FIT3146
Emergent technologies and interfaces

Unit Guide

Semester 2, 2013

Last updated: 11 Jul 2013

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FIT3146 Emergent technologies and interfaces - Semester 2, 2013

This unit will focus on research into the latest developments in the field of information technology, including innovative technology developments involving human computer interaction, information visualisation of complex data and emerging interface techniques. Students will learn valuable research and communication skills as they investigate and share with their peers the impact of emergent technologies and interfaces on society. The content presented in the lectures will focus on grand challenges in the field of information technology and on emerging trends. Students will apply their theoretical understanding to a practical project negotiated with the lecturer using a learning contract.

Mode of Delivery

Caulfield (Day)

Contact Hours

2 hrs lectures/wk, 2 hrs tutorials/wk

Workload requirements

Students will be expected to spend a total of 12 hours per week during semester on this unit as follows:

- Lectures: 2 hours per week
- Tutorials/Lab Sessions: 2 hours per week per tutorial
- and up to an additional 8 hours in some weeks for completing lab and project work, private study and revision.

Unit Relationships

Prerequisites

Completion of 24 points of level 2 or 3 FIT units

Chief Examiner

Dr Michael Morgan

Campus Lecturer

Caulfield

Dr Matthew Butler

Dr Michael Morgan

Academic Overview

Learning Outcomes

At the completion of this unit students will have -A theoretical and conceptual understanding of:

- the diversity of theoretical and conceptual frameworks which contribute to the current developments in the field of information technology, including human computer interaction, information visualisation and interface design;
- the grand challenges in the field of information technology and the emerging trends, including the range of applications to which emerging information technologies, information visualisation techniques and innovative interfaces can be applied, for example ubiquitous computing, geospatial information visualisation and mobile devices interfaces.

Developed attitudes that enable them to:

- critically evaluate the impact of rapid changes in information technology on society and to appreciate the pervasive and expanding range of applications and fields on which information technology is impacting.

Developed the skills to:

- locate and critically evaluate information on current research in the field, for example using electronic library databases, and to synthesise the information they have gathered into a logical and coherent argument;
- communicate results of their investigation to their peers effectively through written and/or oral presentations while correctly acknowledging and referencing source material;
- apply their theoretical understanding to a practical project negotiated with the lecturer using a learning contract.

Demonstrated the teamwork skills necessary to:

- work as a member of a team to present the finding of their research to their peers.

Unit Schedule

Week	Activities	Assessment
0		No formal assessment or activities are undertaken in week 0
1	Introduction and Research Methods	
2	Theme 1 - Information Visualisation	
3	Theme 2 - New Interfaces and Interactions	
4	Theme 3 - Social Computing	Learning Contract
5	Theme 4 - Gaming and Augmented Reality	
6	Theme 5 - Mobile and Ubiquitous Computing	1. Literature Survey - Part a: Literature Survey Draft (20%) due Friday 3pm.
7	Micro Lecture Theme 1 - Student Presentation, Demonstration, Debate.	2. Presentation and Feedback (20%) wk 7 - 11 and Peer Evaluation sheets to be submitted in class weeks 7 - 11
8	Micro Lecture Theme 2 - Student Presentation, Demonstration, Debate.	
9	Micro Lecture Theme 3 - Student Presentation, Demonstration, Debate.	1. Literature Survey - Part b: Peer Reviews (10%) wk 9 due Friday 3pm.
10	Micro Lecture Theme 4 - Student Presentation, Demonstration, Debate.	
11	Micro Lecture Theme 5 - Student Presentation, Demonstration, Debate.	
12	Review and Further Research	1. Literature Survey - Part c: Author Revisions (10%) wk 12 due Friday 3pm and 3. Application of Research Project (40%) wk 14 due Friday 3pm
	SWOT VAC	No formal assessment is undertaken in SWOT VAC
	Examination period	LINK to Assessment Policy: http://policy.monash.edu.au/policy-bank/academic/education/assessment/assessment-in-coursework-policy.html

*Unit Schedule details will be maintained and communicated to you via your learning system.

Assessment Summary

In-semester assessment: 100%

Assessment Task	Value	Due Date
1. Literature Survey - (3500 words individual) (40%)	40%	Part a. Literature Survey Draft (20%) Friday 3pm week 6 , Part b. Peer Review (10%) Friday 3pm week 9, Part c. Author Revisions (10%) Friday 3pm week 12
	20%	Presentations and Peer Evaluations in Class Weeks 7 to 11

2. Presentation and
Feedback (20%)

3. Application of Research   40%   Friday 3pm Week 14
Project (40%)

Teaching Approach

- **Research activities**
  Students are required to research a topic of interest aligned with the specified research themes
  and share the results of this research with their peers.
- **Problem-based learning**
  Students are encouraged to take responsibility for organising and directing their learning with
  support from their supervisors.

Assessment Requirements

Assessment Policy

Faculty Policy - Unit Assessment Hurdles
(http://www.infotech.monash.edu.au/resources/staff/edgov/policies/assessment-examinations/unit-assessment-hu

Academic Integrity - Please see the Demystifying Citing and Referencing tutorial at
http://lib.monash.edu/tutorials/citing/

Assessment Tasks

Participation

- **Assessment task 1**

  Title:
  1. Literature Survey - (3500 words individual) (40%)
  Description:
  Conduct a detailed survey of the current literature relating to research into the latest developments in the field of Information Technology, including developments in Information Visualization, New Interfaces and Interactions, Social Computing, Gaming and Augmented Reality, Mobile and Ubiquitous Computing. The survey should discuss the potential impact of emergent technologies and interfaces on society in general and the field of information technology in particular. (Based on a template for a conference paper – strict page guidelines. Topic nominations by end of week 1)

  1. **Literature Survey Draft (20%)** wk 6 – Draft a literature survey detailing the latest research addressing an important issue resulting from an emerging technology or interface. The literature survey should compare and contrast key research results and suggest areas for further research. Include copies of the key source literature (5 to 10 sources) on which the survey is based (2500 words).
  2. **Peer Review (10%)** wk 9 – Provide a detailed peer review of 2 assigned draft papers suggesting ways in which the papers could be improved (500 words).
  3. **Author Revisions (10%)** wk 12 – Based on the feedback from lecturers and your peers complete the literature survey to a standard suitable for publication and provide a written response to reviews (500 word description and justification of changes).

  (Students who wish to participate in a group learning contract for Assessment Task 3 should select related Literature Survey topics).
  Weighting:
  40%
  Criteria for assessment:
  Part a. Literature Survey Draft (20%) wk 6

  - ♦ Literature Review Conventions and Written Expression (5)
  - ♦ Structure and Quality of Argument (7)
  - ♦ Research Sources, Relevance and Use of Quotes (5)
  - ♦ Document Presentation and Formatting of References (3)

  Part b. Peer Review (10%) wk 9

♦Constructive Feedback on Written Expression and Content (5)
♦Constructive Feedback on Structure, Formatting and Referencing (5)

Part c. Author Revisions (10%) wk 12

♦Improvements to Written Expression and Content (3)
♦Improvements to Structure, Formatting and Referencing (3)
♦Justification of Changes Made (4)

Due date:
Part a. Literature Survey Draft (20%) Friday 3pm week 6 , Part b. Peer Review (10%)
Friday 3pm week 9, Part c. Author Revisions (10%) Friday 3pm week 12

- **Assessment task 2**

Title:
2. Presentation and Feedback (20%)

Description:
Based on the progress in the Literature Survey Draft and Learning Contract, participation in a student presentation (slides/presentation materials submitted week 6) (15%) of approximately 20 minutes plus 5 minutes question time, addressing an important issue raised by an emerging technology or interface, consisting of one of the following:

1. Seminar – In depth discussion of a specific issue
2. Demonstration – Practical demonstration of a specific aspect of current research
3. Debate – Formal debate on the merits of a proposition relating to an emerging technology

Students will be required to provide feedback (5%) via Peer Evaluation sheets on the presentations delivered by their peers.

All students are expected to attend and contribute to the question time of the presentations delivered by their peers.

Assessment of seminar presentations will be based partly on lecturer assessment and partly on Peer Evaluation sheets completed by all students.

Each week in the seminars you will be given a Peer Evaluation sheet for the presentations, which must be completed and handed back at the end of the presentation session.

These will be used to help determine the grades for the groups that are presenting.

Marks will be awarded for completing Peer Evaluation sheets as follows:

Complete 80 to 100% of Peer Evaluation sheets = 5 marks

Complete 70 to 79% of Peer Evaluation sheets = 4 marks

Complete 60 to 69% of Peer Evaluation sheets = 3 marks

Complete 50 to 59% of Peer Evaluation sheets = 2 marks

Complete less than 50% of Peer Evaluation sheets = 0 marks

Weighting:

20%

Criteria for assessment:

Presentation Delivery and Teamwork if applicable (5)

Content, Research and Relating the Topic to Research Theme (5)

Presentation materials, Notes, Props and/or Graphics (5)

Peer Evaluation sheets (5)

Due date:

Presentations and Peer Evaluations in Class Weeks 7 to 11

- **Assessment task 3**

Title:

3. Application of Research Project (40%)

Description:

A learning contract will be developed for each student, or in some cases for a group of students, to allow them to demonstrate the application of their research to a practical domain in the field of Information Technology. The negotiated demonstration must be closely tied to the theoretical perspectives identified in the Literature Survey Draft assessment task. Applications of research could consist of:

- ♦ A demonstration application – for example the visualization of some data or the creation of an interface element
- ♦ A detailed application design document
- ♦ Detailed screen layouts for new interaction techniques
- ♦ A theoretical framework
- ♦ A detailed evaluation or critique of an existing system, interface or technology
- ♦ Creation of a data collection instrument designed to investigate an issue further – for example a survey design

Assessment of this task will be based on a set of agreed criteria specified in the learning contract.

Generally assessment criteria will involve:

- ♦ Demonstration of an emerging technology or interface
- ♦ Linking theory to practice in the field of Information Technology
- ♦ Technical ability and/or design skills and/or evaluation skills
- ♦ Meeting the objectives set and on schedule

Learning contracts will normally be finalized by the end of week 4.

Weighting:

40%

Criteria for assessment:

Demonstration of an emerging technology or interface (10)

Linking theory to practice in the field of Information Technology (10)

Technical ability and/or design skills and/or evaluation skills (10)

Meeting the objectives set and on schedule (10)

Due date:

Friday 3pm Week 14

Learning resources

Monash Library Unit Reading List
http://readinglists.lib.monash.edu/index.html

Feedback to you

Types of feedback you can expect to receive in this unit are:

- Informal feedback on progress in labs/tutes
- Graded assignments with comments

Extensions and penalties

Submission must be made by the due date otherwise penalties will be enforced.

You must negotiate any extensions formally with your campus unit leader via the in-semester special consideration process: http://www.monash.edu.au/exams/special-consideration.html

Returning assignments

Students can expect assignments to be returned within two weeks of the submission date or after receipt, whichever is later.

Assignment submission

It is a University requirement (http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-procedures.html) for students to submit an assignment coversheet for each assessment item. Faculty Assignment coversheets can be found at http://www.infotech.monash.edu.au/resources/student/forms/. Please check with your Lecturer on the submission method for your assignment coversheet (e.g. attach a file to the online assignment submission, hand-in a hard copy, or use an online quiz). Please note that it is your responsibility to retain copies of your assessments.

Online submission

If Electronic Submission has been approved for your unit, please submit your work via the learning system for this unit, which you can access via links in the my.monash portal.

Other Information

Policies

Monash has educational policies, procedures and guidelines, which are designed to ensure that staff and students are aware of the University's academic standards, and to provide advice on how they might uphold them. You can find Monash's Education Policies at:
www.policy.monash.edu.au/policy-bank/academic/education/index.html

Key educational policies include:

- Aademic integrity;
  http://www.policy.monash.edu/policy-bank/academic/education/conduct/student-academic-integrity-policy.h
- Assessment in Coursework Programs;
  http://www.policy.monash.edu/policy-bank/academic/education/assessment/assessment-in-coursework-po
- Special Consideration;
  http://www.policy.monash.edu/policy-bank/academic/education/assessment/special-consideration-policy.ht
- Grading Scale;
  http://www.policy.monash.edu/policy-bank/academic/education/assessment/grading-scale-policy.html
- Discipline: Student Policy;
  http://www.policy.monash.edu/policy-bank/academic/education/conduct/student-discipline-policy.html
- Academic Calendar and Semesters; http://www.monash.edu.au/students/dates/
- Orientation and Transition; http://intranet.monash.edu.au/infotech/resources/students/orientation/
- Academic and Administrative Complaints and Grievances Policy;
  http://www.policy.monash.edu/policy-bank/academic/education/management/complaints-grievance-policy.h
- Code of Practice for Teaching and Learning;
  http://www.policy.monash.edu.au/policy-bank/academic/education/conduct/suppdocs/code-of-practice-tea

Graduate Attributes Policy

http://www.policy.monash.edu/policy-bank/academic/education/management/monash-graduate-attributes-policy.ht

Student services

The University provides many different kinds of support services for you. Contact your tutor if you need advice and see the range of services available at http://www.monash.edu.au/students. For Sunway see http://www.monash.edu.my/Student-services, and for South Africa see http://www.monash.ac.za/current/.

Monash University Library

The Monash University Library provides a range of services, resources and programs that enable you to save time and be more effective in your learning and research. Go to www.lib.monash.edu.au or the library tab in my.monash portal for more information. At Sunway, visit the Library and Learning Commons at http://www.lib.monash.edu.my/. At South Africa visit http://www.lib.monash.ac.za/.

Disability Liaison Unit

Students who have a disability or medical condition are welcome to contact the Disability Liaison Unit to discuss academic support services. Disability Liaison Officers (DLOs) visit all Victorian campuses on a regular basis.

Website: http://www.monash.edu/equity-diversity/disability/index.htmlTelephone: 03 9905 5704 to book an appointment with a DLO; or contact the Student Advisor, Student Commuity Services at 03 55146018 at SunwayEmail: dlu@monash.eduDrop In: Equity and Diversity Centre, Level 1, Building 55, Clayton Campus, or Student Community Services Department, Level 2, Building 2, Monash University, Sunway Campus

Your feedback to Us

Monash is committed to excellence in education and regularly seeks feedback from students, employers and staff. One of the key formal ways students have to provide feedback is through the Student Evaluation of Teaching and Units (SETU) survey. The University's student evaluation policy requires that every unit is evaluated each year. Students are strongly encouraged to complete the surveys. The feedback is anonymous and provides the Faculty with evidence of aspects that students are satisfied and areas for improvement.

For more information on Monash's educational strategy, see:

www.monash.edu.au/about/monash-directions and on student evaluations, see:
www.policy.monash.edu/policy-bank/academic/education/quality/student-evaluation-policy.html

Previous Student Evaluations of this Unit

This unit was offered for the first time in 2012. Detailed feedback was provided in unit evaluations. Positive comments related to:

- Being able to choose areas of interest
- Flexibility of assessment items
- Focus on new and emerging technologies

Comments of concern were also raised, and are being addressed in this offering of the unit. They included:

- Lack of examples - this can now be addressed properly given there are excellent examples that can be used from the previous offering.
- Confusion around number of assessment item deliverables - this has been streamlined this offering to reduce the number and highlight more clearly the deliverables expected and how they relate to each other.
- Relationship between assessment items - although this was explained in the first offering, the links between all assessment items will be made more explicit

If you wish to view how previous students rated this unit, please go to
https://emuapps.monash.edu.au/unitevaluations/index.jsp