ITEC812

Special Topic in Information Technology

S1 Evening 2016

Dept of Computing

Contents

Disclaimer

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

General Information

Unit convenor and teaching staff
Unit convenor
Manolya Kavakli-Thorne
manolya.kavakli@mq.edu.au
Contact via 029850 9572
E6A 372
Tuesday - Thursday 10am-12 noon

Credit points
4

Prerequisites
Admission to MInfoTech or MEng and 16cp in ITEC units at 800 or 900 level and GPA of 2.75 (out of 4.0)

Corequisites

Co-badged status

Unit description
The content and availability of this unit will vary subject to developments in the information and communications technology discipline and the availability of particular (often industrially-based) expertise. Special topic units present novel material of current interest and provide a context within which students may engage with emerging technologies and trends as they arise.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

On successful completion of this unit, you will be able to:

Plan and self-manage a survey, literature review or a cutting edge project demonstrating advanced project management and independent research skills with occasional input from academic staff assigned to supervise them.

Produce a lengthy technical document explaining systems analysis and design, as well as coding work completed of a novel system - or a detailed critical review and state of the art in a specific domain specifically for individuals who may have no technical

understanding of the topic.

Present a technical topic to experts and non-expects using appropriate software, tools and techniques available. The topic may be the presentation of the highest level of general development, as of a novel device, procedure, process, technique, or science achieved at a particular time, as a result of the existing methodologies employed.

Discuss and debate questions posed, in the given topic area.

General Assessment Information

Milestone and Final Report Format and Structure

Make sure your submission meets the following requirements.

1. Use formatting guidelines described on iLearn.

2. The length of your report depends on whether you are doing a management (i.e. analysis) or a IS/Networking/Security/Web Engineering (i.e. development) project. The table below suggests typical lengths for each situation, but note that these should be treated as indicative only: Your report needs to be long enough to describe in detail the work that you have done, but not so long that it discourages someone from reading it.

Milestone reports are expected to be 8 (milestone report 1) to 14 (milestone report 2) pages in length. Final reports are expected to be 20 to 30 pages in length:

Management Projects @30+ pages IS/Networking/Security/Web Engineering Projects @20 pages The shorter report length requirement for the latter projects is a consequence of the requirement for these projects also to deliver a working piece of software, which is to be demonstrated to the supervisor's satisfaction at the conclusion of the project.

3. The document should have a separate title page, and begin with an abstract or summary of 150-200 words in length that is able to stand alone as a concise and comprehensive description of the research problem, your project's objectives, significance, approach (methodology) and outcomes.

4. The body of the document should consist of a series of numbered sections and subsections; the exact nature and content of these will depend on the specifics of your project, as will the proportion of the available space accorded to each. Typically, you would have an introductory section that outlines the problem you are aiming to solve, and provides a road-map of the remainder of the document; this would then be followed by a background section that describes related work; then a number of sections which describe the work you have carried out, followed by a conclusion section which summarises what has been achieved, and what future work might be pursued.

5. Finally, you should have a consistently formatted reference list or bibliography that contains full details of all materials cited in your paper. Ensure that you follow appropriate conventions here.

Please ensure that your final report is submitted with a file-name that has the following format: • ‹FamilyName_Givenname›_FinalReport.pdf

Assessment of Reports

Report marks represent not only the written content of your report, but also the project work that underlies it. Note that for management projects, the report should be more than a literature review, and should provide some real analytical content. For IS/network/security/web engineering projects, a working demonstration of the constructed software may be a component of the marking. Please take note of the following requirements:

• A listing of your code should be provided as an appendix to your final report. If there is some reason why this is not feasible or practicable, you should discuss this with the unit convener no later than one week before the final report is due.

• You should arrange a time to demonstrate the software you have developed to your supervisor, so that he or she can take account of this when marking your work. This demonstration should preferably happen during the last week of semester, or in extreme cases during the week following the last week in semester, when the reports are being marked.

It is not necessary to demonstrate your software during your final presentation, although you may do so if you wish. The final report will be assessed by your supervisor according to the following rubric:

Levels of Attainment

Assessment Attributes: Unsatisfactory (U), Functional (F), Proficient (P), Advanced (A)

Comprehensiveness of Abstract

U: Incomplete, in that it does not provide a brief statement of all three of the problem, approach and outcomes; or, all three are expressed, but the description is muddled and generally unclear. F: Conveys the problem, the approach, and outcomes, but a little less clearly than might be expected, or at an inappropriate level of detail. P: Stands as a surrogate for the full report: a clear summary of the problem, approach and outcomes; but may require some rewording to make it accessible to a nonspecialist. A: An excellent summary of the work carried out, clearly stating the problem, the approach taken, and the outcomes, in a manner that is accessible to a technical but non-specialist audience.

Clarity of Problem Statement U: The introduction to the report does not clearly state the problem the project set out to solve. F: The introduction does state the problem to be solved, but it takes a little effort to disentangle. P: The introduction states the problem clearly, and its significance is clear. A: The introduction provides an exceptionally clear and well-motivated problem statement, presented in a way that makes the reader eager to learn about the details of how the problem was solved.

Review of Related Work

U: Patchy or badly organised review of related work; unclear exactly why the work cited is relevant to the problem addressed. F: The material covered seems comprehensive and relevant, and some attempt has been made at clustering the materials reviewed in a thematic manner. P: Thematic organisation of the review, demonstrating a considered extraction of key ideas from sources and how they impact on the problem at hand. A: Thoughtful analysis of the material that goes beyond the themes identified explicitly by the sources, concisely drawing out the key points

to set the stage for the work that follows; leaves no doubt about what's been done already and what hasn't.

Description of Work Carried Out

U: Hard to work out what was done; the description of the work carried out seems disorganised or incomplete. F: The report indicates what work was carried out in reasonable detail. P: The report indicates clearly indicates the work that was carried out at a level of detail that allows replication of the results, avoiding vague and imprecise abstractions. A: The report clearly describes the work carried out, at an appropriate level of detail for a report of this length, and delivers a sense of maturity in the way in which the work was carried out.

Clarity of Outcomes

U: Unclear what was achieved in the project. F: The report indicates the outcomes of the work, if a little unclearly. P: The report clearly indicates the outcomes of the work carried out. A: The report clearly describes the outcomes of the work, indicates how these relate to the originally stated outcomes, and realistically appraises the scope for future work.

Overall Quality of Writing

U: Very poor; problems with coherent presentation of ideas. F: Understandable, but with some problems in grammar, style and spelling. P: Grammar and style of an acceptable standard; could be safely given to an external party with only minor editing. A: High quality prose; well written; could comfortably be made available via a corporate website.

Appropriate Use of Referencing Conventions

U: The information in the bibliography is incomplete, or there is a lack of consistency in formatting. F: The information in the bibliography is formatted consistently, but with a few missing details. P & A: All references are complete and consistently formatted.

Assessment Tasks

Name	Weighting	Due
Milestone report 1	15%	Week 5
Ethics assignment	5%	Week 7
Milestone report 2	20%	Week 9
Final report	50%	Week 13
Presentation	10%	Week 13

Milestone report 1

Due: **Week 5**
Weighting: **15%**

A report due in week 5 that provides a detailed proposal related to the topic under review.

On successful completion you will be able to:
- Plan and self-manage a survey, literature review or a cutting edge project demonstrating advanced project management and independent research skills with occasional input from academic staff assigned to supervise them.
- Produce a lengthy technical document explaining systems analysis and design, as well as coding work completed of a novel system - or a detailed critical review and state of the art in a specific domain specifically for individuals who may have no technical understanding of the topic.

Ethics assignment

Due: **Week 7**
Weighting: **5%**

A report or essay - not more than 2,000 words in length covering an ethical aspect of IT.

On successful completion you will be able to:
- Plan and self-manage a survey, literature review or a cutting edge project demonstrating advanced project management and independent research skills with occasional input from academic staff assigned to supervise them.

Milestone report 2

Due: **Week 9**
Weighting: **20%**

The second report will be due in week 9 highlighting 'research' work completed to date.

On successful completion you will be able to:
- Plan and self-manage a survey, literature review or a cutting edge project demonstrating advanced project management and independent research skills with occasional input from academic staff assigned to supervise them.
- Produce a lengthy technical document explaining systems analysis and design, as well as coding work completed of a novel system - or a detailed critical review and state of the art in a specific domain specifically for individuals who may have no technical understanding of the topic.

Final report

Due: **Week 13**
Weighting: **50%**

The final report will be due at the end of week 13; showing results from the research project.

On successful completion you will be able to:

- Plan and self-manage a survey, literature review or a cutting edge project demonstrating advanced project management and independent research skills with occasional input from academic staff assigned to supervise them.
- Produce a lengthy technical document explaining systems analysis and design, as well as coding work completed of a novel system - or a detailed critical review and state of the art in a specific domain specifically for individuals who may have no technical understanding of the topic.

Presentation

Due: **Week 13**
Weighting: **10%**

A presentation to the supervisor and other interested personnel in the outcome of the project.

On successful completion you will be able to:

- Present a technical topic to experts and non-expects using appropriate software, tools and techniques available. The topic may be the presentation of the highest level of general development, as of a novel device, procedure, process, technique, or science achieved at a particular time, as a result of the existing methodologies employed.
- Discuss and debate questions posed, in the given topic area.

Delivery and Resources

Resources (within reason), as provided by the Department of Computing for the student to undertake their project.

ITEC812 is an independent research unit that requires reading and reporting. there are no official lectures except for week2 and week13 including presentations. The feedback that you receive from your supervisor plays also a crucial role in your learning. Make sure you are completely familiar with the content of the official Unit Outline. You are expected to regularly meet your supervisor by making an appointment. You should also attend the lecture in week2 and presentations in week13 at dates and times declared on ilearn. You should submit the reports on

ilearn. Note that we will be using iLearn as the central web-based communication point for this unit. If you are enrolled in the unit, it is essential that you check the iLearn site once a day, since important information will always be posted there in the News Forum. You should be able to login to iLearn using your MQ student ID and password; if you experience any problems, contact the Faculty of Science IT Help Desk. The IT help desk website is located at http://web.science.mq.edu.au/it/doc//helpdesk/.

Unit Schedule

A lecture on Introduction to Independent Research in week 2.

A weekly meeting with the academic supervisor.

A presentation in week 13.

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central. Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy http://mq.edu.au/policy/docs/academic_honesty/policy.html

New Assessment Policy in effect from Session 2 2016 http://mq.edu.au/policy/docs/assessment/policy_2016.html. For more information visit http://students.mq.edu.au/events/2016/07/19/new_assessment_policy_in_place_from_session_2/

Assessment Policy prior to Session 2 2016 http://mq.edu.au/policy/docs/assessment/policy.html

Grading Policy prior to Session 2 2016 http://mq.edu.au/policy/docs/grading/policy.html

Grade Appeal Policy http://mq.edu.au/policy/docs/gradeappeal/policy.html

Complaint Management Procedure for Students and Members of the Public http://www.mq.edu.au/policy/docs/complaint_management/procedure.html

Disruption to Studies Policy http://www.mq.edu.au/policy/docs/disruption_studies/policy.html *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

In addition, a number of other policies can be found in the Learning and Teaching Category of Policy Central.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/support/student_conduct/

Results

Results shown in *iLearn*, or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.m

q.edu.au.

Student Support

Macquarie University provides a range of support services for students. For details, visit http://stu dents.mq.edu.au/support/

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- Workshops
- StudyWise
- Academic Integrity Module for Students
- Ask a Learning Adviser

Student Services and Support

Students with a disability are encouraged to contact the Disability Service who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/ offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the Acceptable Use of IT Resources Policy. The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

PG - Capable of Professional and Personal Judgment and Initiative

Our postgraduates will demonstrate a high standard of discernment and common sense in their professional and personal judgment. They will have the ability to make informed choices and decisions that reflect both the nature of their professional work and their personal perspectives.

This graduate capability is supported by:

Learning outcomes

- Plan and self-manage a survey, literature review or a cutting edge project demonstrating advanced project management and independent research skills with occasional input from academic staff assigned to supervise them.
- Present a technical topic to experts and non-expects using appropriate software, tools

and techniques available. The topic may be the presentation of the highest level of general development, as of a novel device, procedure, process, technique, or science achieved at a particular time, as a result of the existing methodologies employed.

- Discuss and debate questions posed, in the given topic area.

Assessment tasks

- Milestone report 1
- Milestone report 2
- Final report
- Presentation

PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

Learning outcomes

- Plan and self-manage a survey, literature review or a cutting edge project demonstrating advanced project management and independent research skills with occasional input from academic staff assigned to supervise them.

- Produce a lengthy technical document explaining systems analysis and design, as well as coding work completed of a novel system - or a detailed critical review and state of the art in a specific domain specifically for individuals who may have no technical understanding of the topic.

- Present a technical topic to experts and non-expects using appropriate software, tools and techniques available. The topic may be the presentation of the highest level of general development, as of a novel device, procedure, process, technique, or science achieved at a particular time, as a result of the existing methodologies employed.

- Discuss and debate questions posed, in the given topic area.

Assessment tasks

- Milestone report 1
- Milestone report 2
- Final report
- Presentation

PG - Critical, Analytical and Integrative Thinking

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience, of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is the generation of new, professionally oriented knowledge through personal or group-based critique of practice and theory.

This graduate capability is supported by:

Learning outcomes

- Plan and self-manage a survey, literature review or a cutting edge project demonstrating advanced project management and independent research skills with occasional input from academic staff assigned to supervise them.

- Produce a lengthy technical document explaining systems analysis and design, as well as coding work completed of a novel system - or a detailed critical review and state of the art in a specific domain specifically for individuals who may have no technical understanding of the topic.

- Discuss and debate questions posed, in the given topic area.

Assessment tasks

- Milestone report 1
- Milestone report 2
- Final report
- Presentation

PG - Research and Problem Solving Capability

Our postgraduates will be capable of systematic enquiry; able to use research skills to create new knowledge that can be applied to real world issues, or contribute to a field of study or practice to enhance society. They will be capable of creative questioning, problem finding and problem solving.

This graduate capability is supported by:

Learning outcomes

- Plan and self-manage a survey, literature review or a cutting edge project demonstrating advanced project management and independent research skills with occasional input from academic staff assigned to supervise them.

- Produce a lengthy technical document explaining systems analysis and design, as well as coding work completed of a novel system - or a detailed critical review and state of the art in a specific domain specifically for individuals who may have no technical

understanding of the topic.

Assessment tasks

- Milestone report 1
- Milestone report 2
- Final report

PG - Effective Communication

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

Learning outcomes

- Plan and self-manage a survey, literature review or a cutting edge project demonstrating advanced project management and independent research skills with occasional input from academic staff assigned to supervise them.
- Produce a lengthy technical document explaining systems analysis and design, as well as coding work completed of a novel system - or a detailed critical review and state of the art in a specific domain specifically for individuals who may have no technical understanding of the topic.
- Present a technical topic to experts and non-expects using appropriate software, tools and techniques available. The topic may be the presentation of the highest level of general development, as of a novel device, procedure, process, technique, or science achieved at a particular time, as a result of the existing methodologies employed.
- Discuss and debate questions posed, in the given topic area.

Assessment tasks

- Milestone report 1
- Ethics assignment
- Milestone report 2
- Final report
- Presentation

PG - Engaged and Responsible, Active and Ethical Citizens

Our postgraduates will be ethically aware and capable of confident transformative action in relation to their professional responsibilities and the wider community. They will have a sense of connectedness with others and country and have a sense of mutual obligation. They will be able

to appreciate the impact of their professional roles for social justice and inclusion related to national and global issues

This graduate capability is supported by:

Assessment task

- Ethics assignment

Standards

Grade	LO 1	LO 2	LO 3	LO 4
	Plan and self-manage projects demosntrating advanced project management abilities with occasional input from academic staff assigned to supervise them	**Produce a lengthy technical document explaining systems analysis and design, as well as coding work completed - specifically for individuals who may have no technical understanding of the topic.**	**Present a technical topic area to experts and non-expects using appropriate software, tools and techniques available**	**Discuss and debate questions posed, in the given topic area**
HD	The student will be effectively self-managing – asking the supervisor for minimal guidance only.	The report is very well written, in a scholarly style, having drawn extensively upon the literature. The report will be understandable by expert and non-expert alike.	The student is very confident in their speech and manner of presentation without necessarily being arrogant. The student clearly knows the subject material very well, interacts with the audience and gets the message across.	The student will have eye contact with the questioner, will involve the wider audience in the answering of the question, and provide an excellent answer -understandable to most people in the room.
D	The student will generally manage themselves but guidance will occasionally be necessary for fear of the project tracking incorrectly.	The report is well structured, but expression may occasionally be clumsy or literature drawn upon may have been more extensive.	The student may occasionally appear nervous, but the presentation is professional, well delivered and understandable by the audience.	The question will be answered correctly, but perhaps only the questioner and speaker are involved in a private conversation.
CR	The student requires fairly constant guidance from the supervisor.	The report is solid, literature is referred to, but the report lacks the sort of polish that would make turning the report in to a conference paper quite an effort.	The presentation presents the material, the slides will be good, but the talk may not be that smooth or may appear dry.	The question will be answered mostly correctly, but there may be a slight flaw. The audience may be slightly disengaged with the response given.
P	The student only progresses with input from the supervisor. Progress is made, but typically driven by the supervisor.	The report explains the work conducted but there is relatively little recourse to the literature, and the writing style and grammar may contain numerous problems or errors.	The talk will be quite boring. The material will be covered, tools will be used in aiding the presentation but there is little audience interaction.	The student only just addresses the questions. There may be some incorrect answers given, or answers presented to different questions. The student is likely to be relatively nervous.