

IE4100 B.Eng. Dissertation (Final Year Project)

Module Outline Sem 1 AY2009/2010

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| Modular Credit | 12 |
| Hours per Week | 10 |
| Duration | 2 semesters |
| Pre-requisite | ISE Eng. 4 standing |
| Module Advisors | A/Prof Poh Kim Leng (isepohkl@nus.edu.sg) |
| Module Administrator | Mr Steven Chiang (isebox1@nus.edu.sg) |
| Website | B.Eng. (ISE) Students Website http://www.ise.nus.edu.sg/beng_students |

IMPORTANT INFORMATION

The Module Outline (this document) gives the student important information about the module, guidelines, assessments, schedules and project allowance.

Note that important general information including announcements, forms and guidelines is available on the B.Eng. (ISE) Students Website
< http://www.ise.nus.edu.sg/beng_students >

22 July 2009

MODULE DESCRIPTION

The objective of the module is to give students exposure to research. In this module, each student is assigned to a research project that requires application of industrial and systems engineering concepts. The module provides the opportunity for students to conduct self study by reviewing literature, defining a problem, analyzing the problem critically, conducting design of experiments, and recommending solutions. It also enables students to improve their communication skills through technical report writing and oral presentation.

IMPORTANT DOCUMENTS

Please note that students are to submit the following documents on the stated submission dates to ISE department. All forms can be downloaded from the B.Eng. (ISE) Students Website.

1. Transport Claim Form
Students may claim for travelling expenses for the purpose of research for the project. Claims must be accompanied by receipts and submitted to the ISE Department at the end of the month.
2. Payment Voucher
Students may claim purchases or consumables or the purpose of research for the project. Claims must be accompanied by receipts and submitted to the ISE Department at the end of the month.
3. IE4100 B.Eng. Dissertation Declaration Form
Students must sign a Declaration Form to ascertain your contribution in the achievement of the dissertation and the assistance you have received from others. This declaration must be vetted and signed by your supervisor/s before it is submitted to the ISE Department Office together with the typewritten, unbound (or ring bound) copies of your thesis. Only **one** copy of the Declaration Form is required.

PROJECT ALLOWANCE

Students are allocated a maximum sum of **S\$100 each** for local transport claims and reimbursements for materials used during the research and for the completion of the project. **Please attach receipts to the forms and submit your claims at the end of the month.**

Students may claim for expenses or consumables, such as photocopying of journal papers, surveys forms, mailing, etc. However, students **cannot** claim expense on the binding of thesis, making copies of thesis and making draft copies of thesis for examination. These cost should be borne by the students.

Other costs and expenses not stated here will be dealt with on a case by case basis and is subjected to Department's approval. The Department's decision is final. The Department may request for items to be returned at the end of the project.

Guidelines for FYP claims:

1. Claim for Transport

Students may claim for travelling expenses incurred for the journey made from NUS to place of research and then back to NUS. Students may not claim for travelling expenses incurred during routine journeys between their homes and NUS. Note that claims can be made only for trips to companies for meetings and carrying out project works.

The optimal route and mode of transport should be used so that expenditure may be kept to a minimum while allowing students to perform their research effectively and efficiently. When making a claim for transport, the claimant should state precisely the time and place of the start and finish of each trip; and ensure that all street names are stated in the Transport Claim form.

a) Students may claim according to bus fare or MRT fare rates if they use public transport. No receipt is required for travel by bus and MRT.

b) Students may be reimbursed for taxi fares for a journey if the Supervisor is satisfied that travelling by taxi will result in greater efficiency and effectiveness. For SDP, when it is necessary to take taxi, members of the group are expected to travel together. Therefore, only one taxi receipt can be submitted per trip unless the group members are more than four. Please compile all your receipts and submit your claims as a group to the ISE Department at the end of each month. Note that booking fee for taxi is not claimable.

2. Claim for Consumables

Students may claim for purchase of materials used during the research and for the presentation of the project. Please attach receipts to the Request for Payment form and submit to the ISE Department at the end of the month.

Students may claim for expenses of consumables such as surveys forms, mailing, etc. Printed materials should be solely for the purpose of research for the project. However, students cannot claim expenses on the printing and binding of SDP report, FYP thesis, making copies of report or thesis and making draft copies of thesis for examination. Budget is meant to help the students to defray the costs of conducting research for the project and does not include cost of putting up the thesis report.

Please be informed that claims are only for items which are required for research and to be used for the duration of the project. All claims are subjected to the Department's approval. Co-payment or partial claim is not permitted. Items which can be re-used or re-cycled are to be returned to the ISE Department at the end of the project.

EVALUATION OF PROJECTS

The assessment of the dissertation comprises three parts:

1. **Class Attendance and Participation (5%)**

All ISE 4 students are required to attend 5 hours of lecture in research methodology.

2. **Progress Report (10%)**

Students are required to submit a hardcopy progress report to their supervisor/s according to the schedule below.

All copies of the progress report must be printed, typewritten and double-spaced, with ample margins, on double side of A4-size papers. The length of report should not exceed ten pages, excluding figures. It should include a brief description of the project, literature review, progress made to-date and future direction of study.

Failure to submit the progress report by the given deadline may result in a penalty and the student may be barred from the final examination.

3. **Final Examination (85%)**

The final assessment of the dissertation includes the following items:

- (i) working attitude (15%; awarded by supervisor/s)
- (ii) research methodology (15%)
- (iii) project achievement (20%)
- (iv) report writing (20%)
- (v) final oral presentation (15%)

- **Draft Report**

A copy of the draft report in a standard report format must be submitted to the supervisor/s for approval by the date stated in the schedule below.

The report should be concise and follow a standard dissertation style. Please access the B.Eng. (ISE) Students Website for the **Guidelines for the Preparation of IE4100 B.Eng. Dissertation Report.**

- **Unbound Thesis (Final Report)**

A final report which incorporates all the corrections to the draft report must be re-submitted (together with the original version of the examined draft report if required by the supervisor(s)) to the supervisor/s for vetting.

Upon approval, students must submit typed unbound (or ring bound) copies of the thesis for oral examination and final grading. Please ensure that **each supervisor and examiner receives a copy. All copies for supervisor/s and examiner are to be submitted to the Department office.**

Failure to submit the final report by the given deadline will result in a penalty (i.e. deduction of marks) unless with valid reason.

- **Final Oral Presentation**

Each student is given 20 minutes for the presentation of the project and another 10 minutes for question and answer. Students are advised to adhere strictly to the time limit otherwise they may be penalised. A LCD projector and a PC/notebook will be provided in all examination rooms. Students may bring their own notebook but they must ensure that it is compatible with the projector provided.

- **Submission of Bound Thesis and Electronic Copy**

The thesis is to be bound for final submission upon approval by your supervisor/s. The hardcover of the bound thesis should be black with words printed in gold. Please submit **one copy to the ISE Department Office**. Please check with the respective supervisors if a hardcopy submission is required for themselves.

In the case of industrial projects, depending upon prior arrangements, copies of your thesis may have to be submitted to the company concerned through your supervisor/s.

In addition, an electronic version of the thesis in pdf format, presentation slides and other relevant materials must be saved in CD-ROM and submitted to the Department.

Department reserves the right to withhold the student's exam results if the student fails to submit the bound thesis and the electronic copy by the given deadline.

FAILURE IN DISSERTATION

If students fail to achieve a pass mark in the dissertation, they will be required to re-write the thesis and/or perform further research (depending on the recommendation of the supervisor/s and examiner). They must then re-submit the thesis for examination.

**SCHEDULE FOR IE4100 B.Eng. DISSERTATION EXAMINATIONS
 FOR PROJECTS STARTING SEM 1 AY2009/2010**

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| Sem 1 | Progress Report Submission of progress report | Friday, 11 December 2009 |
| Sem 2 | Final Examination Completion of main research | Friday, 19 February 2010 |
| | Submission of draft report for approval by supervisor/s | Friday, 5 March 2010 |
| | Submission of final report in typed unbound (or ring bound) copies of thesis to supervisor/s and examiner for oral examination and final grading. Submission of Declaration Form to ISE Department. | Friday, 26 March 2010 |
| | Final oral presentation | Monday, 12 April 2010 – Thursday, 15 April 2010 |
| | Submission of bound thesis (ONE Copy for department) and all FYP materials in softcopy to ISE Department. *Hard copies for supervisors are optional. Kindly check with the respective supervisors. | Friday, 14 May 2010 |

* Please observe the above deadlines strictly unless advised otherwise.