



# ITEC871

## Information Systems Design and Management

S2 Evening 2017

*Dept of Computing*

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#### **Disclaimer**

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## General Information

### Unit convenor and teaching staff

Convenor

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Credit points

4

Prerequisites

Admission to MInfoTech or MEng or MSc

Corequisites

Co-badged status

COMP771

Unit description

This unit focuses on enterprise management information systems and the technologies used in their design, implementation and maintenance. The alignment of information systems with business strategy and the socio-technical aspects of systems development are explored. Systems discussed include ERP, CRM, Business Intelligence and Groupware. The nexus between social media, cloud computing, mobile devices and big data is considered. A case study analysing the business rationale for an enterprise systems project is conducted.

## 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:

Analyse the business value of information systems to assist in the justification of an IT investment based on the delivery of specific business benefits.

Analyse the functionality and business context for major enterprise systems including ERP, BI, CRM and Enterprise 2.0, and recommend appropriate investments based on the specific business context..

Use your understanding of the nexus of mobile, cloud, social and big data trends to an enterprise IT strategic plan to generate opportunities from these developing technologies..

Critically evaluate contemporary and emerging enterprise IT technologies to establish a watching brief for an IT department within a major enterprise.

## General Assessment Information

### Submission methods for assessment tasks:

All soft copy assignment submissions and return of marks and comments will be done through the ITEC871 page on iLearn.

### Late submission:

Late submission of individual work will incur a 10% penalty for every 24 hours, or part thereof, it is late. So within 24 hours, the maximum mark that can be obtained is 90% of the full grade for that assessment task; between 24 and 48 hours, the maximum mark that can be obtained is 80% of the full grade; and so on. No extra documentation is required unless the student does wish to have an extension (see below) applied.

### Extensions and Disruptions:

Extensions without a grade penalty may be provided to individuals who contact student services BEFORE the due date and can provide documentary evidence of illness or other misadventure and succeed in gaining a certified disruption. (Health issues will require a university issued Professional Authority Form.). If approved, a new submission timeline and submission method will be discussed on a case by case basis.

Students are strongly advised to contact the unit convenor as early as possible if there are any issues that will not make an on-time submission possible.

If you apply for Disruption to Study for your **final examination**, you must make yourself available for the week of Supplementary Exams. If you are not available at that time, there is no guarantee an additional examination time will be offered. Specific examination dates and times will be determined at a later date.

## Final Exam (Hurdle):

The final exam will focus on content covered in the classes throughout the semester including all lectures, references and case studies.

As the final examination is a hurdle assessment, you will need a minimum performance of 40% to pass the unit. Your aggregate score must be 50% or above. If you achieve 30 to 39% in the final exam, you will be given a second chance to pass, with a new and different examination.

***Second-chance hurdle examinations will be offered in the week of December 11th - 15th. You will be notified of your eligibility for a hurdle retry and you must make yourself available during that week to take advantage of this opportunity.***

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#"><u>Watson Analytics</u></a>	15%	No	Week 4
<a href="#"><u>ERP Analysis</u></a>	15%	No	Week 6
<a href="#"><u>BI Solution &amp; Report</u></a>	20%	No	Week 12
<a href="#"><u>Final Exam</u></a>	50%	Yes	Exam Week

### Watson Analytics

Due: **Week 4**

Weighting: **15%**

This is an individual assignment using IBM's cloud based machine learning platform called Watson. Students choose from a series of given data sets to analyse using Watson. A detailed graphic representation of the data is critically evaluated.

On successful completion you will be able to:

- Analyse the functionality and business context for major enterprise systems including ERP, BI, CRM and Enterprise 2.0, and recommend appropriate investments based on the specific business context..
- Use your understanding of the nexus of mobile, cloud, social and big data trends to an enterprise IT strategic plan to generate opportunities from these developing technologies..
- Critically evaluate contemporary and emerging enterprise IT technologies to establish a watching brief for an IT department within a major enterprise.

## ERP Analysis

Due: **Week 6**

Weighting: **15%**

This is an individual assignment which considers a detailed real world case study about a failed ERP implementation and provides guidance based on course material on how this company should now proceed. This real company in Taiwan failed with their first wave ERP upgrade. Students are to identify the reasons for this failure and consider a series of different go forward strategies based on the latest available technology.

On successful completion you will be able to:

- Analyse the business value of information systems to assist in the justification of an IT investment based on the delivery of specific business benefits.
- Analyse the functionality and business context for major enterprise systems including ERP, BI, CRM and Enterprise 2.0, and recommend appropriate investments based on the specific business context..
- Use your understanding of the nexus of mobile, cloud, social and big data trends to an enterprise IT strategic plan to generate opportunities from these developing technologies..
- Critically evaluate contemporary and emerging enterprise IT technologies to establish a watching brief for an IT department within a major enterprise.

## BI Solution & Report

Due: **Week 12**

Weighting: **20%**

This is an individual assignment which focuses on the work covered in business intelligence aspect. It requires a deep dive of BI suites in order to complete a set of tasks. The objective is upon complete the assignment students will gain a deeper understanding of design, implementation and management concepts of business intelligence enterprise.

On successful completion you will be able to:

- Analyse the business value of information systems to assist in the justification of an IT investment based on the delivery of specific business benefits.
- Analyse the functionality and business context for major enterprise systems including ERP, BI, CRM and Enterprise 2.0, and recommend appropriate investments based on the specific business context..
- Use your understanding of the nexus of mobile, cloud, social and big data trends to an

enterprise IT strategic plan to generate opportunities from these developing technologies..

- Critically evaluate contemporary and emerging enterprise IT technologies to establish a watching brief for an IT department within a major enterprise.

## Final Exam

Due: **Exam Week**

Weighting: **50%**

**This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle assessment tasks)**

This is a closed book exam with short and long answer questions based on the lecture and reference material presented throughout the course. The questions vary in difficulty. The exam is composed of two parts, A and B, reflecting the two lecture components of the course.

On successful completion you will be able to:

- Analyse the business value of information systems to assist in the justification of an IT investment based on the delivery of specific business benefits.
- Analyse the functionality and business context for major enterprise systems including ERP, BI, CRM and Enterprise 2.0, and recommend appropriate investments based on the specific business context..
- Use your understanding of the nexus of mobile, cloud, social and big data trends to an enterprise IT strategic plan to generate opportunities from these developing technologies..
- Critically evaluate contemporary and emerging enterprise IT technologies to establish a watching brief for an IT department within a major enterprise.

## Delivery and Resources

### Recommended Texts

The following text is recommended, especially for students without an extensive IT background:

***K. C. Laudon and J. P. Laudon “Management Information Systems: Managing The Digital Firm” 14th Edition, Pearson, 2015.*** This book is available from the University Co-op Bookstore. If unsure about the value of this text, I suggest you first borrow a copy from the library and make your own assessment. I will be referencing the 14th and most up to date edition, however, earlier editions are quite similar.

The following books are suggested as recommended reading. Copies of these books are available from the library.

Sumner, M, “Enterprise Resource Planning” Prentice Hall, 2005

Magal, S.R. and Word, J., “Integrated Business Processes with ERP Systems”, Wiley, 2012.

Turban, E., Sharda, R, Delen, D and King, D, ”Business Intelligence: A Managerial Approach” 3rd Edition, Pearson, New International Edition, 2014

Lectures will list appropriate Web based references and further reading for some of the rapidly evolving technologies discussed in this course. These additional references will be available for download through the class website.

**Unit Material**

A student folder with all the lecture notes and electronic references will be available for download through the class web site on iLearn at: <https://ilearn.mq.edu.au/>

## Unit Schedule

Week	Lecturer	Topic	References
1	Krycer	Course Introduction Big Data Analytics Analytics for Marketing	IBM, Gartner, Forrester, DMS
2	Krycer	Analytics for Industrial Applications Cloud Computing IBM Watson Analytics <i>Hand out Assignment One (Individual Assignment) ‘Watson Analytics’</i>	Gartner  IBM
3	Krycer	ERP Implementation Issues ERP Modules: Sales and Marketing ERP Modules: Accounting and Finance	Sumner
4	Krycer	ERP Modules: Production and Materials ERP Modules: Human Resources Postmodern ERP Strategies  <i>Assignment One Due by 5:00 pm on 23/8/17 Hand out Assignment Two “ERP Analysis”</i>	Sumner Gartner

5	Krycer	Succeeding with SAP  Mobile Technology Trends  Enterprise ERP Architecture	Michael Hammer  Andressen Horowitz  Guest Speaker
6	Krycer	Business Value of Information Systems Financial Metrics for IS Investments Strategic Alignment  <i>Assignment Two Due by 5:00 pm on 6/9/17</i>	Gartner Laudon & Laudon Henderson and Venkatraman
7	Le	EIS: A Revisit on Features, Capabilities & Values Business Intelligence: Introduction	Recommended References Lecture Notes
8	Le	Business Intelligence: Concepts, Design, Architecture & Technology  <i>Hand out Assignment Three "BI Solution &amp; Report"</i>	Recommended References Lecture Notes
9	Le	Business Intelligence: Practical Learning by Exploring and Understanding Multiple Enterprise Business Intelligence Systems  E.g. OBIEE, Tableau, etc.	Recommended References Lecture Notes
10	Le	Customer Relationship Management (CRM): Introduction Industry Guest Speaker: Pooyan Asgari (Domain, Fairfax Media)	Recommended References Lecture Notes
11	Le	Customer Relationship Management (CRM): Implementation & Emerging Trends	Recommended References Lecture Notes
12	Le	Enterprise Information Systems' Challenges: from Data to Cloud  <i>Assignment Three Due by 5:00 pm on 2/11/17</i>	Recommended References Lecture Notes
13	ALL	Revision	

## 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](http://mq.edu.au/policy/docs/academic_honesty/policy.html)

Assessment Policy [http://mq.edu.au/policy/docs/assessment/policy\\_2016.html](http://mq.edu.au/policy/docs/assessment/policy_2016.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](http://www.mq.edu.au/policy/docs/complaint_management/procedure.html)

Disruption to Studies Policy (in effect until Dec 4th, 2017): [http://www.mq.edu.au/policy/docs/disruption\\_studies/policy.html](http://www.mq.edu.au/policy/docs/disruption_studies/policy.html)

Special Consideration Policy (in effect from Dec 4th, 2017): <https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policies/special-consideration>

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/](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.mq.edu.au](http://ask.mq.edu.au).

## Student Support

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

## Learning Skills

Learning Skills ([mq.edu.au/learningskills](http://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](http://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/](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

- Analyse the business value of information systems to assist in the justification of an IT investment based on the delivery of specific business benefits.
- Analyse the functionality and business context for major enterprise systems including ERP, BI, CRM and Enterprise 2.0, and recommend appropriate investments based on the specific business context..
- Use your understanding of the nexus of mobile, cloud, social and big data trends to an enterprise IT strategic plan to generate opportunities from these developing technologies..
- Critically evaluate contemporary and emerging enterprise IT technologies to establish a watching brief for an IT department within a major enterprise.

#### Assessment tasks

- Watson Analytics
- ERP Analysis
- BI Solution & Report
- Final Exam

### 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**

- Analyse the business value of information systems to assist in the justification of an IT investment based on the delivery of specific business benefits.
- Analyse the functionality and business context for major enterprise systems including ERP, BI, CRM and Enterprise 2.0, and recommend appropriate investments based on the specific business context..
- Use your understanding of the nexus of mobile, cloud, social and big data trends to an enterprise IT strategic plan to generate opportunities from these developing technologies..
- Critically evaluate contemporary and emerging enterprise IT technologies to establish a watching brief for an IT department within a major enterprise.

## **Assessment tasks**

- Watson Analytics
- ERP Analysis
- BI Solution & Report
- Final Exam

## **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**

- Analyse the business value of information systems to assist in the justification of an IT investment based on the delivery of specific business benefits.
- Analyse the functionality and business context for major enterprise systems including ERP, BI, CRM and Enterprise 2.0, and recommend appropriate investments based on the specific business context..
- Use your understanding of the nexus of mobile, cloud, social and big data trends to an enterprise IT strategic plan to generate opportunities from these developing technologies..

- Critically evaluate contemporary and emerging enterprise IT technologies to establish a watching brief for an IT department within a major enterprise.

## **Assessment tasks**

- Watson Analytics
- ERP Analysis
- BI Solution & Report
- Final Exam

## **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**

- Analyse the business value of information systems to assist in the justification of an IT investment based on the delivery of specific business benefits.
- Analyse the functionality and business context for major enterprise systems including ERP, BI, CRM and Enterprise 2.0, and recommend appropriate investments based on the specific business context..
- Use your understanding of the nexus of mobile, cloud, social and big data trends to an enterprise IT strategic plan to generate opportunities from these developing technologies..
- Critically evaluate contemporary and emerging enterprise IT technologies to establish a watching brief for an IT department within a major enterprise.

## **Assessment tasks**

- Watson Analytics
- ERP Analysis
- BI Solution & Report
- Final Exam

## **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**

- Analyse the business value of information systems to assist in the justification of an IT investment based on the delivery of specific business benefits.
- Analyse the functionality and business context for major enterprise systems including ERP, BI, CRM and Enterprise 2.0, and recommend appropriate investments based on the specific business context..
- Use your understanding of the nexus of mobile, cloud, social and big data trends to an enterprise IT strategic plan to generate opportunities from these developing technologies..
- Critically evaluate contemporary and emerging enterprise IT technologies to establish a watching brief for an IT department within a major enterprise.

## **Assessment tasks**

- Watson Analytics
- ERP Analysis
- BI Solution & Report
- Final Exam

## **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:

## **Learning outcomes**

- Analyse the business value of information systems to assist in the justification of an IT investment based on the delivery of specific business benefits.
- Analyse the functionality and business context for major enterprise systems including ERP, BI, CRM and Enterprise 2.0, and recommend appropriate investments based on the specific business context..
- Use your understanding of the nexus of mobile, cloud, social and big data trends to an enterprise IT strategic plan to generate opportunities from these developing technologies..
- Critically evaluate contemporary and emerging enterprise IT technologies to establish a

watching brief for an IT department within a major enterprise.

## Assessment tasks

- Watson Analytics
- ERP Analysis
- BI Solution & Report
- Final Exam

## Standards

Your standards, namely HD, D, CR, P summarize as many different levels of achievement. Each standard is precisely defined to help students know what kind of performance is expected to deserve a certain mark. The standards corresponding to the learning outcomes are given below:

HD	Apply techniques and knowledge in new contexts, show breadth and depth of understanding of business objectives, context, systems analysis and design. Fully capable support major strategic initiatives with a sound business case and technical solution.	A sound grounding on how major strategic IT systems are managed. Show breadth and depth of understandings on issues in the management of IT systems, including: change management, configuration management and planning, People management, hardware asset management and capacity planning and availability. Able to apply these techniques and knowledge in new contexts.	Demonstrate leadership, creativity, critical thinking and analysis skills. Enthusiastic in acquiring new knowledge in the IS Systems management area. Demonstrate capability in applying new IS management knowledge to solve real-world problems. Conduct team work effectively and play a key role in moving the whole IT team forward.
D	Apply techniques and knowledge in some new contexts, show breadth and depth of understanding across most of the topics including: business objectives, context, systems analysis and design. Largely capable to support major strategic initiatives with a sound business case and technical solution.	A sound grounding in most topics related to how major strategic IT systems are managed. Show breadth and depth of understandings on most issues in the management of IT systems, including: change management, configuration management and planning, People management, hardware asset management and capacity planning and availability. Able to apply these techniques and knowledge in some new contexts.	Demonstrate some leadership occasionally. Show creativity, critical thinking and analysis skills. Have the capability in applying IS systems management knowledge to solve real-world problems. Collaborate with team members well and finish assigned tasks on time and with good quality.
CR	Show breadth of understanding across most of the topics including: business objectives, context, systems analysis and design. Some capability to support major strategic initiatives with a sound business case and technical solution.	Understands some aspects of how major strategic IT systems are managed. Show breadth of understandings on most issues in the management of IT systems, including: change management, configuration management and planning, People management, hardware asset management and capacity planning and availability.	Demonstrate analysis skills in some occasions. Know how to apply IS systems management knowledge to solve some of the real-world problems. Able to finish assigned tasks on time and with good quality most of the time.

P	Can reproduce definitions and ideas, show some breadth of understanding of the topics including: business objectives, context, systems analysis and design. Some capability to support major strategic initiatives with a sound business case and technical solution.	Can reproduce some definitions and ideas, show some breadth on issues in the management of IT systems, including: change management, configuration management and planning, People management, hardware asset management and capacity planning and availability.	Demonstrate limited analysis skills. Can apply IS systems management knowledge to solve limited real-world problems. Able to finish all assigned tasks on time and with acceptable quality.
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## Grading

At the end of the semester, you will receive a grade that reflects your achievement in the unit

- **Fail (F):** does not provide evidence of attainment of all learning outcomes. There is missing or partial or superficial or faulty understanding and application of the fundamental concepts in the field of study; and incomplete, confusing or lacking communication of ideas in ways that give little attention to the conventions of the discipline.
- **Pass (P):** provides sufficient evidence of the achievement of learning outcomes. There is demonstration of understanding and application of fundamental concepts of the field of study; and communication of information and ideas adequately in terms of the conventions of the discipline. The learning attainment is considered satisfactory or adequate or competent or capable in relation to the specified outcomes.
- **Credit (Cr):** provides evidence of learning that goes beyond replication of content knowledge or skills relevant to the learning outcomes. There is demonstration of substantial understanding of fundamental concepts in the field of study and the ability to apply these concepts in a variety of contexts; plus communication of ideas fluently and clearly in terms of the conventions of the discipline.
- **Distinction (D):** provides evidence of integration and evaluation of critical ideas, principles and theories, distinctive insight and ability in applying relevant skills and concepts in relation to learning outcomes. There is demonstration of frequent originality in defining and analysing issues or problems and providing solutions; and the use of means of communication appropriate to the discipline and the audience.
- **High Distinction (HD):** provides consistent evidence of deep and critical understanding in relation to the learning outcomes. There is substantial originality and insight in identifying, generating and communicating competing arguments, perspectives or problem solving approaches; critical evaluation of problems, their solutions and their implications; creativity in application.

In this unit, your final grade depends on your performance in each part of the assessment. For each task, you receive a mark that combines your standard of performance regarding each

learning outcome assessed by this task. Then the different component marks are added up to determine your total mark out of 100. Your grade then depends on this total mark and your overall standards of performance.

**Obtaining a grade higher than a Pass (P) in this unit will require a student to obtain (in addition to the above):**

- the required total number of marks (Credit - 65, Distinction - 75, High Distinction - 85).