THE UNIVERSITY OF HONG KONG
DEPARTMENT OF ELECTRICAL & ELECTRONIC ENGINEERING

Dissertation/Project Guidelines for MSc(Eng)(EEE) and MSc(Eng)(EnergyE)

All MSc(Eng) students should take note of the following guidelines concerning their MSc(Eng) dissertations/projects.

A. Weighting and Supervision

The MSc(Eng) dissertation is equivalent to four units of study (24 Credits). As a guideline, the time that each student should spend on the dissertation should be about 480-720 hours, including the dissertation and supporting course components, which might be in form of workshops and/or seminars and/or visits with individual assessment such as quiz and/or project report. The total written output for the dissertation is expected to be around 25,000 words. All assessment results will contribute to the final result of the dissertation and is 100% based on coursework.

The MSc(Eng) project is equivalent to two units of study (12 Credits). As a guideline, the time that each student should spend on the project should be about 250-300 hours, including the project report, presentation and demonstration. The total written output for the project is expected to be around 9000-15000 words. All assessment results will contribute to the final result of the project and is 100% based on coursework.

Consistent with the aim that a dissertation/project should be an independent piece of investigative work, students are expected to show initiatives in their dissertation/project work with constant feedback from supervisors. However, the supervisor will normally furnish the necessary background information and literature references as well as discuss the scope of investigation with the student, and it is important that the student should keep the supervisor informed of the progress of the dissertation/project.

B. Dissertation/Project Assessment

Upon completion of dissertation/project work, students are required to submit a report on the dissertation/project, which will be examined by the Supervisor and a Second Examiner. A student will be asked to give an oral presentation and a demonstration in order to assist the examiners in assessing the merit of the dissertation/project.

By the individual nature of MSc dissertations/projects, there are considerable variations in the requirements of different dissertations/projects. However, the marking scheme given below should provide you with some general factors which will be taken into consideration in the assessments of dissertations/projects. Students are advised to bear in mind these points in the planning and execution of their dissertations/projects.

Reference Reading and Forward Planning: (15%)

- Literature survey; understanding of project background; independent self-study;
  (CLO-2: Master the principles of technical project in requirements analysis and system design)

- Independent opinions on contemporary issues of project problem; Development of feasible plans to analyze the issues;
  (CLO-2: Master the principles of technical project in requirements analysis and system design)

Originality and Creativeness: (15%)

- Approach to project problems; innovations and judgement; project scope; development of ideas; application of engineering theory;
  (CLO-1: Master the principles of engineering skills and applications)

- Establish precise and articulated problem statements; Formulate proposed solutions to problems; Analysis and evaluation of alternative solutions; Considerations of problem constraints;
  (CLO-3: Master the principles of technical project in implementation and evaluation)
Project Work and Results: (30%)

Design, construction and implementation of project solution; theoretical analysis;
(CLO-1: Master the principles of engineering skills and applications)

Competence in practical work; experimental skills;
(CLO-3: Master the principles of technical project in implementation and evaluation)

Software development; use of appropriate tools in compiling and analyzing data;
(CLO-3: Master the principles of technical project in implementation and evaluation)

Completeness of project and extent of achieving objectives; quality of product;
(CLO-3: Master the principles of technical project in implementation and evaluation)

Project Report: (25%)

Writing: Intellectual engagement with concepts, theories or issues; argumentation; structure and organization; language mechanics;
(CLO-4: Master the principles of technical project in report writing)

Presentation: Clarity; aesthetic design and layout; formatting;
(CLO-4: Master the principles of technical project in report writing)

Oral Presentation and Demonstration: (15%)

Organisation of presentation; knowledge of subject; relation to project; presentation skills; discussion of results and answers to questions; usefulness of demonstration;
(CLO-5: Master the principles of technical project in presentation and demonstration)

C. Report

The report should be definitive in stating the student’s own contribution, and should be precise in presentation. The Department has recommended that the length of dissertation should be limited to a maximum of 100 pages. Large bulk of program listings, printouts, tables, diagrams etc. of secondary importance to the understanding of the main text should always be relegated to appendices. On the other hand, diagrams, graphs, tables etc. to which the text makes significant references should be placed as close as possible to the relevant text. The report should include an account of the dissertation/project planning, an assessment of the cost-effectiveness of the design and/or implementation, and an evaluation of the practicality of the dissertation. As a rule, all copied materials must be properly acknowledged.

D. Format

The report must be typewritten double-spaced on A4 sized paper. The script must be on one side of the paper only, with a margin of 3 cm on the left-hand side. The pages should be numbered consecutively. A title page, a content list, a list of illustrations and a brief summary (not exceeding 200 words) should precede the report. The report should be bound with a front cover page provided by the department. Two copies of the reports are to be submitted to the department.

E. Organization of Report

The organization and the contents of the report will depend on the nature and the areas of the dissertation/project work. Some general items are suggested below for inclusion in the report.

- List of symbols
- Introduction
- Analysis of problem
- Theoretical principles
- Method of investigation
- Design and construction of hardware/software system
- Theoretical/Algorithmic/Experimental results
A list of symbols with definitions will often add to the clarity of the report. Symbols and units used should conform to the recommendations of the International System of Units (SI) and the British Standards Institution (BS). The principal functions of the Introduction are to introduce (i) the subject matter and the scope of the investigation, (ii) the purpose of the dissertation, and (iii) the organization of the report. If applicable, a brief survey of previously published work and current trends may be included in this section. The main body of the report should be divided logically into sections and subsections. There should be a steady unfolding of the argument as the report progresses. Theoretical background of information on the design of the apparatus should ordinarily precede presentation of data and results that stemmed from that theory, or were obtained with that apparatus. Emphasis should be placed on work that the student has accomplished. In the Discussion and Conclusions sections, critical evaluation of the techniques employed and results obtained should be carried out. Observations derived from the results should be compared with theoretical predictions. The conclusions should follow logically from the argument and results presented in the report. Recommendations for further investigations may also be included. Supplementary information not essential to the report's main thesis is best included under the heading of Appendices. References should be numbered and referred to in the text by placing a number after the word or the sentence where the reference is cited. Some acceptable patterns of citation are as follows:

(a) Sequence for book or monograph:
   Author, Title, Publisher, Publisher Location, Edition, Year published, Page no.

(b) Sequence for periodical papers:
   Author, Title of article, Journal, Volume, Issue No., Year published, Page nos.

A good technical report should be well organized and written in clear, concise language. It should conform to the truth, with regard to both the accuracy of data and the relationship of the conclusion to the results.
Frequently Asked Questions

1. **What is the capstone workshop for and about?**
   It is designed to teach students some practical skills for working on relevant areas of study. It facilitates the students working more smoothly on the dissertation/project. Hence it is compulsory and is expected to be finished before the students start working on the difficult parts of their dissertation/project.

2. **When should I enroll in the capstone workshop?**
   For part-time students, it is recommended to enroll in the capstone workshop of their respective stream/programme as early as possible, preferably in the second semester. Preference will be given to full-time students in the first semester due to their shorter study period, hence part-time students may NOT be able to enroll in the capstone workshop in the first semester because of limited enrollment quota. Part-time students are therefore strongly recommended to enroll in the second semester.

3. **Is cross-stream dissertation/project allowed?**
   The Department do not forbid cross-stream dissertation/project selection. However, the student who wishes to do so needs to submit formal application, and has to satisfy ALL the requirements (attendance and assignments) on the workshop of the stream he/she intended to apply for.

4. **When should I look for a dissertation/project supervisor?**
   Following enrollment in the capstone workshop, students can contact the appropriate teacher for dissertation/project supervision. However, students may approach the appropriate teacher before enrollment in the capstone workshop if they find necessary.

5. **Do I have to start my dissertation/project right after I enroll in a capstone workshop?**
   It is recommended that students start their dissertation/project after enrollment, however, depending on the study plan of individual student, students may discuss with their supervisor the time they wish to start the dissertation and confirm with the Department the dissertation/project submission deadline chosen.

6. **When should I submit my dissertation/project?**
   It depends on the study plan of individual student, usually the duration to complete a dissertation/project ranges from three to five semesters. The submission date of the final dissertation/project should be at least three months after the mid-term review.

   The Department will contact students to confirm the dissertation/project submission after receipt of their dissertation/project application form. The deadlines available to choose are December 1st, May 1st and August 1st of each academic year. For final year students, the maximum deadline is April 30 of
second semester. Students should follow and complete their dissertation/project according to the deadline chosen.

Suggested timeline as follows:

7. **What is the weighting of dissertation/project?**
   The overall grade will be determined by:
   - Mid-term review (20%)
   - Project oral presentation, demonstration and final report (80%)
The University of Hong Kong  
Department of Electrical and Electronics Engineering

**MSc(Eng)(EEE) / MSc(Eng)(EnergyE)**  
Dissertation/Project Supervisor Confirmation Form

<table>
<thead>
<tr>
<th>Full name:</th>
<th>Curriculum: EEE / EnergyE</th>
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<tr>
<td>University number:</td>
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**Study mode(*)**:  
Dissertation (24 credits) / Project (12 credits)  
Full time / Part time

*Please delete as appropriate*

Field of dissertation/project: 

________________________________________________________________________

Proposed dissertation/project supervisor: 

________________________________________________________________________

Student signature: ___________________________________________________________________________  Date: __________________________

**Dissertation/Project Supervisor Approval**

Name of supervisor: ________________________________

Supervisor signature: ________________________________  Date: __________________________

*Please complete and return the form to Department of Electrical and Electronic Engineering (Room 601, Chow Yei Ching Building).*
The University of Hong Kong  
Department of Electrical and Electronics Engineering

MSc(Eng)(EEE) / MSc(Eng)(EnergyE)  
Dissertation/Project Title Form

<table>
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</tr>
</tbody>
</table>

*Please delete as appropriate

**Title of dissertation/project:**

(Note: The title of dissertation/project should be **unique**. It will be printed on your transcript and cannot be changed once confirmed.)

Declared Deadline(*): 1 December / 1 May (30 April) / 1 August  
Year: ______________________

Student signature: ______________________  Date: ______________________

**Dissertation/Project Supervisor Approval**

Name of supervisor: ______________________

Supervisor signature: ______________________  Date: ______________________

*Please complete and return the form to Department of Electrical and Electronic Engineering (Room 601, Chow Yei Ching Building).*