense in hardware implementation. Circuits / software should function properly, and experiments should be able to support fulfillment of project objectives.

The presentation and demonstration will contribute to 25% of the final grade.

Assessment Criteria

- 1. Technical concept/knowledge/application
- 2. Intellectual level, response to questions
- 3. Demonstration and engineering accomplishment
- 4. Presentation skill and language competence.

(VI) Continuous Assessment

The project supervisor will assess the students' overall performance based on the following factors. This will contribute to 10% of the final grade.

- 1. Motivation and perseverance
- 2. Originality and innovation of the project
- 3. Execution and problem solving skills
- 4. Communication
- 5. Self-discipline and time management
- 6. Milestone reports

Note 1: Each student has to submit/carry out all five components (I to V) as a group before he/she is considered to have completed the FYP.

Note 2: The final grade for the FYP will be calculated by taking the weighted average of the grades from the above components.

Note 3: Although it is a group project, different grades may be awarded to different members of the group if it is found that contributions from different members vary significantly.

Teaching/Learning Methodology	As the nature of the subject implies, there will not be many formal lectures in the subject, other than a few hours of briefings on general information, some official procedures in administration of the project and some techniques on information/components searching. Students learn the technical contents by a substantial number of individual discussions with their project supervisors and a large number of hours of self-learning. The planning of the project will be conducted under the direction of the supervisor. Through the execution of the project plan with guidance from the supervisor, the student should be able to achieve the learning outcomes.							
	Teaching/Learning Methodo	Outcomes						
			а	b	c	d	e	
	Discussion with the project Supervisor		✓		\checkmark			
	Writing of the project proposal		✓	\checkmark	\checkmark		\checkmark	
	Writing of the interim report Writing of reports			✓	\checkmark		✓	
				✓	\checkmark	✓	~	
	Presentation and demonstration			✓				
Assessment Methods in	Specific assessment % Intended subject learning outcomes to							
Alignment with	methods/tasks	weighting	be assessed					
Intended Learning Outcomes			а	b	с	d	e	
	1. Formal project proposal	5%		✓	\checkmark			
	2. Interim progress report	10%		\checkmark	\checkmark	\checkmark		
	3. Mid-term presentation	10%		✓		✓		
	4. Final report	40%	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	
	5. Presentation and demonstration	25%	~	~				
	6. Continuous assessment	10%	~			\checkmark		
	Total	100%						
	Assessment criteria for each of the above assessment methods are as listed in one above sections.							
Student Study Effort Expected	Class contact:							
F	Briefings						3 Hrs.	
	Group discussions with supervisor						36 Hrs.	
	Other student study effort:							
	 Information search, self-study, execution of the project, report writing, preparation of presentation 						161 Hrs.	
	Total student study effort							
Reading List and References	As advised by supervisor							