

MODULE DESCRIPTION FORM

Asia-wide Programme: Asia-Link	Contract No.: CN/ASIA-LINK/024 (109093)
Project Title: A Framework Approach to Strengthening Asian Higher Education in Advanced Design and Manufacture (1 st January 2006 – 31 st December 2008)	
Due Date:	Institution:

Course: MSc in

Advanced Design and Manufacture

Module Title	Credit Value	Level
E.13: MSc Dissertation Project	30 ECTS	PG

Timetable - insert the week numbers when the class will be taught

To be determined by host Institution after the delivery of all instruction modules and group project
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Pre-requisite

A bachelors degree in engineering, All Instruction Modules (E1 to E11) and E12 (Group Project)
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Learning Objectives - insert a paragraph which clearly illustrates the learning objectives of this module

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| <ol style="list-style-type: none"> 1. Enable a graduate designer and/or engineer to work proficiently in engineering design and/or manufacturing engineering; 2. Investigate / explore in-depth a particular field / topic of interest related to engineering field; 3. Combine previously acquired knowledge and techniques with newly research ideas; 4. Assimilate existing knowledge in the chosen field and extend this knowledge to a new application; 5. Produce an extended piece of work covering a variety of activities related to a single theme bringing together the academic content of, and skills developed in, a range of modules; 6. Acquire training in selecting and applying research methods; 7. Evaluate design solution and software-related systems and other artefacts; 8. Manage the work by confining the problem within limits, which will allow useful work to be done despite the constraining effects of time and other limited resources. |
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Syllabus

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| <p>The MSc dissertation will cover the following training elements to help the students able to:</p> <ol style="list-style-type: none"> 1. Develop a project plan; 2. Write a dissertation proposal based on an initial title of a project suggested by an academic member of staff; 3. Select a suitable project title, and discussion and negotiation of a project with prospective supervisors; 4. Conduct a thorough and extensive literature survey and identify a suitable area of research as core of the project; 5. Exercise initiatively and independently to solve the problem; 6. Conduct necessary experiments to prove or disapprove hypothesis set out in a project; 7. Critically analyse the approach taken during the project and draw conclusions; 8. Develop a solution to the problem of the Dissertation Project; 9. Develop the skills and techniques of writing professional concise dissertation. |
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Project Proposal Format

The project proposal is to describe the proposed research and its context. It must be clear, concise and uncluttered with technical jargon. It must be no longer than four sides of A4 in length, excluding diagrammatic work plan and title page. Font sizes 11 or 12 are the only sizes acceptable. The research proposal must follow the structure detailed below:

Title Page

The title page is to include the following information - your name, degree course, date, title of project, supervisor's name.

Introduction / Background

Introduces the topic and explains its academic and industrial relevance. Demonstrate knowledge of past and current work in the subject area both in the UK and abroad. Explain how the research will contribute to advancing knowledge and understanding. Describe who is likely to benefit from the work and whether the benefits would directly relate to wealth creation, improving the quality of life or some other aspect.

Aims and Objectives

Identifies the overall aims of the project and the individual measurable objectives against which you would wish the outcome of your work to be evaluated.

Research Methodology

Details the methodology to be used in pursuit of the research and justifies this choice.

Programme of Work

Describes the programme of work - identifying the key tasks, their duration and dates of progress milestones. Illustrates the programme of work with a simple Work plan in the form of a Gantt chart.

Project Phases

The following is an indication of the main general issues to address in a project. Note that not every project will be able to adhere to these steps and not necessarily in this order. Students are referred to their supervisor for specific guidance.

1. What is the problem area to be addressed/solved and why is it a problem? That is, the problem specification should be clearly defined.
2. Critical review of the alternative means to solve the problem area. This should provide "mapping" between the problem specification and possible solutions and provides a basis for the project.
3. A clear definition of the project problem. That is, what the project is going to do and why.
4. "Design" the solution. That is, formalise the solution in the form of a methodology, system architecture, approach, etc.
5. Implement / build the solution.
6. Test and evaluate the solution with respect to a set of criteria defined within steps 1 - 3.
7. Document the results from the above steps throughout the progress of the project and finalise in a dissertation.

Project Report Layout

Before considering how the work should be undertaken, the format of the project should be outlined. This will allow you to envisage how each stage fits into the overall plan. The sections included in a report will vary according to the topic but may contain those listed:

1. Abstract
2. Acknowledgements
3. List of Contents
4. List of Tables and Figures
5. Glossary of Terms
6. Introduction and Background
7. Literature Survey
8. Methodology
9. Contribution
10. Results and Evaluation
11. Discussion
12. Conclusions and Comments
13. References
14. Appendices

Project Assessment

The following is an indication of the main areas in which your project will be assessed:

- Clarity of writing; English; Grammar; Proper use of words; Presentation; Figures; Style; Quality.
- Contribution; Evidence of student's own thinking, development, etc.
- Critical analysis (problems and solutions); Objectivity.
- Evaluation; Demonstration of concepts; Case Study.
- Rationale; Logical arguments (overall and within text); Flow; Completeness; Structure; Consistency; Correctness of assumptions, deductions, etc.
- Understanding (depth and breadth); Reference to other work (use, range, appropriateness, correctness).

Project Supervisors

Determined by the host partner institution in consultation with other partners